

Corporal punishment and child adjustment[☆]

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Abstract

The association between corporal punishment and children's emotional and behavioral functioning was studied in a sample of 98 non-referred children with a mean age of 12.35 ($SD = 1.72$) recruited from two school systems in the southeastern United States. Children were divided into those who had experienced no corporal punishment over approximately a two-week period, those who had experienced mild levels of corporal punishment (i.e., 1 or 2 instances), and those who had experienced high levels of corporal punishment (i.e., 3 or more instances). Results indicated that use of corporal punishment was associated with problems in both emotional and behavioral adjustment. However, these associations were strongest for children who experienced high levels of corporal punishment, for children who were impulsive, and for children who did not experience a warm and supportive family climate. © 2006 Elsevier Inc. All rights reserved.

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1. Introduction

Parental use of corporal punishment (i.e., spanking or hitting a child for a transgression) is a common method of disciplining children. Indeed, researchers have reported that over 94% of parents of toddlers use some form of corporal punishment (Straus & Stewart, 1999) and that 75% of a college student sample reported experiencing some form of corporal punishment in their childhood (Ateah & Parker, 2002). The debate over the appropriateness of this form of discipline has been detailed extensively in terms of moral, religious, and political foundations (Benjet & Kazdin, 2003; Gershoff, 2002; Greven, 1990; Kazdin & Benjet, 2003; Straus, 1994). The intensity of the debate is illustrated by the fact that, for some, corporal punishment is a moral imperative for parents and a necessary aspect of parents' obligation to discipline their children; for others, the use of corporal punishment is an act of aggression that should be banned by law. In fact, a number of countries (e.g., Austria, Finland, Germany, Sweden) have made corporal punishment illegal as a means of discipline for children at home and school (Gershoff, 2002; Kazdin & Benjet, 2003).

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There exists a rather extensive empirical literature on the association between corporal punishment and children's adjustment. In one of the most comprehensive reviews of the literature to date, Gershoff (2002) provided a meta-analysis of 88 studies investigating the association between corporal punishment and children's adjustment. The results provide a rather negative picture of the effects of corporal punishment on children. The only positive effect that was noted was on the child's immediate compliance to parental commands. In contrast, a number of negative effects of corporal punishment were documented across studies. For example, parental use of corporal punishment showed a positive association with aggression, delinquent/antisocial behavior, and becoming a victim of child abuse in children. Corporal punishment was negatively correlated with internalization of parental norms and quality of parent-child relationships. Beside these concurrent relations, this meta-analysis documented an association between the experience of corporal punishment in childhood and problems in adult adjustment, including aggression, criminal/antisocial behavior, abuse of spouse and/or child, and poor mental health.

The link between corporal punishment and problems in adjustment, combined with the high rates of corporal punishment that currently exist, is clearly a source of concern. However, a key question is whether or not the state of research, as reflected in this meta-analysis, should be the final word for guiding mental health policy. Kazdin and Benjet (2003) noted that there are a number of important issues not addressed adequately by the existing research that could help to guide policy decisions (see also Benjet & Kazdin, 2003). The first issue concerns the wide variety of definitions of corporal punishment that have been used in past research and that were combined in the Gershoff meta-analysis. That is, past research has often not distinguished between frequent and severe levels of punishment (e.g., slapping in face, hitting with object to cause injury) that either were or would be considered abusive, from occasional use of mild physical discipline (e.g., spanking with open hand). Illustrating the importance of this distinction, Baumrind, Larzelere, and Cowan (2002) conducted a reanalysis of the studies included in the Gershoff (2002) meta-analysis and found that more negative outcomes were associated with children exposed to more severe forms of punishment.

Unfortunately, most studies have not provided the data necessary to determine whether this link between more severe punishment and negative outcomes is due to a linear or curvilinear relation between corporal punishment and child adjustment. That is, it is possible that problems in child adjustment increase as the level of corporal punishment increases. However, it is also possible that there may be a curvilinear relationship, with both low and very high levels of corporal punishment being associated with problems in adjustment. The few studies that have used a methodology that can distinguish between linear and curvilinear associations have led to mixed results. For example, Larzelere (1986) examined the association between corporal punishment and aggression in children by comparing three levels of spanking frequency (minimal, moderate, and frequent) on the frequency of aggressive behaviors children exhibited toward family members. He reported that the frequency of aggressive behaviors increased as the frequency of spanking increased. Bryan and Freed (1982) included measures of both frequency and intensity of corporal punishment and found that an increase in both intensity and frequency was associated with an increase in aggression. Strassberg, Dodge, Pettit, and Bates (1994) differentiated between different types of physical punishment by comparing three types of punishment (no spanking, spanking, and violent hitting) and its association with measures of child aggression. Level of aggression increased across the conditions in a linear fashion for all types of corporal punishment (Strassberg et al., 1994).

In contrast to these findings of a linear association between corporal punishment and child aggression, some studies have found that mild forms of corporal punishment may not be associated with more problems in child adjustment, and may even be associated with more positive adjustment. For example, Parke and Slaby (1983) reviewed the literature regarding the antecedents to the development of childhood aggression and concluded that aggression increases only in the presence of high intensity physical punishment, but not mild physical punishment. Similarly, in a prospective longitudinal study, Lefkowitz, Eron, Walder, and Huesmann (1977) found that medium levels of punishment in childhood were associated with the lowest aggression scores later in development. Some of the positive effects of mild levels of corporal punishment may be due to the fact that parents who use infrequent and mild spanking typically use it in the context of other forms of discipline. Specifically, Larzelere (2000) reported that spanking had beneficial outcomes in 2- to 6-year-old children (e.g., reduced non-compliance, reduced fighting) when it was mild and used primarily to back up other disciplinary tactics. Similarly, Wissow (2001) reported that, in a large national sample of 2017 parents, those who used average levels of corporal punishment made more frequent use of nonphysical disciplinary strategies (e.g., time out) and had higher levels of nurturing interactions compared to parents who reported below-average levels of spanking. However, both of these groups reported lower levels of nurturing interactions with their children when compared to parents who reported high levels of corporal punishment.

