

CHARACTERISTICS OF RECALLED CHILDHOOD CORPORAL  
PUNISHMENT EXPERIENCES AND YOUNG ADULTS'  
CURRENT ATTACHMENT TO MOTHER

by

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A DISSERTATION

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## ABSTRACT

The current study uses a correlational design to investigate how young adults' perceptions of their childhood corporal punishment experiences are related to their current attachment to their mothers, depressive symptoms in young adulthood, and history of externalizing behavior problems. Specifically, relations between recalled parental reliance on corporal punishment, recalled childhood feelings following the receipt of corporal punishment, current attachment to mother, depressive symptoms in young adulthood, and history of externalizing behavior problems in young adulthood were examined. Participants' gender and race were explored as targeted moderators. Results revealed that recalled parental reliance on corporal punishment was positively related to recalled childhood feelings following the receipt of corporal punishment. Both recalled parental reliance on corporal punishment and recalled childhood feelings following the receipt of corporal punishment were negatively related to current attachment to mother. Depressive symptoms in young adulthood was positively related to recalled childhood feelings following the receipt of corporal punishment and negatively related to current attachment to mother. Greater parental reliance on corporal punishment was positively related to less externalizing behavior problems in Black male participants but was related to increased externalizing behavior problems in White male participants. Greater parental reliance on corporal punishment was also related to increased externalizing behavior problems in Black female participants. However, this effect was not significant for White female participants.

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## CHAPTER I

### INTRODUCTION

Corporal punishment is widely practiced by parents in the United States (Straus, 2001). While the commonality of its use cannot be disputed, the causal relationship between corporal punishment and various negative child outcomes continues to be debated. Despite the growing body of research that has emerged on this topic, few studies have examined the experience of corporal punishment from the child's perspective. Furthermore, only a few studies have examined how the emotions children experience following the receipt of corporal punishment are linked to child outcomes. This neglected area of research is of critical importance. Children's perceptions of the punishment they receive from their parents could put the relationship between the child and the punishing parent at risk (Mulvaney & Mebert, 2010). Similarly, emotions experienced by children following the receipt of corporal punishment might cause children to distance themselves from their parents, thus negatively affecting parent-child attachment quality (Gershoff, 2002).

The current study tested a model of young adults' recollections of their childhood when their parents relied on corporal punishment. Participants recalled how quick their mothers were to use corporal punishment, how frequently they received corporal punishment during childhood, the severity of the average corporal punishment that they received, and their age at the time they last received corporal punishment. Together, these variables comprised the latent construct, "Parental reliance on corporal punishment." Participants also recalled their feelings following the

receipt of corporal punishment and their current attachment to their mothers. A model of the latent constructs “Parental reliance on corporal punishment,” “Feelings following the receipt of corporal punishment,” and “Attachment to mother” was tested. Participants’ reported “Depressive symptoms in young adulthood” and their history of “Externalizing behavior problems” were tested as outcome variables in the model. The variables Gender, Race, and Social status were examined as moderators of specific relationships in the model.

### **Purpose of the Study**

The primary purpose of this study is to test the relations between young adults’ recalled parental reliance on corporal punishment, young adults’ recalled childhood feelings following the receipt of corporal punishment, young adults’ current attachment relationships with their mothers. Past studies have found that mothers tend to be the primary disciplinarians (DeMeis & Perkins, 1996). Therefore, mothers, rather than fathers, have been chosen as the focus of this study.

Several prior studies have shown relationships between corporal punishment received during childhood and later externalizing behavior problems and depressive symptoms (Gershoff, 2002; McLoyd & Smith, 2002; Roche, Ensminger, & Cherlin, 2005; Stormshak, Bierman, McMahon, & Lengua, 2000; Straus, 2001). Consequently, these two outcome variables, externalizing behavior problems and depressive symptoms, will be examined to determine if these outcomes persist into young adulthood.

Finally, previous studies have documented variations among gender groups, racial groups, and social status groups in how corporal punishment is related to child outcomes (Burbach, Fox, & Nicholson, 2004; Chang, Dodge, Schwartz, & McBride-Chang, 2003; Deater-Deckard & Dodge, 1997; Dietz, 2000; Gunnoe & Mariner, 1997; Pinderhughes, Dodge, Bates,

Pettit, & Zelli, 2000; Roche et al., 2005). Therefore, gender, race, and social status were explored as moderators of specific relationships among recalled parental reliance on corporal punishment, recalled feelings following the receipt of corporal punishment, current quality of attachment to mother, current depressive symptoms, and history of externalizing behavior problems.

### **Significance of the Study**

The results of this study will be useful to parents, family life educators, and professionals who work with children and families because it will offer more complete insights into the potential relationship of corporal punishment to certain outcomes such as the quality of mother-child attachment, depressive symptoms later in life, and externalizing behavior problems. Rather than simply investigating relationships between the presence or absence of corporal punishment and potential outcome variables, this study will also consider adult children's perceptions about the corporal punishment they received and how those perceptions might relate to potential outcome variables.

### **Definition of Terms**

In this study, corporal punishment is defined as the "intentional use of physical force to inflict pain, but not injury, for the purpose of correcting or controlling a child's behavior" (Straus, 1994, p. 4). This includes spanking, or hitting a child on the buttocks, as well as slapping a child on the legs or arms, and hitting a child with an object, such as a paddle, belt, or brush. These forms of corporal punishment are legal, normative, or commonly practiced, and socially permissible (Straus & Mathur, 1996). In this study, the variable Parental reliance on corporal punishment is measured using four single items. Specifically, participants report the oldest age at which they can receiving corporal punishment during childhood, how quick their mother was to resort to the use of corporal punishment before trying another discipline method, how frequently

they recalled receiving corporal punishment during childhood, and the severity of the average corporal punishment they received during childhood.

The study of children's perceptions of the corporal punishment they receive is a neglected area of research (Mulvaney & Mebert, 2010). The current study addresses this gap in the research by including the variable recalled childhood Feelings following the receipt of corporal punishment. Specifically, participants recall their feelings of anxiety, anger, and fear following the receipt of corporal punishment. Participants also recall their perception of unfairness following the receipt of childhood corporal punishment.

An attachment is an enduring emotional bond between two people. It transcends space, time and even death (Ainsworth, Waters, & Wall, 1978). In this study, the terms attachment relationship and parent-child attachment are often used to discuss the relationship between a child and his or her parent. Participants' current Attachment to mother is measured by their self-reported trust in their mothers, communication with their mothers, and alienation from their mothers during young adulthood using Armsden and Greenberg's (1987) Inventory of Parent and Peer Attachment.

The major components of depressive symptomatology include "depressed mood, feelings of guilt and worthlessness, feelings of helplessness and hopelessness, psychomotor retardation, loss of appetite, and sleep disturbance" (Radloff, 1977, p. 386). The variable Depressive symptoms in young adulthood was measured using the Center for Epidemiologic Studies Depression Scale which is a self-report assessment of the major components of depressive symptomatology.

The term externalizing behavior problems has been used broadly to problematic outward behaviors in which an individual is acting negatively on the external environment (Liu, 2004).

Externalizing behavior problems have been commonly associated with aggression, delinquency, antisocial behaviors and conduct problems (Liu, 2004). In this study, the variable history of Externalizing behavior problems is defined specifically as histories in which participants' report engaging in stealing, arson, concealing weapons, paying for sexual relations, fighting, using drugs and cheating. Items from the National Youth Survey (Elliot, 1987) are used to assess history of Externalizing behavior problems in this study.

Previous research has defined gender as the construction of psychological, cultural and social beliefs about individuals based on their biological differences (West & Zimmerman, 1987). In this study, the variable Gender is measured with a single item in which participants are asked whether they are male or female.

In this study, the term Race is relied upon to describe participants' ethnicity. Participants' race was assessed using a single item. Participants who identified themselves as either White American or Caucasian are referred to as White participants in this study. Participants who identified themselves as either Black American or African American are referred to as Black participants in this study. While controversy exists surrounding the legitimacy of identifying participants' race and ethnicity in research studies (Bhopal & Donaldson, 1998), the racial classifications in this study have been selected because previous corporal punishment studies have investigated racial variations in participants' childhood corporal punishment experiences using similar classifications (Straus, 2001).

Social status is defined as the educational level and occupational level attained by the parents who raised the participants in this study. The Hollingshead Four-Factor Index of Social Status (Hollingshead, 1975) is relied upon to make distinctions between social status groups for the purpose of this study.

## **Limitations**

The findings in this study are limited in their scope. First, the study included only undergraduate university students whose family backgrounds were mostly middle class. Therefore, the results should be interpreted with caution when generalizing to individuals who are not university students or who are from other social status groups. Second, this study involved only participants recruited from one Southeastern university. Previous research has demonstrated that the Southern region of the United States had the highest number of parents who used corporal punishment when compared to other regions (Flynn, 1994; Straus & Stewart, 1999). Therefore, generalizations to populations residing in other geographic areas, particularly those outside of the South, may be limited. Third, the study was retrospective in nature and relied on participants' memories of their childhood experiences. Over time, it is possible that some memories of events have been forgotten (Straus & Yodanis, 1996) or remembered with some inaccuracies. However, it is likely that whatever participants can remember influences their current mental health. Fourth, this study relied on a single data source and focused specifically on the participants' own perspectives of the punishment that they received during childhood. This study did not examine the perspectives of the parents of participants regarding the punishment they administered or the quality of the parent-child attachment relationship. However, previous research has found that the the child's perspective of corporal punishment influences parent-child attachment quality during young adulthood (Mulvaney & Mebert, 2010).

## CHAPTER II

### REVIEW OF LITERATURE

Defining and operationalizing corporal punishment is a major challenge to conducting research on the influence of parents' use of physical discipline on children. Several definitions are provided by professional organizations such as The American Academy of Pediatrics and The American Academy of Child and Adolescent Psychiatry. Neither of the definitions provided by these organizations distinguishes between normative physical discipline that is commonly practiced by parents and non-normative physical abuse. For example, the American Academy of Pediatrics (1998) defined corporal punishment broadly as

the application of some form of physical pain in response to undesirable [child] behavior. Corporal punishment ranges from slapping the hand of a child about to touch a hot stove to identifiable child abuse, such as beatings, scaldings, and burnings. (p. 725)

Similarly, The American Academy of Child and Adolescent Psychiatry (1988) defined corporal punishment as a "discipline method in which a supervising adult deliberately inflicts pain upon a child in response to a child's unacceptable behavior and/or inappropriate language" (p. 1). This latter definition neither includes nor excludes physical abuse as a form of corporal punishment. Many research investigations on the topic rely on the following definition which explicitly excludes physical abuse. Corporal punishment is the "intentional use of physical force to inflict pain, but not injury, for the purpose of correcting or controlling a child's behavior" (Straus, 1994, p. 4). This includes spanking, or hitting a child on the buttocks, as well as slapping the child on the legs or arms, and hitting a child with an object, such as a paddle, belt, or brush.

These forms of corporal punishment are legal, normative or commonly practiced, and socially permissible (Straus & Mathur, 1996). For the purposes of this paper, this latter definition of corporal punishment will be used because it reflects the type of physical punishment used by most American parents.

During the past 20 years, a number of studies have sought to describe parents' use of corporal punishment and to examine the link between corporal punishment and children's development, particularly children's aggression and depression. Few studies, however, have sought to examine how parents' use of corporal punishment influences the quality of the parent-child attachment relationship (Mulvaney & Mebert, 2010). This is surprising given the central responsibility of the parental attachment figure to help the child regulate negative emotional and physical states, and to foster within the child a sense of security and the ability empathize. Additionally, frightening behaviors on the part of the attachment figure that make the child fearful are believed to promote insecure parent-child attachment quality. Given that the infliction of pain, even if not done intentionally to cause injury, can be frightening to a child, it seems possible that corporal punishment, even normative corporal punishment, could be related to insecure parent-child attachment quality. The purpose of this literature review is to identify the extant research findings that describe characteristics of parents who use corporal punishment, describe characteristics of children who receive corporal punishment, describe characteristics of corporal punishment that determines its effects on children, document the contradictory findings regarding the effects of corporal punishment on children's development, and propose a theoretical model for how parents' use of corporal punishment affects the quality of the parent-child attachment relationship later during the grown child's transition to young adulthood.

## **Characteristics of Parents who use Corporal Punishment**

Corporal punishment is widely practiced by American parents. Studies using large nationally representative samples of American parents find that most believe it is sometimes necessary to use corporal punishment with children (Straus & Mathur, 1996). This belief is held most strongly among Black parents, and among parents who reside in the southern region of the United States, including both Black and White parents. Interestingly, parental approval of corporal punishment has declined from a high of 94% in 1968 to a low of 68% in 1994. Nonetheless, clearly a majority of American parents still endorse the use of corporal punishment as a childrearing technique.

The socioeconomic status of the family is related to parents' use of corporal punishment. Pinderhughes et al. (2000) found that “. . . low-income parents tend to endorse more harsh discipline responses in part because they held stronger beliefs about the value of spanking, and they experienced higher levels of stress” [than higher-income parents] (p. 393). Similarly, fathers of lower socioeconomic status have been found to administer more frequent corporal punishment and verbal punishment to children than fathers of higher socioeconomic status (Burbach et al., 2004). Moreover, parents with both lower income and lower education have been found to administer more severe forms of corporal punishment than parents with higher education and income (Dietz, 2000).

Parents who reside in the Southern region of the United States, especially those who reside in rural areas, report using corporal punishment more often than parents who reside in the Northeastern region (Straus & Stewart, 1999). Flynn (1994) found that Southern parents were significantly more likely to favor the use of corporal punishment than Northeastern parents, even

after controlling for sociological or demographic variables such as age, income, education, race, and whether or not the parents were rural residents.

One reason that corporal punishment is so widely accepted in the South is that there is a larger percentage of adults who are members of a conservative Protestant church residing in that region than in other regions of the United States. Affiliation with this religious group is associated with more frequent use of corporal punishment. For example, Gershoff, Miller, and Holden (1999) reported that conservative Protestant parents of 3-year-old children used corporal punishment more often than mainline Protestant parents, Roman Catholic parents, and nonreligious parents. However, conservative Protestant parents were similar to other parents in their practice of eight other dimensions of parenting that were measured in their study which included reasoning, diverting attention, negotiating, threatening, using time out, ignoring, withdrawing privileges, and yelling. This finding indicates that while these parents have a fairly broad repertoire of discipline techniques, they still find it necessary to use corporal punishment at a higher rate than parents of other religious groups. In addition to using corporal punishment more frequently, conservative Protestant parents appear to be more likely to use this form of punishment with older, preadolescent children than parents belonging to other religious groups (Mahoney, Pargament, Tarakeshwar, & Swank; 2001). Conservative Protestant parents are generally more fundamentalist or evangelical in their views which might contribute to the differences that emerge between these parents and mainline Protestant parents (Ellison & Bradshaw, 2009).

Mothers have been found to use more harsh punishment than fathers (Pinderhughes et al., 2000) perhaps because women experience stressors that may not affect men to the same degree (e.g., unplanned pregnancy, single-parent status). In addition, mothers may be under more role

strain than men because most mothers spend more time in child caretaking activities and household chores than fathers (Bianchi, Milkie, Sayer, & Robinson, 2000; Bird, 1999).

Parents typically begin administering corporal punishment to their children when their children are quite young. In fact, a study of a nationally representative sample of 991 American parents found that 34% of parents reported administering corporal punishment to infants who were less than 12 months of age (Straus & Stewart, 1999). The same study found that 94% of parents reported administering corporal punishment to children who were between 3 and 4 years of age. Additionally, over half of the parents who reported spanking their children during childhood said they continued to spank their children until age 12 years. The end of childhood does not necessarily mean the end of receiving corporal punishment. Nearly one-third of parents surveyed reported hitting their 14-year-old children, and 13% of parents reported hitting their 17 year-old children.

Parents supply a long list of reasons why they use corporal punishment with their children. Some of those reasons include to get a child's attention, to get a child to listen, because religious scripture instructs parents to use it, because it teaches children not to commit the misbehavior again, because it teaches children right from wrong, and because it teaches children to respect parents as authority figures. However, at least one study has shown that the lessons learned from receiving corporal punishment are not always lessons that the administering parent would desire. Curtner-Smith, Dudley, and Williams (1999) found that some young adults who reflected on their childhood experiences with receiving corporal punishment recalled either learning nothing, learning to commit the misbehavior only when not under parental surveillance, or learning to hate their parent. In a review of 500 research studies examining corporal punishment use by parents, Smith (2004) also concluded that corporal punishment taught

children caused them to fear their parents, to question their parents' love for them, and that inflicting pain on another person is an appropriate way to force them to comply with your expectations.

### **Characteristics of Children who Receive Corporal Punishment**

Preschool-aged children receive more corporal punishment than children of any other age group (Day, Peterson, & McCracken; 1998; Grogan-Kaylor & Otis, 2007; Straus & Stewart, 1999). Additionally, boys are more likely to receive corporal punishment than girls, and Black children receive more corporal punishment than White children in the United States (Straus & Stewart, 1999).

As children age, parents become less likely to use corporal punishment as a discipline strategy (Straus, 2001). Similarly, children become less accepting of corporal punishment as they age. Catron and Masters (1993) found that preschool children were accepting of corporal punishment, even in severe forms, as an appropriate parental response to a wide variety of children's misbehavior. However, the same study found that fifth graders tended to endorse the use of corporal punishment only in response to misbehaviors that were viewed as more serious, such as violations of moral values. Fifth graders also reported believing that corporal punishment was more appropriate when administered by a teacher than it was when administered by a parent or a babysitter. Similarly, Flynn (1998) found that college students viewed corporal punishment as more acceptable for preschoolers and for young school-aged children and less acceptable for older school-aged children between the ages of 11 and 12.

### **Corporal Punishment and Children's Development**

The effect of parental corporal punishment on children's behavior has been examined in many studies. In general, the findings are mixed. Baumrind, Larzelere, and Cowan (2002), for

example, found that mildly administered corporal punishment was unrelated to aggression and depression in children. Moreover, a meta-analysis of 70 studies found only small effects regarding the influence of corporal punishment on children's negative behavioral and negative emotional factors (Paolucci & Violato, 2004). The small effect size led the authors to conclude that the use of corporal punishment did not pose a substantial risk for children's affective, cognitive, or behavioral development. Some studies that investigated the effects of corporal punishment on Black children have provided similar results. For example, Deater-Deckard and Dodge (1997) and Gunnoe and Mariner (1997) found in separate studies that rates of Black children's behavior problems decreased over time among those whose mothers reported using corporal punishment. Likewise, Slade and Wissow (2004) found that while non-Hispanic White school-aged children were more likely to display behavior problems after receiving frequent corporal punishment prior to age 2, this relationship was not significant among Black or Hispanic school-aged children. Taken together, these findings suggest corporal punishment is not harmful to children and may even be beneficial in deterring future negative behavior, at least in some groups of children.

On the other hand, other studies of both Black children and White children who received corporal punishment report that they were found to engage in higher rates of problem behaviors than children who did not receive corporal punishment (McLoyd & Smith, 2002; Stormshak et al., 2000; Taylor, Manganello, Lee, & Rice, 2010). Likewise, a study of Chinese families with preschool-aged children found that mother's harsh parenting, which included the use of corporal punishment, was related to children's inability to regulate their emotions (Chang et al., 2003). The authors suggested that this could lead to later aggression in children's interactions with classmates at school.

Roche et al. (2005) found gender differences in how corporal punishment is linked to children's development. In particular, they found that Black female adolescents who received corporal punishment were more likely to report depressive symptoms than Black female adolescents who did not receive corporal punishment. In contrast, Black male adolescents who had received corporal punishment actually engaged in fewer behavior problems than those who did not receive corporal punishment. These findings suggest that children from different racial groups and gender groups may be affected differently by the experience of corporal punishment.

In a study of over 6,000 families in the National Family Violence Survey, Straus and Kantor (1994) found roughly half of participants recalled receiving corporal punishment during their teenage years. Participants who recalled receiving corporal punishment when they were teenagers were also more likely to report problems such as depression, suicidal ideation, and alcohol abuse than participants who did not recall receiving corporal punishment as teenagers. Participants were also more likely to report abusing their children and, if they were male, to report abusing a female spouse if they recalled receiving corporal punishment as teenagers.

Gershoff (2002) conducted a meta-analysis of 88 studies that examined the influence of corporal punishment on children's development. She concluded that parents' use of corporal punishment was linked to the following behaviors in children: a) immediate compliance with parental commands, b) increased aggression, c) increased depression, and d) increased conduct disorders. Thus, corporal punishment is effective for achieving immediate compliance, but its use by parents may come at a cost to children's long-term development. Finally, Straus (2001) concluded that parents' use of corporal punishment is linked to negative child developmental outcomes. In fact, his research demonstrates a statistically significant relationship between corporal punishment and increases in children's aggression, depression, and psychological

distress after statistically controlling for the influence of severity. The effect sizes are rather small, however, they are statistically significant.

The long-term effects of corporal punishment were examined in a study of young adults. Specifically, Turner and Muller (2004) found that the experience of corporal punishment during childhood was related to depressive symptoms in young adulthood, even when controlling for a history of abuse, presence of other forms of punishment, parental monitoring, and perceived norms about corporal punishment. The relationship between corporal punishment frequency and long-term depressive symptoms was strongest when young adults reported that they perceived their parents as having a high level of anger while administering the punishment. However, the significant relationship persisted even when the parent was not recalled as being angry during the administration.

Jordan and Curtner-Smith (2007) also studied young adults' recalled childhood corporal punishment experiences. The investigators found that certain corporal punishment predicted young adults' current attachment to mother. Specifically, young adults who reported that their mothers were quicker to resort to the use of corporal punishment and who were more severe in their administrations of corporal punishment reported lower quality of attachment to their mothers than young adults who reported that their mothers were slower to use corporal punishment and who were milder in their administrations of corporal punishment. The relationships among the variables were significant for both White young adults and Black young adults. However, the strength of the relationship between mother's quickness to use corporal punishment and severity of corporal punishment on young adults' current attachment to mother was stronger for Black participants. Additionally, Black participants in this study also reported

more intense negative feelings following the receipt of corporal punishment, such as stronger feelings of anger.

