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Corporal Punishment And Its Association With Anxiety In Youth

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Corporal Punishment And Its Association With Anxiety In Youth

A Thesis

Submitted to the Graduate Faculty of the
University of New Orleans
in partial fulfillment of the
requirements for the degree of

Master of Science
in
Applied Developmental Psychology

By

Allison Brown Marks

B.S., The University of Southern Mississippi 2007

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Table of Contents

List of Tables	iii
Abstract	iv
Introduction	1
Methods	14
Procedures	14
Measures	15
Results	21
Discussion	38
References	44
Appendix A	46
Vita	47

List of Tables

Table 1	16
Table 2	21
Table 3	22
Table 4	26
Table 5	27
Table 6	28
Table 7	30
Table 8	31
Table 9	32
Table 10	34
Table 11	36

Abstract

The aim of this study was to examine the association between parental use of corporal punishment and anxiety in youth. Parental warmth, child's age, and child's ethnicity were examined in order to explore their effects on the association. Parents and their children (ages 6 – 17; N=153) completed the parent and child versions of the Alabama Parenting Questionnaire [APQ-P (parent) and APQ-C (child)], used to measure corporal punishment and parental warmth, and other questionnaires assessing anxiety [Revised Child Anxiety and Depression Scales parent (RCADS-P) and child (RCADS-C) versions; Revised Fear Survey Schedule for Children parent (FSSCR-P) and child (FSSCR-C) versions] and externalizing symptoms (used as a control variable). Corporal punishment was significantly associated with the child reports of anxiety even when controlling for externalizing symptoms, but was not associated with the parent reports of anxiety. The results also indicated that age, ethnicity, and parental warmth did not moderate the association.

Keywords: corporal punishment, discipline, anxiety, fear

Introduction

Corporal punishment, as defined by Straus (1994, p.4), is “the use of physical force with the intention of causing a child to experience pain, but not injury, for the purpose of correction or control of the child’s behavior”. The use of corporal punishment is a common method for disciplining children in the United States (Aucoin, Frick, & Bodin, 2006; Paolucci & Violato, 2004; Rodriguez, 2003; Straus & Stewart, 1999). Straus and Stewart (1999) reported that 94% of parents of toddlers (ages 3-4) used some form of corporal punishment, just over 50% of parents reported hitting their children at age 12, 30% at age 14, and 13% at age 17. For many American children, corporal punishment is a normal and important component of their socialization experiences within the family (Mulvaney & Mebert, 2007), especially during the toddler years.

Although corporal punishment is widely used among American families, there is great controversy within the profession and within Western society regarding its association with positive and negative outcomes in children. Within Western society, some individuals adhere to the view that corporal punishment is an important component to parents’ obligation and right to discipline their children. Opponents claim that corporal punishment is an act of aggression and hostility that should be banned or discouraged (Gershoff & Bitensky, 2007; Straus, 1994; Straus & Stewart, 1999). Within the profession of psychology, there is debate over whether corporal punishment increases the risk of maladaptive outcomes in youth (Aucoin et al., 2006; Larzelere & Kuhn, 2005; Paolucci & Violato, 2004). In a meta-analysis of 88 corporal punishment studies, Gershoff (2002) reported that corporal punishment was associated with negative or undesirable behaviors in children; moreover, the only positive outcome was the child’s immediate compliance on parental demands. However, in a literature review of 38 studies (16 of which were included in Gershoff’s 2002 analysis), Larzelere (2000) reported that corporal punishment

was linked to beneficial child outcomes in studies with strong internal validity and in studies that excluded more severe forms of corporal punishment and physical abuse. Larzelere and Kuhn (2005), in their meta-analytic study of corporal punishment and alternative parenting practices found that conditional spanking (spanking used as a back-up to other discipline techniques) and customary spanking (typical use) were not associated with detrimental outcomes in children. Furthermore, they found that conditional spanking compared favorably with alternative discipline practices in response to defiance in toddlers, oppositional behaviors in 2-6 year olds, and when it was defined as controlled usage (e.g., not due to anger).

The different conclusions from the meta-analytic studies may be due to the study inclusion criteria set by the researchers. For example, Gershoff (2002) included studies that involved harsher corporal punishment and abuse, whereas Larzelere (2000) and Larzelere and Kuhn (2005) only included studies that assessed nonabusive and customary corporal punishment. In fact several researchers have suggested that a main reason for the inconsistency in corporal punishment literature is caused by the differing definitions of corporal punishment (e.g., Kazdin & Benjet, 2003; Paolucci & Violato, 2004). Kazdin and Benjet (2003, p. 103) stated that “one of the reasons that there is a debate about the effects of spanking is that investigators who study spanking and the parents and teachers who interact with children cannot adhere consistently to a delimited and crisp definition of spanking or hitting that is ‘mild and occasional’.” Kazdin and Benjet also suggested that the methods used to assess corporal punishment and child outcomes and the failure to examine potential moderators of the association (e.g., parent-child relationship, other parenting practices) may also account for some of the inconsistencies in the literature. The present study attempted to address these issues by examining the associations between corporal punishment and youth anxiety, testing moderators of the association, and examining the

reliability of corporal punishment assessment with the Alabama Parenting Questionnaire (APQ; Frick, 1991; Shelton, Frick, & Wootton, 1996). The following sections review the relevant literature on corporal punishment in terms of the need to examine anxiety as an outcome variable, the measurement of corporal punishment with the Alabama Parenting Questionnaire and potential moderators of the association between corporal punishment and anxiety.

Anxiety as an Outcome Variable in Corporal Punishment Research

Anxiety disorders are among the most common forms of psychopathology in youth. In fact, Vasey and Ollendick (2000) reported that overall prevalence estimates range from 12% to 17%. Many anxiety disorders begin in childhood and continue on through adulthood. Although some anxieties and fears are normative in childhood, some children will suffer from maladaptive forms of anxiety that are predictive of long-term impairment if left untreated (Dadds, Spence, Holland, Barrett, & Laurens, 1997). Identifying factors that influence the development of maladaptive anxiety may help in developing effective treatments and prevention efforts for anxiety disorders. Previous research has examined several concepts of parenting (e.g., control, warmth, involvement, affection, and neglect) that increase or decrease childhood anxiety; however, parental discipline has not been consistently examined (Rapee, 1997). Since 94% of American parents reported using corporal punishment (Straus & Stewart, 1999), it is necessary to study whether this common method of discipline is associated with anxiety in youth.

Much of the existing research examining parental use of corporal punishment has focused on its linkage to externalizing symptoms; relatively few studies have explored the association between corporal punishment and its specificity to child internalizing symptoms (Rodriguez, 2003). In Gershoff's (2002) meta-analysis on parental corporal punishment and the association with child behavior and experiences, only 12 of the 88 included studies assessed children

internalizing outcomes (e.g., self-esteem, helplessness, depression). In Larzelere's (2000) literature review only 6 of the 38 studies measured internalizing outcomes in children. In the few studies that have addressed internalizing problems researchers have found significant associations between corporal punishment and internalizing symptoms; such as, anxiety (in adults, Bryan & Freed, 1982; in children, Rodriguez, 2003), depression (in adults, Bryan & Freed, 1982; in children, Colder, Lochman, & Wells 1997), and low self-concept (in adults, Bryan & Freed, 1982). For example, Turner and Finkelhor (1996) reported that corporal punishment was associated with both psychological distress and depression in a sample of 2000 youth aged 10-16 years old.

The paucity of research has led authors to conclude, "discipline style as a parenting factor has been largely ignored in populations with internalizing disorders" (Gallagher & Cartwright-Hatton, 2008, p. 723). Gallagher & Cartwright-Hatton's (2008) comment emphasizes the lack of research examining the relationship between parental discipline and psychological outcomes. For example, Rapee (1997) was unable include a parental discipline factor (ie., punishment) in his review of childrearing practices and the development of anxiety and depression because parental discipline was so infrequently examined in studies of internalizing symptoms and the outcomes of its use are often inconsistent. This is unfortunate because anxiety may be one of the most important consequences of corporal punishment as there are a number of theoretical reasons for an association between corporal punishment and anxiety.

