

CORPORAL PUNISHMENT AND EXTERNALIZING BEHAVIORS IN TODDLERS:  
POSITIVE AND HARSH PARENTING AS MODERATORS

by

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B.S., Martin Methodist College, 2004

M.S., Kansas State University, 2009

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

School of Family and Human Services  
College of Human Ecology

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

2013

## **Abstract**

Controversy still exists in whether parents should or should not use corporal punishment to discipline their young children. The aim of this study was to investigate whether corporal punishment when the child was two years old predicted child externalizing behaviors a year later, and whether or not this association was moderated by parents' observed positivity and harshness towards their child. A total of 218 couples and their first born child were selected for this study from the Family Transition Project (FTP) data set. Findings indicated that frequency of fathers' corporal punishment when the child was two years old predicted child externalizing behaviors a year later, while controlling for initial levels of child externalizing behaviors. Also, it was found that observed positive parenting and observed harsh parenting moderated the relationship between corporal punishment and child externalizing behaviors. These results highlight the importance of continuing to examine the efficacy of a commonly used form of discipline (i.e., corporal punishment). Furthermore, this study suggests that the parental climate in which corporal punishment is used may also be important to consider because parental positivity and harshness attenuate and amplify, respectively, the association of corporal punishment with child externalizing. Implications for family therapy are offered.

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## **Dedication**

Obtener un PhD era un illusion mia desde hace mucho tiempo. Siempre creí que en el proceso de obtener mis objetivos personales, no debía dejar de cultivar las relaciones con mi gente querida. Obtener un PhD no es para mi un éxito personal, sino un logro de toda la gente que me rodea. Quiero aprovechar esta oportunidad para dedicar este trabajo, y lo que este significa, a mi familia que de cerca y a la distancia me ha apoyado siempre, de manera incondicional.

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## Chapter 1 - Introduction

Controversy continues regarding the appropriateness and usefulness of corporal punishment. Twenty-four countries have institutionalized no-spanking laws and other countries are in the process of banning corporal punishment (Zolotor & Puzia, 2010). However, in the United States most parents continue to use corporal punishment to discipline their children (MacKenzie, Nicklas, Brooks-Gunn, & Waldfogel, 2011; Taylor, Lee, Guterman, & Rice, 2010). Even though an earlier literature review suggested that corporal punishment was associated with numerous negative child outcomes (i.e., lack of effective internal regulation, aggression, delinquent and antisocial behavior; Gershoff, 2002), a recent meta-analytic review of longitudinal and multivariate studies suggested that corporal punishment has a minimal impact on child outcomes (Ferguson, 2013). Thus, although a cultural and political debate continues, research on the effects of corporal punishment on child outcome is inconclusive.

Understanding the effect of corporal punishment on children is important. In general, studies have found that frequent use of corporal punishment on school age children is positively associated with negative child outcomes; however, fewer studies have focused on the effects of corporal punishment in younger children. Furthermore, although research suggesting that corporal punishment has negative effects on children has been replicated, these findings remain controversial. It is important to take a more nuanced approach by identifying under what conditions frequency of corporal punishment in toddlers has the most deleterious effects, and under what, if any, conditions the effects of corporal punishment are less negative. In this study I tested the extent to which positive and harsh parental practices may moderate the association between frequency of corporal punishment when children are 2 years of age (Time 1) and externalizing behaviors when children are 3 years of age (Time 2). In the current study, harsh

parenting is defined as parents' use of hostility, antisocial behavior, and/or angry coerciveness towards the child. Positive parenting is defined as parents' use of positive communication, listener responsiveness, and assertiveness towards the child. The current study has several methodological strengths with which to test these questions, including the use of dyadic data from both mothers and fathers, mothers' and fathers' observed parenting behaviors in the families' own homes, a longitudinal design, and initial levels of externalizing behaviors as controls.

## **Chapter 2 - Literature Review**

### **Theory**

This study is guided by social learning theory. Social learning theory is one of the most popular theories used by researchers studying corporal punishment (Paulucci & Violato, 2004). It suggests that when parents use aggressive forms of discipline, children learn through several mechanisms, including modeling, to be more aggressive (Gomez-Guadix, Straus, & Hershberger, 2011). Children who receive physical punishment by their parents may learn to use similar tactics to control their environment (Graziano, 1994). For example, a child may scream and hit siblings or peers if they have parents who choose to yell and hit them.

Parents may use corporal punishment in the context of harsh parenting or positive parenting. Threats and insults may precede corporal punishment (Bandura 1978). Children that experience a harsh parental environment may learn to act in unkind ways to others. On the other hand, parents who are able to provide a warm, supportive, and engaging parental environment when infractions occur may teach their children more positive behaviors, even in the presence of corporal punishment (Simons, Wu, Lin, Gordon, & Conger, 2000). Children are not just simple reactors to external influence (Bandura, 1978). Parents may be able to help their children learn to regulate themselves even in the context of corporal punishment.

### **Prevalence Rates and Problems Associated with Corporal Punishment**

A common definition for corporal punishment is “the use of physical force with the intention of causing a child to experience pain, but not injury, for the purpose of correcting or controlling a child’s behavior” (Straus, 2001, p. 4). Spanking and slapping are the two most common forms of corporal punishment (Straus & Stewart, 1999). Though rates of corporal

punishment around the world have decreased in the last four decades (Zolotor, Theodore, Rynyan, Chang, & Lasley, 2011), many parents still choose to discipline their children using corporal punishment. An early study reported that 35% of infants and 94% of 3 and 4 year olds experienced corporal punishment (Straus & Stewart, 1999). Also, this study found that corporal punishment was more chronic for 2-year-olds, with parents reporting using corporal punishment up to 18 times during that year. Two more recent studies using nationally representative data reported that about 24% of one-year-old children were spanked in the past month and over 55% of three-year-old children were spanked in the last month (MacKenzie, Nicklas, Waldfogel, & Brooks-Gunn, 2012; Taylor et al., 2010). However, accurate rates of corporal punishment are very difficult to ascertain due to pressures to respond to questions about corporal punishment in a socially desirable manner. Thus, while it appears that the use of corporal punishment may be decreasing, it is still a common way that parents discipline young children.

### **Link Between Corporal Punishment and Children's Externalizing Behaviors**

Studies have found that a higher frequency of corporal punishment is positively related to negative child outcomes (Lee, Perron, Taylor, & Guterman, 2011; Lorber, O'Leary, & Slep, 2011; McKee, Roland, Coffelt, Olson, Forehand, Massari, & Zens, 2007; McLoyd & Smith, 2002; Mulvaney and Mebert, 2007). According to Brenner (1998), parental use of verbal punishment (e.g., yelling at child) and corporal punishment is one of the strongest predictors of children's behavioral problems. After controlling for important variables (i.e., marital status, parent's age, and parent's education), parents' use of verbal and corporal punishment was more important than parents' provision of a nurturing environment and clear expectations in predicting behaviors such as disobeying, aggression, clinging to adults, being overactive, tantrums, not listening, problems with sleeping, eating, and toileting in children between the ages of 1 and 5. A

meta-analysis found that even though corporal punishment in children as young as 2 years of age was effective in securing short term compliance, it increased the likelihood of negative child outcomes later in life (Gershoff, 2002).