### **Characteristics of Corporal Punishment that Influence its Effects on Children**

Several characteristics of corporal punishment can influence how it affects children's development. These include how frequently the child receives corporal punishment, the quickness with which a parent uses corporal punishment in response to child misbehavior, how the corporal punishment is administered and the severity, the child's perception of fairness of the corporal punishment, and the child's feelings following the receipt of corporal punishment.

#### **Frequency**

Parents' use of corporal punishment can range from sparingly to regularly. Many children will say that they have only received corporal punishment once or twice during their lives, whereas other children say they received it daily. Even infrequent corporal punishment has been found to pose some threats to children; however, the risk of adverse outcomes has been found to increase as the frequency of corporal punishment increases (Straus, 2001). In a retrospective study of young adults, Turner and Muller (2004) found that frequent use of corporal punishment, especially when administered by an angry parent, was related to depressive symptoms in young adulthood. Likewise, a recent study of 3-year-old children found that those who were spanked more frequently by their mothers at age 3 displayed higher levels of aggressive behavior at age 5 (Taylor et al., 2010). This association persisted after controlling for the child's level of aggression at age 3. Similarly, Slade and Wissow (2004) found that non-Hispanic White children who were spanked more frequently prior to age 2 were over four times more likely to display behavior problems later in childhood. This relationship was significant even after controlling for factors such as child's gender, age of the mother, marital status of the mother, social status,

child's difficult temperament, and positive parent-child interactions at other times. The same relationship was not significant among Hispanic children and Black children who were found to show no difference in later behavior problems regardless of the frequency of corporal punishment that they received prior to age 2, suggesting potential racial variations regarding the impact of corporal punishment on children.

Frequent corporal punishment also appears to pose a risk to the quality of the parent-child attachment relationship. In a study of school-aged children and teenagers in St. Kitts, located in the Eastern Caribbean, more frequent corporal punishment and more severe forms of corporal punishment were related to children's perceived caretaker rejection (Rohner, Kean, & Cournoyer, 1991). Since optimal parent-child attachment quality is marked by feelings of love and warmth (Ainsworth et al., 1978), experiences in which the child feels as though the parent is rejecting clearly pose a threat to the parent-child attachment relationship. Additionally, the child may feel fearful because an attachment figure whose primary role is to provide a base of security (Ainsworth et al.) is behaving in a manner that is frightening and causing the child to feel insecure. In two retrospective studies of young adults, Jordan and Curtner-Smith (2007; 2009) found that participants who received more frequent corporal punishment during childhood also reported greater alienation from their mothers during young adulthood. Curtner-Smith and Jordan (2007, 2009) found that more frequent corporal punishment was also related to lower trust in the mother, less communication with the mother, and decreased overall attachment to mother.

### **Quickness**

Some parents are slow to resort to the use of corporal punishment. For them, the option to use corporal punishment is chosen as a last resort only after several other discipline strategies

have been used and only in response to particularly incorrigible child behavior. In contrast, some parents are relatively quick to use corporal punishment. It tends to be their first choice when responding to child misbehavior. How quickly a parent resorts to the use of corporal punishment has been found to influence the relationship between corporal punishment and certain child outcomes. Straus and Mouradian (1998) studied corporal punishment among a sample of children between the ages of 2 and 14 years. Children who received more frequent corporal punishment were more likely to display antisocial behavior and impulsiveness. In addition, mothers' impulsive or quicker use of corporal punishment was more strongly associated with antisocial behavior and impulsivity in children. This finding suggests that mothers who are more impulsive when administering corporal punishment, or quicker to resort to corporal punishment, may put their children at a greater risk for adverse outcomes such as externalizing behavior problems. The researchers also suggested that more impulsive corporal punishment by mothers is perceived by the child as parent-centered rather than for the child's own betterment. Straus and Hill (1997) found in previous research that corporal punishment that is perceived by children as parent-centered poses a greater threat to the parent-child relationship because the child is more likely to feel anger and resentment toward the parent. Similarly, Jordan and Curtner-Smith (2007) found that young adults who recalled their mothers as quicker to resort to corporal punishment also reported a lower quality of attachment to their mothers.

### **How Administered and Severity**

Corporal punishment is administered in many different ways. Some parents resort to abusive methods such as striking with a closed fist or kicking. However, even in the realm of normative and commonly accepted corporal punishment, which is the focus of this study, parents' administrations of corporal punishment vary widely in severity. A qualitative study of

children between the ages of 5 and 14 years old found that many children were smacked or hit in the face or head (Dobbs, Smith, & Taylor, 2006). Children also reported being commonly hit with canes, spatulas, and other objects. It is expected that children who are hit at older ages are more likely to receive corporal punishment in severe forms. The same mild smack on the hand that may have been given to a toddler will be considerably less effective in achieving compliance with a preteen. It is also likely that more severe forms of corporal punishment will elicit more intense negative feelings within the child than less severe forms of corporal punishment. Feelings such as anger and anxiety may contribute to problematic child outcomes later in life and also create distance between the administering parent and the child. Straus (2001) found that as severity of corporal punishment increased, the threat to adverse outcomes such as increased aggression and increased depression in children also increased. In the previously mentioned study of youth in St. Kitts, in the Eastern Caribbean, a relationship was found between greater severity of corporal and stronger feelings of being rejected by the caretaker (Rohner et al., 1991). In the same study, caretaker rejection was directly related to psychological distress.

### **The Child's Perception of Fairness**

Children's perceptions of the fairness and justification of corporal punishment influences the emotions they feel in response to corporal punishment. Any parent or child care provider who has heard the phrase, "That's not fair!", is aware that receiving fair and just treatment is of particular value to children. During the early preschool years, children are capable of making complex distinctions between fair and unfair situations, especially if they have a personal interest in the situation (Killen, Pisacane, Lee-Kim, & Ardila-Rey, 2001; Konstantareas & Desbois, 2001; Moore, 2009). One area in which children have a personal interest is in the punishment that they receive. In one of the few studies conducted about children's perceptions of the

corporal punishment they received, 10 children in New Zealand between the ages of 5 and 7 years were interviewed about their views. Dobbs and Duncan (2004) found that these children often felt that the corporal punishment they received was unfair. Moreover, the children expressed desires to obtain revenge on their parents or on other family members following the receipt of corporal punishment. Additionally, a second study of 80 children in New Zealand between the ages of 5 and 14 years revealed that children often compare the treatment they receive by their parents to their parents' treatment of other adults. Children stated that their parents did not hit another adult when they were angry because their parents knew they would "get into trouble" (p. 374). The implication is that children understand that adults can get into trouble for hitting another adult but not for hitting a child, especially their own child. Children in this study were able to name numerous alternatives to spanking, which suggested their awareness that their parents had a number of alternatives to corporal punishment available but chose to use it anyway. Children's awareness of available alternative strategies could serve to further reinforce their beliefs that corporal punishment is not always a fair or an appropriate option.

### **Children's Feelings: Parents' Misperceptions and How Children's Feelings Influence the Effects of Corporal Punishment on Developmental Outcomes**

Children experience a variety of emotions following the receipt of corporal punishment, and these emotions moderate the influence of the corporal punishment on long-term child development outcomes. Unfortunately, adults are not always accurate in perceiving children's emotions. In particular, parents seem to be especially inaccurate in perceiving children's feelings of fear and anger, but more accurate in recalling children's feelings of sadness and happiness (Levine, Stein, & Liwag, 1999). Moreover, when parents are able to accurately perceive a negative emotion in their children, they may still underestimate the intensity with which children feel that negative emotion. For example, children aged 5–6 years have reported experiencing

more intense fears than parents reported their children feeling (Lahikainen, Kraav, Kirmanen, & Taimalu, 2006), and middle-school children reported feeling more intense worrying than parents reported their children feeling (Gottlieb & Bronstein, 1996). Moreover, when mothers and their children agree in reports of children's feelings of sadness or anger, they disagree in their expectations for how children will manifest those emotions (Casey & Fuller, 1994). Specifically, mothers have stated that they expect their children to manifest verbal expressions of emotions whereas children have stated that they would express their feelings in nonverbal ways. Mothers' expectations for their children to express their emotions in words may be inappropriate; however, given that children, especially children under age 8 years, have limited repertoires of words to use when describing emotional experiences. Taken together, these studies suggest that parents are inaccurate in perceiving children's negative emotions and the intensity with which children feel those emotions. Moreover, parents may have developmentally inappropriate expectations for how children will manifest their emotions. The ability for parents to accurately label both the type and intensity of their children's emotions is an important skill that is used when implementing a punishment strategy in response to children's misbehavior. A punishment strategy that evokes too much fear or anger in children may interfere with children's ability to reason about how they misbehaved, why their behavior was wrong, and what they could do differently the next time they were in a similar situation (Curtner-Smith et al., 1999).

To complicate matters more, children learn to mask their feelings of anger, especially when those feelings are in response to punishment administered by an authority figure. A study of children enrolled in third grade, fifth grade, or seventh grade found that older children were more likely to report masking angry facial expressions than younger children (Underwood, Coie, & Herbsman, 1992). The children masked their feelings of anger only when interacting

with a teacher, not a peer. Parents are similar to teachers in that they are also authority figures, and parents appear to have little tolerance for many of the ways in which children express anger, especially as children become older. For example, parents have been found to be less supportive and more punitive toward their older children's emotional displays of anger than toward their younger children's emotional displays of anger (Klimes-Dougan et al., 2007). Gender differences also were found in that male children were more likely to be punished for expressions of anger than female children. Gender differences were also found in another study. In particular, Garside and Klimes-Dougan (2002) found that male children were punished more often for expressing anger during distressing situations than female children. In addition, fathers were more likely to punish male children for expressions of sadness and fear than female children. Because some children learn to hide or lessen their expressions of angry emotions, parents may be unaware of the anger that their children experience following the receipt of corporal punishment.

Some children respond to corporal punishment with fear rather than anger. For example, Dobbs et al. (2006) conducted a qualitative study of a diverse sample of 80 children ranging in age from 5 to 14 years old. In this study, children from New Zealand were interviewed about their own corporal punishment experiences, a method that is quite rare in the field of corporal punishment research. Findings revealed that children between the ages of 5 to 7 years old were more likely to describe the physical pain they felt whereas older children in the sample were more likely to mention emotional pain such as anxiety and fear. For instance, a 9-year-old girl in the sample commented, "You feel real upset because they are hurting you and you love them so much and then all of the sudden they hit you and hurt you . . ." (p. 147). Another 9-year-old girl stated, "You feel scared because you don't want it to happen again and you might forget about your promise when you said 'I won't do it again' . . ." (p. 148). Both anger and fear experienced

in intense forms and frequently directed at a parent have the potential to influence the quality of the attachment relationship between the parent and the child, especially because anger and fear play a central role in activating the attachment system (Bowlby, 1969).

## **Attachment**

An attachment is an enduring emotional bond between two people. It transcends space, time, and even death (Ainsworth et al., 1978). It first arises from the adult's "need to protect and nurture the child" (Solomon & George, 1996, p. 186) and from the child's need to be protected and comforted (Bell, 2009). Bowlby's (1969) original formulation of attachment theory proposed that all children experience fear of external dangers and fear of the unknown, as well as fear of loss of the significant caregiver. Bowlby defined feeling secure as not being afraid or fearful. The role of the significant caregiver, or parent, in the attachment relationship is to provide comfort and to ease the child's fears, which results in felt security. The attachment system is a combination of coordinated emotions, goals and behaviors which regulates down the emotional experiences of fear and distress in the child. It does this by motivating the child to seek comfort and relief from the caregiver. Attachment behaviors that children use to elicit comfort and relief from fears include clinging, crying, protesting, and demanding (Ainsworth et al.).

When the attachment figure, which is usually the parent, is consistent in responding to the child's attachment behaviors (clinging, crying, protesting, demanding) and is successful in providing comfort to the distressed child, the attachment figure and child develop a secure attachment quality. In contrast, when an attachment figure is consistently unresponsive and insensitive to the child's attachment behaviors, the attachment figure and child typically develop an insecure-avoidant attachment quality. Children who experience this attachment quality tend to avoid parents or caregivers by avoiding contact with the parent during reunions after separation

and by showing little preference for an attachment figure over a complete stranger. A second type of insecure attachment quality is called insecure-resistant. This quality of an attachment relationship develops when the attachment figure responds inconsistently to the child's attachment behaviors. That is, sometimes the attachment figure is responsive and sometimes the attachment figure is unresponsive. Often the level of the attachment figure's responsiveness depends on the attachment figure's mood. Children who experience an insecure-resistant attachment quality tend to become very distressed when separated from the attachment figure. When reunited with the attachment figure, the child is difficult to soothe and unable to regulate down from the negative mood state (Ainsworth et al., 1978).

Longitudinal research studies have demonstrated that an individual develops expectations of others, or an internal working model, based on the quality of the parent-child attachment relationship established early in life (Bretherton, 2005). This internal working model becomes the prototype for the kind of relationships that an individual expects in all relationships across the lifespan (Biringen et al., 2005; Waters & Cummings, 2000). The internal working model influences an individual's perceptions and behavioral tendencies in future dyadic relationships (Bell, 2009). Thus, individuals who experienced a secure attachment quality with parents in infancy tend to have positive relationships with peers during childhood and adolescence, satisfying dating relationships during adolescence and young adulthood, and satisfying marital relationships in adulthood (Butzer & Campbell, 2008; Collins & Sroufe, 1999; Dykas, Ziv, & Cassidy, 2008; Holland & Roisman, 2010; Szewczyk-Sokolowski, Bost & Wainwright, 2005). In contrast, individuals who experienced either type of insecure attachment quality (insecure-avoidant or insecure-resistant) or a disorganized attachment with parents in infancy tend to have problematic or poor relationships with peers during childhood and adolescence (i.e., problems

with peer aggression and social competence), less satisfying dating relationships during adolescence, and less satisfying marital relationships during adulthood.

As previously mentioned, when children encounter a threat to their safety, the attachment system is activated so that children experience fear. Children then seek comfort from the attachment figure in order to reduce the fear. But what happens when the attachment figure is the source of fear? Parental behaviors that frighten a child present a paradox in that the very person who is supposed to be the source of comfort instead provokes fear and anxiety. The child's fear of the parent and subsequent anxiety results in a disorganized parent-child attachment relationship because the child is unable to use the parent to regulate his or her emotions. It is well known that adult-focused, hostile, harsh parenting practices that ignore children's needs pose risk factors for long-term mental health problems in children (c.f., Sroufe, Duggal, Weinfield, & Carlson, 2000). More precisely, over-controlling, harsh parental behaviors which frighten and distress children lead to the development of a disorganized parent-child attachment quality (Schuengel, Bakermans-Kranenburg, & van IJzendoorn, 1999; van IJzendoorn, Schuengel, & Bakermans-Kranenburg, 1999). Children who experience a disorganized parent-child attachment quality have been found to be unable to use an organized and consistent strategy to regulate negative emotions. These children are therefore at risk for the development of other childhood psychopathologies (van IJzendoorn et al.), including an inability to cope with stress in infancy (Hertsgaard, Gunnar, Erickson, & Nachmias, 1995; Spangler & Grossmann, 1993), increased aggressive behavior in early childhood (Lyons-Ruth, 1996), and dissociation in young adulthood (Carlson, 1998; van IJzendoorn & Schuengel, 1996).

According to Smith (2004), parents' use of corporal punishment may undermine children's trust in their parents and can also result in diminished quality of parent-child

relationships. Gershoff (2002) speculated that the negative feelings experienced by a child following the receipt of corporal punishment may result in the child distancing from the parent, and thus may damage the quality of the parent-child attachment relationship. While parent-child attachment has been found to be relatively stable throughout the lifespan (Main, Hesse, & Kaplan, 2005), it has also been found that shifts in attachment quality can occur throughout childhood and adolescence (Hamilton, 2000; Weinfield, Sroufe, & Egeland, 2000; Weinfield, Whaley, & Egeland, 2004). Few studies have sought to examine how parents' use of normative corporal punishment is related to parent-child attachment quality (Mulvaney & Mebert, 2010).

### **Purpose of the Study**

The primary purpose of this study is to test the relations between young adults' recalled parental reliance on corporal punishment, young adults' recalled childhood feelings following the receipt of corporal punishment, young adults' current attachment relationships with their mothers. Past studies have found that mothers tend to be the primary disciplinarians; therefore, mothers, rather than fathers, were chosen as the focus of this study (DeMeis & Perkins, 1996).

Several prior studies have shown relationships between corporal punishment received during childhood and later externalizing behavior problems and depressive symptoms (Gershoff, 2002; McLoyd & Smith, 2002; Roche et al., 2005; Stormshak et al., 2000; Straus, 2001). Consequently, these two outcome variables, externalizing behavior problems and depressive symptoms, were examined to determine if these outcomes persist into young adulthood.

Finally, previous studies have documented variations among gender groups, racial groups, and social status groups in how corporal punishment is related to child outcomes (Burbach et al., 2004; Chang et al., 2003; Deater-Deckard & Dodge, 1997; Dietz, 2000; Gunnoe & Mariner, 1997; Pinderhughes et al., 2000; Roche et al., 2005). Therefore, gender, race, and

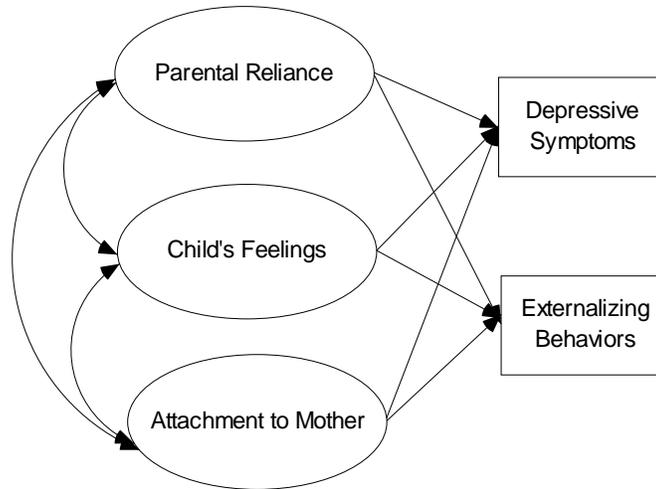
social status were explored as moderators between parental reliance on corporal punishment, recalled childhood feelings following the receipt of corporal punishment, young adults' current quality of attachment to mother, current depressive symptoms, and history of externalizing behavior problems.

## **Developing the Theoretical Model**

### **Theoretical Model**

The primary purpose of this study is to test the relations between young adults' recalled parental reliance on corporal punishment, young adults' recalled childhood feelings following the receipt of corporal punishment, young adults' current attachment relationships with their mothers (see Figure 1). In addition, young adults' current symptoms of depression and young adults' externalizing behavior problems were explored as outcomes. Finally, gender, race, and social status were tested as moderators of the relationships between the variables in the model.

In the theoretical model, recalled parental reliance on corporal punishment is positively related to recalled feelings following the receipt of corporal punishment, such that a greater recalled reliance on corporal punishment by parents elicits more intense recalled negative feelings from the child following the receipt of corporal punishment. The path is bidirectional because prior research finds that parents often punish their children for expressions of negative feelings such as anger and fear. Therefore, more intense feelings on the part of the child could actually elicit more instances of corporal punishment, especially for children who have not learned to mask their intense negative feelings. Recalled feelings following the receipt of corporal punishment is in turn negatively related to young adults' current attachment to mother, such that individuals who recalled experiencing more intense negative feelings become more emotionally distant from their mothers over time and therefore experience a lower quality of



Note. The latent construct Parental reliance on corporal punishment was measured with the indicator variables Quickness of the mother to resort to corporal punishment, Frequency of corporal punishment across childhood, Oldest age at time of last corporal punishment, and Severity of the average corporal punishment received. The latent construct Child's feelings following the receipt of corporal punishment was measured with the indicator variables Anxiety following the receipt of corporal punishment, Anger following the receipt of corporal punishment, Fear following the receipt of corporal punishment, and Perception of unfairness following the receipt of corporal punishment. The latent construct Attachment to mother was measured with the indicator variables Trust in the mother, Communication with the mother, and Alienation from the mother.

*Fig. 1.* Proposed theoretical model

attachment to their mothers during young adulthood. This path is bidirectional because individuals who had a lower quality of attachment to their mothers during childhood were likely to experience more intense negative feelings following the receipt of corporal punishment. In addition, recalled parental reliance on corporal punishment was expected to be negatively related to young adults' current attachment to mother, such that a greater reliance on corporal punishment by parents should result in young adults' lower quality of attachment to mother or the mother figure. This path is bidirectional because it is possible that mothers who have a lower quality of attachment to their children relied more on corporal punishment or that children who were less attached to their mothers elicited greater parental reliance on corporal punishment.

Recalled parental reliance on corporal punishment, recalled feelings following the receipt of corporal punishment, and attachment to mother were expected to predict depressive symptoms

during young adulthood. In addition, recalled parental reliance on corporal punishment, recalled feelings following the receipt of corporal punishment, and young adults' attachment to mother were expected to predict young adults' history of externalizing behavior problems.

It was expected that variables such as gender, race, and social status would moderate the relationships between the latent constructs in this model and between the latent constructs and the outcome variables in this model. Therefore, each of these moderators were explored during data analysis.

### **Pilot Study Results**

Two separate pilot samples aided in the development of the model used in this study. Both samples were similar to the sample used in the present study with regard to participants' age, gender, race, social status, educational level, and geographic region of residence. The first pilot sample (N = 67) was used for the author's thesis research project and is referred to as the thesis sample. The second pilot sample (N = 76) was drawn for this dissertation study and is referred to as the dissertation pilot sample. The pilot samples were drawn from undergraduates attending the same Southeastern university as the sample used in the present study. A complete discussion of the results from the two pilot studies is included later in this paper (see Appendix). A brief discussion has been included in this section of the paper in order to illustrate the findings that led to the development of this study.