One reason for the possible association between corporal punishment and anxiety may be that when parents often use corporal punishment as a method of discipline, the child may become fearful of the parent or will at least be less likely to view the parent as a source of safety/security. This in turn could foster fear and anxiety symptoms in the child. When parents use impulsive or

sporadic corporal punishment, children may become fearful of or angry at their parents (Gershoff, 2002) and may try to avoid the parent in order to reduce the likelihood of receiving further physical discipline (Gershoff & Bitensky, 2007).

An additional reason for the possible association between corporal punishment and anxiety may be that children view corporal punishment as a stressful and uncontrollable event. Turner and Finkelhor (1996, p. 157) argued that “placing corporal punishment in a stress model may provide a better theoretical development of the process by which corporal punishment affects mental health”. In other words, if corporal punishment is considered negative, unexpected, and uncontrollable, it is more likely to elicit psychological distress (Turner & Finkelhor, 1996). Rodriguez (2003, p. 811) stated that “maladaptive attributions may develop in response to uncontrollable physical discipline, which in turn lead to depressive or anxious symptomatology in children”. This explanation suggests that the child may perceive the physical discipline as a negative event for which he/she has no control over. There are a number of studies which suggest lack of control may increase anxiety (Weems, Silverman, Rapee, & Pina, 2003; Muris, Meesters, Schouten, and Hoge, 2004; See Weems & Silverman, 2006 for a review)

A final reason why corporal punishment may be associated with anxiety is based on how the child interprets and perceives the message of the punishment. In other words, for discipline to be effective, the child must accurately perceive the message and be willing to accept the message (Grusec & Goodnow, 1994; Hoffman, 1994). This means that children must view their parents’ method of discipline as one that fits with their behavior and the children must have the cognitive capabilities to process the link between the punishment and the behavior. Children that perceive the punishment as rejecting or unjust will avoid the parent and lessen the likelihood to internalize the parent’s message. This is especially the case for highly fearful and anxious youth (Grusec &

Goodnow, 1994; Kochanska, 1995). To be more specific, punishment is intended to elicit some anxiety in order to be effective. However, if a child is already anxious or fearful he/she will be more likely to avoid the parent and/or the punishment's message. Another aspect of the theory that particularly applies to the proposed study is that when corporal punishment is used and the child does not perceive the punishment as "fitting the crime", the child may view the parent as rejecting, which may lead to avoidance and increased anxiety.

To summarize, parental use of corporal punishment may be associated with anxiety symptoms for four main reasons. First, when parents use physical punishment, the child may become fearful of the parent and view the parent as an insecure/unsafe attachment figure. Second, at the simplest level, the child may view the discipline as painful and may try to avoid the parent and the situation (Gershoff, 2002). Third, the child may view the discipline method as an uncontrollable stressor. Finally, if corporal punishment is used frequently and as the primary method for discipline, the child is not taught appropriate means for coping in stressful situations (Gallagher & Cartwright-Hatton, 2008).

Despite the strong theoretical reasons, as noted, only a few studies have examined the association between corporal punishment and anxiety. For example, Rodriguez (2003) studied the association between physical discipline and anxiety in a sample of 42 children and their parents. Rodriguez reported that children who grew up in families who use more severe forms of discipline were more likely to experience more anxiety symptoms than those who are raised in families who use less severe forms of discipline. In a retrospective study involving 170 college students, Bryan and Freed (1982) found that participants who reported receiving higher amounts of corporal punishment in their childhood and adolescence had more problems with anxiety as adults than those who reported receiving less amounts of corporal punishment in youth. These

studies indicate that there is reason to believe that corporal punishment and anxiety may be associated with one another; however, there is a need for further exploration of the association between corporal punishment and youth anxiety in terms of the use of a reliable definition/assessment of corporal punishment and the need to examine moderators on the association. This study adhered to and measured corporal punishment as defined by Straus (1994, p. 4), which stated corporal punishment as “the use of physical force with the intention of causing a child to experience pain, but not injury, for the purpose of correction or control of the child’s behavior.” This definition has been widely accepted among researchers who examine corporal punishment. To address this issue, this study used the Alabama Parenting Questionnaire (APQ) to measure corporal punishment. The following section discusses the reason for using the APQ in this study.

Measurement of Corporal Punishment

As Rapee (1997) has mentioned, many childrearing studies are retrospective (i.e., adults are asked about their childhood experiences), which do not administer questionnaires directly to youth who are currently under parental influence. Another problem with the assessment of corporal punishment is the fact that many studies report outcomes based on one reporter. Finally, previous research has been inconsistent with the operationalization of corporal punishment and it is often defined interchangeably with more severe forms of punishment (i.e., physical abuse). By using the Alabama Parenting Questionnaire (APQ) these issues can be addressed. The APQ is a measure that can be administered to both the parent (parent reports about their use) and the child (child reports on the parent’s use). Questions are based on how “typical” the parent practices each item.

The APQ has been shown to have good internal reliability for the assessment of five parenting constructs: parental involvement ($\alpha = .64$), positive parenting ($\alpha = .74$), poor monitoring ($\alpha = .66$), inconsistent discipline ($\alpha = .80$), and corporal punishment ($\alpha = .53$) (Hawes & Dadds, 2006). While the corporal punishment subscale had the lowest coefficient, it also has the smallest number of items and this fact is known to effect internal consistency and the subscale's scores correlate with behavioral observations in a theoretically consistent manner. Moreover, the subscale has been shown to have good convergent estimates. For example, Hawes and Dadds (2006) aimed to validate the APQ against observations of parent-child interactions. They suggested that the corporal punishment subscale provided clinical utility because it was the only subscale to correlate with observations of harsh/aversive parenting. Additionally, in a study aimed to differentiate disruptive behavior disorder (DBD) children, Shelton et al. (1996) found that the corporal punishment subscale was able to distinguish between children with DBD from normal control children. They concluded that even though the subscale showed low internal consistency, it was vital to the purpose of the study.

Potential Moderators

An important but relatively neglected area of corporal punishment research has been the failure to examine moderating factors (Kazdin & Benjet, 2003; Larzelere & Kuhn, 2005). Some of the inconsistencies in the corporal punishment literature may be due to different sample characteristics. For example, in their meta-analysis of published corporal punishment literature, Paolucci and Violato (2004) concluded that future research should focus on the impact of moderator variables. In their study they found that the average effect size of corporal punishment on outcomes were small, but suggested it may be that some moderators impact the effect of

corporal punishment. The moderating variables that were examined in this study are discussed in the following sections.

Parental Warmth: Not all children who receive corporal punishment have detrimental outcomes (Larzelere & Kuhn, 2005; Paolucci & Violato, 2004). Previous research has shown that other parenting techniques or characteristics may buffer the negative effect of corporal punishment. The buffering effect typically involves more positive parenting characteristics and practices, such as parental warmth, involvement, parental support, love, acceptance, and the child's perception of a good parent-child relationship. For instance, McLoyd and Smith (2002) reported that maternal emotional support influenced the association between spanking and children's behavior problems. In another study, maternal warmth influenced the link between physical punishment and child externalizing symptoms (Deater-Deckard, Ivy, & Petrill, 2006). McKee et al. (2007) reported that when physical discipline was high, child internalizing problems were substantially lower when each parent's (i.e., both mother and father) warmth was high compared to low. Several authors caution against the study of child outcomes to corporal punishment without examining other parenting practices that may take place interchangeably (Baumrind, Larzelere, & Cowan, 2002; Kazdin & Benjet, 2003; Larzelere, 2000). Based on previous studies and author recommendations, this study examined the influence of parental warmth on the link between corporal punishment and anxiety.