In a cross-sectional study of children between the ages of 3 and 7, it was found that corporal punishment was associated with externalizing behavior as measured by the Child Behavioral Checklist (CBCL, Achenbach, 1992), when controlling for child's age and gender, adult's age, family income, and race (Lorber et al., 2011). In another study, it was found that after controlling for harsh parenting, child's initial levels of aggression, and other covariates, maternal corporal punishment at age 3 was uniquely predictive of child behavioral problem at age 5 (Taylor, Manganello, Lee, & Rice, 2010). Fifth and sixth grade children and their families participated in another cross-sectional study which found that after controlling for positive parenting, mothers' and fathers' harsh physical discipline was associated with child externalizing behavior (McKee et al. 2007). A longitudinal study of a diverse population of 4-5 year old children found that when the amount of spanking decreased as the child ages, the level of behavioral problems decreased, whereas an increase in the amount of spanking was associated with accelerating the growth of behavior problems (McLoyd & Smith, 2002). The only study that focused on toddlers found that spanking children as early as 15 months of age was related to externalizing behavior, as measure on the CBCL, at 36 months of age (Mulvaney & Mebert, 2007).

Studies have also suggested that the gender of the child and parent should be taken in consideration when studying the relationship between corporal punishment and externalizing behaviors. Although research by Straus & Stewart (1999) found that there was no significant difference between boys and girls with regards to the *prevalence* of spanking, other studies

report that the frequency of spanking is higher for boys than for girls (MacKenzie et al. 2012; McKee et al. 2007; Simons et al. 2000; Straus & Stewart, 1999). In fact, it was found that the *frequency* of spanking is 14 times higher for boys than for girls (Straus & Stewart, 1999). Girls are not only less likely to experience corporal punishment but also less likely to experience externalizing behaviors than are boys (MacKenzie et al., 2012, Taylor et al., 2010). Also, a higher percentage of fathers than mothers use corporal punishment on adolescent boys and a higher percentage of mothers than fathers use corporal punishment on adolescent girls (Simons, Johnson, & Conger, 1994). Overall, a national study found that the gender of the parent is related to corporal punishment only in prevalence, but not on frequency (Straus & Stewart, 1999).

Research findings on the effect that gender of the parent has on the relationship between corporal punishment and child outcome are inconsistent. One study found that fathers' physical discipline was more related to children's externalizing problems than was mothers' use of harsh physical discipline (McKee et al., 2007); however, another study found that mothers' frequency of spanking was more related to children's externalizing problems than fathers' frequency of spanking (MacKenzie et al., 2012). Results are also inconsistent in describing the strength of the relationship between mothers' or fathers' corporal punishment and girls' or boys' externalizing behaviors (e.g., Simons et al., 2000; Simons et al., 1994). Regardless of who uses corporal punishment (mother or father) and who is the recipient of the punishment (son or daughter), in general, studies have found that higher levels of corporal punishment are associated with higher levels of negative child behaviors.

### **Link Between Harsh and Positive Parenting Behaviors and Child Externalizing Behaviors**

A number of studies have examined which parental behaviors, in addition to corporal punishment, influence child externalizing behaviors. An earlier study found that positive

parenting (i.e., praise, affection, and reasoning) was a stronger predictor of positive child outcome than was spanking (Larzelere, Klein, Schumm, & Alibrando, 1989). The authors suggested that using spanking in place of more positive approaches could negatively affect child outcomes. Also, a study found that when parents demonstrate low parental warmth (as measured by low levels of positive verbal statements, positive affective expression and positive physical contact with the child), their use of harsh physical discipline was strongly associated with child externalizing behaviors. However, among parents with high parental warmth, the relationship between harsh physical discipline and negative child externalizing behaviors was non-significant (Deater-Deachard & Dodge, 1997).

Ineffective parenting paired with corporal punishment may increase the likelihood of negative child outcomes. Parents who score higher on ineffective parenting practices (i.e., permissiveness and irritability) had children who experienced higher levels of negative behaviors (Huth-Bocks & Hughes, 2008). In one study, corporal punishment did not have an effect on child negative outcomes, unless children felt rejected, neglected and/or hostility by their parents (Rohner, Bourque, & Elordi, 1996). Thus, parenting behaviors are not only important predictors of child outcomes, but parenting behaviors may also importantly modify the impact of corporal punishment on child behavior in some cases.

### **Harsh and Positive Parenting Behaviors as Moderators of the Link Between Corporal Punishment and Child Externalizing Behavior**

Studies on school age children have used moderation to explore how different conditions amplify or attenuate the association between corporal punishment and negative child outcomes. It was found that positive parenting played a pivotal role in the relationship between corporal punishment and school age children's behavior problems. Warm maternal parenting behaviors



served as a buffer in the relationship between paternal harsh physical discipline and child problem behaviors. When high levels of maternal warmth were present, fewer child problem behaviors were associated with high levels of parental harsh physical discipline (McKee et al., 2007). Another study found that in the context of observed low levels of maternal emotional support, spanking by mothers was associated with an increase in behavior problems over time for preschoolers of several races (McLoyd & Smith, 2002). Similarly, a study on seventh graders from United States and Taiwan showed that corporal punishment was unrelated to conduct problems among Taiwanese children when mothers or fathers were high on warmth/control parenting (Simmons et al., 2000).

Previous studies have used harsh parenting as a control variable, but no articles were found that include harsh parenting as a moderator of the relationship between corporal punishment and child externalizing behaviors. Previous research suggests that positive parenting seems to weaken the relationship between corporal punishment and child negative behaviors, whereas harsh parenting may intensify the relationship between corporal punishment and negative child outcome. The current study adds to the literature since no known studies have examined harsh parenting and positive parenting as moderators of the relationship between corporal punishment and externalizing behaviors in toddlers.

### **The Current Study**

The goal of this study is to add to the limited literature on the relationship between corporal punishment and child externalizing behavior for toddlers (Ferguson, 2013) by utilizing longitudinal data to determine the effects that corporal punishment at age 2 has on child externalizing behaviors at age 3. In order to better understand the predictive potential of corporal punishment on externalizing behaviors at age 3, externalizing behaviors are controlled at age 2.

In response to some researchers who suggest that most studies evaluating the impact of corporal punishment are methodologically flawed because they fail to differentiate the impact of corporal punishment from other dimensions of parenting (Rohner et al., 1996; Paulucci & Violato, 2004; Simons et al., 2000), the relationship between corporal punishment and externalizing behaviors was evaluated within the context of harsh parenting and positive parenting. Finally, to reduce shared method variance, this study utilized observed parenting behaviors in the families' own homes in addition to mothers' and fathers' self-report.

**Hypotheses:**

- 1) Higher frequency of mothers' and fathers' corporal punishment at age 2 will be significantly associated with higher scores on child externalizing behaviors at age 2.
- 2) Higher frequency of mothers' and fathers' corporal punishment at age 2 will be significantly associated with higher scores on child externalizing behaviors at age 3.
- 3) The frequency of corporal punishment at age 2 will be higher for boys than for girls.
- 4) The frequency of externalizing behaviors at age 3 will be higher for boys than for girls.
- 5) Higher frequency of mothers' and fathers' corporal punishment at age 2 will predict higher scores on child externalizing behaviors at age 3, while controlling for harsh and positive parenting at age 2, and child externalizing behaviors at age 2.
- 6) The strength of the relationship between corporal punishment at age 2 and child externalizing behaviors at age 3 will not differ by gender of the parent.
- 7) The effects of mothers' and fathers' corporal punishment at age 2 on children's externalizing at age 3 will vary according to the parenting context, namely:

- a- The expected strength of the relationship between mothers' and fathers' corporal punishment at age 2 and child externalizing behaviors at age 3 will be amplified by observed harsh parenting practices at age 2.
- b- The expected strength of the relationship between mothers' and fathers' corporal punishment at age 2 and child externalizing behaviors at age 3 will be attenuated by observed positive parenting practices at age 2.