Taken together, it is clear that research on corporal punishment must study mild and more normative forms of such discipline separately from more severe forms in determining its association with child aggression. In doing so, it is also important to broaden the focus to other areas of child adjustment. That is, much of the existing research has focused on the potential link between corporal punishment and the presence of aggression, conduct problems, and delinquency in children (e.g., Bradley, Corwyn, Burchinal, McAdoo, & Coll, 2001; Bryan & Freed, 1982; Cohen & Brook, 1995; Haapasalo & Pokela, 1999; Kandel & Wu, 1995; Stormshak, Bierman, McMahon, Lengua, & Conduct Problems Prevention Research Group, 2000; Strassberg et al., 1994; Straus & Kaufman-Kantor, 1994; Straus & Stewart, 1999). A less studied aspect of corporal punishment is its potential effects on a child's self-concept. It is possible that, even if mild corporal punishment does not lead to increases in conduct problems or aggression, it still could have a negative effect on the development of a child's self-concept or lead to signs of emotional distress that reflect problems in the child's self-esteem. In support of this possibility, several studies have found that use of corporal punishment is positively related to measures of emotional distress in children (Eamon, 2001) and negatively related to measures of self-esteem (Bryan & Freed, 1982; Litvosky & Dusek, 1985). However, such negative effects on the child's self-concept and emotional functioning have not always been found (Bradley et al., 2001; Growe, 1980; Nielsen & Metha, 1994; Peterson, Southworth, & Peters, 1983) and, again, the inconsistent findings may be due to variations in the definitions of corporal punishment used across studies.

Although the conflicting results in existing research may be due to variations in the definitions of corporal punishment, it is also possible that there are moderators to the detrimental effects of corporal punishment on children's adjustment (Benjet & Kazdin, 2003; Kazdin & Benjet, 2003). One such moderator is the broader family context in which the corporal punishment takes place. That is, most previous investigations that have studied the potential negative effects of corporal punishment on child adjustment have failed to control for other parenting behaviors that may be correlated with the use of corporal punishment (Simons, Johnson, & Conger, 1994). That is, parents who use higher rates of corporal punishment also may be more likely to hold authoritarian attitudes toward child-rearing. Such attitudes focus on a strict rule-oriented approach to parenting that emphasizes child obedience and de-emphasizes parental warmth and nurturance (Baumrind, 1968, 1971). A parenting style such as this has been linked to less optimal child adjustment in many samples (Baumrind, 1973; Darling & Steinberg, 1993). As a result, some of the negative effects documented for corporal punishment may be due to the harsh family climate in which it is often embedded. It is possible that some parents are able to combine a warm and nurturing family climate with strict rule enforcement, including corporal punishment. This would be consistent with descriptions of an authoritative parenting style that has been linked to more optimal child adjustment (Baumrind, 1973; Darling & Steinberg, 1993). In support of this possible moderating role of family climate, Larzelere (1986) reported that a positive association between spanking and aggression was eliminated when parents used frequent discussion, in addition to spanking, to resolve conflicts. Similarly, Simons et al. (1994) reported that level of parental involvement moderated the negative impact of corporal punishment on child adjustment.

Another potential moderator of the association between corporal punishment and child adjustment is the ethnicity of the family. That is, a number of studies have found that African-American families view corporal punishment as more acceptable and use it more often than Caucasian families (Baumrind, 1997; McLeod, Kruttschnitt, & Domfeld, 1994; Molnar, Buka, Brennan, Holton, & Earls, 2003; Straus & Stewart, 1999). Also, the cultural context in which a parenting practice takes place can influence how the child perceives the practice. For example, Deater-Deckard, Dodge, Bates, and Pettit (1996) speculated that African-American children may not perceive physical punishment as an indication of a lack of parental warmth due to the more accepted and normative views associated with the practice in their culture (see also Dietz, 2000). In support of this possibility, these authors found that physical discipline was associated with aggression only in Caucasian children and not in African-American children. Stormshak et al. (2000) also found that physical punishment was more strongly associated with internalizing behavior problems in Caucasian than in African-American children. Therefore, it is possible that ethnicity may moderate the effects of corporal punishment on both the child's level of aggression and his or her self-concept.

A final potential moderator of the relation between corporal punishment and child adjustment is the child's temperament or personality. Specifically, parenting practices may have different effects on children depending on the temperament of the child (Bates, Pettit, Dodge, & Ridge, 1998). However, few studies have specifically examined the potential moderating role of child characteristics on the association between corporal punishment and child adjustment. One exception is a study by Colder, Lochman, and Wells (1997) who reported that overactive and impulsive children seemed to be particularly vulnerable to the effects of harsh parenting. That is, impulsive and overactive children who

were exposed to harsh discipline were at particularly high risk for showing aggression in their sample of 4th and 5th grade boys.

Based on these issues, the current study investigated the association between three levels of corporal punishment found in a non-referred sample of children recruited from two school systems in the southeastern United States. In order to ensure significant variability in both the measures of corporal punishment and child adjustment, a high risk sampling procedure was used to over-sample children with significant conduct problems and their families. The first question addressed was whether or not any use of corporal punishment would be associated with problems in child adjustment or whether problems in adjustment would only be found at high levels of physical punishment. In addition, the association between the three levels of corporal punishment and child adjustment was tested separately for child conduct problems and child emotional adjustment. Finally, the potential moderating role of the family climate (i.e., use of a warm and responsive parenting style), race (i.e., African–American and Caucasian) and child characteristics (i.e. impulsive-overactive behaviors) on the association between corporal punishment and child adjustment was tested. It is important to note that, in testing these associations, no assumption of causation is made from these correlational data. That is, such a correlation design makes it impossible to determine if the method of punishment might be causing problems in child adjustment (Gershoff, 2002), whether children with problems in adjustment may evoke harsher types of parenting (Bell, 1968; Lytton, 1990) or even whether a third variable, such as personality characteristics of the parents, might be leading to both the preferred parental discipline style and the child's problems in adjustment (Frick & Jackson, 1993).