Parental warmth has been defined interchangeably with other concepts; for example, acceptance, involvement, positive attention, love, engagement, and emotional support. For this study, warmth was defined as the parent's expression of love and acceptance through offering the child involvement, praise, explanation, and positive interactions. Warmth has been shown to be an important component of secure parent-child attachment (Barnett, Kidwell, & Leung, 1998)

and has been shown to be negatively associated with child anxious behavior (McCabe, Clark, & Barnett, 1999). When corporal punishment is used by a warm parent, it is more likely that the child will achieve more positive outcomes, primarily because warmth generates feelings of trust and security from the parent (Gershoff, 2002; Grusec & Goodnow, 1994). This in turn may buffer the impact of physical punishment on the child's outcome (Deater-Deckard & Dodge, 1997). Therefore, it may be that a child who receives corporal punishment may not suffer from anxiety symptoms if the corporal punishment is received by a parent who expresses warmth. In other words, parental warmth may moderate the association between corporal punishment and anxiety in youth.

Testing the influence of parental warmth is crucial to corporal punishment research because corporal punishment does not typically happen in isolation from other parental influences. In other words, corporal punishment is a component of a system of parenting techniques and practices, and therefore, cannot be adequately examined if other factors are not included in the study. Parental warmth was chosen as a key parenting factor for this study based on previous parenting and corporal punishment research, as mentioned above.

Age: As previously mentioned, most American parents reported that they used some form of corporal punishment; moreover, they report the highest use for children during the toddler years (Straus & Stewart 1999). Several studies have shown that parental use of corporal punishment declines as the child grows older (Frick, Christian, & Wootton, 1999; Straus & Stewart, 1999). As children increase in age, the use of corporal punishment becomes less normative; therefore, it may lead an older child to believe that he/she is deserving of such punishment or that he/she is not like other same-aged children. The idea of receiving punishment that is not typically administered to peers may put an older child at an increased risk for

psychological problems. Older children have more developed cognitive processes than younger children, which increases the awareness of the parent's motivations and intentions behind specific disciplinary actions (Grusec & Goodnow, 1994).

In a literature review of physical punishment studies, Larzelere (2000) noted age differences in the outcomes of children who receive corporal punishment. He reported that 11 of 12 studies (92%) of children with a mean age under 6 years old reported beneficial outcomes of physical punishment; whereas, of the studies including children with an average age of 7 to 10 years old, 6 (86%) reported detrimental outcomes. In fact, Larzelere (2000) stated that parents should begin to phase out corporal punishment when the child reaches the age of 7 years old and should no longer use corporal punishment after the age of 12 years old. Therefore, it appears that the child's age may influence the child's outcome to corporal punishment. It is important to study psychological outcomes in older children while they are in the environment in which they are experiencing parental discipline, especially due to the fact that corporal punishment is not a normal discipline method used on older children.

Ethnicity: There has been conflicting results reported by researchers examining ethnicity as a moderator in reference to corporal punishment beliefs and use (Aucoin et al., 2006; Deater-Deckard, Dodge, Bates, & Petit, 1996; Whiteside-Mansell, Bradley, Owen, Randolph, & Cauce, 2003). Stormshak et al. (2000) found that physical punishment was more strongly associated with internalizing symptoms in Euro-American children than in African American children. However, Aucoin et al. (2006) found that the ethnicity of the child did not moderate the impact of corporal punishment on emotional well-being. Prevalence studies have shown that 70% of African American parents report using corporal punishment during the previous year compared to 60% of Euro-American parents (Straus & Stewart, 1999). Deater-Deckard et al. (2003)

hypothesized that African American children may view corporal punishment as normative within their culture and therefore, they are less likely to experience negative outcomes compared to Euro-American children. Lansford et al. (2005) theorized that children may view corporal punishment as an act of parental acceptance if they consider corporal punishment to be the norm within their culture; whereas, other children will view the use of corporal punishment as parental rejection when the child believes that it is not a cultural norm.

The Present Study

The present study intended to move the corporal punishment and anxiety literature forward by addressing key issues. As reviewed above, the extant corporal punishment literature has primarily focused on externalizing outcomes and anxiety has been relatively neglected in this literature. This study aimed to examine if corporal punishment is associated anxiety while controlling for externalizing problems.

The present study measured corporal punishment by using the APQ and examined the inter-rater reliability and inter-item reliability of the APQ corporal punishment subscale. The APQ was used to provide consistency in the definition of corporal punishment and to collect information from both parents and their child. Based on the literature reviewed above, parental warmth, the child's age, and ethnicity were examined as potential moderators in the association between corporal punishment and anxiety.

Hypotheses

1. The Alabama Parenting Questionnaire's corporal punishment items will have good internal consistency and inter-rater agreement.
2. Parental use of corporal punishment will be associated with youth anxiety symptoms even after controlling for level of externalizing problems.

3. The association between corporal punishment and anxiety will be influenced by moderators
 - a. Parental warmth would buffer the impact of corporal punishment with youth anxiety. Specifically, among children with high parental warmth, corporal punishment would be less associated with anxiety.
 - b. Age will moderate the association. It is expected that corporal punishment will be more strongly associated with anxiety in older youth.
 - c. Ethnicity will moderate the association. It was expected that corporal punishment would be more strongly associated with anxiety for Euro-American children.

Methods

Participants

Data for this study was drawn from the Youth and Family Anxiety, Stress, and Phobia Lab of the University of New Orleans (UNO). Participants included children ages 6-17 and one parent for each child (father or mother). Families were recruited from psychology classes at the University of New Orleans, and, through advertisements posted on campus. Students were able to participate if they had a child aged 6-17 or they could refer a parent from outside of the university. Participants received a small cash compensation for their participation. Data collection for this sample occurred on a rolling basis from October 1, 2003 to May 7, 2005 (i.e., the APQ-C was administered to youth). During this time period, total of 161 children completed the APQ-C, of those, 154 were single parent-child dyads (some families had more than one child; the target child for this study was taken at random) whose parents completed the APQ-P. There was one extreme outlier (the scores from that case were numerically distant from the rest of the cases in the data), so that case was deleted, producing a total sample size of 153. Missing items on the core measures (APQs) were random (per missing data analysis), and therefore, the mean score for the missing items was used. Any other missing data was handled using pairwise deletion. The sample for this study was composed of 73 female and 80 males ($N = 153$), with a mean age of 11.3 years and an age range of 6 to 17 years. The ethnicity of the sample was: 47.1% Caucasian, 38.6% African-American, 7.2% Hispanic, 1.3% Asian, and 5.9% of other ethnic backgrounds. The range of the family income for this sample was as follows: \$0 - \$11,999 (22.9%), \$12,000 - \$20,999 (15.7%), \$21,000 - \$30,999 (13.1%), \$31,000 - \$40,999 (3.3%), \$41,000 - \$50,999 (18.3%), over \$51,000 (24.2%), and 2.6% did not report their family income.

Measures

Corporal Punishment and Parental Warmth. Parental use of corporal punishment and parental warmth was assessed using the parent and child versions of the Alabama Parenting Questionnaire (APQ-P and APQ-C; Frick, 1991; Shelton, Frick, & Wootton, 1996). The APQ (both parent and child measures) is a 42-item self-report measure that addresses five major components of parenting (involvement, positive parenting, poor monitoring, inconsistent discipline, and corporal punishment). For the APQ-P, the parent circles the number that best describes how often each item is typically occurs in the home (1 = never to 5 = always). As previously mentioned, the APQ-P and APQ-C have been used in several studies addressing parent practices, and have been found to be reliable and have shown to converge with observational measures of parenting practices (Hawes & Dadds, 2006).