## Chapter 3 - Method

### Participants

Data from 559 target youth and their families was gathered for the Family Transition Project (FTP), which is an extension of two earlier studies: The Iowa Youth and Families Project (IYFP) and the Iowa Single Parent Project (ISPP). Data gathered during the earlier studies are described as G1 for parents and G2 for their children. Data is still being gathered from these children (G2) who become parents and had their own children identified as (G3). The IYFP, which started in 1989, included 451 two-parent families (G1) and their seventh grade children (G2). The adolescents (217 girls and 234 boys) were recruited from public and private schools in eight rural counties in Iowa. The aim of the FTP was to study family economic stress in the rural Midwest. Eligible families were contacted by phone or in person. Seventy-eight percent of the eligible families agreed to participate in the study. The sample was primarily Caucasians (1% non-white), lower-middle or middle-class with 34% residing on farms, 12% lived in nonfarm rural areas, and 54% lived in towns with fewer than 6,500 residents. In 1989, median family income was \$33,700; parents averaged 13 years of schooling, and lived in households with an average of 4.95 members.

The ISPP began in 1991 and included adolescents (G2), their single-parent mothers (G1), and a sibling within 4 years of age of the target adolescent ( $N=108$ ). To be eligible for the study, participants had to have been divorced no more than 2 years prior to the start of the study. Similarly to participants in the IYFP, the participants were primarily Caucasian, lower-middle or middle-class in the same geographic area. Both studies shared identical measures and procedures, with the exception that in ISPP the fathers did not participate in the in-home interviews. These families participated in three waves of data collection (1991, 1992, and 1993).

Families from the ISPP and the IYFP were combined in 1994 to create the Family Transition Project. At that time, adolescents in both studies (i.e., ISPP and IYFP) were in the 12<sup>th</sup> grade. Data was gathered annually from 1994 to the present time. Across the years, many of the adolescents (G2) eventually developed romantic relationships and began cohabiting or married. Data was collected from (G2) and their romantic partners at each wave of data collection. When couples eventually had children, data was also gathered about the characteristics of their first-born child (G3) and their parenting behaviors of those children. The G2 target groups were followed from 1989 through 2012 (23 years of data collection) with nearly 90% retention rate.

The present study includes only those G2 cohabiting and married couples who had a child, only using data connected with their first-born child, beginning when children were two years old (G3). Each of these families was selected from a total of 10 waves (from 1997 to 2008) of data. Variables were selected from two data sets corresponding to 2 and 3 year old children (Time 1 and Time 2) for each wave of data collection (1997 to 2008) with exception of the first wave (2 year olds only) and the last wave (3 year olds only). From each data set at each wave, variables of interest were computed. Each variable was originally organized by target and partner; therefore, all variables were recoded by gender of the parent into mother and father variables. These multiple data sets were merged together by a family identification number, and variables previously computed from children at age two were recoded as Time 1, whereas variables computed from when the child was age three were recoded as Time 2. In this way, 10 years of longitudinal data were organized. The final data set included 218 families assessed when the first child was age 2 and again when this first child was age 3. There were 116 toddler boys and 102 girls.

## **Procedure**

Families were visited once in their homes each year by a trained interviewer. During the visit, mothers and fathers completed questionnaires on individual characteristics, parenting, and quality of family interactions, and participated in observer-rated family interaction tasks with their first born child. The interaction task used in this analysis was the puzzle completion task. The puzzle was too difficult for the child to complete alone. The parent was instructed that the child must complete the puzzle alone, but the parent could provide any assistance necessary. The level of difficulty of the task was expected to create a stressful environment that lasted 5 minutes in which resulting behaviors indicated how well the parents handled the stress, and how the child was able to adapt to the challenge. It was expected that skillful, nurturing, and encouraging parents would remain kind and supportive towards the child, while less skillful parents may become more irritable as the child struggled with the puzzle. Family interaction during the task was recorded on video and qualified observers, with 200 hours of training, rated the quality of the family interactions using the Iowa Family Interaction Rating Scale (Melby, Conger, Book, Rueter, Lucy, & Repinski, 1998).

## **Measures**

**Child externalizing behaviors.** The Child Behavioral Checklist (CBCL; Achenbach & Rescorla, 2000) for 1-4 year olds was completed by mothers and fathers at Time 1 and Time 2 to assess for externalizing behaviors. The CBCL yields two broadband scales, internalizing and externalizing behaviors. For this study, the outcome measure, externalizing behaviors, was composed of two subscales: (a) aggressive behaviors (19 items), and (b) attention problems (5 items). Example descriptions of aggressive behaviors include: acting defiant, destroying things, being disobedient, being stubborn, sullen, or irritable, displaying temper tantrums or hot temper,

and being uncooperative. Examples of attention problems include: can't concentrate, can't pay attention for long, can't sit still or is restless, and quickly shifts from one activity to another. Mothers and fathers, individually, reported on their children's externalizing behaviors at age 2 and 3. Responses were recorded from 0 = *not true*, to 2 = *very true or often true*. Items were coded so that higher scores represented more externalizing behaviors in the child. Ratings on both aggressive and attention problem behaviors were summed to compute a single measure of externalizing behaviors.

**Corporal punishment.** At Time 1, mothers and fathers were each asked the single-item question, "How often do you spank or slap your child when your child does something wrong?" Responses were scaled from 1 = *never* to 5 = *always*.

**Harsh parenting.** At Time 1, parents' interaction with their 2-year-old child was observed in their own homes, video recorded, and harsh parenting behaviors were rated. Harsh parenting included parents' hostility, antisocial behavior, and angry coerciveness towards their 2 year old child during the puzzle task described above. Each rating was scored on a 9-point scale, ranging from 1 (*no evidence of the behavior*) to 9 (*the behavior is highly characteristic of the parent*). The hostility scale measures hostile, angry, critical, disapproving, and/or rejecting behaviors. The antisocial scale measures resistance, defiance, and insensitivity. Angry coercion measures demands, hostile commands, refusals, and threats. Ratings on these three behavior scales were summed to compute a single measure of harsh parenting. The internal consistency of harsh parenting was .94 and the interrater reliability was .94 (Neppl, Conger, Scaramella, & Ontai, 2009).

**Positive parenting.** At Time 1, during the same puzzle task, trained observers rated the parents' positive parenting towards the 2 year old child. This measure was composed of parents'

communication, listener responsiveness, and assertiveness towards their 2 year old child. Each rating was scored on a 9-point scale, ranging from 1 (*no evidence of the behavior*) to 9 (*the behavior is highly characteristic of the parent*). The communication scale measured reason, explanation, and solicitation of the child's point of view in a neutral or positive manner. Listener responsiveness measured the parents' attention to and validation of the child through the use of nonverbal and verbal acceptance. The assertiveness scale measured the parents' manner and style of expressing themselves confidently and positively, while exhibiting patience with the child. These three observed behaviors were summed to create a measure of positive parenting. The internal consistency of the positive parenting scale was .80 and interrater reliability was .83 (Neppl, Conger, Scaramella, & Ontai, 2009).