Both pilot samples of undergraduate participants responded to a self-report questionnaire about their corporal punishment experiences during childhood and their current attachment relationships with their mother figures. Results of bivariate correlations from the thesis sample indicated that variables that were theoretically related were also positively correlated. For instance, participants who reported a greater **frequency** of corporal punishment across childhood

also reported greater **quickness** of the mother to resort to corporal punishment and greater **severity** of the average corporal punishment received. In addition, participants who reported receiving corporal punishment at older ages also reported greater **quickness** of the mother to resort to corporal punishment and greater **frequency** of corporal punishment across childhood. In the dissertation pilot sample, **quickness** of the mother to resort to corporal punishment, **frequency** of corporal punishment across childhood, **severity** of the average corporal punishment received, and **oldest age** at last corporal punishment were all significantly related to one another. Based on findings from existing studies and results of these pilot studies, **quickness** of the mother to resort to corporal punishment, **frequency** of corporal punishment across childhood, **oldest age** at last corporal punishment, and **severity** of the average corporal punishment received were used as indicator variables for the latent construct, **parental reliance** on corporal punishment, in the proposed model. While **oldest age** at time of last corporal punishment was not directly related to **attachment** to mother in the dissertation pilot sample, it was nonetheless included in the current analyses because it was related to all dimensions of **attachment** to mother in the thesis sample. Furthermore, it was highly correlated with the other dimensions of **parental** reliance on corporal punishment in both the dissertation pilot sample and the thesis sample.

Results of bivariate correlations across both studies also indicated that variables related to feelings following the receipt of corporal punishment were related to one another (see Appendix). In the thesis sample, **anxiety** following the receipt of corporal punishment and **anger** following the receipt of corporal punishment were positively related to one another. However, **sadness** following the receipt of corporal punishment was not significantly related to the other variables, perhaps because it is expected that all children will feel some sadness or remorse

following the receipt of corporal punishment, regardless of whether the punishment was perceived as fair or unfair. Two additional feelings, **fear** and **fairness**, were added in the dissertation pilot study. Results revealed that **anxiety** following the receipt of corporal punishment, **anger** following the receipt of corporal punishment, **fear** following the receipt of corporal punishment and **perception** of unfairness following the receipt of corporal punishment were all positively related to one another. Based on results of these two pilot samples taken together with findings from previous studies, **anxiety** following the receipt of corporal punishment, **anger** following the receipt of corporal punishment, **fear** following the receipt of corporal punishment and **perception** of unfairness following the receipt of corporal punishment were used as indicator variables for the latent construct, recalled childhood **feelings** following the receipt of corporal punishment, in the proposed model.

Results of bivariate correlations across both studies indicated that **trust** in the mother, **communication** with the mother, and **alienation** from the mother were all positively related to one another. Based on these results taken together with findings from previous studies, **trust** in the mother, **communication** with the mother, and **alienation** from the mother were used as indicator variables for the latent construct, **attachment** to mother, in the proposed model.

A series of linear regression analyses was used to test the relationship among the three latent variables in the proposed model. Results indicated that recollections of **parental** reliance on corporal punishment predicted **feelings** following the receipt of corporal punishment  $F(1, 74) = 4.23, p < .05$ , and explained 5% of the variance in **feelings** following the receipt of corporal punishment. In addition, **feelings** following the receipt of corporal punishment predicted **attachment** to mother,  $F(1, 74) = 9.31, p < .01$ , and explained 10% of the variance in **attachment** to mother.

Finally, a linear regression analysis was conducted to test the relationship between current **attachment** to mother and one of the outcome variables in this study, **depressive** symptoms. Attachment to mother predicted **depressive** symptoms,  $F(1, 74) = 22.37, p < .001$ , and explained 23% of the variance in **depressive** symptoms. While previous studies have linked deficits in attachment quality to certain externalizing behavior problems, the data were not available to test this prediction during the pilot phase. However, the predictive ability of the latent constructs in the proposed model on externalizing behavior problems were tested in the current study.

## CHAPTER III

### METHODS

The primary purpose of this correlational study was to test relations between the latent constructs **parental** reliance on corporal punishment, and recalled childhood **feelings** following the receipt of corporal punishment and young adults' current **attachment** to mother. The second purpose was to test the latent constructs recalled **parental** reliance on corporal punishment, recalled childhood **feelings** following the receipt of corporal punishment, and young adults' current **attachment** to mother as predictors of young adults' current **depressive** symptoms and their history of **externalizing** behavior problems. The third purpose was to examine how **gender**, **race**, and **social** status moderated the relations between the latent constructs and relations between the latent constructs and outcome variables.

A confirmatory factor analysis was used to derive values for the latent constructs in the model. These included recalled **parental** reliance on corporal punishment, recalled **feelings** following the receipt of corporal punishment, and young adults' current **attachment** to mother. A series of regression analyses was then used to test the relationship between the variables in the model. Finally, a series of regression analyses was used to test **gender**, **race**, and **social** status as moderators of relationship between the latent constructs and between the latent constructs and outcome variables.

#### **Research Questions**

This study was guided by six research questions. They are as follows:

1. Does a model of the latent constructs recalled **parental** reliance on corporal punishment, recalled childhood **feelings** following the receipt of corporal punishment, and young adults' current **attachment** to mother fit the observed set of data?
2. Do recalled **parental** reliance on corporal punishment, recalled childhood **feelings** following the receipt of corporal punishment, and current **attachment** to mother predict young adults' **depressive** symptoms?
3. Do recalled **parental** reliance on corporal punishment, recalled childhood **feelings** following the receipt of corporal punishment, and current **attachment** to mother predict young adults' **externalizing** behavior problems?
4. Are the relationships among recalled **parental** reliance on corporal punishment, recalled childhood **feelings** following the receipt of corporal punishment, and young adults' current **attachment** to mother moderated by **gender**, **race**, and **social** status?
5. Are the relationships between recalled **parental** reliance on corporal punishment, recalled childhood **feelings** following the receipt of corporal punishment, young adults' current **attachment** to mother, and young adults' current **depressive** symptoms moderated by **race**, **gender**, and **social** status?
6. Are the relationships between recalled **parental** reliance on corporal punishment, recalled childhood **feelings** following the receipt of corporal punishment, young adults' current **attachment** to mother, and young adults' history of **externalizing** behavior problems moderated by **race**, **gender**, and **social** status?

### Sample

Undergraduate students (N = 374) enrolled in human development courses at The University of Alabama were recruited for participation in this study. To be included in the study,

participants had to indicate their informed consent, be at least 19 years of age at the time of data collection, report that they had received some form of corporal punishment during childhood, report that they had been raised by a consistent biological mother or surrogate mother figure for at least half of their childhood years (between birth and age 18), and report that they had spent the majority of their childhood in the United States.

A total of 468 participants met the initial criteria for this study. However, 94 of these participants were excluded from the study after meeting the initial criteria. Specifically, twenty percent of the sample (20.01%) did not meet the criteria for inclusion in the analyses. One participant was excluded because he or she indicated that Children's Protective Services removed him or her from the childhood home because the parents were abusive. Fifty-nine participants were excluded because they did not complete over half of the items of interest on the survey. Twenty-four participants were excluded because they had already completed the survey during the pilot phase. Finally, 10 participants were excluded because they identified their race as something other than African American/Black or Caucasian/European American/White.

The remaining 374 participants were included in the analyses for this study. According to Cohen (1998), a sample size of at least 200 is a standard sample size for performing a confirmatory factor analysis using structural equation modeling. A power analysis using the G\*Power 3.0.10 software (Faul, Erdfelder, Buchner, & Lang, 2007) determined that a sample size of 164 was sufficient for the regression techniques performed in this study.

The mean age of the participants in this sample was 20.92 (SD = 3.74). Seventy-nine percent of participants (N = 296) were female, and 21% of participants (N = 78) were male. Eighty-one percent of participants (N = 303) were Caucasian/European American/White, and 19% of participants (N = 71) were African American/Black. Seventy-nine percent of

participants' (N = 270) paternal figures had completed at least some college education. Eighty-two percent of participants' (N = 305) maternal figures had completed at least some college education.

Eighty-one percent of participants (N = 311) identified themselves as Protestant. Ten percent of participants (N = 40) identified themselves as Catholic. One percent of participants (N = 3) identified themselves as Jewish. Four percent of participants (N = 14) identified themselves as having no religious affiliation. Finally, 5% of participants (N = 18) reported another religious affiliation.

Fifty-six percent of participants (N = 208) indicated that their mother was the primary disciplinarian in their childhood home. Forty percent of participants (N = 149) indicated that their father was the primary disciplinarian in their childhood home. Four percent of participants (N = 18) indicated that another person, such as a grandparent or stepparent, was the primary disciplinarian in their childhood home.

### **Procedure**

Participants were recruited from undergraduate courses in human development at The University of Alabama. The primary investigator contacted all of the instructors who taught introductory human development courses. The instructor for one upper-level human development course also offered to allow students to participate. All instructors who allowed their students to participate offered extra credit in exchange for participants' time. Each instructor informed the students in his or her course that they had the opportunity to participate in a research study. This announcement was either posted on the course website or made verbally during the regular class time.

After the initial announcement by the instructor, the investigator visited each class during a regularly scheduled meeting time to recruit participants. During the recruitment visit, students were again informed that they had the opportunity to participate in a research study. They were told that participation would take about an hour and that the study examined family relationships. All students were provided with a hard copy of the informed consent document to keep. This informed consent document provided students with the investigator's contact information in case they had questions while making a decision about participating in the study. During the recruitment visit, the investigator also read a script that had been approved by the Institutional Review Board at The University of Alabama. The investigator explained that participation was not required or expected by the course instructor. Further, participation was voluntary and participants could choose to stop participation at any point in the survey without losing the extra credit. She also explained that the information collected during the study would be kept confidential. Additionally, students were presented with a list of local resources to help them in case they felt sad while participating in the study. After reading the recruitment script, the investigator allowed time for questions from the students and thanked them for their time.

Students who chose to participate completed the online questionnaire during their own time, not during class time, in the privacy of their residence or another place of their choice. Participants logged on to the Survey Monkey website to complete the questionnaire prior to deadlines set by their individual instructors. Upon logging in to the survey, participants were again presented with a list of local resources to help them if they became sad while completing the study. Participants acknowledged their informed consent online and were immediately directed to the online survey questionnaire.

## **Measures**

A five-part survey was developed for this study. The first part consisted of demographic items. The second part consisted of items assessing participants' current attachment to their mothers. The third part consisted of items assessing participants' recalled corporal punishment experiences during childhood and their recalled feelings following the receipt of corporal punishment. The fourth part consisted of items assessing participants' current depression symptoms. The fifth part consisted of items assessing participants' history of externalizing behavior problems.

### **Demographic Questionnaire**

The first section of the questionnaire was comprised of 24 demographic items. These items assessed the following variables: Gender, Age, Current year of study, Current marital status, Number of children, Country in which the participant spent the majority of his or her childhood years, State in which the participant spent the majority of his or her childhood years, Religious affiliation, and Ethnicity.

Participants were also asked to report information about the households in which they resided as children. Specifically, participants were asked the following questions: Who did you live with as a child; When you were a child, who administered discipline or punishment in your household; Who was primarily responsible for enforcing rules and providing discipline during your childhood; Were you raised by your biological father in your childhood home; and Were you raised by your mother in your childhood home? If participants reported that a biological parent did not raise them, additional items were asked to determine whether or not they had a surrogate parent who was actively involved in raising them. Participants who did not have a biological mother figure or a surrogate mother figure who raised them for at least half of their childhood years were excluded from the analyses.

Finally, participants' social status was assessed with the following items: What is the highest level of education that your father or the father figure who raised you has currently achieved; What job does your father or the father figure who raised you currently have; What is the highest level of education that your mother or the mother figure who raised you has currently achieved; and What job does your mother or the mother figure who raised you currently have? Responses to these items were coded according to the Hollingshead Four-Factor Index of Social Status (Hollingshead, 1975). The Four Factor Index of Social Status uses a formula to calculate a value ranging from 8 to 66 based on parents' educational level and occupational status. In the Four Factor Index of Social Status, higher values indicate higher socioeconomic status levels (Hollingshead, 1975). This is in contrast to Hollingshead's earlier Two Factor Index of Social Position. According to the Two-Factor Index of Social Position, higher values indicate lower socioeconomic status (Hollingshead, 1957).

While it is possible that the social statuses of some participants' families may have changed since they were children, the current social statuses were used for this study. Preliminary findings from the pilot phase revealed that very few families changed socioeconomic status from the time the participants were 12 years old until the present. The pilot samples and the current sample were drawn from the same undergraduate institution. Consequently, it is expected that the majority of the families represented in the current sample would likely have the same social status that they had when the participants in this study were children.

### **Inventory of Parent and Peer Attachment (Revised), Mother Items**

The second section of the questionnaire was comprised of a 25-item scale assessing participants' current attachment to their mothers. This scale was taken from the revised Inventory of Parent and Peer Attachment (IPPA) (Armsden & Greenberg, 1987). The revised IPPA was

created to measure adolescents' quality of attachment to mother, quality of attachment to father, and quality of attachment to peers using a series of 5-point Likert-type response items. The items assessing the quality of attachment to mother were included in the questionnaire for this study. The attachment to father and attachment to peer scales were omitted. Armsden and Greenberg reported high reliability for the complete version of the revised IPPA. Regarding the mother scale that was used in this study, findings from a previous study reveal that the Cronbach's alpha score was .87 (M. T. Greenberg, personal communication, January 26, 2006). In this study, the Cronbach's alpha for the mother scale was .95.

The mother scale of the revised IPPA was used to assess the latent variable, current quality of **attachment** to mother. The following indicator variables were used: **trust** in mother, **communication** with mother, and **alienation** from mother. The revised IPPA is comprised of three subscales that measure **trust** in mother, **communication** with mother, and **alienation** from mother, respectively. Values generated from the subscales can be combined by taking the mean of all 25 items on the mother scale. The mean of the three subscales was used to indicate the latent variable, current **attachment** to mother.

**Trust** in mother was measured with 10 items, **communication** with mother was measured with 9 items, and **alienation** from mother was measured with 6 items. Each item made a statement about the relationship between the participant and his or her mother. The following item is an example from the **trust** in mother subscale: "My mother respects my feelings." The following item is an example from the **communication** with mother subscale: "I like to get my mother's point of view about things I'm concerned about." The following item is an example from the **alienation** subscale: "Talking over my problems with my mother makes me feel ashamed or foolish." The response options provided for each of the 25 items included in this

study were as follows: 1 = Almost or never true, 2 = Not very often, 3 = Sometimes true, 4 = Often true, and 5 = Almost always true. Items measuring **alienation** from mother were reverse coded prior to data analysis.

### **Corporal Punishment Questionnaire**

The third part of the questionnaire consisted of 23 items assessing participants' history of discipline and punishment in their households of origin. Participants were asked to recall the person who was primarily responsible for enforcing rules and providing discipline when they were children. Participants were then asked to read the following definition:

Corporal punishment is a discipline method in which a supervising adult intentionally inflicts pain upon a child in response to a child's unacceptable behavior and/or inappropriate language. The immediate aims of the punishment are to halt the offense, prevent its recurrence, and set an example for others. The long-term goal is to change the child's behavior and to make it more consistent with the adult's expectations (American Academy of Psychiatry, 1998). Some examples of corporal punishment include (but are not limited to) pinching, slapping, and spanking.

Participants were then asked if they received any form of corporal punishment during childhood. Participants who did not receive corporal punishment were directed to another set of items that were not used in the present study. Participants who reported that they did receive corporal punishment were presented with items to measure the following latent variables: recalled **parental** reliance on corporal punishment and recalled childhood **feelings** following the receipt of corporal punishment.

The latent variable, recalled **parental** reliance on corporal punishment, was assessed with the following indicator variables: **oldest age** at which the participant could recall receiving corporal punishment, **quickness** of the mother or the mother figure to use corporal punishment, **frequency** with which corporal punishment was received during childhood, and **severity** of the average corporal punishment. **Oldest age** at which the participant could recall receiving corporal

punishment was assessed with a single item that had an open-ended response option. **Quickness** of the mother or mother figure to use corporal punishment was assessed with a single item that had a 5-point Likert-type response scale. Specifically, participants were asked to indicate how quickly their mothers were to resort to the use of corporal punishment. The following response options were provided: 1 = Never; 2 = Rarely; 3 = Moderately quick; 4 = Fairly quick; and 5 = Very quick. **Frequency** with which participants received corporal punishment was assessed with a single item that had an open-ended response option. Specifically, participants were asked to indicate the number of times they could recall receiving corporal punishment during childhood. Participants were asked to indicate the option that best described the severity of the average corporal punishment they received. The following response options were provided: 1 = Slight; 2 = Mild; 3 = Moderate; 4 = Severe; and 5 = Extremely severe.

The latent variable recalled childhood **feelings** following the receipt of corporal punishment was assessed using the following four observed variables: **Anxiety** following the receipt of corporal punishment, **anger** following the receipt of corporal punishment, **fear** following the receipt of corporal punishment, and **perception** of unfairness of the average corporal punishment. **Anxiety** was assessed by asking participants, “On average, how anxious did you recall feeling following the receipt of corporal punishment?” Responses were as follows: 1 = Not at all anxious; 2 = A little anxious; 3 = Somewhat anxious; and 4 = Very anxious. **Anger** was assessed by asking participants, “On average, how angry did you recall feeling following the receipt of corporal punishment?” Responses were as follows: 1 = Not at all angry; 2 = A little angry; 3 = Somewhat angry; and 4 = Very angry. **Fear** was assessed by asking participants, “On average, how afraid did you recall feeling following the receipt of corporal punishment?” Responses were as follows: 1 = Not at all afraid; 2 = A little afraid; 3 = Somewhat afraid; and 4

= Very afraid. Finally, **Perception** of unfairness was assessed by asking participants to indicate how often they perceived the corporal punishment they received as fair and justified. Response options were as follows: 1 = I always felt that the corporal punishment I received was fair and justified; 2 = I sometimes felt that the corporal punishment I received was fair and justified. Other times, I felt that it was unfair and not justified; 3 = Occasionally, I felt that the corporal punishment I received was fair and justified, but usually I felt that it was unfair and not justified; and 4 = I always felt that the corporal punishment I received was unfair and not justified.

### **CES-D Scale**

The widely used Center for Epidemiologic Studies Depression Scale (Radloff, 1977) was used to assess the outcome variable, **depressive** symptoms in young adulthood. The CES-D Scale is a 20-item self-report measure. Each item has a 4-point rating scale. This measure is commonly used to assess presence of depressive symptoms, and it has been found to have acceptable reliability and validity (Radloff). In the present study, the Cronbach's alpha score for this scale was .90.

When completing the measure, participants are asked to recall the past week and indicate how they felt. A sample item is, "I did not feel like eating; my appetite was poor." The response scale for each item is as follows: 0 = Rarely or none of the time (Less than 1 day), 1 = Some or a little of the time (1-2 days), 2 = Occasionally or a moderate amount of time (3-4 days), and 3 = Most or all of the time (5-7 days). Total scores for depressive symptoms were computed using the sum of scores from the 20-item scale. Participants whose total scores ranged from only 0 to 3 were removed prior to data analyses to account for potential "faking good" effects that have been previously found among participants reporting extremely low scores on the CES-D and other measures of depression such as the Beck Depression Inventory (Field, Morrow, Healy,

Foster, Adlestein, & Goldstein, 1991). Participants with missing data on this scale were also eliminated prior to data analyses.

Three items on this scale were reversed-scored. Typically when calculating scores for the CES-D, four items are reverse-scored. However, the nature of one of the traditionally reversed-scored items was adapted for the survey. Specifically, participants indicated how frequently they identified with the statement, “I felt hopeless about the future” rather than the traditional CES-D item “I felt hopeful about the future.” Because this scale demonstrated high reliability in this study and because this specific item was highly correlated to other items in the scale, this change was not considered to be problematic in this case.

### **Externalizing Behavior Problems**

A portion of the scale from the National Youth Survey (Elliot, 1987) questionnaire was used to assess the outcome variable, **externalizing** behavior problems. The measure for this study included 31 items. Each item has a 4-point rating scale. Participants were asked to report the frequency with which they have engaged in stealing, arson, concealing weapons, paid sexual relations, fighting, drug use, or cheating. A sample item is, “...did you ever steal or try to steal a motor vehicle such as a car or motorcycle?” Responses were as follows: 1 = Never, 2 = 1-2 times, 3 = 3-11 times, and 4 = 12 or more times. The original scale asks about 1 specific year in time, 1985; however, in this study, participants were asked to report on their entire history of externalizing behaviors. The Cronbach’s alpha for the items included in this study was .90.

## CHAPTER IV

### DATA ANALYSIS

The primary purpose of this correlational study was to test relations between the latent constructs **parental** reliance on corporal punishment, recalled childhood **feelings** following the receipt of corporal punishment and young adults' current **attachment** to mother. The second purpose was to test the latent constructs recalled **parental** reliance on corporal punishment, recalled childhood **feelings** following the receipt of corporal punishment, and young adults' current **attachment** to mother as predictors of young adults' current **depressive** symptoms and their history of **externalizing** behavior problems. The third purpose was to examine how **gender, race, and social** status moderated the relations between the latent constructs and between the latent constructs and outcome variables.

To accomplish these purposes, several different analyses were used. First, means, frequencies, and percentages were computed to describe the demographic characteristics of the sample. Second, means were computed to describe the sample in terms of the observed variables and the outcome variables of interest. Third, bivariate correlations were conducted using the variables of interest. Fourth, a confirmatory factor analysis was conducted in order to generate values for the latent variables recalled **parental** reliance on corporal punishment, recalled **feelings** following the receipt of corporal punishment, and young adults' **attachment** to mother. Fifth, a series of five regression analyses was conducted to test the basic model of recalled

**parental** reliance on corporal punishment, recalled **feelings** following the receipt of corporal punishment, and young adults' current **attachment** to mother and to test outcome variables of young adults' **depressive** symptoms and history of **externalizing** behavior problems. Finally, a series of five regression analyses was conducted to test the expanded model. The expanded model controlled for **gender** and **race** and included targeted moderator variables based on previous research findings.