Corporal punishment was assessed using the parent's and child's responses to three questions that specifically apply to corporal punishment use, which include: "You spank your child with your hand when he/she has done something wrong" (item 33), "You slap your child when he/she has done something wrong" (item 35), "You hit your child with a belt, switch, or other object when he/she has done something wrong" (item 38). There are 7 items that assess other discipline practices, but the purpose of these items is so that the corporal punishment items were not asked in isolation of other forms of discipline, which could lead to reporter bias towards the corporal punishment items (Shelton, Frick, & Wootton, 1996). The APQ-C (child version) asks the child to circle the number that best describes how often the statements typically occur in their home. The questions are similar to those asked of the parent, for example: "Your parents spank you with their hand when you have done something wrong." (item 33).

For hypothesis testing in terms of the association between corporal punishment and anxiety, a corporal punishment score for each family was computed using the method used by Aucoin et al. (2006) for consistency with past research . Specifically, the parent and child reports were combined by taking the higher total corporal punishment score from either the parent or child report. For example, if a child's corporal punishment score was 9 and the parent's corporal punishment score was 10, the final corporal punishment score for that child was 10. The correlations for the corporal punishment items are presented in Table 1.

Table 1. *Correlations for the Corporal Punishment Items*

	1	2	3	4	5
1. APQ-C item 33					
2. APQ-C item 35	.47**				
3. APQ-C item 38	.49**	.55**			
4. APQ-P item 33	.40**	.33**	.43**		
5. APQ-P item 35	.27**	.40**	.42**	.66**	
6. APQ-P item 38	.29**	.36**	.50**	.63**	.61**

** Pearson Correlation is significant at the 0.01 level (2-tailed).

Parental Warmth. The APQ-P and APQ-C was also used to assess parental warmth (i.e., involvement, positive parenting). Ten items are associated with parental involvement (e.g., “You help your child with his/her homework.”) and 6 items assess positive parenting (e.g., “You praise your child if he/she behaves well.”). Shelton, Frick, and Wootton (1996) examined the validity of the APQ and found that the involvement and positive parenting subscales were highly correlated across informant and assessment format (r 's .41-.85), which indicated that the two sub-scales

measure a single dimension of parenting. Consistent with the previous research, correlations for this sample showed that the involvement and positive parenting subscales were highly correlated (child's report, $r = .87$, $p < .01$; parent's report, $r = .64$, $p < .01$). Therefore, this study combined the positive parenting scores and parental involvement scores to form a total parental warmth score for both the child report and the parent report. For this sample, correlations were significant between the informants for the total parental warmth variable ($r = .34$, $p < .01$). In order to stay consistent with the methods used in this study for the APQ (i.e., composite of the corporal punishment score), the higher score between child and parent reports for the total parental warmth item was used for the moderation analyses¹.

Anxiety. Anxiety symptoms was assessed using the Revised Child Anxiety and Depression Scales (RCADS; Chorpita, Yim, Moffitt, Umemoto, & Francis, 2000; Spence, 1997). The RCADS is an adaptation of the Spence Children's Anxiety Scale (SCAS; Spence, 1998). The RCADS is a 47-item instrument that assesses symptoms of each anxiety disorder (except posttraumatic stress disorder [PTSD] and specific phobias) and depression based on the *Diagnostic and Statistical Manual of Mental Disorders–IV (DSM-IV)* criteria (American Psychiatric Association, 1994). Thirty-seven items comprise the anxiety scale. The scale is scored 1 (*never*), 2 (*sometimes*), 3 (*often*), and 4 (*always*). Chorpita et al. (2000) reported 1-week test-retest reliabilities in the high .70s and demonstrated that the RCADS has good convergent validity with other measures of childhood anxiety symptoms and anxiety disorders. Parents completed a parent version of the RCADS (RCADS-P) designed identical to the RCADS with word modification for parent completion (i.e., wording was changed from “I” to “My child”). Watts and Weems (2006) reported internal consistencies for the parent and child versions at .93 and .94. In this sample and as expected, there was relatively low agreement between the child

and parent total RCADS scores [$r = .26$; mean difference = 14.73, $SEM = 1.68$; $t(152) = 8.78$, $p < .001$]. Overall, parents ($M = 64.78$, $SD = 13.70$) reported lower scores compared to their children ($M = 79.51$, $SD = 19.39$). These results are consistent with previous research suggesting that parents tend to under report their child's internalizing (i.e., anxious) symptoms. Given the relatively low correlation and a desire to examine the relation to both parents and child report of anxiety, it was decided that both the parent and child total RCADS scores would be analyzed separately.

Fear. The *Revised Fear Survey Schedule for Children* (FSSC-R; Ollendick, 1983) was used to assess fears. The FSSC-R is an 80-item fear inventory designed to assess the frequency, intensity and content of children's fears. Items are scored on a 1 (no fear at all) to 3 (very fearful) scale. A total score can be computed, as well as five subscale scores, namely Fear of Failure and Criticism, Fear of the Unknown, Fear of Injury and Small Animals, Fear of Danger and Death, and Medical Fears. The total score ranges from 80-240. The total fear score was used to examine if the child's report of fears is significantly associated with parental use of corporal punishment. The FSSC-R has been shown to have high test-retest reliability ($r = .82$; Ollendick, 1983) and good discriminant validity (Weems, Silverman, Saavedra, Pina, & Lumpkin, 1999). In a clinical sample of children who met DSM criteria for phobic disorders, Weems et al. (1999) found that the FSSC-R discriminated among specific types of phobias (i.e., social phobia, and simple phobias of the dark/sleeping alone, animals, and shots/doctors); furthermore, the most commonly reported fears on the FSSC-R conceptually corresponded to the type of the child's phobia diagnosis. Using Cronbach's alpha, results for this sample indicated that the total scale has strong internal consistency (child report, $\alpha = .96$; parent report, $\alpha = .96$). Consistent with previous research and the findings in the RCADS section of this study, agreement between parent and

child reports was [$r = .33$; mean difference = 17.14, $SEM = 2.56$; $t(152) = 6.69$, $p < .001$;]. Overall, the parents ($M = 118.79$, $SD = 23.56$) reported lower fear scores compared to their children ($M = 135.93$, $SD = 30.23$). This provides further evidence that parents tend to under report their child's internalizing symptoms. Therefore, the total fear score for was analyzed separately parent and child was used to examine if the child's report of fears was significantly associated with parental use of corporal punishment.

Externalizing Symptoms. Externalizing symptoms was assessed using the Child Behavior Checklist (CBCL; Achenbach, 1991). This measure is a parent self-report questionnaire that assesses the child's behavioral and social problems. Each item is scored on a 0-2 scale. The CBCL provides scores for the total scale, as well as internalizing and externalizing sub-scales. For this research, the total externalizing t-score was held as the constant in the hierarchical linear regression and MANCOVA analyses. The CBCL is a widely used measure that has been shown to have good reliability and has been extensively validated with coefficient alphas ranging from .89 to .96 for the internalizing, externalizing, and total scales (Achenbach, 1991; Achenbach & Rescorla, 2001). For this study, the externalizing t-score was used in the analyses. Given the use of the CBCL t-score, internal consistency was not computed.

Procedures

Completion of the assessment took place in a quiet room and the child completed the assessment in a separate room from the parent. Both the youth and parent were greeted and given a general overview of the assessment procedures. Informed consent was presented to the parent and informed assent was presented to the child. Standardized specific instructions were then given to the parent and child separately. Youth completed the measures and were assisted as necessary by trained research assistants (e.g., young participants were read the assessment

battery by research assistants who monitored the child's comprehension of the questions). At the conclusion of the study, participants were debriefed and given a small monetary reward. Missing or incomplete data on one or more measures was handled by pairwise or analysis (when more than two variables) deletion of missing cases (Tabachnick & Fidell, 2001).

Results

Preliminary Data Analyses

The mean score, standard deviation, range, and skew for each measure used in the present study are presented in Table 2. The APQ total corporal punishment item and the RCADS scales (i.e., RCADS-P and RCADS-C) were slightly skewed; however, the positive skew of some measures is not unexpected given that a community sample was used and, therefore, should generally report lower levels of anxiety and there should be fewer cases that report high corporal punishment use.