### **Analysis Plan**

The association between fathers' and mothers' corporal punishment when the child was 2 years old and child externalizing behavior when the child was 2 and 3 years old were answered with a correlation matrix performed in SPSS (SPSS IBM, New York, U.S.A). A *t*-test performed in SPSS was used to determine if there was a difference between the levels of corporal punishment based on the gender of the child. Two dyadic path analyses were performed in Amos (Arbuckle, 2006) to test the association between mothers' and fathers' corporal punishment at age 2 and child externalizing behaviors at age 3, while controlling for child externalizing behaviors at age 2. Model 1 contained mothers' and fathers' harsh parenting variables. Model 2 contained mothers' and fathers' positive parenting variables. These models were also used to test the difference between the levels of externalizing behaviors based on the gender of the child and to test if a significant difference lay in the effect mothers' and fathers' corporal punishment had on child externalizing behaviors. Finally, these models tested the extent to which positive and



harsh parental practices moderated the association between frequency of corporal punishment when the children were 2 years of age and externalizing behaviors when children were 3 years of age, while controlling for child externalizing behavior at age 2, and gender of the child. In order to test moderation, variables were standardized and interaction terms were created. Maximum likelihood estimation was used to handle missing data.

## Chapter 4 - Results

### Frequencies and Descriptive Statistics

The frequency of corporal punishment at T1 was investigated. A total of 32.6% of mothers and 32.8% of fathers reported “never” spanking or slapping their children when they do something wrong and no parents endorsed “always” spanking or slapping their children when they do something wrong. Most parents (71% of the mothers and 81% of the fathers) received relatively low scores (3 or less in a 9 point scale) on harsh parenting behaviors. Most parents (56% mothers and 57.9% fathers) were observed to use a moderate amount of positive parenting behaviors (scored between 4 and 5 on a 9 point scale). Parents reported having children with medium levels of externalizing behaviors. Child externalizing behaviors at T1 had a mean of 21.14 ( $SD = 10.02$ ) and child externalizing behaviors at T2 had a mean of 19.50 ( $SD = 9.79$ ). Levels of skewness and kurtosis for each variable were within acceptable range to proceed with further analyses.

### Bivariate Analysis

Table 1 shows the correlations for the variables used in the two dyadic path analyses. Results indicated that higher frequencies of mothers’ and fathers’ corporal punishment at T1 were significantly associated with higher scores on child externalizing behaviors at T1 and at T2. It was found that mothers’ frequency of corporal punishment at T1 had a stronger relationship with child externalizing behavior at T1 ( $r = .30, p < .01$ ) than at T2 ( $r = .21, p < .05$ ). On the other hand, fathers’ frequency of corporal punishment seems to be more strongly related to child externalizing behavior at T2 ( $r = .32, p < .01$ ) than at T1 ( $r = .21, p < .01$ ).

Mothers’ and fathers’ frequency of corporal punishment at T1 was positively associated with observed mothers’ and fathers’ harsh parenting at T1. Mothers’ frequency of corporal

punishment at T1 was positively related to mothers' and fathers' harsh parenting ( $r = .22, p < .01$ ;  $r = .16, p < .05$ , respectively). Fathers' frequency of corporal punishment at Time 1 was associated with mother's and fathers' harsh parenting ( $r = .18, p < .01$ ;  $r = .25, p < .01$ , respectively). Mothers' corporal punishment was negatively associated with fathers' positive parenting ( $r = -.18, p < .05$ ), but not significantly associated with mothers' positive parenting. Fathers' corporal punishment at T1 was negatively associated with mothers' and fathers' positive parenting ( $r = -.16, p < .05$ ;  $r = -.23, p < .01$ , respectively). Mothers' observed harsh parenting was negatively associated with mothers and fathers observed positive parenting ( $r = -.46, p < .01$ ;  $r = -.29, p < .01$ , respectively). Fathers' observed harsh parenting was also negatively associated with mothers' and fathers' positive parenting ( $r = -.14, p < .05$ ;  $r = -.35, p < .01$ , respectively).

Mothers' harsh parenting was associated with higher scores on child externalizing behaviors at T1 and T2 ( $r = .14, p < .05$ ;  $r = .17, p < .05$ ). Fathers' harsh parenting was associated with higher scores on externalizing behaviors at T1 ( $r = .14, p < .05$ ), but not at T2. Mothers' positive parenting was associated with lower scores on child externalizing behaviors at T1 ( $r = -.16, p < .05$ ), but not at T2. Fathers' positive parenting was associated with lower scores on externalizing behaviors at T1 ( $r = -.28, p < .01$ ), but not at T2. Finally, externalizing behaviors at T1 and T2 were closely associated ( $r = .60, p < .01$ ). Although not all relationships were significantly related to each other as expected, all proposed relationships were in the expected direction.

### **Gender Comparison**

A *t*-test was used to compare the potential difference the gender of the parent and child had on corporal punishment, and the difference that gender of the child had on children's level of

externalizing behaviors at T2. The homogeneity of variance between gender groups was evaluated with a Levene's test, and results indicated that the variance between the groups was equal. Thus, *t*-test results are presented where equal variances were assumed. The results of a *t*-test showed that even though boys ( $M = 3.61, SD = 1.46$ ) received corporal punishment more frequently than girls ( $M = 3.30, SD = 1.4$ ), the difference was not significant,  $t(222) = 1.60, p = .11$ . Similarly, a paired sample *t*-test showed that there was no significant difference between mothers' and fathers' frequency of corporal punishment,  $t(186) = -1.15, p = .25$ . Finally, levels of externalizing behaviors at T2 by gender of the child were examined. Even though levels of child externalizing behaviors were shown to be higher for boys than for girls when a univariate test was conducted,  $t(153) = 2.53, p < .05$ , the direct path between gender of the child and child externalizing behaviors at T2 in each multivariate analysis (Table 2 and Table 3) showed that when controlling for other factors, externalizing behaviors did not differ by child gender in Model 1 or Model 2 ( $\beta = -.02, p > .05; \beta = -.01, p > .05$ ).

### **Multivariate Analysis**

Table 2 and Table 3 show the results from both dyadic path analyses, examining the impact of mothers' and fathers' frequency of corporal punishment at T1 on parents' reports of child externalizing behaviors at T2. Additionally, observed positive and harsh parenting variables and observed parenting $\times$ corporal punishment interaction terms at T1 were used to predict child externalizing behaviors at T2, while controlling for gender of the child and child externalizing behaviors at T1. These tests were accomplished in two separate models to preserve statistical power. In Model 1, child externalizing behaviors at T2 were predicted by mothers' and fathers' reports of corporal punishment, observed harsh parenting, and interaction terms between harsh parenting and corporal punishment. In Model 2, child externalizing behaviors at T2 were

predicted by mothers' and fathers' reports of corporal punishment, observed positive parenting, and interaction terms between positive parenting and corporal punishment.