When testing the basic model and the expanded model, recalled **parental** reliance on corporal punishment, recalled **feelings** following the receipt of corporal punishment, young adults' current **attachment** to mother, young adults' **depressive** symptoms, and history of **externalizing** behavior problems were each tested as dependent variables using Joreskog's (2000) latent variable approach. For each dependent variable, two regression analyses were conducted. The first regression analysis tested the fit of the variable in the basic model. The second regression analysis tested the fit of the variable in the expanded model. For clarity of presentation, the regression analyses used to test the basic model and the regression analyses used to test the expanded model are presented in an alternating sequence. For each variable, the regression testing the basic model is presented. Then, immediately following the test of the basic model, the regression testing the expanded model is presented.

### **Demographic Characteristics of the Sample**

Means were computed to describe participants' **age** and **social** status. Frequencies and percentages were computed to describe participants' **gender**, **race**, **state** of residence during childhood, **religious** affiliation, **parenthood** status, **mother** figure during childhood, and **primary** disciplinarian during childhood.

The mean age of participants in the sample was 20.92 (SD = 3.74). Participants' ages ranged from 19 to 46 years of age.

The majority of participants in this study originated from families belonging to the middle-class social status level or the upper-class social status level (see Table 1). The mean **social** status rating for participants' family of origin was 52.95 (SD = 10.41). Because scores on Hollingshead's Four Factor Index of Social Status range from 8 to 66, the variable **social** status was excluded from the analysis due to the skewness of the distribution of scores in this sample.

Table 1

*Social Status Groups Represented by Participants' Family of Origin*

Social status group	Score	Frequency
Major Business & Professional	66 – 55	111
Medium business, minor professional, technical	54 – 40	117
Skilled craftsmen, clerical, sales workers	30 – 39	36
Machine operators, semiskilled workers	20 – 29	5

Note:  $N = 269$ . Social status groups are based on major social strata outlined by Hollingshead (1975) and are computed based on participants responses about their Mother's highest level of education, Mother's current occupation, Father's highest level of education, and Father's current occupation. Hollingshead (1975) also included a strata group of unskilled laborers and menial service workers whose social status indexes range between 8 and 19. However, there were no participants in this sample whose families belonged to this social status group.

According to Hollingshead (1975), ratings that fall between the range of 40 and 54 reflect a social status typical of middle-class workers such as owners of medium-sized businesses, minor professionals, and technical workers. Ratings that fall between the range of 55 and 66 reflect a social status typical of upper-class workers such as owners of major businesses and

major professionals. Table 1 provides a description of all of the social status groups represented in this sample. In general social status ratings may range from 8 to 66 (Hollingshead, 1975). However, social status ratings in the sample drawn for this study ranged from only 20 to 66. Furthermore, very few participants reported social status ratings below 40. Even fewer reported ratings below 30. Overall, participants in this sample came from middle-class or upper-class families.

Most of the participants in this sample were female. Specifically, seventy-nine percent of participants (N = 296) were female, and twenty-one percent of participants (N = 78) were male.

The majority of participants identified themselves as Caucasian/European American/White. Specifically, 81% of participants (N = 303) identified themselves as Caucasian/European American/White, and 19% of participants (N = 71) identified themselves as African American/Black. For the remainder of this paper, participants who identified themselves as Caucasian/European American/White will be referred to as “White.” Participants who identified themselves as African American/Black will be referred to as “Black.”

Most participants were raised in the state of Alabama. Seventy-six percent of participants (N = 284) spent the majority of their childhood years in the state of Alabama. Twenty-four percent of participants (N = 90) spent the majority of their childhood years in another state.

Participants were largely identified as having a Protestant religious affiliation. Eighty-two percent of participants (N = 305) identified themselves as Protestant. Nine percent of participants (N = 35) identified themselves as Catholic. One percent of participants (N = 3) identified themselves as Jewish. Three percent of participants (N = 14) reported no religious affiliation. Finally, five percent of participants (N = 17) reported having another religious affiliation.

Participants typically did not have children of their own. Specifically, 94% of participants (N = 352) indicated that they did not have children of their own. Six percent of participants (N = 21) indicated that they did have children of their own. One participant did not provide a response to this item.

Participants were typically raised by their biological mother who was present in their childhood home. Specifically, 99% of participants (N = 369) indicated that they were raised with a biological mother who was present in their childhood home. One percent of participants (N = 5) indicated that they were not raised with their biological mother who was present in their childhood home. However, participants who were not raised by their biological mother indicated that they were raised with a surrogate mother figure that was present in their childhood home. Three participants indicated that their surrogate mother figure was a grandmother. The remaining two participants indicated that their surrogate mother figure was a stepmother. Both the biological mother figure and the surrogate mother figure will be referred to as the mother during the reporting of the results and the discussion section of this study.

A small majority of participants (56%; N = 208) indicated that their mother was the primary disciplinarian in their childhood home. Forty percent of participants (N = 149) indicated that their father was the primary disciplinarian in their childhood home. Four percent of participants (N = 17) indicated that another person, such as a grandparent or stepparent other than one who was serving as a surrogate mother figure, was the primary disciplinarian in their childhood home.

### **Descriptive Analyses of Observed Variables and Outcome Variables in the Model**

In order to provide a description of the sample in terms of the variables of interest, means, standard deviations, and ranges were computed for the observed variables and the

outcome variables in this study. Table 2 presents the descriptive statistics and the latent constructs associated with each observed variable. The values for the skewness and kurtosis of each variable are also presented. Values of 0 for tests of skewness and kurtosis indicate a perfectly normal distribution. However, perfectly normal distributions are uncommon in social science research (Pallant, 2005). Most of the variables in this study demonstrated relatively low values of skewness and kurtosis. Two exceptions were **frequency** of corporal punishment across childhood and **severity** of corporal punishment across childhood. Both of these variables demonstrated relatively high positive values of kurtosis indicating a high frequency of cases at extreme values. High kurtosis persisted even after replacing outlier scores with more moderate values. While high kurtosis scores present a significant problem for small sample sizes, they are not typically problematic for the analysis of samples greater than 200 cases (Tabachnick & Fidell, 2001). It is also the case that regression analyses has been found to be robust to non-normal distributions when the variable residuals are normally distributed (DeCoster, 2006). An examination of the data in this study using histograms and normal probability plots revealed that the residuals of the variables in this study were relatively normally distributed.

Table 2

*Mean Estimates for Observed Variables*

Variable	<i>M</i> (SD)	Range	Skewness (SE)	Kurtosis (SE)
Parental reliance on CP				
Quickness	2.60 (.83)	1.00 – 5.00	.47 (.13)	-.26 (.25)
Frequency	16.50 (28.41)	1 – 200	4.16 (.13)	20.22 (.25)
Oldest age	11.21 (3.18)	2 – 19	-.07 (.13)	-.51 (.25)
Severity	2.09 (.88)	1.00 – 5.00	1.44 (.13)	4.55 (.25)
Feelings following the receipt of CP				
Anxiety	2.26 (.94)	1.00 – 4.00	.45 (.13)	-.61 (.25)
Anger	2.49 (.99)	1.00 – 4.00	.14 (.13)	-1.02 (.25)
Unfairness	1.86 (.95)	1.00 – 4.00	1.45 (.13)	1.83 (.25)
Fear	1.49 (.71)	1.00 – 4.00	.82 (.13)	-.38 (.25)
Attachment to mother				
Trust	4.36 (.74)	1.50 – 5.00	-1.71 (.13)	3.01 (.25)
Communication	4.08 (.81)	1.22 – 5.00	-.94 (.13)	.35 (.25)
Alienation	4.05 (.77)	1.00 – 5.00	-.98 (.13)	1.11 (.25)
Depressive symptoms	14.86 (9.35)	4.00 – 52.00	1.19 (.14)	1.35 (.28)
Externalizing behaviors	1.15 (.23)	1.00 – 4.00	3.07 (.13)	12.19 (.25)

Note:  $N = 374$ . SD = Standard deviation. SE = Standard error. CP = Corporal punishment. Quickness = Quickness of the mother to use corporal punishment. Frequency = Frequency of corporal punishment across childhood. Oldest age = Oldest age at time of last received corporal punishment. Severity = Severity of the average corporal punishment. Feelings = Feelings following the receipt of corporal punishment. Anxiety = Anxiety following the receipt of corporal punishment. Anger = Anger following the receipt of corporal punishment. Fear = Fear following the receipt of corporal punishment. Unfairness = Perception of unfairness following the receipt of corporal punishment. Trust = Trust in the mother. Communication = Communication with the mother. Alienation = Alienation from the mother. Depressive symptoms = Depressive symptoms in young adulthood. Externalizing behaviors = Externalizing behavior problems. For Quickness, Frequency, Oldest age, Severity, Anxiety, Anger, Fear, Unfair, Trust, and Communication, higher values indicate a greater amount of the variable. For Alienation, higher values indicate a lesser amount of the variable.

The observed variables associated with recalled **parental** reliance on corporal punishment included **quickness** of the mother to use corporal punishment, **frequency** of corporal punishment across childhood, **oldest age** at time of last corporal punishment, and **severity** of the average corporal punishment. On average, participants recalled that their mothers were “moderately quick” to use corporal punishment during their childhood years ( $M = 2.60$ ,  $SD = .83$ ), that they received corporal punishment about 17 times during childhood ( $M = 16.50$ ,  $SD = 28.41$ ), that they were approximately 11 years of age ( $M = 11.21$ ,  $SD = 3.18$ ) the last time they

received corporal punishment, and that the corporal punishment they received was “mild” ( $M = 2.09$ ,  $SD = .88$ ).

The observed variables associated with recalled **feelings** following the receipt of corporal punishment included **anxiety** following the receipt of corporal punishment, **anger** following the receipt of corporal punishment, **fear** following the receipt of corporal punishment, and **perception** of unfairness following the receipt of corporal punishment. On average, participants recalled feeling “a little anxious” ( $M = 2.26$ ,  $SD = .94$ ), “somewhat angry” ( $M = 2.49$ ,  $SD = .99$ ), and “a little afraid” ( $M = 1.86$ ,  $SD = .95$ ). On average, participants also recalled feeling that the corporal punishment that they received was “fair and justified most of the time but occasionally was unfair and not justified” ( $M = 1.49$ ,  $SD = .71$ ).

The observed variables associated with young adults’ current **attachment** to mother included **trust** in the mother, **communication** with the mother, and **alienation** from the mother. Using a 5-point scale in which a higher score indicated a greater amount of trust, the mean score for **trust** in the mother was 4.36 ( $SD = .74$ ). Using a 5-point scale in which a higher score indicated a greater amount of communication, the mean score for **communication** with the mother was 4.08 ( $SD = .81$ ). Using a 5-point scale in which a higher score indicated less alienation from the mother (or greater closeness), the mean score for **alienation** from the mother was 4.05 ( $SD = .77$ ).

In this sample, the mean score for **depressive** symptoms in young adulthood was 14.86 ( $SD = 9.35$ ). This mean indicates that the typical participant in this study experienced symptoms of depression 1 – 2 days during the week of data collection. When using the CES-D, mean scores can range from 4.00 to 60.00, with higher scores indicating more frequent symptoms of depression. Scores reported by the participants in this sample ranged from 4.00 to 52.00.

In this sample, the mean score for **externalizing** behavior problems was 1.15 (SD = .23). This mean indicates that the typical participant in this sample did not have a history of externalizing behavior problems. Using the portion of the NYS selected for this study, scores can range from 1.00 to 4.00, with higher scores indicating more externalizing behavior problems. However, scores reported by the participants in this sample ranged from only 1.00 to 2.52.

### **Testing the Model Using the Latent Variable Approach**

The primary purpose of this study was to determine if the observed set of data fit a model of recalled **parental** reliance on corporal punishment, recalled **feelings** following the receipt of corporal punishment, and young adults' **attachment** to mother. To achieve this goal, structural equation modeling (SEM) was used because a large sample was available and because multiple indicators were included for each variable. However, the secondary purposes of this study were to test how the model predicted outcome variables without multiple indicators and to explore targeted moderator variables. The use of variables without multiple indicators and the use of targeted moderators have not been commonly examined using SEM. However, Joreskog (2000) described a technique termed the "latent variable approach." In this approach, SEM is first used to estimate values of the latent variables in the model from observed measurements. These latent variables are then saved to a data set, and the relationships among them are examined using regression analysis. This approach separates the estimation of the measurement model from the estimation of the structural model, which are usually performed at the same time in traditional SEM.

The primary reason for choosing the latent variable approach over traditional SEM is because the dependent variables, **depressive** symptoms in young adulthood and **externalizing** behavior problems, did not have multiple indicator variables. Multiple indicators for the

variables of interest are necessary to conduct a traditional SEM (Schumacker & Lomax, 2004). Some investigators attempt to divide items on a scale associated with a single indicator variable as a way to create multiple indicator variables; however, this is not the recommended method for dealing with variables with single indicators (J. DeCoster, personal communication, February 2, 2010). Conducting a path analysis is another option for including variables with single indicators, but a major assumption of path analysis is that variables have very little multicollinearity, and this is particularly the case when testing interaction effects (Schumacker & Lomax, 2004). This is often problematic because as Schumacker & Lomax (2004) write, “It is very likely that the interaction factor will be highly correlated with the observed variables used to construct it.” Recently, the use of path analysis has received considerable scrutiny by researchers who argue that it is often not the most appropriate statistical procedure, particularly for studies in the social sciences (Stone-Romero & Rosopa, 2004; Freedman, 1987). Consequently in the present study, the latent variable approach was chosen over a path analysis. This relatively new method has been used to test similar theoretical models with interaction terms (Hilgeman et al., 2009). In addition, regression analysis has been used in recent published studies to test interaction effects related to parents’ reliance on corporal punishment and attachment to mother (Mulvaney & Mebert, 2010).

In the application of the latent variable approach for this study, confirmatory factor analysis was used to estimate the measurement model and to generate latent values for recalled Parental reliance on corporal punishment, recalled **feelings** following the receipt of corporal punishment, and young adults’ current **attachment** to mother. Regression analyses were used to test the structural model of recalled **parental** reliance on corporal punishment, **feelings** following the receipt of corporal punishment, and young adults’ current **attachment** to mother.

Regression analysis was also used to test the ability of latent constructs in the model to predict the outcome variables **depressive** symptoms in young adulthood and **externalizing** behavior problems. Finally, regression analysis was used to test **gender** and **race** as targeted moderators of specific relations.

### **Generating Latent Values Using Confirmatory Factor Analysis**

A confirmatory factor analysis was conducted to test a measurement model of recalled **parental** reliance on corporal punishment, recalled **feelings** following the receipt of corporal punishment, and young adults' current **attachment** to mother. The observed variables associated with recalled **parental** reliance on corporal punishment were **quickness** of the mother to use corporal punishment, **frequency** of corporal punishment across childhood, **oldest age** at time of last corporal punishment, and **severity** of the average corporal punishment. The observed variables associated with recalled **feelings** following the receipt of corporal punishment were **anxiety** following the receipt of corporal punishment, **anger** following the receipt of corporal punishment, **fear** following the receipt of corporal punishment, and **perception** of unfairness following the receipt of corporal punishment. The observed variables associated with young adults' current **attachment** to mother were **trust** in the mother, **communication** with the mother, and **alienation** from the mother. The parameters for the observed variables **quickness** of the mother to use corporal punishment, **anxiety** following the receipt of corporal punishment, and **trust** in the mother were fixed to 1.00. Parameters for the remaining variables were allowed to vary. The confirmatory factor analysis suggested the measurement model was fit, using Amos 17.0.1 (Arbuckle, 2008) with a maximum likelihood estimation method (see Table 3). All factor loadings were found to be statistically significant. The chi-square value for the model was significant,  $\chi^2(41) = 105.49, p < .001$ .

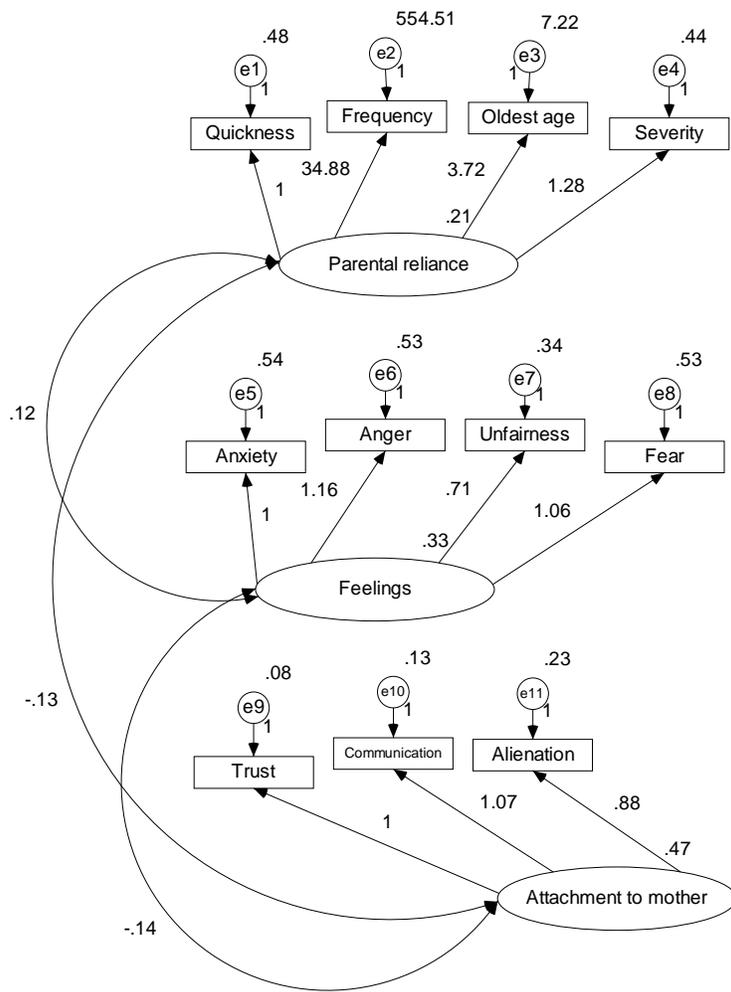
Table 3

*Confirmatory Factor Analysis (CFA) of Recalled Parental Reliance on Corporal Punishment, Recalled Feelings Following the Receipt of Corporal Punishment, and Young Adults' Current Attachment to Mother*

Variables	CFA Model	
	Estimate	S.E.
Parental reliance on corporal punishment		
Quickness	1.00	(fixed)
Frequency	34.88	4.98
Oldest age	3.72	.55
Severity	1.28	.17
Feelings following the receipt of corporal punishment		
Anxiety	1.00	(fixed)
Anger	1.16	.13
Unfairness	.71	.09
Fear	1.06	.12
Attachment to mother		
Trust	1.00	(fixed)
Communication	1.07	.04
Alienation	.88	.05

Note:  $N = 374$ . All estimates were significant ( $p < .01$ ). Quickness = Quickness of the mother to use corporal punishment. Frequency = Frequency of corporal punishment across childhood. Oldest age = Oldest age at time of last received corporal punishment. Severity = Severity of the average corporal punishment. Anxiety = Anxiety following the receipt of corporal punishment. Anger = Anger following the receipt of corporal punishment. Fear = Fear following the receipt of corporal punishment. Unfairness = Perception of unfairness following the receipt of corporal punishment. Trust = Trust in the mother. Communication = Communication with the mother. Alienation = Alienation from the mother.

The overall measurement model was fit as indicated by the goodness-of-fit index (GFI) (.95), the normal fit index (NFI) (.93), the comparative fit index (CFI) (.95), and the adjusted goodness-of-fit index (AGFI) (.92). For each of these model fit statistics, values close to 1.00 indicate a good fit. Figure 2 displays the covariance and parameter estimates.



Note. The overall measurement model fit was found to have a good fit as indicated by the goodness-of-fit index (GFI) (.95), the normal fit index (NFI) (.93), the comparative fit index (CFI) (.95), and the adjusted goodness-of-fit index (AGFI) (.92). Parental reliance = Parental reliance on corporal punishment. Quickness = Quickness of the mother to use corporal punishment. Frequency = Frequency of corporal punishment across childhood. Oldest age = Oldest age at time of last corporal punishment. Severity = Severity of the average corporal punishment. Feelings = Feelings following the receipt of corporal punishment. Anxiety = Anxiety following the receipt of corporal punishment. Anger = Anger following the receipt of corporal punishment. Unfairness = Perception of unfairness following the receipt of corporal punishment. Fear = Fear Following the receipt of corporal punishment. Trust = Trust in the mother. Communication = Communication with the mother. Alienation = Alienation from the mother.

Fig. 2. Confirmatory factor analysis of parental reliance on corporal punishment, feelings following the receipt of corporal punishment, and attachment to mother

### Bivariate Correlations

Bivariate correlations were conducted using each of the observed variables measured in this study (see Table 4). In addition to the factor loadings generated using the confirmatory factor analysis, the results of these bivariate correlations illustrate that observed variables that are

theoretically related to one another are also interrelated at the bivariate level. Specifically, the observed variables for recalled **parental** reliance on corporal punishment (**quickness** of mother to use corporal punishment, **frequency** of corporal punishment across childhood, **oldest age** at time of last corporal punishment, and **severity** of the average corporal punishment) were interrelated. The observed variables for recalled childhood **feelings** following the receipt of corporal punishment (**anxiety** following the receipt of corporal punishment, **anger** following the receipt of corporal punishment, **fear** following the receipt of corporal punishment, and **perception** of unfairness following the receipt of corporal punishment) were interrelated. Finally, the observed variables for current **attachment** to mother (**trust** in the mother, **communication** with the mother, and **alienation** from the mother) were interrelated.