Table 2. *Means, Standard Deviations, Ranges, and Skew for all Measures (n = 153)*

	<i>M</i>	<i>SD</i>	Range	Skew
APQ- Total CP Score	6.39	3.06	3-15	5.22
RCADS-C	79.51	19.39	47-143	3.24
RCADS-P	64.78	13.70	47-120	7.82
FSSCR-C	135.93	30.23	80-204	1.52
FSSCR-P	118.79	23.56	80-176	1.92
APQ (Warmth)	65.84	7.93	48-80	-.17
CBCL (Externalizing)	51.13	10.68	30-77	.36

Note: APQ, Alabama Parenting Questionnaire (higher score from parent and child reports); RCADS-C, Revised Child Anxiety and Depression Scales- Child Report; RCADS-P, Revised Child Anxiety and Depression Scales- Parent Report; FSSCR-C, Revised Fear Survey Schedule for Children- Child Report; FSSCR-P, Revised Fear Survey Schedule for Children- Parent Report; CBCL, Child Behavior Checklist (externalizing subscale).

A Pearson correlation was conducted to examine the associations between the measures. Due to the skew of some of the scales, as mentioned above, a Spearman correlation was also conducted. The results of the two separate correlations did not differ. Therefore, the Pearson correlation is reported in Table 3. Corporal punishment was significantly associated with the RCADS-C, the FSSCR-C, and the CBCL externalizing subscale. The correlations between corporal punishment and the RCADS-P and FSSCR-P were non-significant. Parental warmth was negatively correlated with the child's age and externalizing symptoms, but was not significantly correlated with any other measure. The CBCL externalizing subscale was significantly correlated with corporal punishment, the RCADS-P, and negatively correlated with parental warmth.

Table 3. *Correlations for Measures.*

	1	2	3	4	5	6	7	8
1. Age								
2. APQ- total CP	-.41**							
3. RCADS-C	-.25**	.33**						
4. RCADS-P	-.15	-.01	.25**					
5. FSSCR-C	-.32**	.38**	.70**	.21**				
6. FSSCR-P	-.20*	.07	.24**	.52**	.33**			
7. APQ- warmth	-.30**	.02	.05	.02	.15	.16		
8. CBCL- externalizing	-.14	.19*	.09	.46**	.05	.13	-.23**	

Note. ** $p < .01$ level, * $p < .05$ level.

APQ's Corporal Punishment Items

The three corporal punishment items were summed to create a total corporal punishment score for both the child reports ($\alpha = .75$) and parent reports ($\alpha = .84$). The results suggest that the corporal punishment items have strong internal consistency. Total scores from the parents and children were compared using a correlation matrix and analysis of the mean differences. The total corporal punishment scores for the child and parent reports were significantly correlated ($r = .53, p < .01$), which indicates good inter-rater reliability. Also, there was not a significant difference ($t(152) = -.212, p = ns$) in the mean level of corporal punishment reported by the child ($M = 5.44, SD = 3.00$) and parent ($M = 5.48, SD = 2.44$).

The distribution of the corporal punishment scale indicated that three groups emerged: no corporal punishment (coded 0), moderate corporal punishment (coded 1), and high corporal punishment (coded 2). This finding was consistent with the three corporal punishment groups identified by Aucoin et al. (2006); moreover, the corporal punishment groups in this study were coded in the same manner as in their study (see Aucoin et al., 2006). Thirty-four percent ($n = 52$) of the sample reported no use of corporal punishment. Fifty-four percent ($n = 83$) reported moderate use (i.e., a score of 5-9 on a range of 3-15) of corporal punishment and nearly ten percent ($n = 18$) reported high use (i.e., a score of 11-15 on a range of 3-15). The corporal punishment grouping variable was used for the MANCOVAs and the regressions.

Corporal Punishment and Anxiety

The association between corporal punishment groups and anxiety was examined with MANCOVAs and then with hierarchical linear regressions. Based on a review of previous corporal punishment literature, Aucoin et al. (2006) suggested that there may be a curvilinear relationship between corporal punishment and child adjustment problems, with both high and

low levels of corporal punishment being more associated with adjustment problems compared to mild levels of corporal punishment. Therefore, Aucoin et al. (2006) suggested that studies should examine mild and more normative forms of corporal punishment separately from more severe forms in determining its association with child aggression. Although the present study expected that there will be a linear relationship between corporal punishment and anxiety, it was decided to use methodology that would distinguish between linear and curvilinear associations to see if the results from the two different methods would produce the same findings.

Multivariate analyses of covariance (MANCOVAs) were conducted in order to examine the effect of the corporal punishment groups (1) on the child reports of anxiety (RCADS-C and FSSCR-C), and (2) then on the parent reports of anxiety (RCADS-P and FSSCR-P). To examine the potential moderators (i.e., the interaction with corporal punishment), each variable was divided into groups as follows: age (younger and older), ethnicity (African-American and Euro-American), and warmth (low and high). Three separate analyses were conducted for each moderator on both sets of dependent variables (parent reports versus child reports for anxiety), which produced a total of six MANCOVAs. The CBCL externalizing score was entered as a covariate in all MANCOVAs.

Results of the MANCOVAs on the child report (RCADS-C and FSSCR-C) are summarized in Table 4 (age), Table 5 (ethnicity), and Table 6 (warmth). The results indicated that the combined child reports (i.e., the RCADS-C and FSSCR-C) were significantly affected by corporal punishment and age, but not by ethnicity or parental warmth. Moreover, the interaction terms for all three moderators were not significant suggesting that the three variables do not influence the effect of the corporal punishment groups on the child reports of anxiety. The univariate ANOVAs indicated that each child report (RCADS-C and FSSCR-C) differed across

the corporal punishment groups in all three analyses. Bonferroni post hoc comparisons were conducted and are shown in Tables 4-6. Furthermore, the ANOVAs for the three moderator variables indicated that RCADS-C did not differ significantly across age, ethnicity, or parental warmth. However, the ANOVAs suggested that the FSSCR-C differed across the two age groups, but not across ethnicity and parental warmth. By examination of the descriptive statistics, it appeared that the younger children reported higher fear scores on the FSSCR-C compared to the older children.

Table 4. *Summary of Corporal Punishment Group and Age Means (MANCOVA) on Child Reports*

	No Corporal Punishment (n = 50)	Moderate Corporal Punishment (n = 83)	High Corporal Punishment (n = 18)	Univariate <i>F</i>
<i>RCADS-C</i>	72.70 (15.91) ^c	80.33 (19.40) ^c	96.83 (17.14)	10.539**
Age (younger)	72.93 (22.27)	84.42 (20.58)	95.83 (17.90)	
	n = 14	n = 52	n = 12	
Age (older)	72.56 (13.04)	73.45 (15.19)	98.83 (16.94)	
	n = 36	n = 31	n = 6	
<i>FSSCR-C</i>	121.74 (26.92) ^{bc}	139.16 (27.43) ^{ac}	162.72 (31.34) ^{ab}	10.432**
Age (younger)	124.71 (35.40)	145.17 (26.52)	171.42 (26.24)	
	n = 14	n = 52	n = 12	
Age (older)	120.58 (23.33)	129.06 (26.31)	145.33 (35.78)	
	n = 36	n = 31	n = 6	

Note. Wilks' Lambda Criterion was used. The multivariate for corporal punishment $F(4, 286) = 6.838$, $p < .001$, $\eta^2 = .084$, for age $F(2, 143) = 4.252$, $p < .05$, $\eta^2 = .056$, and for the interaction $F(4, 286) = 1.962$, ns , $\eta^2 = .027$. The dependent variables are italicized. Standard deviations are in parentheses. Based on Bonferroni comparisons at $p < .05$: a = significant difference with the No corporal punishment group, b = significant difference with the Moderate corporal punishment group, c = significant difference with the High corporal punishment group. ** = p

Table 5. *Summary of Corporal Punishment Group and Ethnicity Means (MANCOVA) on Child Reports*