2. Method

2.1. Participants

A two-step stratified random sampling procedure was employed to recruit a high risk sample. In the first step, four thousand parents of children in the third, fourth, sixth, and seventh grades of two school systems in a moderate sized city in the southeastern United States received announcements about the study. The two school systems were chosen because one served the immediate urban area and the second served the surrounding region that was predominantly suburban and rural. Those parents who agreed to have their child participate in the study completed consent forms and a screening questionnaire assessing the presence of DSM-IV symptoms of Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD; American Psychiatric Association, 1994). Following receipt of the parents' consent forms, the child's teacher completed an analogous questionnaire. For each child who participated in this initial phase of screening, his or her teacher received \$10.00 for educational supplies for the classroom. This first phase yielded a sample of 1136 children that was 53% female and had an ethnic composition that was 77% Caucasian, 19% African–American, 1% Hispanic, and 1% Asian–American. This ethnic composition closely matched the demographics of the participating schools. Also, 21% of the children were receiving special education services and these children were considered for inclusion in the high risk sample. The range of Duncan's Socioeconomic Index (SEI; Hauser & Featherman, 1977) was 0 to 92.3, with a mean of 47.20.

In the second phase of recruitment, the sample of 1136 children was divided into groups based on combined parent and teacher ratings of conduct problem symptoms (above the upper quartile for high and below the mean for low). Fifty children in each group were selected to participate in the current study through a random stratified sampling procedure, with the two groups of children matching the demographic characteristics of the group from which they were sampled on the stratification variables (i.e., gender, ethnicity, SES). Also, each group was selected to have equal numbers of children from the two grade cohorts (i.e., 3rd and 4th grades, 6th and 7th grades). Two children were lost due to errors in data collection (both in the high conduct problem group) and, thus, 98 families participated in this study, which was part of a larger longitudinal study of children at risk for delinquency (see Frick, Cornell, Barry, Bodin, & Dane, 2003; Frick, Cornell et al., 2003 for more details of subject recruitment and full data collection). The average age of the sample was 12.35 ($SD = 1.72$) years and it included 53% boys and 20% African–American families.

2.2. Measures

2.2.1. Corporal punishment

Parental use of corporal punishment was assessed with the parent and child interview versions of Alabama Parenting Questionnaire (APQ; Frick, 1991; Shelton, Frick, & Wootton, 1996). The APQ is completed through a series of phone

calls made to the parent and child with at least three days between interviews. It assesses the number of times over the past three days that the parent is reported to engage in 42 specific parenting behaviors (e.g., parenting involvement, parental consistency in discipline) and discipline practices (e.g., use of time out). Embedded in this more global assessment of parenting are three items assessing corporal punishment. They include: “How many times in the past three days have you spanked your child with your hand when he or she has done something wrong?,” “How many times in the past three days have you slapped your child when he or she has done something wrong?,” and “How many times in the past three days have you hit your child with a belt, switch, or other object when he or she has done something wrong?” In past studies, the corporal punishment scale of the APQ has been shown to be significantly correlated with teacher reported conduct problems in clinic-referred children between the ages of 9 and 12 (Frick, Christian, & Wootton, 1999).

The questions used to assess corporal punishment on the APQ are very similar to those used in past research. For example, one of the most commonly used methods to assess corporal punishment, the Conflict Tactics Scale (Straus & Stewart, 1999) includes the items “spanked on the bottom with bare hand”, “slapped on the hand, arm, or leg”, and “hit on the bottom with some type of hard object (e.g., belt, hairbrush, and stick)”. Further, in the 88 studies reviewed by Gershoff (2002), the most common items included in the operationalization of corporal punishment were “spank” (26%), “physical punishment” (24%), “slap, smack, hit, or pinch” (20%), and “hit or spanked with object” (16%).

The APQ was administered four times for both parent and child for the majority of the sample (90%). In all other cases, interviews were conducted at least three times with either parent or child. Separate scores were computed for parent and child report of corporal punishment using the average number of times across the three or four interviews that each of the three types of physical punishment was used. The parent and child reports were significantly correlated ($r = .59, p < .001$) and there was not a significant difference ($F(1, 93) = 1.36, p = ns$) in the mean level of corporal punishment reported by the child ($M = .93, SD = 2.58$) or parent ($M = .70, SD = 1.36$). The parent and child reports were combined for group formation by taking the higher score from either the parent or child report. This method of taking the higher score is recommended when assessing dimensions in which there may be substantial motivation for the informants to underreport a trait or characteristic (Kamphaus & Frick, 2002). In these cases, taking the report of each informant alone will miss instances of underreporting by one informant. Further, summing or taking the average of informant reports assumes that ratings reported as high by one informant but low by another informant is less severe than those rated high by both. In cases in which one informant is underreporting, this assumption may not be appropriate.

2.2.2. Conduct problems

DSM-IV (American Psychiatric Association, 1994) symptoms of Conduct Disorder (CD) and Oppositional Defiant Disorder (ODD) were assessed using a structured psychiatric interview with the parent and child, the National Institute of Mental Health Diagnostic Interview Schedule for Children — Version IV (DISC-IV; Shaffer, Fisher, Lucas, Dulcan, & Schwab-Stone, 2000). Interviewers were a licensed psychologist or advanced graduate students in psychology who completed a course on the psychological assessment of children and who were trained in the standardized administration procedures for the DISC. The DISC contains a total of fifteen items related to conduct problems based on the symptoms of CD and ODD. The correlation between parent and child report of conduct problems was $r = .25$ ($p < .01$) which is typical for ratings of child adjustment from different informants (Kamphaus & Frick, 2002). Piacentini, Cohen, and Cohen (1992) tested several methods for combining information from separate informants when correlations among reporters are comparable to those found in the current study. They reported strong evidence that this method of considering a symptom present if endorsed by either the child or the parent was superior to more complicated methods of combining information. For most analyses, symptoms were grouped into four different subtypes of conduct problem behavior (Frick, Lahey, & Loeber, 1993): aggression (e.g., gets into physical fights), property destruction (e.g., destroys property), oppositional behaviors (e.g., defies adults), and the status violations (e.g., truant from school).