Table 4

*Correlations Between Observed Variables*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Gender		.03	-.02	-.07	-.03	-.22***	-.01	.08	.00	.05	.08	.13***	.06	-.01	-.23***
2. Race			.14**	.06	.24***	.25***	.02	.20***	.08*	.22***	-.16***	-.14**	-.16***	.10*	-.01
3. Quickness				.37***	.33***	.29***	.15***	.17***	.05	.07	-.21***	-.17***	-.16***	.06	-.03
4. Frequency					.27***	.32***	.18***	.13***	.09*	.14***	-.26***	-.20***	-.13**	.10*	.10*
5. Oldest age						.34***	.17***	.20***	.12**	.17***	-.18***	-.15***	-.16***	.18***	.04
6. Severity							.26***	.21***	.16***	.25***	-.27***	-.21***	-.24***	.11*	.18***
7. Anxiety								.44***	.42***	.30***	-.14**	-.14**	-.22***	.25***	.15***
8. Anger									.45***	.38***	-.16***	-.12**	-.23***	.23***	.10*
9. Fear										.37***	-.20***	-.18***	-.19***	.22***	.10**
10. Unfairness											-.38***	-.31***	-.39***	.31***	.11**
11. Trust												.83***	.72***	-.41***	-.18***
12. Communication													.71***	-.36***	-.14**
13. Alienation														-.44***	-.20***
14. Depressive symptoms															.07
15. Externalizing behaviors															

\* $p < .10$ ; \*\* $p < .05$ ; \*\*\* $p < .01$ .

N's for the correlations ranged from 50 to 66 due to missing data.

Table 4 (con't.)

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*Note.* Quickness = Quickness of the mother to use corporal punishment. Frequency = Frequency of corporal punishment across childhood. Oldest age = Oldest age at time of last corporal punishment. Severity = Severity of the average corporal punishment. Anxiety = Anxiety following the receipt of corporal punishment. Anger = Anger following the receipt of corporal punishment. Unfairness = Perception of unfairness following the receipt of corporal punishment. Fear = Fear Following the receipt of corporal punishment. Trust = Trust in the mother. Communication = Communication with the mother. Alienation = Alienation from the mother. Depressive symptoms = Depressive symptoms in young adulthood. Externalizing behaviors = History of externalizing behavior problems in young adulthood. For Gender, 0 = Male and 1 = Female. For Race, 0 = White and 1 = Black. A higher score for Quickness indicates that mothers were more quick to use corporal punishment. A higher score for Frequency indicates more frequent corporal punishment. A higher score for Severity indicates that the average corporal punishment received was more severe. A higher score for Oldest age indicates that participants were older when they received their first corporal punishment. A higher score for each feeling state (Anxiety, Anger, Fear and Unfairness) indicates higher levels of that feeling state. A higher score for Trust in mother indicates more trust. A higher score for Communication with mother indicates greater communication. A higher score for Alienation from mother indicates less alienation. A higher score for Depressive symptoms indicates more depressive symptoms. A higher score for Externalizing behaviors indicates a history with more externalizing behavior problems.

Latent values generated using the confirmatory factor analysis were imported into SPSS 16.0. Because interactions would be tested, the values were centered and standardized in accordance with Aiken and West's (1991) recommendations. Bivariate correlations were then conducted on the variables of interest. **Gender**, **race**, recalled **parental** reliance on corporal punishment, recalled **feelings** following the receipt of corporal punishment, young adults' current **attachment** to mother, **depressive** symptoms in young adulthood, and **externalizing** behavior problems in young adulthood were included (see Table 5).

Table 5

*Correlations Between Latent Variables and Observed Variables*

	1	2	3	4	5	6	7
1. Gender		.03	-.13*	.01	.11*	-.01	-.23**
2. Race			.28**	.21**	-.17**	.10	-.01
3. Parental reliance				.60**	-.51**	.25**	.16**
4. Feelings					-.43**	.37**	.18**
5. Attachment to mother						-.43**	-.18**
6. Depressive symptoms							.07
7. Externalizing behavior problems							

\* $p < .05$ ; \*\* $p < .01$ .

N's for the correlations ranged from 319 to 374 due to missing data.

*Note.* For Gender, 0 = Male and 1 = Female. For race, 0 = White and 1 = Black. A higher score for Parental reliance indicates greater reliance on corporal punishment as indicated by Quickness of the mother to use corporal punishment, Frequency of corporal punishment, Oldest age of last corporal punishment and Severity of the average corporal punishment. A higher score for Feelings indicates more intense negative feelings following the receipt of corporal punishment as indicated by Anxiety, Anger, Fear, and Feelings of unfairness following the receipt of corporal punishment. A higher score for Attachment to mother indicates a higher quality of attachment to the mother in young adulthood as indicated by Trust in the mother, Communication with the mother, and Alienation from the mother. A higher score for Depressive symptoms indicates more depressive symptoms reported during young adulthood. A higher score for Externalizing behavior problems indicates a history with more instances of externalizing behavior problems.

**Gender** and recalled **parental** reliance on corporal punishment were negatively related indicating that participants who were male recalled more parental reliance on corporal punishment than participants who were female. **Gender** and **externalizing** behavior problems were negatively related indicating that participants who were male reported a greater number of externalizing behavior problems than did participants who were female. Finally, **gender** and **attachment** to mother were positively related indicating that participants who were female reported a higher quality of attachment to their mothers than did participants who were male.

Race and recalled **parental** reliance on corporal punishment were positively correlated indicating that participants who were Black also reported greater **parental** reliance on corporal punishment than participants who were White. **Race** and **feelings** following the receipt of corporal punishment were positively correlated indicating that participants who were Black also reported more intense feelings following the receipt of corporal punishment during childhood than did participants who were White. Finally, **race** and **attachment** to mother were negatively correlated indicating that participants who were White reported a higher quality of attachment to their mothers in young adulthood than did participants who were Black.

Recalled **parental** reliance on corporal punishment was positively related to recalled **feelings** following the receipt of corporal punishment in that participants who recalled greater parental reliance on corporal punishment also recalled more intense negative feelings following the receipt of corporal punishment. **Parental** reliance on corporal punishment was negatively related to **attachment** to mother. Specifically, participants who recalled greater parental reliance on corporal punishment during childhood also reported a lower quality of attachment to mother during young adulthood. Recalled **parental** reliance on corporal punishment was positively related to **depressive** symptoms in young adulthood. Participants who recalled greater parental

reliance on corporal punishment during childhood also reported more symptoms of depression during young adulthood. Finally, recalled **parental** reliance on corporal punishment was positively related to young adults' history of **externalizing** behavior problems. In particular, participants who recalled greater parental reliance on corporal punishment also reported a history with more externalizing behavior problems.

Recalled **feelings** following the receipt of corporal punishment was negatively related to young adults' current **attachment** to mother in that participants who recalled more intense negative feelings following childhood corporal punishment also reported a lower quality of current attachment to their mothers than participants who recalled less intense negative feelings. Recalled **feelings** following the receipt of corporal punishment was positively related to **depressive** symptoms in young adulthood. Participants who recalled more intense negative feelings following the receipt of corporal punishment also reported more symptoms of depression during young adulthood than participants who recalled less intense negative feelings. Finally, recalled **feelings** following the receipt of corporal punishment was positively related to **externalizing** behavior problems. Participants who recalled more intense negative feelings following the receipt of corporal punishment also reported more instances of externalizing behavior problems than participants who recalled less intense negative feelings.

Young adults' current **attachment** to mother was negatively related to **depressive** symptoms in young adulthood. Participants who reported a lower quality of current attachment to their mothers also reported more symptoms of depression in young adulthood than participants who reported a higher quality of attachment to mother. Young adults' current attachment to mother was also negatively related to **externalizing** behavior problems. Participants who reported a lower quality of current attachment to mother also reported more instances of

externalizing behavior problems across adolescence and young adulthood than participants who reported a higher quality of attachment to mother.

### **Recalled Parental Reliance on Corporal Punishment and Recalled Feelings Following the Receipt of Corporal Punishment as Predictors of Young Adults' Current Attachment to Mother**

To address the primary purpose of this study, three separate regression models were used to test the relationship among the three latent variables. The first regression (see Table 6) predicted **attachment** to mother from **parental** reliance on corporal punishment and **feelings** following the receipt of corporal punishment. The model was significant,  $F(2, 371) = 73.84, p < .001$ . **Parental** reliance on corporal punishment and **feelings** following the receipt of corporal punishment were collectively found to be significant predictors and explained 29% of the variance in **attachment** to mother. Significant main effects for **parental** reliance on corporal punishment and **feelings** following the receipt of corporal punishment were found. Less **parental** reliance on corporal punishment and less intense **feelings** following the receipt of corporal punishment predicted greater **attachment** to mother. While conducting the regression analyses, participants were excluded if they had missing data related to one of the variables of interest. Missing data from individual participants on specific variables resulted in regression models with varying sample sizes.

Table 6

*Predicting Attachment to Mother Using Latent Variables and Targeted Moderator Variables*

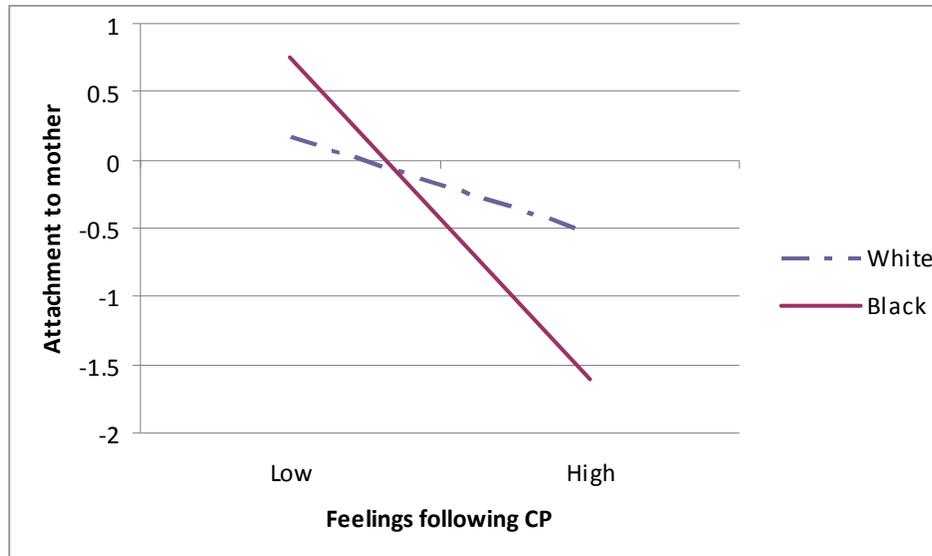
Predictors	Basic Model			Model with Moderators		
	$\beta$	$t$	Sig.	$\beta$	$t$	Sig.
Parental reliance	-.39	-7.14	<.001	-.38	-5.80	<.001
Feelings	-.20	-3.64	<.001	-.15	-2.36	.02
Gender				.07	1.48	.14
Race				-.01	-.12	.90
Parental reliance x Race				.05	.57	.57
Feelings x Race				-.14	-2.09	.04
Parental reliance x Feelings x Race				-.02	-.26	.80
R <sup>2</sup>	.29			.30		
N =	374			374		

Notes: Alpha was set at  $p < .05$ ; overall model predicting Attachment to mother was significant. Parental reliance = Parental reliance on corporal punishment; Feelings = Feelings following the receipt of corporal punishment. R<sup>2</sup> significant,  $p < .001$ .

The second regression (see Table 6) included **parental** reliance on corporal punishment and **feelings** following the receipt of corporal punishment while controlling for **gender** and **race**. In addition, three targeted moderator variables were included as interaction terms. In the pilot phase of this study, variables related to **parental** reliance on corporal punishment such as **quickness** of the mother to use corporal punishment and **severity** of the average corporal punishment predicted **attachment** to mother. However, slopes for these relationships were steeper for Black participants than for White participants (see Appendix). Therefore, the moderating effect of **race** on **parental** reliance on corporal punishment and **attachment** to mother was tested in the current study by including the interaction term **parental** reliance x **race**. Also in the pilot phase of the study, a statistical trend emerged in bivariate correlations for the

relationship between **race** and **anger** following the receipt of corporal punishment (see Appendix). Therefore, the moderating effect of **race** on the relationship between **feelings** following the receipt of corporal punishment and **attachment** to mother was tested in the current study by including the interaction term **feelings** x **race**. Finally, to test for a possible three-way interaction between **parental** reliance on corporal punishment, **feelings** following the receipt of corporal punishment, and **race**, the interaction term **parental** reliance x **feelings** x **race** was entered into the regression model.

The second regression (see Table 6) revealed that the model was significant,  $F(7, 366) = 22.43, p < .001$ . Recalled **parental** reliance on corporal punishment, **feelings** following the receipt of corporal punishment, **gender**, **ethnicity**, **social** status, and the targeted moderators were collectively found to be significant predictors of **attachment** to mother and explained 30% of the variance in **attachment** to mother. Significant main effects were found for recalled **parental** reliance on corporal punishment, **feelings** following the receipt of corporal punishment, and **feelings** following the receipt of corporal punishment x **race**. Less **parental** reliance on corporal punishment predicted greater **attachment** to mother. Less intense **feelings** following the receipt of corporal punishment predicted greater **attachment** to mother. Finally, the interaction of **feelings** following the receipt of corporal punishment x **race** was significant, and the slope of the relationship was steeper for Black participants than for White participants (see Figure 3). Specifically, Black participants who recalled more intense negative feelings following the receipt of corporal punishment were significantly less attached to their mothers than White participants who recalled similar intensity of negative feelings following the receipt of corporal punishment.



Note:  $N = 374$ . Values are standardized. Feelings following CP = Feelings following the receipt of corporal punishment.

Fig. 3. Feelings following the receipt of corporal punishment x race on attachment to mother

### Recalled Parental Reliance on Corporal Punishment and Young Adults' Current Attachment to Mother as Predictors of Recalled Feelings Following the Receipt of Corporal Punishment

The third regression (see Table 7) predicted recalled **feelings** following the receipt of corporal punishment from recalled **parental** reliance on corporal punishment and young adults' current **attachment** to mother. The model was significant,  $F(2, 371) = 112.50, p < .001$ .

Collectively, **parental** reliance on corporal punishment and **attachment** to mother explained 38% of the variance in **feelings** following the receipt of corporal punishment. Significant main effects for **parental** reliance on corporal punishment and **attachment** to mother were found.

Greater **parental** reliance on corporal punishment predicted more intense negative **feelings** following the receipt of corporal punishment. However, greater **attachment** to mother predicted less intense negative **feelings** following the receipt of corporal punishment.

Table 7

*Predicting Feelings Following the Receipt of Corporal Punishment Using Latent Variables and Targeted Moderators*

Predictors	Basic Model			Model with Moderators		
	$\beta$	$t$	Sig.	$\beta$	$t$	Sig.
Parental reliance	.51	10.67	<.001	.50	10.44	<.001
Attachment to mother	-.17	-3.64	<.001	-.18	-3.74	<.01
Gender				.10	2.33	.02
Race				.03	.71	.48
R <sup>2</sup>	.38			.39		
N =	374			374		

Notes: Alpha was set at  $p < .05$ ; overall model predicting Feelings following the receipt of corporal punishment was significant. Parental reliance = Parental reliance on corporal punishment. R<sup>2</sup> significant,  $p < .001$ .

The fourth regression (see Table 7), predicted **feelings** following the receipt of corporal punishment from **parental** reliance on corporal punishment and **attachment** to mother while controlling for **gender**, and **race**. The model was significant,  $F(4, 369) = 58.43, p < .001$ . No targeted moderators were included in this model. Collectively, **parental** reliance on corporal punishment, **attachment** to mother, **gender**, and **race** explained 39% of the variance in negative **feelings** following the receipt of corporal punishment. Significant main effects were found for **parental** reliance on corporal punishment, **attachment** to mother, and **gender**. Greater **parental** reliance on corporal punishment predicted more intense negative **feelings** following the receipt of corporal punishment. However, less **attachment** to mother predicted less intense **feelings** following the receipt of corporal punishment. Finally, being female predicted more intense negative **feelings** following the receipt of corporal punishment.

### **Child's Feelings Following the Receipt of Corporal Punishment and Young Adults' Current Attachment to Mother as Predictors of Recalled Parental Reliance on Corporal Punishment**

The fifth regression (Table 8), predicted recalled **parental** reliance on corporal punishment from recalled **feelings** following the receipt of corporal punishment and young adults' current **attachment** to mother. The model was significant,  $F(2, 371) = 141.73, p < .001$ . Collectively, recalled **feelings** following the receipt of corporal punishment and young adults' current **attachment** to mother predicted 43% of the variance in recalled **parental** reliance on corporal punishment. Significant main effects for recalled **feelings** following the receipt of corporal punishment and **attachment** to mother were found (see Table 8). More intense recalled **feelings** following the receipt of corporal punishment predicted higher values of recalled **parental** reliance on corporal punishment. However, greater young adults' current **attachment** to mother predicted less recalled **parental** reliance on corporal punishment.

Table 8

*Predicting Parental Reliance on Corporal Punishment Using Latent Variables and Targeted Moderators*

Predictors	Basic Model			Model with Moderators		
	$\beta$	$t$	Sig.	$\beta$	$t$	Sig.
Feelings	.46	10.67	<.001	.45	4.22	<.001
Attachment to mother	-.31	-7.14	<.001	-.32	-3.55	<.001
Gender				-.11	-2.73	.01
Race				.13	3.23	<.001
Feelings x Gender				-.02	-.14	.89
Feelings x Race				.04	.74	.46
Attachment x Gender				.05	.59	.56
Attachment x Race				.01	.11	.91
R <sup>2</sup>	.43			.46		
N =	374			374		

Notes: Alpha was set at  $p < .05$ ; overall model predicting Parental reliance on corporal punishment was significant. Feelings = Feelings following the receipt of corporal punishment. R<sup>2</sup> significant,  $p < .001$ .

In the sixth regression (see Table 8), recalled **parental** reliance on corporal punishment was predicted from **feelings** following the receipt of corporal punishment and young adults' current **attachment** to mother while controlling for **gender**, and **race**. In addition, four targeted moderator variables were included. Prior studies have found that **gender** and **race** often predict parents' use of corporal punishment. Consequently, **gender** and **race** were tested as moderators in this model using the following interaction terms: recalled **feelings** following the receipt of corporal punishment x **gender**, recalled **feelings** following the receipt of corporal punishment x **race**, young adults' current **attachment** to mother x **gender**, and young adults' current **attachment** to mother x **race**.

The sixth regression (see Table 8), predicted **parental** reliance on corporal punishment from recalled **feelings** following the receipt of corporal punishment, young adults' **attachment** to mother, **gender**, **race**, and the targeted moderator variables. The model was significant,  $F(8, 365) = 39.51, p < .001$ . Collectively, the set of variables predicted 46% of the variance in recalled **parental** reliance on corporal punishment. Significant main effects were found for **feelings** following the receipt of corporal punishment, **attachment** to mother, **gender**, and **race**. Greater **feelings** following the receipt of corporal punishment predicted greater **parental** reliance on corporal punishment. However, less **attachment** to mother predicted greater **parental** reliance on corporal punishment. Male participants reported greater **parental** reliance on corporal punishment than female participants. Finally, Black participants reported greater **parental** reliance on corporal punishment than White participants.

### **Predicting Depression Symptoms in Young Adulthood Using Linear Regression**

The seventh regression (see Table 9), predicting **depressive** symptoms in young adulthood from **parental** reliance on corporal punishment, **feelings** following the receipt of corporal punishment, **attachment** to mother, and **externalizing** behavior problems, revealed that the model was significant,  $F(4, 289) = 21.47, p < .001$ . Collectively, these variables were found to predict 23% of the variance in **depressive** symptoms in young adulthood. Significant main effects were found for **feelings** following the receipt of corporal punishment and **attachment** to mother (see Table 9). Greater **feelings** following the receipt of corporal punishment predicted greater **depressive** symptoms in young adulthood. Less **attachment** to mother also predicted greater **depressive** symptoms in young adulthood.

Table 9

*Predicting Depressive Symptoms in Young Adulthood from Latent Constructs and Targeted Moderator Variables*

Predictors	Basic Model			Model with Moderators		
	$\beta$	$t$	Sig.	$\beta$	$t$	Sig.
Parental reliance	-.09	-1.30	.20	.10	.68	.50
Feelings	.26	4.00	<.001	.28	4.14	<.001
Attachment to mother	-.36	-5.89	<.001	-.36	-5.74	<.001
Externalizing behavior problems	-.01	-.19	.85	-.01	-.17	.87
Gender				.05	.82	.41
Race				.02	.33	.74
Parental reliance x Gender				-.20	-1.46	.15
Parental reliance x Race				-.01	-.05	.96
Parental reliance x Gender x Race				-.04	-.32	.75
R <sup>2</sup>	.23			.24		
N =	294			294		

Notes: Alpha was set at  $p < .05$ ; overall model predicting Depressive symptoms in young adulthood was significant. Parental reliance = Parental reliance on corporal punishment; Feelings = Feelings following the receipt of corporal punishment. R<sup>2</sup> significant,  $p < .001$ .

In the eighth regression (see Table 9), **depressive** symptoms in young adulthood was predicted from **parental** reliance on corporal punishment, **feelings** following the receipt of corporal punishment, and **attachment** to mother while controlling for **externalizing** behavior problems, **gender** and **race**. In addition, three targeted moderator variables were included in the model. Previous research studies have found that **gender** and **race** might influence the relation between parents' use of corporal punishment and symptoms of depression. Thus, **gender** and **race** were tested as moderators of the relation between **parental** reliance on corporal punishment and **depressive** symptoms in young adulthood by including the interaction terms **parental**

reliance on corporal punishment x **gender** and **parental** reliance on corporal punishment x **race**. Finally, a three-way effect was tested by including the interaction term **parental** reliance on corporal punishment x **gender** x **race**.

The eighth regression (see Table 9), predicting **depressive** symptoms in young adulthood from the set of variables, revealed that the model was significant,  $F(9, 284) = 10.05, p < .001$ . Collectively, **parental** reliance on corporal punishment, **feelings** following the receipt of corporal punishment, **attachment** to mother, **externalizing** behavior problems, **gender**, **race**, and the targeted moderator variables explained 24% of the variance in **depressive** symptoms in young adulthood. Significant main effects were found for **feelings** following the receipt of corporal punishment and **attachment** to mother. More intense **feelings** following the receipt of corporal punishment predicted more **depressive** symptoms in young adulthood. Greater **attachment** to mother predicted fewer **depressive** symptoms in young adulthood.