	No Corporal Punishment (n = 44)	Moderate Corporal Punishment (n = 69)	High Corporal Punishment (n = 17)	Univariate <i>F</i>
<i>RCADS-C</i>	72.88 (16.07) ^c	81.68 (20.16) ^c	97.59 (17.36)	7.578**
Ethnicity (African American)	69.67 (7.97) n = 6	82.10 (21.03) n = 41	97.50 (14.30) n = 12	
Ethnicity (Euro- American)	73.39 (17.02) n = 38	81.07 (19.17) n = 28	97.80 (25.36) n = 5	
<i>FSSCR-C</i>	120.16 (24.12) ^{bc}	140.93 (27.55) ^{ac}	163.76 (31.98) ^{ab}	7.290**
Ethnicity (African American)	132.83 (28.63) n = 6	142.15 (25.71) n = 41	167.83 (32.39) n = 12	
Ethnicity (Euro- American)	118.16 (23.14) n = 38	139.14 (30.44) n = 28	154.00 (32.19) n = 5	

Note. Wilks' Lambda Criterion was used. The multivariate for corporal punishment $F(4, 244) = 4.328$, $p < .01$, $\eta^2 = .066$, for ethnicity $F(2, 122) = 2.344$, *ns*, $\eta^2 = .037$, and for the interaction $F(4, 244) = .769$, *ns*, $\eta^2 = .012$. The dependent variables are italicized. Standard deviations are in parentheses. Based on Bonferroni comparisons at $p < .05$: a = significant difference with the No corporal punishment group, b = significant difference with the Moderate corporal punishment group, c = significant difference with the High corporal punishment group. ** = $p < .01$.

Table 6. *Summary of Corporal Punishment Group and Warmth Means (MANCOVA) on Child Reports*

	No Corporal Punishment (n = 50)	Moderate Corporal Punishment (n = 83)	High Corporal Punishment (n = 18)	Univariate <i>F</i>
<i>RCADS-C</i>	72.66 (15.91) ^c	80.33 (19.40) ^c	96.83 (17.14)	11.678**
Warmth (Low)	71.71 (12.51) n = 24	80.12 (20.64) n = 43	101.71 (11.51) n = 7	
Warmth (High)	73.54 (18.71) n = 26	80.55 (18.22) n = 40	93.73 (19.82) n = 11	
<i>FSSCR-C</i>	121.74 (26.92) ^{bc}	139.16 (27.43) ^{ac}	162.72 (31.34) ^{ab}	14.694**
Warmth (Low)	115.38 (22.84) n = 24	139.09 (27.43) n = 43	158.43 (32.72) n = 7	
Warmth (High)	127.62 (29.42) n = 26	139.23 (27.78) n = 40	165.45 (31.72) n = 11	

Note. Wilks' Lambda Criterion was used. The multivariate for corporal punishment $F(4, 286) = 8.032$, $p < .01$, $\eta^2 = .101$, for warmth $F(2, 143) = 1.749$, *ns*, $\eta^2 = .024$, and for the interaction $F(4, 286) = 1.010$, *ns*, $\eta^2 = .014$. The dependent variables are italicized. Standard deviations are in parentheses. Based on Bonferroni comparisons at $p < .05$: a = significant difference with the No corporal punishment group, b = significant difference with the Moderate corporal punishment group, c = significant difference with the High corporal punishment group. ** = $p < .01$.

In regards to the MANCOVAs conducted on the parent reports, the results indicated that the combined parent reports (i.e., the RCADS-P and FSSCR-P) were not significantly affected by corporal punishment, age, or parental warmth (see Tables 7-9). However, the combined parent reports were significantly affected by ethnicity. The univariate ANOVA indicated that the significant difference across the two ethnicity groups was for the FSSCR-P but not for the RCADS-P. By examination of the descriptive statistics, it appeared that the African American parents reported higher fear scores for their children compared to Euro-American parents.

Table 7. *Summary of Corporal Punishment Group and Age Means (MANCOVA) on Parent Reports*

	No Corporal Punishment (n = 45)	Moderate Corporal Punishment (n = 69)	High Corporal Punishment (n = 17)	Univariate <i>F</i>
<i>RCADS-P</i>	61.60 (9.27)	64.30 (13.10)	63.12 (9.85)	1.034
Age (younger)	63.58 (10.34)	65.84 (13.93)	62.45 (10.08)	
	n = 12	n = 44	n = 11	
Age (older)	60.87 (8.90)	61.60 (11.12)	64.33 (10.23)	
	n = 33	n = 25	n = 6	
<i>FSSCR-P</i>	110.20 (20.90)	124.77 (22.65)	117.88 (26.76)	1.136
Age (younger)	116.42 (23.45)	126.98 (23.42)	114.27 (21.29)	
	n = 12	n = 44	n = 11	
Age (older)	107.94 (19.80)	120.89 (21.11)	124.50 (36.10)	
	n = 33	n = 25	n = 6	

Note. Pillai's criterion was used. The multivariate for corporal punishment $F(4, 248) = .914$, *ns*, $\eta^2 = .015$, for age $F(2, 123) = .311$, *ns*, $\eta^2 = .005$, and for the interaction $F(4, 248) = .787$, *ns*, $\eta^2 = .013$. The dependent variables are italicized. Standard deviations are in parentheses. There were no significant differences between groups.

Table 8. *Summary of Corporal Punishment Group and Ethnicity Means (MANCOVA) on Parent Reports*

	No Corporal Punishment (n = 44)	Moderate Corporal Punishment (n = 69)	High Corporal Punishment (n = 17)	Univariate <i>F</i>
<i>RCADS-C</i>	61.55 (9.37)	64.30 (13.10)	63.12 (9.85)	1.932
Ethnicity (African American)	56.83 (5.08) n = 6	61.51 (10.81) n = 41	65.83 (9.72) n = 12	
Ethnicity (Euro- American)	62.29 (9.71) n = 38	68.39 (15.07) n = 28	56.60 (7.30) n = 5	
<i>FSSCR-C</i>	109.59 (20.74)	124.77 (22.65)	117.88 (26.76)	2.144
Ethnicity (African American)	121.67 (9.09) n = 6	127.93 (19.52) n = 41	123.58 (26.02) n = 12	
Ethnicity (Euro- American)	107.68 (21.47) n = 38	120.14 (26.26) n = 28	104.20 (25.90) n = 5	

Note. Wilks' Lambda Criterion was used. The multivariate for corporal punishment $F(4, 244) = 1.246$, *ns*, $\eta^2 = .020$, for ethnicity $F(2, 122) = 5.143$, $p < .01$, $\eta^2 = .078$, and for the interaction $F(4, 244) = 1.782$, *ns*, $\eta^2 = .028$. The dependent variables are italicized. Standard deviations are in parentheses. There were no significant differences between groups.