**Harsh parenting dyadic path analysis.** In Model 1, after controlling for mothers' and fathers' harsh parenting behaviors, child gender, and child externalizing behaviors at T1, fathers' corporal punishment predicted child externalizing behaviors at T2 ( $\beta = .23, p < .01$ ). Mothers' corporal punishment and mothers' and fathers' harsh parenting did not significantly predict child externalizing behaviors. Child gender was not significantly associated with child externalizing behaviors. However, child externalizing behaviors at T1 predicted child externalizing behaviors at T2 ( $\beta = .57, p < .001$ ). The model explained 46% of the variance of child externalizing behaviors at T2.

**Positive parenting dyadic path analysis.** In Model 2, after controlling for mothers' and fathers' positive parenting behaviors, child gender, and child externalizing behaviors at T1, fathers' corporal punishment predicted child externalizing behaviors at T2 ( $\beta = .26, p < .01$ ). Mothers' corporal punishment and mothers' and fathers' positive parenting did not significantly predict child externalizing behaviors. Child gender was not significantly associated with child externalizing behaviors. However, child externalizing behaviors at T1 predicted child externalizing behaviors at T2 ( $\beta = .61, p < .001$ ). This model explained 44% of the variance of child externalizing behaviors at T2.

In order to test if there was a significant difference in the effect of fathers' and mother's corporal punishment at T1 on child externalizing behaviors at T2, these two paths coefficients were constrained to be equal (i.e., mothers' CP  $\rightarrow$  child externalizing behaviors, constrained to be equal with fathers' CP  $\rightarrow$  child externalizing behavior). When these two paths were forced to be equal, the  $\chi^2$  for the model fit was evaluated to determine if the model fit to the data became

significantly worse than when these paths were freely estimated. If the model fit became significantly worse, the two paths are significantly different in strength, whereas if the model fit is not significantly worse after applying these constraints, the two paths are determined to not be statistically different. This constraint adds 1 *df* to the model, and the change in chi-square ( $\Delta\chi^2$ ) is evaluated. When this comparison was tested in Model 1 with harsh parenting, the relative strength of the relationship between mothers' corporal punishment and child externalizing behaviors was not significantly different from the strength of the relationship between fathers' corporal punishment and child externalizing behaviors,  $\Delta\chi^2(1) = 3.47, p = .06$ . However, this same test on Model 2 with positive parenting showed that there was a significant difference between the effect of mothers' and fathers' corporal punishment on child externalizing behavior  $\Delta\chi^2(1) = 5.75, p = .02$ , where the effect of fathers' corporal punishment was significantly stronger than the effect of mothers' corporal punishment to child externalizing behaviors. The different results are a function of the influence that harsh and positive parenting behaviors have on each model. A third robustness test was thus performed without any controls, only entering mothers' and fathers' corporal punishment as predictors of child externalizing behaviors. This final test showed that there was not a significant difference between the effects of mothers' and fathers' corporal punishment on child externalizing behaviors,  $\Delta\chi^2(1) = 2.58, p = .11$ .

**Harsh parenting as a moderator.** A total of four interaction terms were tested in Model 1, to examine if positive parenting could moderate the strength of the relationship between corporal punishment and child externalizing behaviors. Mothers' harsh parenting at T1 moderated the relationship between mothers' corporal punishment at T1 and child externalizing behaviors at T2 ( $\beta = -.25, p < .01$ ). Significant interaction terms were interpreted by computing predicted values of externalizing behaviors at the mean and 1 standard deviation above and

below the mean on the predictor (i.e., corporal punishment) and the moderator (i.e., harsh parenting). The predicted values obtained from this process were then used to create a figure summarizing the form of the moderation test (e.g., Frazier, Tix, & Baron, 2004). Figure 1 illustrates this test of moderation. Under the condition when there was low levels of observed mother's harsh parenting, child externalizing behaviors increased as mothers' frequency of corporal punishment increased. Surprisingly, under the condition where there were high levels of mothers' harsh parenting, levels of child externalizing behaviors decreased as levels of mothers' corporal punishment increased.

Additionally, mothers' harsh parenting moderated the relationship between fathers' corporal punishment at T1 and child externalizing behaviors at T2 (see Figure 2,  $\beta = -.24, p < .01$ ). Under the condition where there were low levels of observed mother's harsh parenting, child externalizing behaviors stayed the same regardless of fathers' frequency of corporal punishment. However, under the condition where there were high levels of mothers' harsh parenting, levels of child externalizing behaviors increased as levels of fathers' corporal punishment also increased. Fathers' harsh parenting did not moderate the relationship between mothers' corporal punishment at T1 and child externalizing behaviors at T2, nor did it moderate the relationship between fathers' corporal punishment at T1 and child externalizing behaviors at T2.

**Positive parenting as moderator.** A total of four interaction terms were tested in Model 2, to examine if positive parenting could moderate the strength of the relationship between corporal punishment and child externalizing behaviors. Mother's positive parenting moderated the relationship between fathers' corporal punishment at T1 and child externalizing behaviors at T2 ( $\beta = .19, p < .05$ ). Under the condition where there were high levels of mothers' positive

parenting, expected levels of child externalizing behaviors stayed the same regardless of the frequency of fathers' corporal punishment (see Figure 3). Under the condition where there were low levels of mothers' positive parenting, child externalizing behaviors increased as fathers' corporal punishment increased. Mothers' positive parenting did not moderate the relationship between mothers' corporal punishment at T1 and child externalizing behaviors at T2. Also, fathers' positive parenting did not moderate the relationship between fathers' or mothers' corporal punishment and child externalizing behaviors at T2.

### **Robustness Test**

Model 1 and Model 2 were re-run in order to test if these obtained results changed after removing the nonsignificant interaction terms from the analysis. Model 1 was run again after the two nonsignificant interaction terms (mothers' corporal punishment  $\times$  fathers' harsh parenting, and fathers' corporal punishment  $\times$  fathers' harsh parenting) were removed. After removing these two interaction terms, the  $R^2$  for the model stayed constant, as did the pattern of significance in the path coefficients. Also, Model 2 was run again after the three nonsignificant interaction terms (mothers' corporal punishment  $\times$  mothers' positive parenting, mothers' corporal punishment  $\times$  fathers' positive parenting, and fathers' corporal punishment  $\times$  fathers' positive parenting) were removed. Minimal changes occurred in the  $R^2$  (from 44% to 43% of the variance) and path coefficients. All interaction terms were thus retained in Model 1 and Model 2 because changes in the results were inconsequential after nonsignificant interaction terms were removed.

In addition, several other models were run in order to test the robustness of the multivariate results. It is important to note that fathers' corporal punishment at T1 was a significant direct predictor of child externalizing behaviors at T2, whereas mothers' corporal



punishment at T1 was never a significant direct predictor of child externalizing behaviors at T2. Also, in all models, mothers' and fathers' harsh parenting and positive parenting behaviors at T1 were not significant direct predictors of child externalizing behaviors at T2.

Furthermore, the two interaction terms that were shown to be significant in Model 1 and the one interaction term that was significant in Model 2 were tested for robustness. Each interaction term was tested separately to determine if the interaction terms remained significant when not confounded by other control variables or other interaction terms. Each of these alternative models included the predictor (mothers' or fathers' corporal punishment), the moderator (observed mothers' or fathers' harsh or positive parenting), and the interaction term (observed parenting  $\times$  corporal punishment). Two of the three separate tests were shown to be significant. Mothers' harsh parenting moderating the relationship between fathers' corporal punishment at T1 and child externalizing behaviors at T2 was significant when tested without other confounding variables. Additionally, mothers' positive parenting moderating the relationship between fathers' corporal punishment at T1 and child externalizing behaviors at T2 was also significant. However, mothers' harsh parenting moderating the relationship between mothers' corporal punishment at T1 and child externalizing behaviors at T2 was not significant. Thus, less confidence is placed in mothers' harsh parenting moderating the relationship between mothers' corporal punishment at T1 and child externalizing behaviors at T2.