Conduct problem behavior was also measured using the Aggression and the Conduct Problem scales of the Behavior Assessment Schedule for Children—Parent Rating Scales (BASC-SRP; Reynolds & Kamphaus, 1992). The BASC is a standardized measure of child adjustment based on parent report that has normative data for children ages 4 to 18. Behaviors are rated on a 4-point scale of frequency from Never to Always. Despite its name, the Aggression scale items cover a range of overt conduct problems, not just physical aggression (e.g., argues when denied own way; disrupts the play of other children), and the Conduct Problems scale focuses on more covert conduct problems (e.g.,

cheats in school, gets into trouble). In a nationwide normative sample, coefficient alpha reliabilities for the Aggression scale of the BASC ranged from .77 to .84 and the coefficients for the Conduct Problems scale ranged from .64 to .75 (Reynolds & Kamphaus, 1992). The BASC was included to provide a norm-referenced score of the child's level of conduct problems to complement the DSM-IV symptoms provided by the DISC.

2.2.3. Self-concept

Several relevant scales from the child's self-report version of the BASC (BASC-SRP; Reynolds & Kamphaus, 1992) were used as indicators of the child's emotional adjustment. Specifically, four separate scales were used: Self-Esteem (e.g., "I wish I was someone else"), Self-Reliance (e.g., "I am dependable"), Sense of Inadequacy (e.g., "I want to do better but I can't"), and Depression (e.g., "Nothing goes my way"). The BASC-SRP items are all rated using a True/False format. The BASC-SRP also provides norm-referenced scores for each of these dimensions of the child's emotional adjustment. In the nationwide standardization sample, the internal consistency estimates for the Depression, Self-Esteem, Self-Reliance, and Sense of Inadequacy scales ranged from .87 to .90, .76 to .88, .61 to .71, and .77 to .78, respectively (Reynolds & Kamphaus, 1992).

2.2.4. Family climate

Authoritativeness was assessed using the Ideas About Parenting (IAP) measure (Heming, Cowan, & Cowan, 1990). The IAP is a 73-item scale assessing parenting beliefs, with items rated along a 9-point Likert scale. The authoritative beliefs dimension has been isolated in a factor analysis in a sample of 73 boys and it predicted more positive social and emotional adjustment in this sample (Hinshaw, Zupan, Simmel, Nigg, & Melnick, 1997). It includes items assessing parental warmth and responsivity, such as "I find some of my greatest satisfaction in my child", "I encourage my child to do his or her best", "I enjoy encouraging my child's natural curiosity", and "raising my child is more of a pleasure than work".

2.2.5. Impulsivity-overactivity

The child's level of impulsivity and motor restlessness was assessed using the DSM-IV impulsivity and overactivity symptoms of Attention-Deficit/Hyperactivity Disorder. These symptoms were assessed using parent and child report on the DISC, as described previously for the assessment of conduct problem symptoms. The parent and child reports were correlated $r = .42$ ($p < .001$) in the current sample. As with the assessment of conduct problems, a symptom was considered present if either the parent or the child endorsed it.

2.3. Procedure

All children were tested in two testing sessions, followed by the administration of the APQ telephone interviews, which were all completed within one month of the second testing session. In the first testing session, the parent gave informed consent and the child gave assent to participation. After this initial meeting, the parent and child were separated and all measures were administered in a standardized order (see Frick et al., 2003 for a complete description of the administration procedures). The parent first provided demographic information and then completed the DISC and all rating scales. The child was first administered a standardized intelligence screener followed by the DISC and all rating scales. Parents were provided with a \$65.00 check and children were given a \$15.00 gift certificate to a music store or book store for their participation.

Following the second session, four APQ phone interviews were administered by undergraduate students trained in standardized administration. After completing the parent interview, interviewers informed parents that it was important that their child have privacy to complete the phone interviews and they were trained to postpone the interview if the child was not able to answer questions privately. Also, given the sensitive nature of the data collected and the need to report any suspected cases of child abuse, the following procedures were reviewed and approved by the Institutional Review Board of the University of Alabama and by the mandatory reporting agency for suspected cases of child abuse in region of the study (Tuscaloosa, Alabama). First, parents and children were notified as part of the standardized consent procedures that any suspected cases of child abuse had to be reported. Second, if any parent reported any cases of injury to a child, interviewers were trained to notify the supervising licensed psychologist who would make the necessary report of abuse. No such cases occurred during data collection. Third, any parent who reported more than three instances of corporal punishment was also referred to the supervising psychologist who then

Table 1
Means (and SDs) for demographic variables by corporal punishment group

	No corporal punishment (<i>n</i> = 62)	Low corporal punishment (<i>n</i> = 21)	High corporal punishment (<i>n</i> = 15)
SES	52.49a (18.84)	39.18b (16.48)	33.06b (19.84)
Age	12.77a (1.58)	11.38b (1.75)	12.00ab (1.77)
IQ	105.32ab (13.26)	108.95a (12.38)	97.00b (8.54)
Family income	57,610a (38,308)	48,313a (26,031)	44,119a (30,126)
Gender % (male/female)	55/45	57/43	40/60
Race % (AA/Caucasian)	21/79	19/81	27/73

Note. IQ = Kaufman Brief Intelligence Test (K-BIT; Kaufman & Kaufman, 1991); SES = Duncan's Socioeconomic Index (Hauser & Featherman, 1977); AA = African-American. For each column, means with the same letter are not significantly different at the .05 level based on Tukey's procedure for pairwise comparisons.

contacted the parent to a) obtain further information to determine if a report of abuse was warranted and b) to refer the parent to local parenting classes. In several of these cases, the local reporting authority was consulted about the possible need to make a report of abuse but in no case was the level of discipline viewed as sufficient to require a report of abuse.