### **Predicting Externalizing Behavior Problems Using Linear Regression**

The ninth regression (Table 10), predicting **externalizing** behavior problems from **parental** reliance on corporal punishment, **feelings** following the receipt of corporal punishment, **attachment** to mother, and **depressive** symptoms in young adulthood, revealed that the model was significant,  $F(4, 289) = 2.53, p = .04$ . Collectively, the set of variables was found to predict **externalizing** behavior problems and explained only 3% of the variance in **externalizing** behavior problems. A statistical trend was found for **attachment** to mother (see Table 10). This trend indicated that less **attachment** to mother predicted greater **externalizing** behavior problems.

Table 10

*Predicting Externalizing Behavior Problems from Latent Constructs and Targeted Moderator Variables*

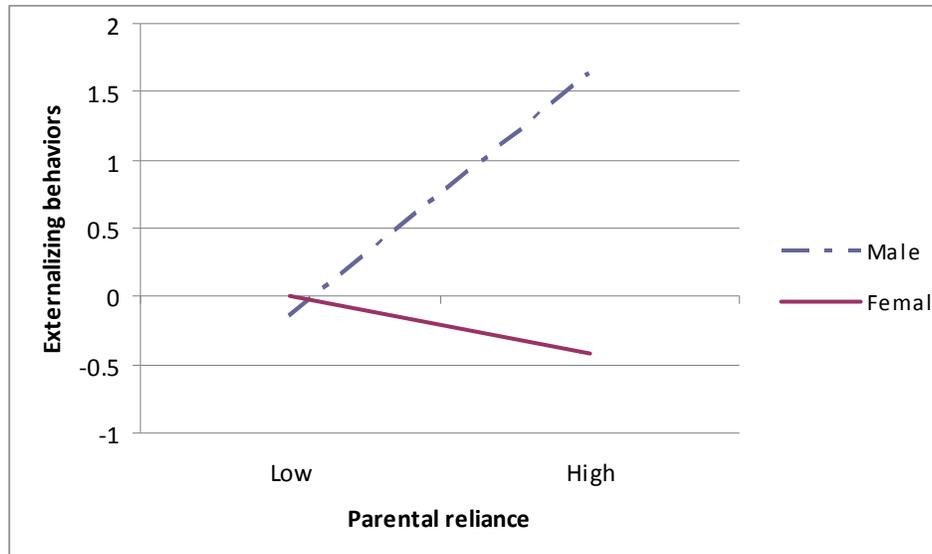
Predictors	Basic Model			Model with Moderators		
	$\beta$	<i>t</i>	Sig.	$\beta$	<i>t</i>	Sig.
Parental reliance	.04	.58	.56	.31	2.10	.04
Feelings	.05	.72	.47	.10	1.40	.16
Attachment to mother	-.13	-1.75	.08	-.08	-1.17	.24
Depressive symptoms	-.01	-.19	.85	-.01	-.10	.93
Gender				-.22	-3.49	.001
Race				.10	.71	.48
Parental reliance x Gender				-.36	-2.51	.01
Parental reliance x Race				-.28	-2.00	.05
Gender x Race				-.19	-1.31	.19
Parental reliance x Gender x Race				.38	2.70	.007
R <sup>2</sup>	.03			.13		
N =	294			294		

Notes: Alpha was set at  $p < .05$ ; overall model predicting Externalizing behavior problems was significant. Parental reliance = Parental reliance on corporal punishment; Feelings = Feelings following the receipt of corporal punishment; Depressive symptoms = Depressive symptoms in young adulthood. R<sup>2</sup> significant,  $p < .01$ .

In the tenth regression, **externalizing** behavior problems was predicted from **parental** reliance on corporal punishment, **feelings** following the receipt of corporal punishment, and **attachment** to mother while controlling for **depressive** symptoms in young adulthood, **gender**, and **race**. In addition, three targeted moderator variables were included. Previous research studies have found that **race** and **gender** moderate the relation between parents' use of corporal punishment and externalizing behavior problems such as aggression and conduct problems.

Thus, the moderators **race** and **gender** were tested by including the interaction terms **parental** reliance on corporal punishment x **gender** and **parental** reliance on corporal punishment x **race**. In addition, the moderator **gender** x **race** was tested along with a possible three-way interaction, **parental** reliance on corporal punishment x **gender** x **race**.

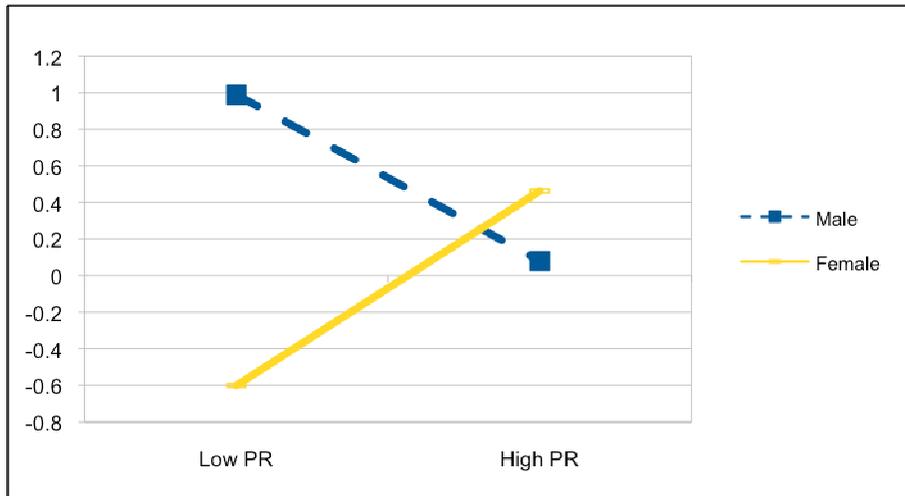
The tenth regression (see Table 10), predicting **externalizing** behavior problems from the set of variables, revealed that the model was significant,  $F(9, 284) = 4.20, p < .001$ . Collectively, **parental** reliance on corporal punishment, **feelings** following the receipt of corporal punishment, **attachment** to mother, **depressive** symptoms in young adulthood, **gender**, **race**, and the targeted moderator variables predicted 13% of the variance in **externalizing** behavior problems. Significant main effects were found for **parental** reliance on corporal punishment, **gender**, **parental** reliance on corporal punishment x **gender**, and **parental** reliance on corporal punishment x **gender** x **race**. Specifically, greater **parental** reliance on corporal punishment predicted greater **externalizing** behavior problems. Being male also predicted greater **externalizing** behavior problems. The interaction **parental** reliance on corporal punishment x **gender** was significant revealing gender differences in the relation between **parental** reliance on corporal punishment and **externalizing** behavior problems (see Figure 4). Specifically, externalizing behavior problems increased for male participants as their parents' reliance on corporal punishment increased. However, this increase was not found for female participants.



Note.  $N = 294$ . Parental reliance = Parental reliance on corporal punishment. Femal = Female. Externalizing behaviors = Externalizing behavior problems in young adulthood.

*Fig. 4.* Parental reliance on corporal punishment x gender on externalizing behavior problems in young adulthood

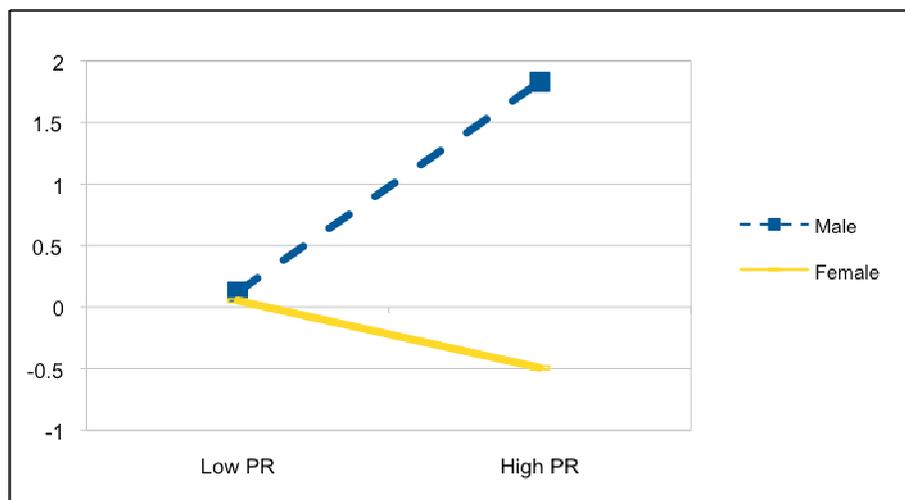
Finally, the interaction **parental** reliance on corporal punishment x **gender** x **race** was significant. The graphs of the interactions indicated that Black male participants reported a fewer **externalizing** behavior problems when they recalled greater **parental** reliance on corporal punishment (see Figure 5). However, Black female participants reported greater **externalizing** behavior problems when they recalled greater **parental** reliance on corporal punishment.



Note.  $N = 294$ . Low PR = Low parental reliance on corporal punishment. High PR = High parental reliance on corporal punishment. Values for history of Externalizing behavior problems have been standardized.

*Fig. 5.* Parental reliance on corporal punishment x gender for Black participants

On the contrary, White male participants reported greater **externalizing** behavior problems when they recalled greater **parental** reliance on corporal punishment (see Figure 6). However, White female participants' reports of **externalizing** behavior problems were relatively stable regardless of the level of **parental** reliance on corporal punishment that they recalled.



Note.  $N = 294$ . Low PR = Low parental reliance on corporal punishment. High PR = High parental reliance on corporal punishment. Values for history of Externalizing behavior problems have been standardized.

*Fig. 6.* Parental reliance on corporal punishment x gender for White participants

## CHAPTER V

### DISCUSSION

The primary goal of this study was to test the relations between young adults' recalled parental reliance on corporal punishment, recalled feelings following the receipt of corporal punishment, and current quality of attachment to mother. Few studies have investigated the relationship between parents' reliance on corporal punishment and children's later attachment to mother (Mulvaney & Mebert, 2010). Studies that have investigated this relationship have relied on more narrow measures of parental reliance on corporal punishment, such as measuring only the frequency of corporal punishment and presence or absence of abuse (Mulvaney & Mebert), or a more narrow definition of attachment to mother, such as measuring only participants' perceived rejection by the mother (Rohner et al., 1991). The present study relied upon a more comprehensive measure of both parental reliance on corporal punishment and attachment to mother. Specifically, parental reliance on corporal punishment was measured by participants' recollections of how quick their mothers were to use corporal punishment, the severity of the average corporal punishment they received, the frequency with which they received corporal punishment across childhood, and participants' age the time they last received corporal punishment. Young adults' current attachment to mother was measured by participants' reported trust in their mothers, communication with their mothers, and alienation from their mothers. By examining the relationship between parental reliance on corporal punishment during childhood and current attachment to mother in young adulthood using more comprehensive measures of

these variables than have been used in the past, the current study provides greater insight in a research area that has been relatively understudied.

Another area of corporal punishment that has been understudied is children's perceptions about the corporal punishment they have received (Mulvaney & Mebert, 2010). The lack of research in this area is especially apparent with regard to children's feelings following the receipt of corporal punishment. Only two qualitative studies have been published in this area (Dobbs & Duncan, 2004; Dobbs et al., 2006). This topic requires attention because obtaining a better understanding of how children interpret the corporal punishment they receive is essential to understanding of the processes by which corporal punishment might affect later child outcomes. The present study included a measure of young adults' recalled feelings following the receipt of corporal punishment, specifically their recalled anxiety, anger, fear, and perceptions of unfairness following the receipt of corporal punishment. Young adults' recalled feelings following the receipt of corporal punishment was then included in the model of parental reliance on corporal punishment and attachment to mother. The results of the study revealed significant relationships among these three variables, and the relationships were consistent with previous research findings and attachment theory.

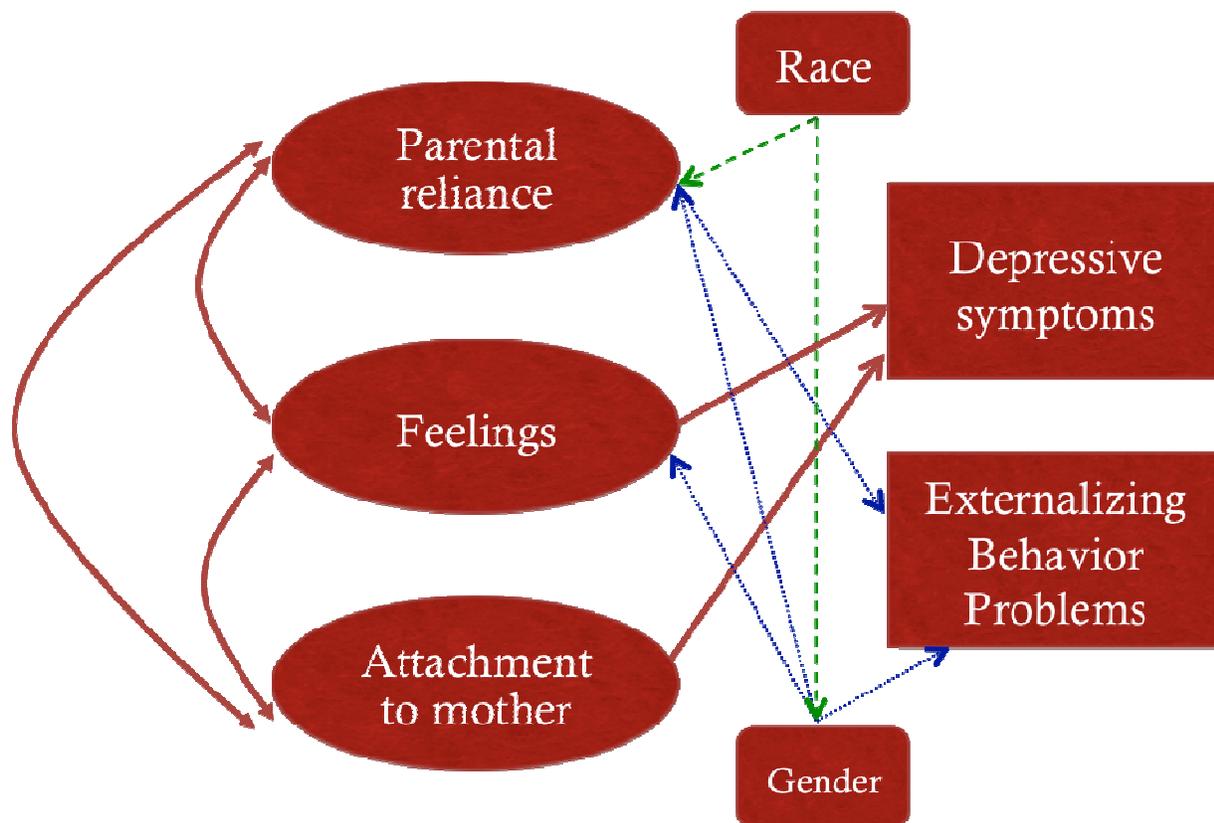
The second goal of this study was to contribute to the existing body of research examining the relationship between childhood corporal punishment and subsequent outcome variables such as depression and externalizing behavior problems later in life. To accomplish this goal, young adults' current depressive symptoms and young adults' history of externalizing behavior problems were included in the model of recalled parental reliance on corporal punishment, recalled feelings following the receipt of corporal punishment, and current attachment to mother. Relationships between parental reliance on corporal punishment and

outcomes such as depression and externalizing behavior problems have been commonly examined in the past (Baumrind et al., 2002; Deater-Deckard & Dodge, 1997; Gunnoe & Mariner, 1997; McLoyd & Smith, 2002; Paolucci & Violato, 2004; Roche et al., 2005; Slade & Wissow, 2004; Stormshak et al., 2000; Straus & Kantor, 1994; Taylor et al., 2010). However, previous studies have not examined how children's negative feelings following the receipt of corporal punishment may influence later child outcomes. Furthermore, previous studies have not considered how children's attachment to their mothers may influence outcomes such as depression and externalizing behavior problems. In the present study, the second model tested included not only parental reliance on corporal punishment but also feelings following the receipt of corporal punishment and current attachment to mother when examining potential outcome variables such as depression in young adulthood and history of externalizing behavior problems. The results of this test revealed the most important findings from this study: namely, that young adults' recalled feelings following the receipt of corporal punishment and attachment to mother significantly predicted depressive symptoms in young adulthood. Another important finding in this study was that Black male participants reported fewer externalizing behavior problems when they recalled greater parental reliance on corporal punishment; however, White male participants and Black female participants reported greater externalizing behavior problems when they recalled greater parental reliance on corporal punishment.

The third goal of this study was to explore gender, race, and social status as moderators of specific relationships in the second model. Previous studies have reported mixed findings regarding certain gender, race, and social status groups. There is evidence that variations exist among these groups regarding their experiences of corporal punishment and outcomes following the receipt of corporal punishment. In the present study, targeted moderators were selected based

on results from previous studies. These moderators were tested using regressions in a second expanded model. The results from the present study add to the current body of literature examining gender and racial variation among the relations between corporal punishment experiences and child outcomes such as attachment to mother, depression in young adulthood, and externalizing behavior problems reported in young adulthood. The results also provide the only known evidence that young adults' recalled feelings following the receipt of corporal punishment vary among gender and racial groups. Due to the homogeneity of participants' social status in this sample, targeted moderators related to social status were excluded from the data analyses.

Figure 7 provides a visual summary of the relations in this model. This summary figure is intended for discussion purposes only. While potential directional relations are indicated with arrows, these are intended only to illustrate one potential interpretation of the results found in this cross-sectional study. The limitations presented when attempting to assume directionality and causality based on the results of this study are discussed in greater detail throughout this discussion.



Note. Parental reliance = Parental reliance on corporal punishment. Feelings = Feelings following the receipt of corporal punishment. The latent construct Parental reliance on corporal punishment was measured with the indicator variables Quickness of the mother to resort to corporal punishment, Frequency of corporal punishment across childhood, Oldest age at time of last corporal punishment, and Severity of the average corporal punishment received. The latent construct Feelings following the receipt of corporal punishment was measured with the indicator variables Anxiety following the receipt of corporal punishment, Anger following the receipt of corporal punishment, Fear following the receipt of corporal punishment, and Perception of unfairness following the receipt of corporal punishment. The latent construct Attachment to mother was measured with the indicator variables Trust in the mother, Communication with the mother, and Alienation from the mother.

Fig. 7. Summary of the results

Figure 7 reflects only the relations found in the regression analyses conducted in this study. It does not reflect significant relations found at the bivariate level. Several bivariate relations are of particular interest. For instance, participants' recalled **parental** reliance on corporal punishment was not directly related to their history of **externalizing** behavior problems when conducting the series of regression analyses. However, certain indicators of **parental** reliance on corporal punishment, specifically **frequency** of corporal punishment across childhood and **severity** of corporal punishment, were positively related to history of

**externalizing** behavior problems at the bivariate level. Similarly, all indicators of recalled childhood **feelings** following the receipt of corporal punishment were positively related to history of **externalizing** behavior problems at the bivariate level. Finally, all indicators of participants' current **attachment** to mother were negatively related to history of **externalizing** behavior problems at the bivariate level.

Bivariate correlations should be interpreted with caution since other variables cannot be controlled for using these correlations. However, given the likelihood of multicollinearity among the independent variables in this study, it is important to consider the possibility that some relations did not emerge significant because of issues of multicollinearity. Collinearity Tolerance scores for most the variables associated with the regression analyses ranged from .5 to .9. Because Tolerance scores can range from 0 to 1 with lower scores indicating a higher degree of collinearity. Thus, most of the variables in the set of multiple regression analyses were considered to have acceptable collinearity. However, in the multiple regressions predicting **depressive** symptoms and history of **externalizing** behavior problems, the Tolerance scores for recalled **parental** reliance on corporal punishment ranged from .15 to .20. These low scores indicate that **parental** reliance on corporal punishment had a high degree of collinearity with the other independent variables. The problem with this variable having a high degree of collinearity with the other variables should be taken into consideration in future studies.

#### **Testing the Basic Model of Parental Reliance on Corporal Punishment, Feelings Following the Receipt of Corporal Punishment, and Attachment to Mother**

A series of regression analyses revealed that the basic model of recalled parental reliance on corporal punishment, recalled feelings following the receipt of corporal punishment, and current attachment to mother fit as expected. Significant relationships emerged between the three latent variables, and the relationships occurred in the expected directions based on findings from

previous studies. Participants who recalled greater parental reliance on corporal punishment also recalled more intense negative feelings following the receipt of corporal punishment and reported a lower quality of current attachment to mother. In addition, participants who recalled more intense feelings following the receipt of corporal punishment reported a lower quality of current attachment to mother such that recalled parental reliance on corporal punishment and recalled feelings following the receipt of corporal punishment independently predicted current quality of attachment to mother. Significant relationships between parental reliance on corporal punishment, feelings following the receipt of corporal punishment, and attachment to mother persisted even after controlling for the effects of gender and race.

### **Parental Reliance on Corporal Punishment and Feelings Following the Receipt of Corporal Punishment**

A positive relationship emerged between parental reliance on corporal punishment and feelings following the receipt of corporal punishment. Parental reliance on corporal punishment was measured by participants' recollections of the quickness with which their mother used corporal punishment, the frequency of corporal punishment they received during childhood, the participants' age at the time they last received corporal punishment, and the severity of the average corporal punishment. Feelings following the receipt of corporal punishment were measured by participants' recalled anxiety, anger, and fear following corporal punishment and by participants' recalled perception of unfairness following the receipt of corporal punishment. The significant positive relationship that emerged between parental reliance on corporal punishment and feelings following the receipt of corporal punishment was consistent with findings in previous studies.