## Chapter 5 - Discussion

The effect of corporal punishment at age 2 on child externalizing behaviors at age 3, in the context of harsh or positive parenting was the focus of this study. Consistent with nationally representative studies (Straus & Stewart, 1999; MacKenzie et al. 2012), most parents (67%) in this sample spanked or slapped their two-year-old children when they did something wrong. On average, parents reported medium levels of externalizing behaviors when their child was 2 years of age and when the child was 3 years of age.

Social learning theory provided a framework for this study and indicates that children learn from their interactions with their parents (Gomez-Guadix, Straus, & Hershberger, 2011; Graziano, 1994). Consistent with the first two hypotheses and previous research (Gershoff, 2002), the results in this study show that children who are more frequently spanked or slapped at two years of age are more likely to display aggression and attention problems at age two and also a year later. We found that mothers' frequency of corporal punishment at age 2 had a stronger relationship with child externalizing behavior at age 2 than at age 3. On the other hand, fathers' frequency of corporal punishment seems to be more strongly related to child externalizing behavior at age 3 than at age 2. Thus, perhaps fathers' use of corporal punishment has a longer-lasting more distal effect on children, whereas mothers' use of corporal punishment may have a more proximal effect on child behavior.

A third hypothesis predicted that boys would be spanked or slapped more frequently than would girls. Previous research has found that boys tend to display more externalizing behaviors than girls, and that parents tend to think that it is more acceptable to use corporal punishment on boys than girls (McKee et al. 2007; Simons et al. 2000; Straus & Stewart, 1999). However, unlike other research findings, this study showed that young boys and girls are spanked and/or

slapped at similar rates. The reason for the similar rates found in this sample may be explained by the age of the children. Most of the previous research studied older children. It is possible that when children are younger, the frequency of corporal punishment may not be significantly different for boys and girls. For example, a study which examined rate of spanking with toddlers found that mothers spank boys and girls at similar rates (MacKenzie et al. 2012). Perhaps children are spanked at similar rates in the toddler years, but parents may reduce the amount they spank daughters. Future research could examine this question more closely. This sample was also from a more rural area, and rural parenting practices may differ somewhat from other settings.

A fourth hypothesis predicted that boys would exhibit externalizing behaviors more frequently than would girls. This study confirms the hypothesis and previous findings (MacKenzie et al., 2012, Taylor et al., 2010) when conducting a simple comparison of average levels of externalizing between boys and girls. However, results differed when testing for gender differences after controlling for parenting behaviors, corporal punishment, and initial levels of child externalizing behaviors. In this more controlled test for gender differences, externalizing behaviors did not differ by gender when children were three years old. Results indicate that parenting behaviors may account for the differences in boys' and girls' rates of externalizing behaviors.

Two dyadic path analyses were used to answer the fifth hypothesis, which predicted that a higher frequency of mothers' and fathers' corporal punishment at age 2 will predict higher scores on child externalizing behaviors at age 3, while controlling for harsh and positive parenting at age 2 and child externalizing behaviors at age 2. Results showed that fathers' use of corporal punishment at age 2 predicted higher levels of child externalizing behaviors a year later,

beyond observed harsh and positive parenting behaviors, and beyond child externalizing behaviors at baseline. Father's corporal punishment appeared to be especially important in this model because mothers' corporal punishment and mothers' and fathers' harsh and positive parenting at age 2 did not predict child externalizing behaviors at age 3. This study addresses the issue that some authors (e.g., Baumrind, Larzelere, & Cowan, 2002) have raised regarding the lack of appropriate control variables in some studies evaluating the effects of corporal punishment on child behavior. This study moves past simplistic associations between corporal punishment and child behavior, by incorporating a longitudinal design with reports of both parents corporal punishment, and the observed parenting in the child's home, providing more information about the emotional climate of the home environment. Thus, results suggest that fathers' corporal punishment may be an important factor to consider, due to its salience after accounting for many other notable predictors of child behavior.

A sixth hypothesis predicted that the strength of the relationship between corporal punishment at age 2 and child externalizing behaviors at age 3 will not differ by gender of the parent. This hypothesis was tested in three ways, with two tests indicating no difference, and one test indicating that the effect of fathers' corporal punishment was significantly more detrimentally related to future child externalizing behaviors. By simply examining the standardized beta-coefficients, it appears that the effect of fathers' corporal punishment has a positive effect on future externalizing behaviors that is moderate in strength, whereas mothers' corporal punishment tends to have a negative effect on future externalizing behaviors that is weak in strength. Thus, findings from previous research and findings from this study is somewhat inconclusive. Further research is needed to examine if the strength of the relationship

between early corporal punishment and later child externalizing behaviors differs for mothers and fathers.

Perhaps the most interesting findings are in response to the seventh hypothesis, regarding the possible moderating effects of observed harsh and positive parenting behaviors on the effects of corporal punishment to externalizing behaviors. Hypothesis seven predicted that the effects of mothers' and fathers' corporal punishment at age 2 on child externalizing behaviors at age 3 will vary according to the parenting context, namely that the strength of the relationship will be amplified by observed harsh parenting practices at age 2, and will be attenuated by observed positive parenting practices at age 2. This hypothesis was partially supported.

This study showed that in certain situations, harsh parenting behaviors moderate the relationship between corporal punishment at age 2 and child externalizing behaviors at age 3. As hypothesized, mothers' harsh parenting behaviors amplified the relationship between fathers' corporal punishment and child externalizing behaviors. However, mothers' harsh parenting had an unexpected influence in the relationship between mothers' corporal punishment and child externalizing behaviors. This study found that when mothers displayed high levels of harsh parenting, children's levels of externalizing behaviors tended to decrease as mothers' corporal punishment increased. On the other hand, when mothers displayed low levels of harsh parenting, children's levels of externalizing behaviors tended to increase as mothers' corporal punishment increased. Perhaps this interaction sheds light on the importance of "consistency" of parental behavior. Children may display less externalizing behaviors as mothers consistently use not only corporal punishment, but also as they display high levels of anger, hostility, and other harsh parenting behaviors. Another explanation may be that mothers who are both harsh and often utilizes spanking as a method of discipline may be able to reduce their children's externalizing

behaviors, but perhaps their parenting style may increase levels of internalizing behaviors. Nevertheless, these findings seem contradictory to most previous research which suggests that harsh parenting and corporal punishment increase the likelihood of child externalizing behavior. More research is needed to clarify this issue.

Positive parenting behaviors also moderated the relationship between corporal punishment and child externalizing behaviors. Results showed that mothers' positive parenting behaviors attenuated the relationship between father's corporal punishment and child externalizing behaviors. Over all, results from this study support the idea that it may not just be a matter of whether one uses corporal punishment or not, but also it may depend on the emotional climate created by the parents' behaviors in which corporal punishment is used.