3. Results

3.1. Corporal punishment groups

Corporal punishment was assessed by a combination of parent and child report of the number of instances of corporal punishment averaged across three or four phone interviews. The distribution of corporal punishment suggested three groups that varied on the level of corporal punishment and that captured the intended distinctions among no use of corporal punishment, mild use, and extreme use. The majority of the sample (*n* = 62) reported no incidents of parental use of corporal punishment across the interviews. There was a group (*n* = 21) who reported low levels of corporal punishment involving one or two incidents of corporal punishment. Finally, there was a high corporal punishment group that included 15 participants who reported three or more incidents of corporal punishment.

These groups were compared on several demographic variables and the results of these analyses are reported in Table 1. There was a significant group difference for socioeconomic status, $F(2, 95) = 8.83$; $p < .001$, with the no corporal punishment group having significantly higher SES scores than the two corporal punishment groups, which were not significantly different from each other using Tukey's procedure for pairwise comparisons. There was also a significant group effect for age, $F(2, 95) = 6.03$; $p < .01$, with the no corporal punishment group being significantly older than the low corporal punishment group but not significantly different from the high corporal punishment group. There were also group differences across groups on the Kaufman Brief Intelligence Test (K-BIT; Kaufman & Kaufman, 1991), $F(2, 95) = 4.14$; $p < .05$. Children in the low corporal punishment group scored significantly higher on a brief measure of intelligence than children in the high corporal punishment group. The groups did not differ significantly on family income, race, or gender.

Table 2
Corporal punishment group means on self-concept measures (MANCOVA)

	No corporal punishment <i>n</i> = 62	Low corporal punishment <i>n</i> = 21	High corporal punishment <i>n</i> = 14
BASC depression	44.81a (5.93)	45.38a (8.66)	52.79b (6.00)
BASC sense of inadequacy	45.23a (8.07)	46.81a (9.98)	54.79b (7.57)
BASC self-esteem	54.56a (5.52)	50.57b (9.57)	51.50ab (8.31)
BASC self-reliance	51.58 (8.87)	50.81 (9.46)	46.71 (10.31)

Note. Overall MANCOVA: $F(8, 172) = 3.30$, $p < .01$; $\eta^2 = .133$. Standard deviations are in parentheses. For each column, means with the same letters are not significantly different at the .05 level using Tukey's procedure for pairwise comparisons. BASC = Behavioral Assessment System for Children (Reynolds & Kamphaus, 1992).

Table 3
 Corporal punishment group means on conduct problem measures (MANCOVA)

	No corporal punishment $n = 62$	Low corporal punishment $n = 21$	High corporal punishment $n = 15$
BASC aggression	46.45a (8.55)	47.33a (8.50)	57.80b (14.71)
BASC conduct problems	49.73a (10.36)	48.00a (7.82)	60.67b (13.69)
Property destruction	0.23 (0.53)	0.57 (0.98)	0.80 (1.15)
Status violations	0.23 (0.42)	0.33 (0.48)	0.27 (0.46)
Aggression	0.42a (0.95)	0.71ab (1.38)	1.20b (1.37)
Oppositional behaviors	1.35a (1.66)	2.05ab (2.16)	2.87b (2.27)

Note. Overall MANCOVA: $F(12, 170) = 2.40, p < .01; \eta^2 = .145$. Standard deviations are in parentheses. For each column, means with the same letters are not significantly different at the .05 level using Tukey's procedure for pairwise comparisons. BASC = Behavioral Assessment System for Children (Reynolds & Kamphaus, 1992).

3.2. Corporal punishment and self-concept

A multivariate analysis of covariance (MANCOVA) with race, SES, IQ, age, and gender used as covariates was used to examine the relation between corporal punishment use and the four measures of self-concept. The results of these analyses are provided in Table 2. Overall, there was a significant multivariate effect for group, $F(8, 172) = 3.30, p < .01; \eta^2 = .13$, indicating differences across groups on the measures of self-concept. Individual ANCOVA's revealed that corporal punishment group membership was significantly related to the BASC Depression, $F(2, 89) = 6.18, p < .01; \eta^2 = .122$; Sense of Inadequacy, $F(2, 89) = 4.23, p < .05; \eta^2 = .087$; and Self-Esteem, $F(2, 89) = 3.35, p < .05; \eta^2 = .070$, scales. Tukey's post hoc comparisons revealed that for the Depression and Sense of Inadequacy scales, the means for the no corporal punishment and low corporal punishment groups, while not significantly different from each other, were significantly lower than the scores for the high corporal punishment group. In contrast, the mean self-esteem score for the no corporal punishment group was significantly higher than the mean score for the low corporal punishment group.

3.3. Corporal punishment and conduct problem behavior

A second multivariate analysis of covariance (MANCOVA) examined the relation between corporal punishment use and the six measures of conduct problem behavior. The results of these analyses are reported in Table 3. The overall MANCOVA again revealed a significant effect for group across the dependent measures, $F(12, 170) = 2.40, p < .01$,

Table 4
 Zero-order correlations among variables used in tests of moderation

	Authoritative parenting	Impulsivity	BASC depression	BASC sense of inadequacy	BASC self-reliance	BASC self-esteem	Conduct problems	Property offenses	Corporal punishment
Race	-.25*	-.15	.19	.20*	.00	-.04	.01	.12	.04
Authoritative parenting	–	.01	-.08	.04	.01	-.01	-.22*	-.23*	-.14
Impulsivity		–	.17	.33***	-.12	-.18	.65***	.46***	.33**
BASC depression			–	.71***	-.62***	-.66***	.30**	.27**	.34***
BASC sense of inadequacy				–	-.50***	-.41***	.34***	.25**	.33***
BASC self-reliance					–	.46***	-.13	-.14	-.19*
BASC self-esteem						–	-.20*	-.18	-.24*
Conduct Problems							–	.80***	.32**
Property offenses								–	.29**

Note. BASC = Behavioral Assessment System for Children (Reynolds & Kamphaus, 1992).