Previous studies have found that children often respond to corporal punishment with negative emotions such as anxiety, anger, and fear (Dobbs & Duncan, 2004; Dobbs et al., 2006;

Jordan & Curtner-Smith, 2007). Children whose parents rely more heavily on corporal punishment have more opportunities to respond to these negative feelings. Previous studies have also found that children often find parents' use of corporal punishment unfair, especially when they receive corporal punishment at older ages and when they realize that parents have alternative discipline methods available (Catron & Masters, 1993; Dobbs & Duncan; Dobbs et al.; Flynn, 1998). Children who view the corporal punishment they receive as unfair may be more prone to experience intense feelings such as anger following the receipt of corporal punishment. Given previous findings, it is expected that parents who rely more heavily on corporal punishment, using it with older children, using it more frequently and using it with greater severity, will have children who respond with more intense negative feelings such as anger, anxiety, and fear. It is also expected that children whose parents rely more heavily on corporal punishment will be more likely to perceive the punishment as unfair than children whose parents rely less on corporal punishment. Therefore, it was not surprising that participants in this study who recalled greater reliance on corporal punishment also recalled more intense negative feelings following the receipt of corporal punishment and were more likely to perceive the corporal punishment as unfair than participants who recalled less parental reliance on corporal punishment.

There is also evidence that children who outwardly express negative emotions such as anger and fear might elicit further punishment from their parents, especially if the children are male (Garside & Klimes-Dougan, 2002; Klimes-Dougan et al., 2007). Given these findings, it is possible that participants who recalled feeling more negatively following the receipt of corporal punishment might have elicited further corporal punishment from their parents if those negative feelings were expressed outwardly. This would result in a bidirectional relationship between

parental reliance on corporal punishment and feelings following the receipt of corporal punishment. However, further study specifically investigating the outward expression of children's negative emotions following the receipt of corporal punishment and parents' response to these outward expressions is necessary to confirm the bidirectional nature of this relationship. Similarly, it is possible that children who respond with more negative emotion following corporal punishment might also be children who are more difficult for parents to handle and whose behaviors elicit greater parental reliance on corporal punishment. At least one study of Chinese preschoolers has found that children who receive harsh punishment such as corporal punishment have problems regulating their emotions in general (Chang et al., 2003). Further research is needed to determine if children who report more negative feelings following the receipt of corporal punishment are also children who display more problem behaviors and have more problems with emotion regulation than children who report fewer negative feelings following the receipt of corporal punishment.

### **Feelings Following the Receipt of Corporal Punishment and Attachment to Mother**

A negative relationship emerged between participants' feelings following the receipt of corporal punishment during childhood and their current attachment to mother in young adulthood. This relationship has not been explored in previous studies with the exception of one recent study examining a closely related topic. Using a retrospective method similar to the present study, Mulvaney and Mebert (2010) found that the degree to which young adult participants disapproved of the corporal punishment they received during childhood and the degree to which they felt threatened following corporal punishment significantly moderated the relationship between recalled frequency of corporal punishment by mothers and current attachment to mother during young adulthood. More specifically, participants who recalled their

mothers' more frequent use of corporal punishment reported a lower quality of current attachment to mother. However, attachment to mother declined at a steeper rate if participants also reported less approval of the corporal punishment they received during childhood and if they recalled feeling more threatened following the receipt of corporal punishment. The investigation of adult children's attitudes toward the corporal punishment they received is particularly notable as no known previous study has explicitly examined how children's perceptions about the corporal punishment they receive might influence the relationship between corporal punishment frequency and attachment to mother in young adulthood.

Mulvaney and Mebert's (2010) measure of young adults' disapproval of the corporal punishment they received is similar to the measure of young adults' perception of unfairness of the corporal punishment they received used in the present study. In addition, the measure of perceived threat following corporal punishment in the previous study is conceptually similar to the measure of anxiety following corporal punishment in the present study. However, the present study also included a measure of recalled anger and fear following the receipt of corporal punishment. Previous studies of children have found that feelings of anger and fear, in addition to feelings of anxiety and the perception of unfairness, are common following the receipt of corporal punishment (Dobbs & Duncan, 2004; Dobbs et al., 2006; Jordan & Curtner-Smith, 2007).

The results of the present study are consistent with Mulvaney and Mebert's (2010) findings. Young adults' more intense negative feelings and perceptions of unfairness about the corporal punishment they received predicted a lower quality of current attachment to mother. Both Mulvaney and Mebert's (2010) findings and the findings from the present study provide support for the idea proposed by Gershoff (2002) in her meta-analysis that negative feelings

experienced by children receiving corporal punishment may result in emotional distancing between the parent and child. This may lead to lower parent-child attachment quality later in life.

The finding in the present study that intense feelings following the receipt of corporal punishment are negatively related to attachment to mother is also consistent with attachment theory. A basic assumption of attachment theory is that attachment first arises from the child's need to be protected and comforted by the caregiver (Bell, 2009; Bowlby, 1969). Bowlby proposed that children fear external dangers and also the loss of the significant attachment figure. To manage these fears, children regularly seek feelings of comfort, warmth, and relief by close contact and interaction with their attachment figures. The attachment figure is perceived by the child as the source of protection from frightening situations that evoke negative emotions in the child (Ainsworth et al., 1978). The feelings that children report following the receipt of corporal punishment such as fear, anger, and anxiety (Curtner-Smith et al., 1999; Dobbs & Duncan, 2004; Dobbs et al., 2006; Jordan & Curtner-Smith, 2007) are in stark contrast to the positive emotional experiences that children seek out from their attachment figures to help them moderate their negative emotions. Given the existing framework of attachment theory, it is expected that the negative feelings reported by children following corporal punishment, especially those that are experienced intensely and frequently, would have a negative influence on the quality of the parent-child attachment relationship. Consequently, it was expected that participants in the present study who recalled more intense negative emotions following the receipt of corporal punishment during childhood would also report a lower quality of attachment to their mothers during young adulthood.

Because the current study is retrospective in design, it is impossible to establish the direction of the relationship between recalled feelings following the receipt of corporal

punishment and attachment to mother. While attachment theory suggests that negative emotional experiences such as those following the receipt of corporal punishment could have negative causal influences on young adults' current attachment to mother, it is also possible that attachment to mother during childhood could have played a causal role in the intensity of the negative feelings experienced following corporal punishment. Because parent-child attachment has been found to be relatively stable over time, this possibility must be considered (Dozier, Manni & Lindhiem, 2005). Young adults' current attachment to mother may simply reflect their attachment to their mother during childhood. Their childhood attachment quality may have then played a central role in whether or not they experienced negative emotions following corporal punishment. Participants' who were less attached as children may have been more intense in their negative emotional responses following the receipt of corporal punishment and may have been more likely to perceive it as unfair. It is possible that children who initially experience a lower quality of attachment to their mothers during early childhood may react with even more negative emotion following corporal punishment than children who experience a higher quality of attachment to their mothers. In addition, it may be that young adults who currently experience a lower quality of attachment to their mothers simply remember more intense negative feelings following the receipt of corporal punishment. Both of these possibilities are certainly worthy of consideration. Unfortunately, no known studies exist investigating the influence of attachment quality, established in early childhood, on children's feelings about corporal punishment or on their perceptions of parenting practices. However, there is evidence that children who experience a lower quality of attachment to their mothers also exhibit less emotional regulation (Ainsworth et al., 1978). Given this finding, it is expected that a lower quality of attachment to mother would result in children's more intense negative feelings following corporal punishment because these

children experience more intense negative emotions in general. This finding lends some support for a bidirectional relationship between feelings following the receipt of corporal punishment and attachment to mother. Children's feelings following the corporal punishment that they receive may influence their later attachment to their mother. In addition, children's attachment to their mother may influence the intensity of feelings they experience following the receipt of corporal punishment and may influence their memories about the corporal punishment experience in later years.

### **Parental Reliance on Corporal Punishment and Attachment to Mother**

Few studies have examined the relationship between parental reliance on corporal punishment and children's later attachment to mother. However, the studies of children and young adults that do exist in this area have found that greater frequency of corporal punishment and severity of corporal punishment are related to lower quality of parent-child attachment (Curtner-Smith & Jordan, 2009; Gershoff, 2002; Mulvaney & Mebert, 2010; Rohner et al., 1991; Smith, 2004). In addition, two pilot samples were used to test the relationship between parental reliance on corporal punishment and attachment to mother in the present study. In the pilot studies, greater severity of corporal punishment and quickness of mother to use corporal punishment predicted decreased attachment to mother in young adulthood. The results of the present study were consistent with those from previous studies and from the pilot studies. Greater recalled parental reliance on corporal punishment, indicated by greater quickness, frequency, severity, and corporal punishment at older ages, was significantly related to lower attachment to mother in young adulthood.

Potential causes for the direct relationship between parental reliance on corporal punishment and attachment to mother were not examined in this study, but it is likely that there

are additional factors related to corporal punishment besides the negative feelings evoked in children that could lead to decreases in attachment to mother. It is possible that certain children simply possess characteristics that might lead to both greater parental reliance on corporal punishment and decreased attachment to mother. For instance, children's more difficult behaviors or challenging temperament traits may elicit greater parental reliance on corporal punishment and also contribute to decreased attachment to mother. In the future studies, it would be useful to explore potential reasons for a direct influence of parental reliance on corporal punishment on later attachment to mother by including measures of the child's temperament, the parent's temperament, and other variables that might contribute to this relation.

Another topic for future study is to explore participants' primary disciplinarian as a moderator of the relation between parental reliance on corporal punishment and later attachment to mother. It is likely that this relation might be stronger for children whose primary disciplinarians are their mothers and weaker for children whose primary disciplinarians are other family members (such as the father or another parental figure). This possibility also highlights the need to assess each parent's reliance on corporal punishment separately in future studies. Rather than obtaining a single value that collectively reflects the frequency of corporal punishment received during childhood, the severity of the average corporal punishment received, and the oldest age at which corporal punishment was received, regardless of who administered the corporal punishment, it would be more beneficial to have each parent report on these dimensions of corporal punishment. Similarly, it would be beneficial to add a measure of father's quickness to resort to the use of corporal punishment. These changes would improve the current measure of recalled parental reliance on corporal punishment because a more comprehensive report of participants' corporal punishment experiences would be obtained and because it would

allow for a comparison of mother's versus father's use of corporal punishment, and how each affects children's developmental outcomes.

### **Targeted Moderators of Parental Reliance on Corporal Punishment, Feelings Following the Receipt of Corporal Punishment, and Attachment to Mother**

In the second model that was tested in this study, moderators such as gender and race were included along with additional targeted moderators based on findings from previous studies. Race emerged as a significant moderator of the relationship between recalled feelings following the receipt of corporal punishment and attachment to mother. Specifically, Black participants in this sample reported a greater range in current attachment to mother and steeper declines in current attachment to mother as recalled negative feelings following the receipt of corporal punishment increased. This finding is consistent with findings from the pilot studies which revealed that Black participants' attachment to mother decreased at a steeper rate when they reported receiving more severe corporal punishment and when they recalled their mothers as being quicker to resort to the use of corporal punishment. Feelings following the receipt of corporal punishment were not controlled for during the pilot phase. The results of the full model tested in the present study suggest it is actually the more intense negative feelings recalled by Black participants that predict steeper declines in attachment to mother rather than greater parental reliance on corporal punishment. These findings provide additional support for the theory that intense negative feelings experienced by children following corporal punishment might cause children to distance from the administering parent, possibly resulting in decreased parent-child attachment quality (Gershoff, 2002). Furthermore, it is possible that Black children may experience more intense negative feelings on average and may be at greater risk for decreases in parent-child attachment quality.

Race also emerged as a significant predictor of recalled parental reliance on corporal punishment. Specifically, Black participants recalled greater parental reliance on corporal punishment, including greater quickness of use by the mother, more severe administrations, more frequent corporal punishment, and administrations at older ages. This finding is consistent with previous findings that Black parents believe more strongly in the use of corporal punishment, use corporal punishment more frequently, and are more severe in their administrations of corporal punishment (Straus & Mathur, 1996; Straus & Stewart, 1999). The present study also found that Black participants recalled more intense negative feelings following the receipt of corporal punishment. Taken together, these findings suggest that Black children may experience their parents' greater reliance on corporal punishment and may also respond with more negative emotions following corporal punishment. While many children receive corporal punishment and have a negative response to it, Black children might receive more corporal punishment and be even more negatively reactive to it, potentially resulting in greater decreases in attachment. However, further investigations of a longitudinal nature are needed in order to confirm the causal direction of these relationships.

Gender played a major role when predicting parental reliance on corporal punishment. A significant main effect for gender indicated that male participants recalled greater parental reliance on corporal punishment than did female participants. This finding is consistent with previous reports by parents that they rely on more frequent and severe corporal punishment with male children than with female children (Straus & Stewart, 1999). In addition, this trend also suggests that mothers of male children may be quicker to use corporal punishment with their sons and that male children might be more likely to receive corporal punishment at older ages than their female children. Another significant main effect for gender emerged when predicting

participants' recalled feelings following the receipt of corporal punishment indicating that female participants recalled more intense negative feelings following the receipt of corporal punishment than male participants.

### **Predicting Depressive Symptoms in Young Adulthood**

Perhaps the most interesting finding that emerged when predicting depression symptoms in young adulthood was a nonsignificant finding. Specifically, recalled parental reliance on corporal punishment did not predict depressive symptoms in young adulthood after controlling for variables such as recalled feelings following the receipt of corporal punishment and attachment to mother during young adulthood. This finding contrasted somewhat with previous findings that more frequent corporal punishment received during childhood is related to depression during adolescence or young adulthood (Roche et al., 2005; Straus, 2001; Turner & Muller, 2004). It is somewhat consistent with findings that mild corporal punishment is not related to depression later in life (Baumrind et al., 2002) and findings that receiving corporal punishment has only small effects on children's emotional development (Paolucci & Violato, 2004). However, none of the previous studies have controlled for children's recalled feelings following the receipt of corporal punishment, which was found to predict symptoms of depression in this study. Specifically, participants who recalled more intense negative feelings, such as anger, anxiety, and fear following the receipt of corporal punishment, and who perceived their corporal punishment as more unfair were also more likely to report depressive symptoms in young adulthood, even after controlling for gender, race, social status, and targeted moderators.

A common statement by adults who received corporal punishment is that they "turned out fine" despite the experience of receiving corporal punishment as children. The findings in the present study might lend some support to this statement, at least with regard to the potential

outcome of depressive symptoms among children. While parental reliance on corporal punishment was directly related to attachment to mother in this sample, it was not directly related to symptoms of depression. Thus, corporal punishment may not pose a direct risk of depression to children who do not react with negative emotions following the receipt of corporal punishment or who perceive their corporal punishment as fair. However, many children report feeling negative emotions following corporal punishment and perceiving the punishment that they receive as unfair. Based on the findings from the present study, these children may be at risk for depression.

Participants' lower quality of attachment to mother was also related to reports of increased depressive symptoms in this study. This finding is consistent with similar studies examining the influence of parent-child attachment and psychopathologies such as depression (Hertsgaard et al., 1995; Spangler & Grossman, 1993; Straus & Kantor, 1994; IJzendoorn & Schuengel, 1996; Ijzendoorn et al., 1999). While the present study was conducted at one time point and cannot make causal claims based on the results, at least one previous longitudinal study relying on secondary data analysis suggests a causal relationship between attachment to mother during childhood and later depression (Ijzendoorn et al., 1999). In future studies, it will be important to further establish evidence for a causal influence on attachment to mother and subsequent depression.

### **Predicting Externalizing Behavior Problems in Young Adulthood**

Gender and parental reliance on corporal punishment were the strongest predictors of participants' history of externalizing behavior problems during adolescence and young adulthood. Parental reliance on corporal punishment emerged as both an independent main effect and as an interaction effect for parental reliance on corporal punishment and gender. The ability

of parental reliance on corporal punishment to predict externalizing behavior problems is consistent with prior studies that have found relations between frequent and severe corporal punishment and externalizing behaviors such as conduct problems (Taylor, Manganello, Lee, & Rice, 2010; Slade and Wissow, 2004; Gershoff, 2002), aggression (Gershoff, 2002; Straus, 2001), antisocial behavior (Straus & Mouradian, 1998), alcohol abuse and males' abuse of a female spouse (Straus & Kantor, 1994).

Gender also interacted with recalled parental reliance on corporal punishment to predict externalizing behavior problems. Greater parental reliance on corporal punishment predicted more externalizing behavior problems in male participants but not for female participants. The finding is consistent with previous findings that male children and adults more frequently engage in certain externalizing behavior problems such as overt aggressive behavior against others (Bettencourt & Kernahan, 1997; Crick, Bigbee, & Howes, 1996; Crick & Grotpeter, 1995), drug and alcohol abuse (Ray & Braude, 1986; Steffensmeier & Allan, 1996; Substance Abuse and Mental Health Services Administration, 2007; Wilsnack, Vogeltanz, Wilsnack, & Harris, 2000), and a variety of criminal acts including assault, theft, disorderly conduct, public intoxication, and driving under the influence (Steffensmeier & Allan).

Finally, a significant three-way interaction emerged between recalled parental reliance on corporal punishment, gender, and race when predicting externalizing behavior problems reported in young adulthood. Greater recalled parental reliance on corporal punishment predicted greater externalizing behavior problems in both White male participants and Black female participants. However, greater recalled parental reliance on corporal punishment predicted lower externalizing behavior problems in Black male participants. This finding is consistent with previous findings among Black adolescents from low social status families. Specifically, Roche, Ensminger, &

Cherlin (2005) found that Black male adolescents in their study actually engaged in fewer behavior problems when receiving more punitive parenting involving corporal punishment than when receiving more permissive parenting. However, the same study found that Black female adolescents were more likely to report depressive symptoms following more punitive parenting involving corporal punishment than Black female participants who did not receive corporal punishment. The results from the present study extend Roche, Ensminger, and Cherlin's (2005) findings by providing a sample of both Black participants and White participants.

The present findings provide evidence that Black male participants might be less adversely affected by greater parental reliance on corporal punishment than White male participants. However, it is important to note that Black male participants who recalled greater parental reliance on corporal punishment displayed comparable levels of externalizing behavior problems as the White male participants who received high levels of corporal punishment. In other words, while there is a decline in reports of externalizing behavior problems among Black males participants who report greater parental reliance on corporal punishment, their levels of externalizing behavior problems continue to be almost as high as White male participants who display increased behavior problems. Considering the high levels of externalizing behaviors overall for Black male participants in this sample, it is possible that an additional variable, such as social status, may also contribute the outcome of lower externalizing behavior problems in Black male participants who receive more corporal punishment. The present sample was rather homogenous in terms of social status with most participants reporting middle to high social status. However, of the participants in this sample who were of low social status, the majority were Black participants. It may be the case that a sample including more Black males from middle and upper class families would reveal different results.

The results of the present study also add to Roche, Ensminger, and Cherlin's (2005) finding that Black female adolescents who received more punitive parenting involving corporal punishment were at greater risk for adverse effects. Similarly, the present study found that intense negative feelings following corporal punishment predicted depressive symptoms for both Black and White participants. Furthermore, Black participants and female participants reported more intense negative feelings following corporal punishment, suggesting that Black female participants might be at an even greater risk for depression. In addition, the present study also found that Black females reported more externalizing behavior problems following parental reliance on corporal punishment than their White female peers. Taken together, these findings suggest that Black female children and adolescents who receive corporal punishment might be at a particularly high risk for negative outcomes such as depression and externalizing behavior problems. However, further research using a longitudinal design is necessary to confirm this risk.

### **Limitations**

The primary limitations of this study were that it relied upon participants' memories of their childhood experiences, that data were collected at one point in time, and that participants were the only source of data. Relying on participants as the single source of data is of particular concern because of the risk of single-source bias or method variance. This bias could result in an inflation of the relations among the independent and dependent variables of interest. In other words, relations between variables will appear stronger simply because participants are the only source reporting on every variable in the study. Results from the two models indicated that participants' recalled parental reliance on corporal punishment, recalled feelings following the receipt of corporal punishment, and current attachment to mother were all interrelated. When considering findings from previous studies and the theoretical framework of attachment theory, it

seems possible that children whose parents rely more on corporal punishment will react with more intense negative feelings. As a result, they may experience threatened relationships with their mothers resulting in decreased attachment quality in young adulthood. However, the current study cannot confirm this theory using a method that relies on recollections of young adults' corporal punishment experiences and feelings. This limitation is illustrated by the series of regression analyses used in this study. The regression models demonstrate that changing the order of the primary variables of interest, parental reliance on corporal punishment, feelings following the receipt of corporal punishment, and attachment to mother, results in little difference with regards to the strength of the relations among these variables. This emphasizes the bidirectional nature of the relations among these variables from which causality cannot be inferred. Now that initial relationships among these variables have been found, it is important to follow up this study with a longitudinal study using observational methods of parent-child attachment quality and teacher reports of children's social behavior that can lend further insight into potential causal relationships between these variables. Similarly, further study is needed to establish causal relationships between variables related to corporal punishment experiences in childhood and outcomes such as depression and externalizing behavior problems in young adulthood.

While the present study cannot make claims about causality, it does offer valuable insights into the processes by which childhood corporal punishment experiences might influence later attachment to mother, depression, and externalizing behavior problems. While it is possible that some memories of childhood corporal punishment events may have been forgotten or remembered incorrectly (Straus & Yodanis, 1996), it is also possible that participants' memories of their childhood experiences actually have the most influence on outcomes in young adulthood.

Even if a participant received slight and infrequent corporal punishment during childhood, which would not be perceived by a parent as posing much harm, the participant could still experience adverse outcomes when that participant perceives and remembers the punishment as more severe and upsetting. This further highlights the need for additional research examining how children perceive the corporal punishment that they receive.

Another limitation of this study is that it relied upon a sample of university undergraduate students. This may have been particularly problematic when testing outcomes such as depression and history of externalizing behavior problems as many young adults who suffer from major depression or who have engaged in serious externalizing behavior problems, such as crimes against others, may have been selected out. A broader sample including young adults who are not enrolled at a university may have yielded different results. Similarly, a sample with greater variation in race and social status may also allow investigators to examine how the influence of parental reliance on corporal punishment varies among individuals in different racial groups and social status groups.