### **Strengths, Limitations and Future Research**

Several limitations should be noted. First, although this study examined both harsh parenting and corporal punishment, this study did not measure child maltreatment. Future research should assess for physical abuse or severe violence to partial out physical abuse in a statistical analysis or to remove abused children from the sample. Second, other variables such as alternative disciplinary forms could be included in the model. It is still unknown if other forms of discipline such as time-out or taking away privileges are less predictive of child externalizing behaviors than is use of corporal punishment on toddlers (Straus & Mouradian, 1998, Gershoff, Grogan-Kaylor, Lansford, Chang, Zelli, Deater-Deckard, & Doge, 2010). Third, future research should investigate the relationship between corporal punishment and child externalizing behaviors for boys and girls separately. A multi-group comparison analysis may examine what parenting behaviors are more important to consider in boys and girls. Due to the relatively small sample size, group comparison was not possible in this study. Fourth, in order to minimize measurement error, all variables can be modeled as latent variables in future research with a

larger sample. One of the reasons why variables in this study were manifest, and not latent, was to maintain sufficient power. Fifth, shared method variance can also be reduced by not only using observed variables and both mothers' and fathers' self-report, but also by using reports from teachers about child behavior. Another suggestion may be to have parents report not only on their own use of corporal punishment, but also on their spouses' use of corporal punishment. Also, in the case of observed positive and harsh parenting, perhaps extending the period of observation during the task may allow coders to note a greater range of behaviors. Sixth, future research might ask several questions which relate to corporal punishment behaviors instead of just one question including two behaviors (i.e., spank or slap). Asking several questions would allow researchers to measure different levels of frequency but also the severity of corporal punishment. For example, spanking may be more often endorsed than slapping. Seventh, even though this study showed a relationship between corporal punishment and child externalizing behaviors a year later, future research can explore the strength of this relationship when the predictor and outcome are at more than one year apart from each other. Finally, future research is needed to test the generalizability of the findings to other ethnic groups, urban population, and diverse family structure and social economic status.

Also, several strengths should be noted. Even though experimental design is the gold standard in separating causal from non-causal explanations, this study can be helpful since it modeled the predictor and outcome at different time points (Baumrind, Larzelere, Cowan, 2002). It is usually said that children who misbehave (i.e., use frequent externalizing behavior) get disciplined more often. However, the longitudinal design of this study, in addition to controlling for initial levels of child externalizing behaviors, suggests that frequent use of corporal punishment is a risk factor for increasing child externalizing behaviors. Studies usually suffer

from shared method variance or lack of important control variables. This study utilized observed variables, to reduce self-report bias, in addition to self-report measures to reduce shared method variance. It also controlled for other important parenting behaviors that play a role in child externalizing behaviors. In addition to control variables, this study utilized parenting behaviors as interaction terms to test under which conditions the relationship between corporal punishment and child externalizing behaviors is stronger or weaker. This is the first study to examine the impact that harsh parenting behaviors has in the relationship between corporal punishments and externalizing behaviors. This study adds to the limited literature on the effects of corporal punishment in younger children and challenges the idea that negative effects of corporal punishment are minimal in younger children.

### **Implications for Marriage and Family Therapy**

This study supports the idea that children's behaviors are directly related to parenting behaviors. Children are influenced by parents in direct and indirect ways. When children are brought to therapy for behavioral problems, it seems clear that it is important to work with children in the context of their parents. Findings from this study suggest that changing parenting behaviors may be able to change children's behaviors.

Furthermore, mothers often bring children to therapy. Often, therapists work with the children and the children's mothers in order to reduce the presented behavioral problems. This study suggests that mothers should continue to be included in the treatment of children's behavioral problems because mothers seem to be not only a direct influence on their children's behaviors, but also in the relationship between fathers and their children. Furthermore, this study suggests that therapists should continue to give their best efforts to include fathers in treatment



because fathers' parental behaviors seem to have an especially salient direct influence on children's outcome.

### **Conclusion**

These results from this study challenge results of others (e.g., Ferguson, 2013) who suggest that corporal punishment has only a minimal impact on child outcome for young children when multivariate longitudinal designs are utilized. The longitudinal effect of fathers' corporal punishment is notable, as are the positive and harsh parenting conditions under which corporal punishment occurs. This study also highlights the importance of considering fathers' use of corporal punishment as a primary contributor to children's anger and attention problems. Finally, these results suggest the importance of mothers' parenting positive and harsh parenting behaviors as modifiers of the impact of corporal punishment on child behavior.

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## Appendix A - CBCL Items

### Externalizing Behaviors from the Child Behavior Checklist (CBCL)

#### Aggressive Behavior

1. Can't stand waiting; wants everything now
2. Defiant
3. Demands must be met immediately
4. Destroys things belonging to his/her family or other children
5. Disobedient
6. Doesn't seem to feel guilty after misbehaving
7. Easily frustrated
8. Gets in many fights
9. Hits others
10. Hurts animals or people without meaning to
11. Angry moods
12. Physically attacks people
13. Punishment doesn't change his/her behavior
14. Screams a lot
15. Selfish or won't share
16. Stubborn, sullen, or irritable
17. Temper tantrums or hot temper
18. Uncooperative
19. Wants a lot of attention

#### Attention Problems

1. Can't concentrate, can't pay attention for long
2. Can't sit still or is restless
3. Poorly coordinated or clumsy
4. Quickly shifts from one activity to another
5. Wanders away from home

Achenbach, T. M., & Rescorla, L. A. (2000). *Manual for the ASEBA Preschool Forms & Profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, & Families.

Table 1

*Parents Report Of Corporal Punishment and Child Externalizing Behaviors And Observed Harsh And Positive Parenting:  
Correlations and Descriptive Statistics (N = 218 families)*

Variables	1	2	3	4	5	6	7	8
1. Mother's corporal punishment T1	–							
2. Father's corporal punishment T1	.58**	–						
3. Mother' harsh parenting T1	.22**	.18**	–					
4. Father's harsh parenting T1	.16*	.25**	.21**	–				
5. Mother's positive parenting T1	-.10	-.16*	-.46**	-.14	–			
6. Father's positive parenting T1	-.18*	-.23**	-.29**	-.35**	.51**	–		
7. Externalizing behaviors at T1	.30**	.21**	.14*	.14*	-.16*	-.28**	–	
8. Externalizing behaviors at T2	.21*	.32**	.17*	.13	-.13	-.13	.60**	–
<i>M</i>	1.87	1.91	6.85	6.54	15.74	16.24	21.14	19.50
<i>SD</i>	.72	.79	4.60	4.30	4.21	3.99	10.02	9.79
Range	1 – 4	1 – 4	3 – 26	3 – 25	4 – 27	4 – 26	1 – 50	1 – 50

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



Table 2

*Summary of Dyadic Path Analysis for Variables Predicting Child Externalizing Behaviors at T2  
(N = 218 families)*

Variable	Model 1		
	<i>B</i>	<i>SE B</i>	$\beta$
Mothers' corporal punishment T1	-0.42	0.79	-.04
Fathers' corporal punishment T1	2.24	0.78	.23**
Mothers' harsh parenting T1	0.19	0.68	.02
Fathers' harsh parenting T1	-0.28	0.72	.03
Mothers' CP T1 $\times$ Mothers' harsh parenting T1	-2.32	0.72	-.25**
Mothers' CP T1 $\times$ Fathers' harsh parenting T1	0.55	0.80	.06
Fathers' CP T1 $\times$ Fathers' harsh parenting T1	-0.80	0.76	-.09
Fathers' CP T1 $\times$ Mothers' harsh parenting T1	2.45	0.79	-.24**
Externalizing behaviors T1	5.67	0.61	.57***
Gender of child	-0.33	1.24	-.02
Intercept	20.53	1.90	
$R^2$	.46		