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

$\eta^2 = .145$. Individual ANCOVA analyses revealed that corporal punishment group membership was significantly related to BASC Aggression, $F(2, 90) = 7.95, p < .001, \eta^2 = .150$, and Conduct Problems, $F(2, 90) = 5.85, p < .01, \eta^2 = .115$, scales. For the conduct problem symptoms, group membership was significant related to oppositional behaviors, $F(2, 90) = 3.57, p < .05, \eta^2 = .073$ and aggression, $F(2, 90) = 3.01, p < .05, \eta^2 = .063$. There was a consistent pattern of scores across the conduct problem variables. In each case, the group high on corporal punishment differed significantly from the no corporal punishment group. However, only on the two BASC scales did the high corporal punishment group differ from the low corporal punishment group, and on no scales did the low corporal punishment group differ from the no corporal punishment group.

3.4. The effects of grade cohort

As is typically found in past research (Gershoff, 2002), older children experienced less corporal punishment than younger children leading to the low corporal punishment group being somewhat younger than the other two groups. The main effects for age were controlled for in all previous analyses by using age as a covariate. However, age still could have moderated the effects, such that the findings differed for children in the younger (grades 4 and 5) and older (grades 7 and 8) cohorts. This possibility was explored repeating the previous analyses using a 2×3 MANOVA design

Table 5
Regression analyses testing for moderation

	Conduct problems			Property destruction		
	Std. Beta change	R ²	R ² -	Std. Beta change	R ²	R ² -
Impulsivity						
Gender	-.05			.04		
Race	.12			.19		
Age	.13			.04		
SES	-.09			-.07		
IQ	.05			.00		
CP	.12			.11		
Imp	.63***			.46***		
		.47***			.27***	
Imp × CP	.11			.22*		
		.48***	.01		.31***	.04*
Race						
Gender	-.19			-.06		
Age	.06			-.01		
SES	.02			-.04		
IQ	.03			-.01		
CP	.34**			.27*		
Race	.04				.10	
		.15*		-.00		
Race × CP	-.05					
		.15*	.00		.10	.00
Authoritative						
Gender	-.17			-.06		
Race	-.02			.10		
Age	.10			-.01		
SES	-.02			-.04		
IQ	.07			-.06		
CP	.34**			.27*		
Auth	-.18			-.01		
		.17*			.10	
Auth × CP	-.20*			-.14		
		.21**	.04*		.12	.02

Note. IQ = Kaufman Brief Intelligence Test (K-Bit; Kaufman & Kaufman, 1991); SES = Duncan's Socioeconomic Index (Hauser & Featherman, 1977); Race coded as 1 = Caucasian and 2 = African-American; Gender coded as 1 = boy and 2 = girl; CP = Corporal punishment; Imp = impulsivity-overactivity symptoms; Auth = Authoritative Parenting.

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

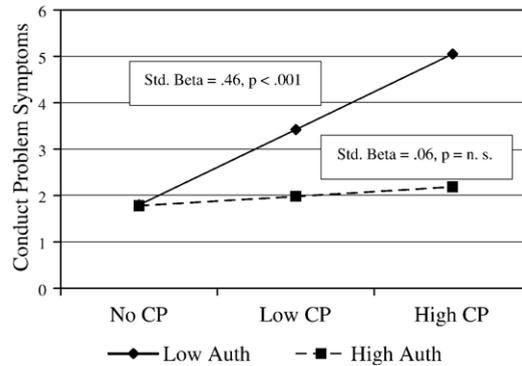


Fig. 1. The interaction between corporal punishment (CP) and authoritative parenting (Auth) for predicting child conduct problems.

with grade cohort and corporal punishment group as the two between subjects factors. There were no significant cohort-by-grade interactions for any of the variables that showed significant effects in Tables 2 and 3. Across the dependent variables, the means within corporal punishment groups were very consistent across cohort. For example, in the low corporal punishment group, participants in the younger cohort ($n = 23$) had similar BASC Depression subscale scores ($M = 44.00$; $SD = 4.83$) to those in the older cohort ($n = 39$; $M = 45.28$; $SD = 6.50$). The mean scores were also comparable across cohort for children in the Low Corporal Punishment (younger, $n = 15$; $M = 46.27$, $SD = 10.16$; older, $n = 6$; $M = 43.17$; $SD = 1.60$) and in the High Corporal Punishment (younger, $n = 9$; $M = 53.22$, $SD = 7.95$; older, $n = 5$; $M = 52.00$; $SD = 5.61$) groups.

3.5. Examination of moderator variables

Multiple regression analyses were used to explore the potential moderating role of authoritative parenting, ethnicity, and impulsivity-overactivity in the association between corporal punishment use and child adjustment. For these analyses, hierarchical regression analyses were used in which demographic variables, corporal punishment group (coded as 0, 1, and 2), and the potential moderator (all centered using the sample mean) were entered in the first step. In the second step, the interaction between corporal punishment group and the potential moderator was added to the regression equation to determine if this led to a significant increase in the amount of variance (R^2) explained in the dependent measure (Jaccard, Turrisi, & Wan, 1990). In cases in which a significant interaction emerged, the form of this interaction was tested using the procedure recommended by Holmbeck (2002). In this procedure, the regression equation from the full sample is used to calculate predicted values of the dependent variable at different levels of the predictors (1 SD above or below the mean/different corporal punishment levels). Post-hoc probing was used to determine if the association between corporal punishment and the dependent variable was significant at either of the

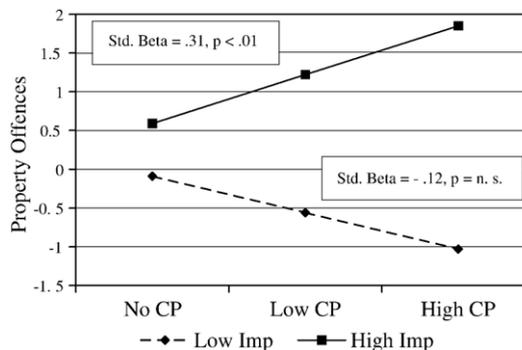


Fig. 2. The interaction between corporal punishment (CP) and impulsivity (Imp) for predicting property destruction.

two levels of aggression by computing the simple slopes (i.e., standardized beta) and testing these for significance (Holmbeck, 2002).