While relying on undergraduate participants in the present study does have some limitations, it also provides some advantages. There is a great need for additional research examining children's perceptions of the corporal punishment they receive (Mulvaney & Mebert, 2010). However, it is difficult to obtain substantial samples sizes required to conduct model testing when relying on samples of young children. Using a sample of undergraduate students allows for the large sample size that is required for model testing. It is also important to obtain a basic understanding of how corporal punishment received during childhood and feelings following the receipt of corporal punishment have long-term effects children before conducting wide-scale studies including young children. Care must be taken when conducting studies of this

nature with young children because encouraging young children to recall and discuss corporal punishment experiences may upset them. Relying on the recalled experiences of young adults allows researchers to initially obtain a basic understanding of how corporal punishment might influence children's later attachment to mother, risk for depression, and risk for externalizing behavior problems without posing threats to children. Relying on initial retrospective methods can help to ensure that risks to children are not too great and that the benefits of any future studies will be worth any risk that may be involved.

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## APPENDIX

### Summary of Pilot Studies

Two different pilot samples aided in the development of the model. The first pilot sample was used for the author's thesis research project and will be referred to as the thesis sample. The second pilot sample was drawn for this dissertation study and is referred to as the dissertation pilot sample.

Data from the thesis sample was used to conduct bivariate correlations and multiple regressions to inform the development of the factor loadings in the proposed model. Sample data from 67 undergraduate participants who received corporal punishment during childhood were obtained by a self-report questionnaire. Of the 67 participants in this sample, 44 (65.67%) were White. The 23 (34.33%) remaining participants were Black. Twenty-one (31.34%) of the participants were male and 46 (65.67%) were female. The mean age for the participants was 22.18 years ( $SD=3.27$ ). Fifty-five participants (82.09%) identified themselves as Protestant, eight (11.94%) identified themselves as Catholic, two (2.99%) identified themselves as having some other religious belief, and two (2.99%) identified themselves as having no religious belief. All of the participants were raised in the United States, and most were raised in Alabama. Specifically, 53 (79.10%) spent the majority of their childhoods in the state of Alabama, and 14 (20.90%) spent the majority of their childhoods in other states.

Bivariate correlations were conducted on the following variables: **Gender**, **race**, **quickness** of mother to resort to the use of corporal punishment, **severity** of the average corporal punishment received, **duration** of the receipt of corporal punishment across childhood (in years), **frequency** of corporal punishment received across childhood, **youngest** age at first recalled corporal punishment, **oldest** age at last recalled corporal punishment, **anxiety** recalled following the receipt of corporal punishment, **anger** recalled following the receipt of corporal punishment, **sadness** recalled following the receipt of corporal punishment, **trust** in the mother,

**communication** with the mother, **alienation** from the mother, and **total** attachment to the mother. Portions of the study were retrospective in nature. Participants reported their recollections of **quickness** of the mother to use corporal punishment, **severity** of the average corporal punishment, **duration**, and **frequency**, as well as the **youngest age** and **oldest age** that they could recall receiving corporal punishment. They also recalled the feelings that they experienced following a typical corporal punishment experience in their childhood home. Variables related to attachment include **trust**, **communication**, and **alienation** and were assessed for the current mother-child attachment relationship.

The correlations revealed significant relationships between variables that were theoretically related to one another (see Table 11). **Quickness** of the mother to resort to the use of corporal punishment was significantly related to both **frequency** and the **oldest age** that the child could recall receiving corporal punishment. Both **frequency** and the **oldest age** that the child could recall receiving corporal punishment were also related to one another. Severity of the average corporal punishment received was related to **quickness** of the mother to resort to corporal punishment and **frequency**; however, it demonstrated only a statistical trend in relation to the **oldest age** at which the child could recall receiving corporal punishment. These results suggested that **quickness** of the mother to resort to corporal punishment, **frequency** of the mother to resort to corporal punishment, and the **oldest age** at which the child could recall receiving corporal punishment were related constructs that could inform a latent variable of **parental** reliance on corporal punishment. While severity was related to two of these observed variables, **quickness** and **frequency**, it was not significantly related to **oldest age**. These results suggest that, at least for this sample, inclusion of **severity** in the model would weaken the predictive ability of the latent construct of **parental** reliance on corporal punishment.

**Anxiety** following the receipt of corporal punishment and **anger** following the receipt of corporal punishment were also significantly positively related. This finding suggests that children tend to experience both of these feelings following the receipt of corporal punishment. **Anger** was also significantly related to **oldest age**, which is consistent with the notion that children who receive corporal punishment at older ages experience more anger than those whose parents opt for non-physical forms of discipline at older ages. **Oldest age** was not related to recalled feelings of **anxiety**. Surprisingly, the other emotional variable in this study, **sadness** following the receipt of corporal punishment, was not related to recalled feelings of **anxiety** or of **anger**.

**Trust** in mother, **communication** with the mother, and **alienation** from the mother were significantly related in this sample. These results suggest that these three dimensions of attachment are related. These thesis sample results are consistent with previous studies that have used the same instrument, the *Inventory of Parent and Peer Attachment* (Armsden & Greenberg, 1987; M. T. Greenberg, personal communication, January 26, 2006).

Table 11

*Thesis Sample Correlations Between Select Characteristics of Recalled Corporal Punishment Experiences, Race, and Dimensions of Attachment to Mother*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Gender		.15	-.05	.06	.09	-.09	.18	-.02	.02	-.03	.22	-.02	-.02	.01	-.01
2. Race			.18*	.21*	.12	-.02	.40***	.14	-.13	.18*	-.05	-.06	.01	-.04	-.03
3. Quickness				.45***	.20*	.44***	-.07	.29**	.30***	.43***	.08	-.41***	-.40***	-.33***	-.42***
4. Severity					.19*	.47***	-.01	.19*	.49***	.30**	.14	-.25**	-.22*	-.13	-.23**
5. Duration						.35***	-.17	.43***	.19*	.10	-.10	-.03	-.09	.01	-.05
6. Frequency							-.09	.44***	.28**	.32**	.07	-.16	-.16	-.20*	-.18
7. Youngest age								.14	-.08	.10	.11	.09	.16	-.03	-.05
8. Oldest age									.11	.32***	.13	-.41***	-.28**	-.38***	-.36***
9. Anxiety										.23**	.09	-.45***	-.33***	-.39***	-.42***
10. Anger											.13	-.38***	-.27**	-.37***	-.36***
11. Sadness												-.04	.07	-.10	-.01
12. Trust in mother													.82***	.79***	.94***
13. Communication with mother														.76***	.95***
14. Alienation from mother															.88***
15. Total attachment to mother															

Table 11 (con't.)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>M</i>	1.69	1.34	2.88	2.34	7.05	2.02	5.47	11.98	2.17	2.82	2.68	43.94	36.38	23.92	104.24
<i>SD</i>	.47	.48	1.06	.83	3.79	.77	2.01	2.99	.93	.97	.91	7.00	8.17	4.34	18.18
<i>Range</i>	1-2	1-2	1-5	1-4	2-15	1-3	2-11	4-19	1-4	1-4	1-4	17-50	12-45	12-30	47-78

\* $p < .10$ ; \*\* $p < .05$ ; \*\*\* $p < .01$ .

N's for the correlations ranged from 50 to 66 due to missing data.

*Note.* For Gender, 1 = Male and 2 = Female. For race, 1 = White and 2 = Black. A higher score for Quickness indicates that mothers were more quick to use corporal punishment. A higher score for Severity indicates that the average corporal punishment received was more severe. A higher score for Duration indicates more years that participants received corporal punishment. A higher score for Frequency indicates more frequent administrations of corporal punishment. A higher score for Youngest age indicates that participants were older when they received their first corporal punishment. A higher score for Oldest age indicates that participants were older when they received their first corporal punishment. A higher score for each feeling state (Anxiety, Anger, and Sadness) indicates higher levels of that feeling state. A higher score for Trust in mother indicates more trust. A higher score for Communication with mother indicates greater communication. A higher score for Alienation from mother indicates less alienation. A higher score for Total attachment to mother indicates stronger attachment.

*Dissertation Pilot Sample to Inform the Latent Variables*

To further inform the development of the factor loadings of **parental** reliance on corporal punishment, **child's** response to corporal punishment, and **attachment** to mother, bivariate correlations were conducted using a second pilot sample, the dissertation pilot sample. The sample contained 88 cases, but 12 participants indicated that they did not receive corporal punishment as a child. Therefore, only 76 of the remaining participants were in the sample that was analyzed. Of this sample, nearly 83% were European American, 100% were raised in the state of Alabama, 76% were affiliated with a Protestant religion, and 75% indicated that their mother was their primary disciplinarian. The mean age of the sample was 22.53 ( $SD = 4.85$ ) years old.

**Quickness** of the mother to resort to corporal punishment, **frequency** of corporal punishment, and **oldest age** at time of last corporal punishment were related in this second sample just as they were in the first preliminary data sample. **Severity** of the average corporal punishment received was related to **quickness**, **frequency**, and **oldest age** in this second sample while it was unrelated to **oldest age** in the first sample. These data suggest that including a measure of **severity** might indeed increase the predictive power of the latent variable **parental** reliance on corporal punishment. Is it likely that parents who use corporal punishment more frequently and on children who are older in age are also likely to use more severe forms of corporal punishment. It is implicit that a parent would have to rely on at least slightly more severe forms of corporal punishment as the child ages in order to ensure that the corporal punishment is effective in its infliction of pain and effort to control a larger child.

Recalled feelings of **anxiety** and **anger** were found to be related to one another in the second sample just as they were related in the first sample. In this second sample, **sadness** was

also related to both **anxiety** and **anger**. However, it was not related to an additional variable, **perception** of fairness of the average corporal punishment received. Previous studies report that issues of fairness are of great importance to children and this is especially true when receiving discipline or punishment (Dobbs & Duncan, 2004; Dobbs et al., 2006). The importance of this fairness can be seen in this sample as higher levels of **anger** and **anxiety** are associated with a lower perception of fairness. Another additional variable, **fear**, was also related to **anger**, **anxiety**, and **perception** of fairness. This is consistent with previous findings that children become afraid of their parents following the receipt of corporal punishment (Dobbs & Duncan) and that this fear is one of the negative feelings that can emerge and pose a threat to parent-child attachment quality (Gershoff, 2002). The results from this sample suggest that feelings of **anxiety**, **anger**, **perception** of fairness, and **fear** accompany one another following the receipt of corporal punishment.

Variables related to attachment such as **trust** in the mother, **communication** with the mother, and **alienation** from the mother were again found to be related to one another in the pilot sample. This suggests that these three dimensions of attachment are related and can inform a latent variable of overall **attachment** to mother.

Based on the results of bivariate correlations obtained from the preliminary sample and the pilot sample, indicator variables for three latent variables were outlined in the proposed model (see Table 12). The latent variable **parental** reliance on corporal punishment will be indicated by the **quickness** of the mother to resort to corporal punishment, the **frequency** of corporal punishment received during childhood, the **oldest age** at which the participant can recall receiving corporal punishment and the **severity** of the average corporal punishment that the participant recalls receiving during childhood. The latent variable **child's** response will be

indicated by the **anxiety** that the participant recalls feeling following corporal punishment during childhood, the **anger** that the participant recalls receiving following corporal punishment during childhood, the **perception** of fairness that the participant recalls feeling about corporal punishment during childhood, and the **fear** that the participant recalls feeling following corporal punishment during childhood. The latent variable **attachment** to mother will be indicated by the participant's current **trust** in the mother, **communication** with the mother, and **alienation** from the mother.

Table 12

*Dissertation Pilot Correlations Between Select Characteristics of Recalled Corporal Punishment Experiences, Race, and Dimensions of Attachment to Mother*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Gender		.10	-.20*	.14	.02	-.27**	-.02	-.23**	-.07	-.03	-.12	-.15	-.01	-.03	-.06
2. Race			-.26**	.05	-.04	.02	.31***	-.15	.02	.04	-.16	.05	.00	.04	-.13
3. Education				-.03	.82	.09	-.14	.05	.07	.12	-.30	-.00	-.01	-.15	.14
4. Quickness					.50***	.38***	.38***	-.03	.17	.12	.15	-.23**	-.02	-.05	-.18
5. Frequency						.26**	.32***	.05	.18	.20*	.26**	-.06	.03	-.18	-.04
6. Severity							.28**	.08	.19	.22*	.33***	-.19	-.03	-.11	-.15
7. Oldest age								-.05	.26**	.12	.13	.13	-.03	-.16	-.08
8. Anxiety									.43***	.49***	.49***	-.17	-.18	-.26**	.20
9. Anger										.38**	.47***	-.34***	-.22	-.40***	.37***
10. Fear											.53***	-.18	-.09	-.21	.06
11. Fairness												-.35***	-.22	-.34***	.13
12. Trust in mother													.83***	.69***	-.36***
13. Communication with mother														.76***	-.47***
14. Alienation from mother															-.53***
15. Depression															

Table 11 (con't.)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>M</i>	1.92	1.14	12.57	2.59	13.78	2.13	11.42	2.30	2.41	1.72	1.70	44.29	36.80	24.42	33.29
<i>SD</i>	.27	.42	3.07	.91	20.76	.77	3.10	.90	1.02	.92	.73	6.29	7.01	4.57	8.34
<i>Range</i>	1-2	1-2	1-5	1-5	1-100	1-4	4-18	1-4	1-4	1-4	1-3	21-50	18-45	13-30	23-62

\* $p < .10$ ; \*\* $p < .05$ ; \*\*\* $p < .01$ .

N's for the correlations ranged from 50 to 66 due to missing data.

*Note.* For Gender, 1 = Male and 2 = Female. For race, 1 = White and 2 = Black. A higher score for Education indicates higher education. A higher score for Quickness indicates that mothers were more quick to use corporal punishment. A higher score for Frequency indicates more frequent administrations of corporal punishment. A higher score for Severity indicates that the average corporal punishment received was more severe. A higher score for Oldest age indicates that participants were older when they received their first corporal punishment. A higher score for each feeling state (Anxiety, Anger, and Fear) indicates higher levels of that feeling state. A lower score for Fairness indicates greater perception of Fairness. A higher score for Trust in mother indicates more trust. A higher score for Communication with mother indicates greater communication. A higher score for Alienation from mother indicates less alienation. A higher score for Depression indicates a greater presence of symptoms associated with depression.

*Dissertation Pilot Regression Analyses to Inform the Model*

The relatively small size of the dissertation pilot sample would not allow for a valid pilot test of the structural equation model; however, a series of linear regressions was performed to inform the proposed model. In the first regression model, the predictive ability of **socioeconomic** status on **parental** use of corporal punishment was tested. The results were not significant and suggest that in this sample **socioeconomic** status was not a predictor of **parental** use of corporal punishment. While this finding is in contrast with prior findings that socioeconomic status is correlated with certain corporal punishment practices, it is likely that the backgrounds of the participants in this sample of university undergraduates is so homogenous that the variable of socioeconomic status loses its predictive ability.

In the second regression model, the predictive ability of **race** on **parental** use of corporal punishment was tested. **Race** did not significantly predict **parental** use of corporal punishment in this sample. However, in a sample in which only 13 participants identified themselves as African American relative to 61 participants who identified themselves as European American, it is possible that there was not enough power to detect racial differences.

In the third regression, the predictive ability of **parental** use of corporal punishment on **child's** response was tested. The variable **parental** use was obtained by combining the variables **quickness** of the mother to resort to corporal punishment, **frequency** of corporal punishment, **severity** of corporal punishment, and **oldest age** at time of last corporal punishment. The variable, **child's** response, was obtained by combining **anger** following corporal punishment, **anxiety** following the receipt of corporal punishment, **fear** following the receipt of corporal punishment, and **perception** of fairness of received corporal punishment. **Parental** use of

corporal punishment was found to predict **child's** response,  $F(1, 74) = 4.23, p < .05$ , and explained 5% of the variance in **child's** response.

In the fourth regression, the predictive ability of **child's** response on **attachment** to mother was tested. The variable **attachment** to mother was obtained by combining **trust** in mother, **communication** with mother, and **alienation** from mother. **Child's** response predicted **attachment** to mother,  $F(1,74) = 9.31, p < .01$ , and explained 10% of the variance in **attachment** to mother.

In the fifth regression, the predictive ability of **attachment** to mother on a measure of depression was tested. **Attachment** to mother predicted values on a measure of depression,  $F(1, 74) = 22.37, p < .001$ , and explained 23% of the variance in depression scores.

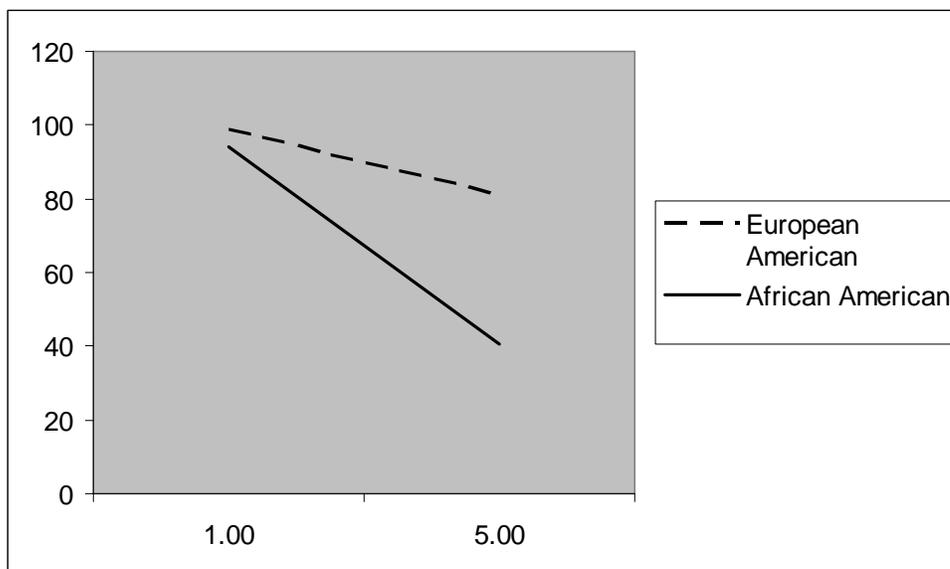
While previous studies have linked deficits in attachment quality to externalizing behavior problems, the data were not available to test this prediction in the dissertation pilot sample. However, the proposed study includes a measure of externalizing behavior problems and this construct will be tested in the proposed model.

The results of these regressions suggest an influence of **child's** response following the receipt of corporal punishment on **attachment** to mother, which is consistent with prior speculation and evidence that a child's negative feelings following corporal punishment could negatively affect the attachment quality of the parent-child relationship (Gershoff, 2002; Schuengel et al., 1999; van IJzendoorn et al., 1999). These results also suggest an influence of **attachment** to mother on depression symptoms, which is consistent with prior findings that insecurely attached children are more likely to manifest psychological pathologies (van IJzendoorn et al.). Finally, these results provide support for Bowlby's (1960) theory that mourning or depression occurs in individuals whose mothers are emotionally unavailable.

*Alternative Models Informed by Thesis Data Sample*

Two regression analyses conducted on the thesis sample data suggest that there may be racial variations in how corporal punishment influences a child's attachment to mother.

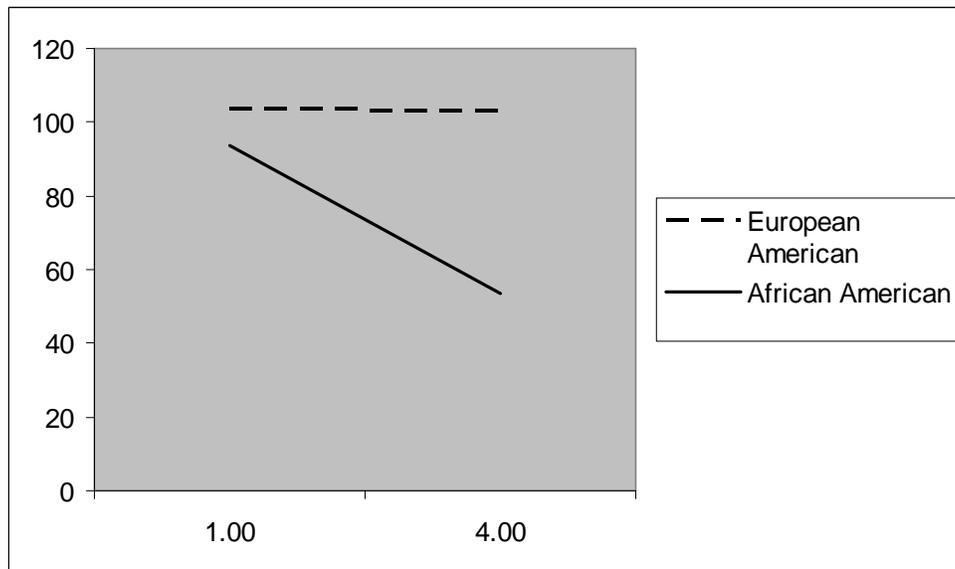
In the first regression analysis, the interaction between **race** and **quickness** of mother significantly predicted participants' **attachment** to mother after accounting for the main effects of the individual variables. Figure 8 shows the simple slopes of the interaction between **quickness** of mother to use corporal punishment and **race** on **total** attachment to mother. African American participants experienced a steeper decline in **total** attachment to mother than European American participants when having a mother who was quick to use corporal punishment.



*Fig. 8.* Simple slopes of the interaction between quickness of mother to use corporal punishment and race on total attachment to mother

Likewise, in the second regression analysis the interaction between **race** and **severity** predicted participants' Total attachment to mother after accounting for the main effects of the individual variables. Figure 9 shows the simple slopes of the interaction between **severity** of recalled corporal punishment and **race** on **total** attachment to mother. African American

participants experienced a steeper decline in **total** attachment to mother than European American participants when recalled corporal punishment was more severe. The results of these two regression analyses suggest that African Americans are affected differently, and perhaps more adversely, by corporal punishment than European Americans.



*Fig. 9.* Simple slopes of the interaction between race and severity of corporal punishment on total attachment to mother