*Note:* T1= Time 1, T2= Time 2, CP= corporal punishment

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

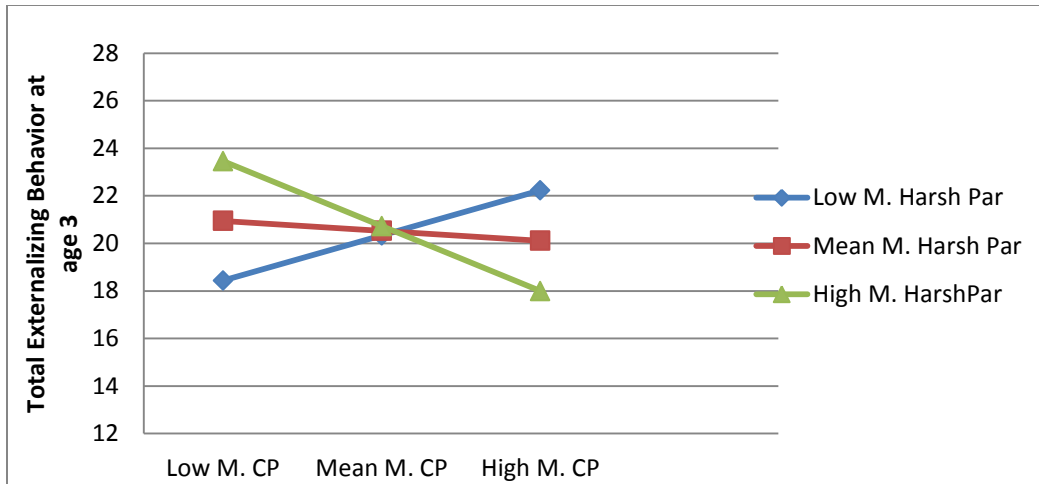
Table 3

*Summary of Dyadic Path Analysis for Variables Predicting Child Externalizing Behaviors at T2  
(N = 218 families)*

Variable	Model 2		
	<i>B</i>	<i>SE B</i>	$\beta$
Mothers' corporal punishment T1	-1.10	0.80	-.10
Fathers' corporal punishment T1	2.55	0.81	.26**
Mothers' positive parenting T1	0.05	0.073	.00
Fathers' positive parenting T1	0.04	0.76	.04
Mothers' CP T1 × Mothers' positive parenting T1	0.75	0.91	.07
Mothers' CP T1 × Fathers' positive parenting T1	0.35	1.02	.04
Fathers' CP T1 × Fathers' positive parenting T1	1.07	1.00	.11
Fathers' CP T1 × Mothers' positive parenting T1	-2.01	0.91	-.19*
Externalizing behaviors T1	6.04	0.64	.61***
Gender of child	-0.20	1.24	-.01
Intercept	20.15	1.93	
$R^2$	.44		

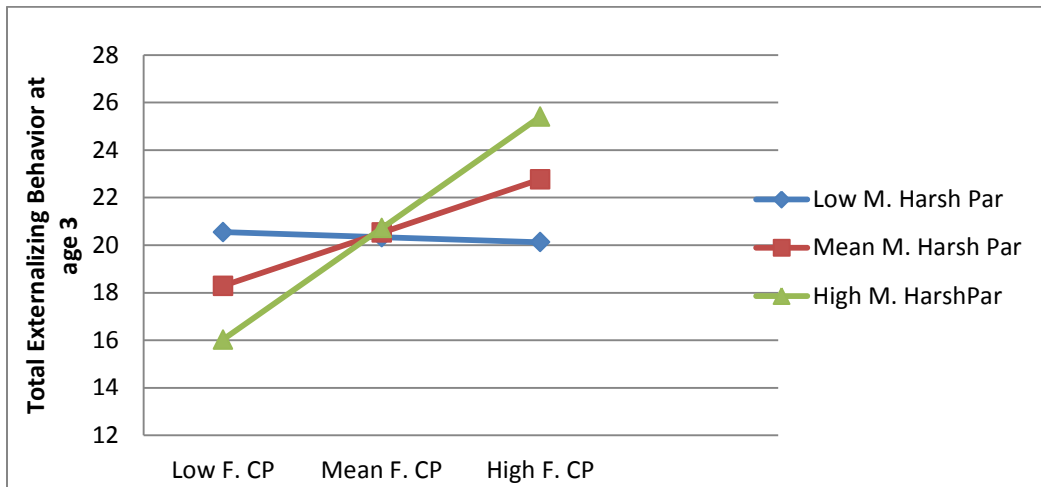
*Note:* T1= Time 1, T2= Time 2, CP= corporal punishment

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



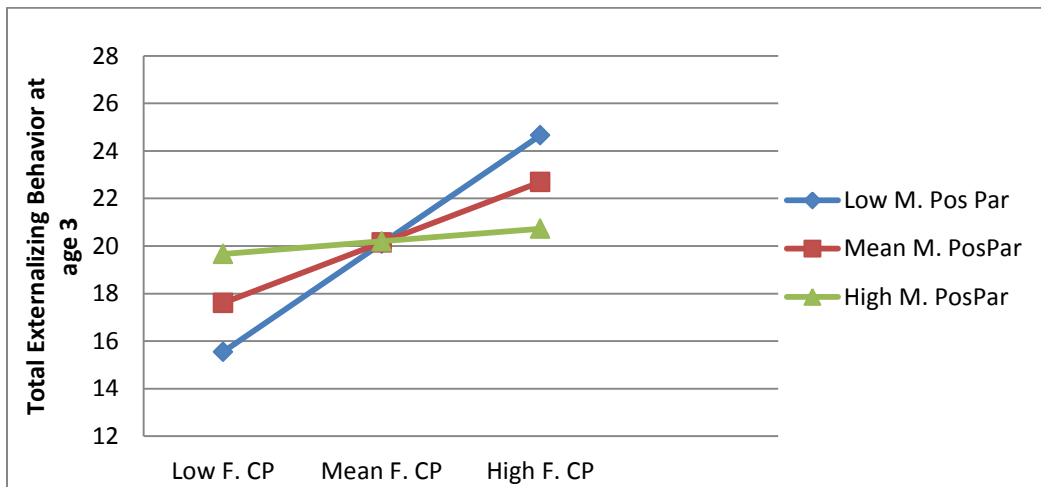
M= Mother CP= Corporal Punishment Par= Parenting

Figure 1. Mothers' frequency of corporal punishment on child externalizing behaviors by level of observed mothers' harsh parenting.



M= Mother F= Father CP= Corporal Punishment Par= Parenting

Figure 2. Fathers' frequency of corporal punishment on child externalizing behaviors by level of observed mothers' harsh parenting.



M= Mother F= Father CP= Corporal Punishment Par= Parenting

Pos= Positive

*Figure 3.* Fathers' frequency of corporal punishment on child externalizing behaviors by level of observed mothers' positive parenting.