Table 9. *Summary of Corporal Punishment Group and Warmth Means (MANCOVA) on Parent Reports*

	No Corporal Punishment (n = 50)	Moderate Corporal Punishment (n = 83)	High Corporal Punishment (n = 18)	Univariate <i>F</i>
<i>RCADS-C</i>	63.10 (12.13)	65.59 (14.43)	63.06 (9.56)	.550
Warmth (Low)	62.83 (10.61)	66.00 (13.36)	66.00 (7.05)	
	n = 24	n = 43	n = 7	
Warmth (High)	63.35 (13.60)	65.15 (15.70)	61.18 (10.76)	
	n = 26	n = 40	n = 11	
<i>FSSCR-C</i>	111.68 (22.33) ^b	123.25 (22.72) ^a	115.94 (27.23)	3.979*
Warmth (Low)	107.00 (18.85)	120.33 (21.19)	119.57 (26.06)	
	n = 24	n = 43	n = 7	
Warmth (High)	116.00 (24.70)	126.40 (24.13)	113.64 (28.95)	
	n = 26	n = 40	n = 11	

Note. Wilks' Lambda Criterion was used. The multivariate for corporal punishment $F(4, 286) = 2.362$, *ns*, $\eta^2 = .032$, for warmth $F(2, 143) = .370$, *ns*, $\eta^2 = .005$, and for the interaction $F(4, 286) = .328$, *ns*, $\eta^2 = .005$. The dependent variables are italicized. Standard deviations are in parentheses. Based on Bonferroni comparisons at $p < .05$: a = significant difference with the No corporal punishment group, b = significant difference with the Moderate corporal punishment group. * = $p < .05$

Next, a series of hierarchical multiple regressions were conducted to examine whether parental use of corporal punishment was associated with youth anxiety symptoms when controlling for externalizing symptoms, age, and ethnicity. A total of four regressions were conducted to examine the association between corporal punishment groups and each of the following dependent variables: RCADS-P, RCADS-C, FSSCR-P, and FSSCR-C. For the all regressions the CBCL externalizing score (continuous variable), age (continuous variable), and ethnicity (continuous variable) were entered as predictors into block 1. The corporal punishment group variable was entered as the predictor into block 2 to determine if there was a significant increase in the amount of variance (R^2) explained in the dependent variables (Jaccard, Guilamo-Ramos, Johansson, & Bouris, 2006).

Results of the four regressions are summarized in Table 10. The regressions indicated that corporal punishment was a significant predictor of the child report's of anxiety (RCADS-C) and fear (FSSCR-C). Conversely, corporal punishment was not a significant predictor of the parent report's of their child's anxiety (RCADS-P) and fear (FSSCR-P). Regressions were also conducted using the corporal punishment score as a linear independent variable (i.e., score ranging from 3-15) instead of using the corporal punishment groups as the independent variable. The significance of the regressions using the corporal punishment scale were consistent with the regressions for the corporal punishment groups. In other words, the corporal punishment scale was significantly associated with the RCADS-C and FSSCR-C, but not significantly associated with the RCADS-P and FSSCR-P.

Table 10. *Summary of the Four Separate Regression Analyses*

Step	β	t	Model R^2	ΔR^2
<i>Predicting RCADS-C</i>				
1. CBCL (externalizing)	.07	.844		
Age	-.23*	-2.836		
Ethnicity	-.13	-1.553	.08	.08**
2. APQ (CP groups)	.30**	3.431	.15	.10**
<i>Predicting RCADS-P</i>				
1. CBCL (externalizing)	.42**	5.801		
Age	-.17	-1.606		
Ethnicity	.21**	2.956	.27	.27**
2. APQ (CP groups)	-.06	-.665	.27	.00
<i>Predicting FSSCR-C</i>				
1. CBCL (externalizing)	.02	.281		
Age	-.30**	-3.734		
Ethnicity	-.15	-1.952	.12	.12**
2. APQ (CP groups)	.34**	3.961	.21	.09**
<i>Predicting FSSCR-P</i>				
1. CBCL (externalizing)	.13	1.610		
Age	-.16	-1.938		
Ethnicity	-.18*	-2.175	.08	.08**
2. APQ (CP groups)	-.03	-.349	.08	.00

Note: Dependent variables are italicized. All full models significant at $p < .05$; F for model and change for step * = $p < .05$, ** = $p < .01$.

Parental Warmth, Age, and Ethnicity as Moderators

Although the MANCOVAs examined the interactions between the potential moderators and corporal punishment, the potential moderators were also examined by conducting a series of moderation linear regression analyses using methods recommended by Holmbeck (2002) to test if parental warmth, age, and ethnicity moderate the association between corporal punishment and anxiety symptoms. A total of six regressions were conducted. To test all three moderators for each of the two dependent variables (i.e., RCADS-C and FSSCR-C). In other words, the RCADS-C was entered as the dependent variable and three separate regressions were conducted for each of the moderators (warmth, age, and ethnicity; all entered as continuous variables), and likewise for FSSCR-C as the dependent variable. For these analyses, hierarchical regression analyses were used in which CBCL externalizing, corporal punishment groups (centered; i.e., subtracting the mean from the scores for each predictor variable to create a new variable; used to reduce the effects of multicollinearity, see Tabachnick & Fidell, 1996), and the potential moderator (centered²) were entered simultaneously as predictors into the first step. In the second step, the interaction term [i.e., corporal punishment groups (centered) multiplied by each moderator (centered)] was entered. Results are summarized in Table 11 and indicated that the interaction terms for each moderator by corporal punishment were not significant suggesting that warmth, age, and ethnicity did not moderate the association between corporal punishment and the RCADS-C or the FSSCR-C.

Table 11. *Regression Analyses for Testing Moderations*

Step	RCADS-C				FSSCR-C			
	Model R^2	ΔR^2	β	t	Model R^2	ΔR^2	β	t
<i>Warmth</i>								
1. CBCL externalizing			.03	.427			.00	.035
APQ (CP groups)			.35**	4.417			.40**	5.281
APQ (warmth)	.13	.13**	.04	.518	.19	.19**	.12	1.550
2. CP groups*warmth	.13	.00	-.12	-.792	.19	.00	-.08	-.590
<i>Age</i>								
1. CBCL externalizing			.01	.148			-.04	-.580
APQ (CP groups)			.30**	3.508			.40**	4.224
Age	.15	.15**	.16	-1.925	.21	.21**	-.21	-2.552
2. CP groups*age	.16	.01	-.15	-1.045	.21	.01	-.15	-1.042
<i>Ethnicity</i>								
1. CBCL externalizing			.03	.381			-.02	-.218
APQ (CP groups)			.34**	4.090			.40**	4.902
Ethnicity	.13	.13**	-.03	-.405	.17	.17**	-.01	-.686
2. CP groups*ethnicity	.14	.00	-.19	-1.368	.18	.01	.13	-.950

Note: All full models significant at $p < .05$; F for model and change for step * = $p < .05$, ** = $p < .01$.

End Notes

¹ An alternate, and more commonly used method for combining scores from two informants (child and parent) is to sum the scores across both reporters. To examine if this alternate method of computation would influence the results, we summed the child's parental warmth score and the parent's parental warmth score to produce a total score. We tested parental warmth as a moderator using the summed score. The results were virtually identical to the reported findings (for the higher score method).

² Ethnicity (coded as 0 = African American and 1 = Euro-American) was not centered because it is a categorical variable.

Discussion

The present study adds to the existing research on parental use of corporal punishment in several ways. The first goal was to show that the APQ would be a reliable tool for assessing parental use of corporal punishment. To address this question, inter-item and inter-rater reliability analyses were conducted. The results revealed that the APQ's corporal punishment items had strong internal consistency. In fact, this study found that the internal consistency for the three items was stronger than that found in previous research by Hawes and Dadds (2006). The results from the inter-rater reliability analysis showed strong agreement between the parent and child reports for the corporal punishment items. One limitation found in previous research was that corporal punishment was often assessed by one type of informant (parent or child). Since the APQ is available in both a parent and child version and the agreement between the two informants is strong, future corporal punishment research can benefit by including the two informants with the use of the APQ. Therefore, it was concluded that the APQ is a good tool for measuring parental use of corporal punishment.

This study also makes important contributions to understanding the association between corporal punishment and anxiety in youth. Findings were somewhat consistent with our hypothesis that there would be a significant association. However, the association was only significant for the child reports on their anxiety symptoms. In other words, there was a significant association between corporal punishment and the RCADS-C and FSSCR-C; conversely, the association between corporal punishment and the RCADS-P and FSSCR-P were not significant. The high corporal punishment group reported higher scores on the RCADS-C and FSSCR-C compared to the other corporal punishment groups. Interestingly, the mean scores on the RCADS-C and FSSCR-C gradually increased from the no corporal punishment group to

the high corporal punishment group (see Tables 4-6). Conversely, mean scores on the RCADS-P and FSSCR-P fluctuated among the corporal punishment groups (see Tables 7-9).