Prior to running the multiple regression analyses to test moderation, the zero-order correlations among predictors, moderators, and dependent variables were calculated, and are provided in Table 4. To limit the number of regression analyses for the conduct problem domain, a global conduct problem measure was used in regression analyses summing across all types of Oppositional Defiant and Conduct Disorder symptoms. The findings for this global measure were similar to those found for the individual conduct problems variables with one exception. The property destruction measure showed a different pattern of findings and, thus, results for this variable are reported separately. As indicated in Table 4, ethnicity (coded 0 = Caucasian and 1 = African–American) was negatively related to authoritative parenting and with the BASC Sense of Inadequacy. Also, authoritative parenting was negatively related to both measures of conduct problems and impulsivity was positively related to both conduct problem measures. Impulsivity was positively related to the corporal punishment groups and, as suggested by the previous analyses, corporal punishment was significantly related to all measures of self-concept and conduct problems.

In the multiple regression analyses for the four self-concept measures, there was no significant interaction between corporal punishment and any of the potential moderators. However, several important findings emerged from the analyses using the conduct problem variables. The results of these multiple regression analyses are reported in Table 5.

For the conduct problem composite, corporal punishment was associated with conduct problems independent of demographic variables and the moderating variables in all cases except one. That is, entering the measure of impulsivity eliminated the association between corporal punishment and the conduct problem measures. In addition, there was evidence for an interaction between corporal punishment and authoritative parenting for predicting conduct problems. The form of this interaction is provided in Fig. 1. As evident from this figure, there exists a strong association between corporal punishment and conduct problems for children from families low on authoritative parenting (Std. Beta = .46, $p < .001$), whereas there was no significant association between corporal punishment and conduct problems for children from families high on authoritative parenting (Std. Beta = .06, $p = ns$).

For predicting property destruction symptoms, controlling for impulsivity again reduced the relation between corporal punishment and property destruction to non-significance. However, there was evidence for a significant interaction between corporal punishment and impulsivity in the prediction of property destruction. The form of this interaction is reported in Fig. 2. As evident from this figure, corporal punishment was positively related to property destruction in children high on impulsivity (Std. Beta = .31, $p < .01$) but not related to property destruction in children low on impulsivity (Std. Beta = $-.12$, $p = ns$).

4. Discussion

The current study evaluated the association between parental use of corporal punishment and child adjustment in a sample of non-referred children, one half of whom had significant conduct problems. The first two research questions addressed a) whether the presence of any corporal punishment in the home increased problems in adjustment or whether problems in adjustment only occurred in the presence of high levels of corporal punishment and b) whether the effects of corporal punishment were similar for measures of conduct problems and emotional well-being. To address these questions, the sample was divided into three distinct corporal punishment groups: children who had experienced no corporal punishment across a two to three week period, children who had experienced one or two instances of corporal punishment across this study period (low corporal punishment), and children who had experienced three or more instances (high corporal punishment).

On two of the four measures of self-concept (see Table 2) and on four of the six measures of conduct problems (see Table 3), the group high on corporal punishment had significantly poorer adjustment than the group who had not experienced corporal punishment. In contrast, on only one measure (BASC Self-Esteem scale) did the group who experienced low levels of corporal punishment differ from the no corporal punishment group. On the one hand, these results support the findings by Baumrind et al. (2002) that associations with poor adjustment are primarily found when severe and frequent corporal punishment is used. On the other hand, there was no evidence to suggest that moderate levels of corporal punishment were associated with enhanced adjustment (Larzelere, 2000; Wissow, 2001). In fact, the somewhat lower self-esteem for the group who experienced low levels of corporal punishment is a cause for concern. This is an important finding because, as noted previously, most studies on the effects of corporal punishment have focused on the behavioral adjustment of children (e.g., Bradley et al., 2001; Stormshak et al., 2000) and much less

research has focused on the emotional correlates to this form of discipline (Eamon, 2001). However, it is also important to note that the average T-score for this group on the measure of self-esteem was 50.57, indicating an average score compared to age-based norms.

A third goal of this study was to test several potential moderators of the relation between corporal punishment and child adjustment. For all of the measures of self-concept, the association between corporal punishment and child adjustment was not moderated by the emotional climate of the family, the ethnicity of the child, or impulsive-overactive behaviors. The findings suggest that the effects of high levels of corporal punishment on the emotional well-being of the child were similar across levels of these moderating variables. This supports past research indicating increased levels of emotional distress (Eamon, 2001) and lower levels of self-esteem (Bryan & Freed, 1982; Litvosky & Dusek, 1985) in children from families who use high rates of corporal punishment.

In addition, the ethnicity of the child did not moderate the impact of corporal punishment on either conduct problems or emotional well-being. That is, high levels of corporal punishment were associated with high levels of conduct problems and lower levels of emotional adjustment for both Caucasian and African–American children in this sample. This finding was somewhat unexpected given past research suggesting that corporal punishment may have less of a detrimental impact on the adjustment of African–American children (Deater-Deckard et al., 1996) because firm and power assertive discipline may be more normative in African–American families (McLoyd, 1990). However, as noted previously, firm parenting need not include corporal punishment. As a result, some of the inconsistent research may be a result of a failure to distinguish between the method of punishment used in the home and the attitudes toward parenting that may differ across ethnic groups (Darling & Steinberg, 1993).