There are several possible explanations as to why the association was not significant for parent reports but was significant for the child reports. First, the parents reported significantly lower scores for their child's anxiety and fear symptoms compared to the children's reports. This finding was consistent with previous research (e.g., Weems, Costa, Watts, Taylor, & Cannon, 2007) and suggested that parents tend to underreport their child's anxiety symptoms. Also, some parents who use corporal punishment may believe that corporal punishment does not negatively impact the child, may suggest that they use corporal punishment because they love their child (e.g., "I do this because I love you"), or some may not be aware of their child's anxiety symptoms, all of which may lead them to underreport their child's anxiety symptoms. On the other hand, children who receive moderate to high amounts of corporal punishment may view the discipline as a threat and in return become more anxious and/or fearful (Bryan & Freed, 1982; Rodriguez, 2003). Children with anxiety may be more likely to have negative beliefs about the uncontrollability associated with corporal punishment and in return, may develop maladaptive explanatory cognitions (Gallagher & Cartwright-Hatton, 2008; Rodriguez, 2003). Gallagher and Cartwright-Hatton (2008) suggested that harsh and inconsistent discipline contributed to the development of cognitive distortions (i.e., catastrophizing, selective abstraction, overgeneralizing, and personalizing), which support the idea that children who receive corporal punishment frequently are more likely to think that ambiguous situations are going to end badly. These negative cognitions may carry over into other situations, ultimately affecting the child's overall mood.

Another goal of this study was to examine whether age, ethnicity, and parental warmth moderated the association between corporal punishment and anxiety in youth. Inconsistent with our hypotheses, results indicated that there were no significant interactions in any of the analyses. In other words, there were no effects of age, ethnicity, or parental warmth on the association between corporal punishment and anxiety. The non-significant finding for ethnicity as a moderator was consistent with the findings of Aucoin et al. (2006), suggesting that the findings for the corporal punishment groups were the same for both African-American and Euro-American youth. Additionally, in a study that included participants from 6 countries, Landsford et al.(2005) reported that higher use of physical discipline was associated with anxiety regardless of whether physical discipline was perceived as being culturally normative. The results also suggested that age was not a significant moderator on the RCADS or FSSCR. Interestingly, the younger age group tended to have higher fear scores across the corporal punishment groups compared to the older age group (see Table 4). This finding was inconsistent with our hypothesis that corporal punishment would be more strongly associated with anxiety symptoms in older children compared to younger children.

The non-significant finding for parental warmth was not consistent with previous research (Aucoin et al. 2006; Larzelere, 2000) suggesting that parental warmth has a buffering effect on the association between corporal punishment and negative youth outcomes. Although there was not a significant interaction for parental warmth, those who fell in the low-warmth/ high corporal punishment group reported on average higher scores on the RCADS-C compared to the high-warmth/ high corporal punishment group. However, the opposite was found for the FSSCR-C (see Table 6). Based on previous research (i.e., Aucoin et al., 2006; Deater-Deckard et al., 2006; McKee et al., 2007), it was expected that parental warmth would have a buffering

effect between corporal punishment and youth anxiety symptoms. However, the results in this study did not find support for that hypothesis. It may be that children who are more anxious tend to be more perceptive to aversive stimuli; therefore, anxious children may be more focused on the corporal punishment and not how warm the parent is. Anxious children may be more avoidant of a parent who uses corporal punishment frequently so they may not reap the benefits of the parental warmth. Though, before drawing conclusions it is important to note that the APQ (positive parenting and involvement scales combined) was used to measure parental warmth. To date and to our knowledge the APQ has not been used to measure parental warmth in previous research; therefore, future research may want to examine the convergent validity of the APQ's positive parenting and involvement scales to other more frequently used parental warmth measures.

Although this study adds to the existing literature, several limitations must be considered. First and most importantly, the design and methods used in this study do not allow for causal statements. This study's focus was to examine the association and not to suggest that corporal punishment "causes" anxiety. To conclusively test for causality, a true experimental design would have to be conducted, which would be unethical to do so. Therefore, caution should be made when interpreting the results from this study.

A second limitation is the method for assessing parental use of corporal punishment. The APQ is a measure that relies solely on the willingness of the parents and children to report on corporal punishment use. Parents and children may be under-reporting due to social desirability, yet the distribution of the corporal punishment groups were consistent to the results found by Straus and Stewart (1999) suggesting that the majority of parents report some use of corporal

punishment. Also, the parents and children were asked only about the frequency of corporal punishment use and were not asked about the severity of the punishment.

Finally, there are limitations that are related to the sample used in this study. The small sample size may have limited the power for finding significant moderating effects. Another limitation is that the majority of the parents reporting were mothers. Future research should include fathers' and other caregivers' reports on corporal punishment use. The results may have been different among these reporters.

Along with the considerations of these limitations, this study does provide important information about the appropriateness of the use of corporal punishment in youth. As with previous research, we found that corporal punishment was associated with negative outcomes in youth, specifically anxiety problems. Some previous corporal punishment research (e.g., Aucoin, 2006; Lytton, 1990) has suggested that some children (i.e., those with difficult temperament) may elicit stronger discipline practices which may be one explanation for the association between corporal punishment and externalizing problems in children. After controlling for externalizing symptoms, we found a significant association between corporal punishment and anxiety symptoms. According to the previous explanation, this finding would suggest that anxious children may also evoke more harsh discipline practices. In other words, parents may resort to harsher discipline practices in response to the child's anxious temperament, or anxious children may report their parents more negatively (Ballash, Leyfer, Buckley, & Woodruff-Borden, 2006). Therefore, it is important to consider the parent-child interactions before drawing conclusions about the association between corporal punishment and negative outcomes. Also, it is important to acknowledge that we did not assess for the child's report on their externalizing symptoms which may have influenced the results.

Future research may examine whether anxiety symptoms predict corporal punishment use and may compare the effects of corporal punishment on clinically diagnosed anxious group versus a control group. In fact, we are far from concluding that corporal punishment has negative effects for all children. From this study and previous corporal punishment literature we can suggest that other methods of discipline (e.g., time-out; extra chores; removal of a favorite toy or privilege) have been shown to be effective for changing a child's behavior and are less likely to be associated with negative outcomes, and therefore, should be advocated as a primary method of discipline (Aucoin, 2006; Kazdin & Benjet, 2003).

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Appendix A: Human Subjects Approval Form

University Committee for the Protection
of Human Subjects in Research
University of New Orleans

Form Number: 05jan02

(please refer to this number in all future correspondence concerning this protocol)

Principal Investigator: Dr. Carl Weems

Title: Assistant Professor

Department: Psychology

College: Science

Project Title: Children's reasoning about anxiety sensations

Dates of Proposed Project Period From February 1, 2002 to January 1, 2006

Approval Status:

☐ Full Board Review

☒ Expedite

☐ Exempt

☐ Project requires review more than annually. Review every _____ months.

☒ Approved Date: 6-2-05

☐ Deferred Date:

☐ Disapproved Date:

**approval is for 1 year from approval date only and may be renewed yearly.*

1st continuation Signature of IRB Chair

Date:

2nd continuation Signature of IRB Chair

Date:

3rd continuation Signature of IRB Chair

Date:

4th continuation Signature of IRB Chair

Date:

Committee Signatures:

Laura Scaramella, Ph.D. (Chair)

Pamela Jenkins, Ph.D.

Anthony Kontos, Ph.D. (Associate chair)

Richard B. Speaker, Ph.D.

Gary Talarchek, Ph.D.

Kari Walsh

Kathleen Whalen, LSW

L. Allen Witt, Ph.D.

Vita

Allison Marks was born in Pasadena, Texas and graduated from The University of Southern Mississippi in May of 2007 with a Bachelor of Science in Psychology. She currently works with Dr. Carl Weems in the Youth and Family Stress, Phobia, and Anxiety Research Lab, with an interest in the associations between parenting practices and youth anxiety.