There was evidence for the moderating effects of two variables. As illustrated in Fig. 1, the negative association between corporal punishment and conduct problems was largely confined to families who were low on a measure of warm and responsive parenting. This finding is consistent with past research suggesting that the deleterious effects of corporal punishment may be diminished when it is used in the context of more adaptive parenting strategies (Larzelere, 2000; Wissow, 2001). However, it is important to note that the interaction illustrated in Fig. 1 does not suggest that the combination of corporal punishment and warm/responsive parenting (which were correlated $r = -.14$, $p = ns$ in the current sample) leads to more optimal outcomes for children. Instead, the form of the interaction suggests that the emotional climate of the home can have a buffering effect on the association between corporal punishment and child conduct problems.

The second moderating variable was impulsivity-overactivity. Corporal punishment led to more property destruction but only for children high on impulsive and overactive behaviors. This interaction should be interpreted cautiously because it was not found for the global measure of conduct problems and it is not clear why it would only be found for the property destruction variable. However, it is consistent with past research in suggesting that some temperamentally vulnerable children may be especially susceptible to less than optimal parenting, including frequent use of corporal punishment (Colder et al., 1997).

4.1. Limitations

In making any interpretations from the findings, several limitations must be considered. First and foremost, this study is a cross-sectional study and this design makes any type of causal statements impossible. We have tried to frame all results in terms of “associations” between corporal punishment and child adjustment and avoid any suggestion of causal ordering. While many reviews of the literature focus on the potential harmful effects of corporal punishment on child adjustment (e.g., Gershoff, 2002), it is equally plausible that some children are more difficult to discipline than others and evoke stronger parenting responses in an effort to control the child’s behavioral difficulties (Bell, 1968; Lytton, 1990). To illustrate the difficulty in determining causal orderings, we found that the effects of corporal punishment on child adjustment were reduced to non-significance when the child’s level of impulsivity was controlled. This finding could be interpreted in mediational terms in two ways. First, it could be that corporal punishment negatively affects the development of impulse control making the child more likely to display conduct problems (Kochanska, 1995). Alternatively, it could reflect the fact that children with difficult temperaments characterized by poor response inhibition evoke more harsh discipline from parents (Lytton, 1990). The only way to conclusively test causality would be through an experimental design and such a design would be ethically impossible. However, prospective longitudinal data would provide better data to understand the temporal association between parenting and child behavior and, thus, help to disentangle what is likely to be a transactional process.

Another limitation is in our method of assessing corporal punishment. Using procedures to observe parental use of corporal punishment is, again, ethically questionable. Also, we did combine reports from both parents and children to avoid relying on a single informant. However, this measure still relies on the parents' and children's willingness to report on the use of corporal punishment. Further, the method of reporting focused on a limited time window; specifically, it assessed report of corporal punishment use over the past three days across three to four telephone interviews. As a result, it assessed the frequency of punishment over about a two to three week period. Such an assessment may not capture parents who use corporal punishment very infrequently and many such parents are likely to have been included in our no corporal punishment group. This is likely the case given the large number of families who fell into the no corporal punishment group compared to estimates of between 75 to 95% of families reporting use of some level of corporal punishment (Ateah & Parker, 2002; Straus & Stewart, 1999). Further, this method of assessment relies largely on frequency of corporal punishment to make distinctions among groups, without considering the severity of the punishment (e.g., did it cause injury to the child).

A final set of limitations involve the sample used for the study. The sample was relatively small, reducing our power to detect associations and especially limiting our power to detect moderating effects. Thus, more interactions may have emerged as significant if the sample size was larger. In addition, the sample was recruited through schools to avoid referral biases involved in studying a clinic-referred sample. The recruitment over-sampled children with conduct problems in order to increase the potential representation of families at risk for parenting problems. However, such an over-sampling likely influenced the distribution of variables in the study and could reduce the generalizability of our results. Our sample was limited to a moderate sized community in the southeastern United States and thus, the generalizability to other regions of the country that may have different rates and patterns of corporal punishment use may also be limited. Finally, all interpretations need to be made in light of the age of the sample studied. As found in past research (Gershoff, 2002), parents used less corporal punishment in older children. Age was controlled for in all analyses and tests for potential moderating effects of age on the relation between corporal punishment and adjustment were tested and none were found. However, the meta-analyses by Gershoff (2002) found that the association between corporal punishment and aggression peaked in samples of middle school-aged children, comparable to the age groups included in the present study. Thus, the same effects of corporal punishment may not have been found if different age groups had been included.

4.2. Implications and summary

Within the context of these limitations, the study does contribute important data to inform the very important, and yet very heated debate, over the appropriateness of the use of corporal punishment in children. Consistent with a rather large body of research, use of corporal punishment was associated with problems in children's adjustment, both in terms of the child's behavioral and emotional adjustment. Further, there did not appear to be any beneficial effects of using low levels of corporal punishment on the child's adjustment. In fact, there was some association with lower self-esteem in the child, even for low levels of corporal punishment use. However, these data also suggest that the most serious levels of maladjustment are found in families who use corporal punishment frequently, when it occurs in the absence of a responsive and supportive family context, and when it is used for a child who may be temperamentally vulnerable to conduct problems. Our interpretation of these data suggest that, given these findings, there are likely to be other forms of discipline that are equally effective for setting firm and consistent limits on a child's behavior that do not have the same potential for harmful effects on the child (e.g., McMahon & Forehand, 2003). In fact, a possible reason that corporal punishment may often be associated with more negative outcomes in children is that it is more difficult than many other forms of discipline (e.g., time out; removal of privileges; assignment of extra chores) to use consistently and to use contingently based on the child's behavior. In summary, our results suggests that mental health policy should not overstate the potential harm of mild levels of corporal punishment on children's adjustment but it should advocate for the use of other safer methods of discipline.

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