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Ethnic differences in the link between physical discipline and later adolescent externalizing behaviors

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Abstract

Background—Parents' use of physical discipline has generated controversy related to concerns that its use is associated with adjustment problems such as aggression and delinquency in children. However, recent evidence suggests that there are ethnic differences in associations between physical discipline and children's adjustment. This study examined race as a moderator of the link between physical discipline and adolescent externalizing behavior problems, extending previous research beyond childhood into adolescence and considering physical discipline at multiple points in time.

Methods—A representative community sample of 585 children was followed from pre-kindergarten (age 5) through grade 11 (age 16). Mothers reported on their use of physical discipline in the child's first five years of life and again during grades 6 (age 11) and 8 (age 13). Mothers and adolescents reported on a variety of externalizing behaviors in grade 11 including aggression, violence, and trouble at school and with the police.

Results—A series of hierarchical linear regressions controlling for parents' marital status, socioeconomic status, and child temperament revealed significant interactions between physical discipline during the child's first five years of life and race in the prediction of 3 of the 7 adolescent externalizing outcomes assessed and significant interactions between physical discipline during grades 6 and 8 and race in the prediction of all 7 adolescent externalizing outcomes. Regression slopes showed that the experience of physical discipline at each time point was related to higher levels of subsequent externalizing behaviors for European American adolescents but lower levels of externalizing behaviors for African American adolescents.

Conclusions—There are race differences in long-term effects of physical discipline on externalizing behaviors problems. Different ecological niches may affect the manner in which parents use physical discipline, the meaning that children attach to the experience of physical discipline, and its effects on the adjustment of children and adolescents.

Keywords

Physical discipline; externalizing behaviors; ethnic differences

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Spanking is a discipline strategy that has been used by over 90% of American parents at some point in their parenting history (Graziano & Namaste, 1990; Simons, Johnson, & Conger, 1994) and is widely used by parents in other countries as well (Straus, 1996). Yet parents' use of spanking has generated a considerable amount of public controversy related to concerns about the effects of physical discipline on children's development and ambiguities regarding where to draw the line between physical discipline and physical abuse. Partially in response to this controversy, the American Academy of Pediatrics held a consensus conference on corporal punishment that culminated in statements that 'physical discipline is of limited effectiveness and has potentially deleterious side effects'; and recommended that 'parents be encouraged and assisted in the development of methods other than spanking for managing undesired behavior' (American Academy of Pediatrics, 1998, p. 723).

These conclusions and recommendations seem appropriate based on a large body of research linking parents' use of physical punishment with subsequent negative child and adolescent outcomes such as aggression (Eron, Huesmann, & Zelli, 1991), delinquency (Farrington & Hawkins, 1991), and criminality (McCord, 1991; see Gershoff, 2002, for a review). However, recent debate in the literature about the role of physical discipline in different cultural contexts and its effects on children's development (Deater-Deckard & Dodge, 1997; Jackson, 1997) raises the question of whether these conclusions are appropriate for populations other than White, middle-class Americans. Using a representative community sample, Deater-Deckard, Dodge, Bates, and Pettit (1996) found that the experience of physical discipline in the first five years of life was associated with higher levels of teacher- and peer-reported externalizing behavior problems for European American children and with higher levels of mother-reported externalizing behavior problems for European American and African American children when they were in kindergarten through third grade. However, there was not a significant association between the experience of physical discipline and subsequent teacher- and peer-reported externalizing behaviors for African American children. Similarly, Gunnoe and Mariner (1997) found that spanking statistically predicted *more* fights at elementary school for European American children but *fewer* fights for African American children.

Findings regarding the effects of physical discipline on children's adjustment can be understood from different theoretical perspectives. A social learning perspective (Bandura, 1977) suggests that through being physically disciplined, children learn that aggression is an acceptable strategy for dealing with problems and will then be more likely to use aggression in future encounters with others (Simons, Lin, & Gordon, 1998). However, other perspectives, such as Bronfenbrenner's (1986) person-process-context model, suggest that individual attributes and characteristics of the context in which physical discipline occurs will be related to its effects on children's adjustment. Deater-Deckard and Dodge (1997) proposed that the cultural normative context in which physical discipline occurs will alter the meaning of discipline to the child, and it is the meaning that mediates the child behavior outcomes. If physical punishment is administered in a context in which this form of discipline is normative or accompanied by parental warmth and a goal of helping the child grow into a responsible adult, then this caring message might be received by the child and could buffer any adverse effects of physical punishment on child outcomes. If physical punishment is administered in a context in which this parental behavior is less normative and more aberrant, then the message received by the child may be that the parent is out of control and rejecting of the child, and the child's reaction may be to escalate externalizing problems. Consistent with this perspective, substantial evidence supports the proposition that African American children are reared in a context of greater reliance on mild physical punishment than is true for European American children (e.g., Giles-Sims, Straus, & Sugarman, 1995). African Americans endorse the use of physical punishment as an appropriate and effective discipline strategy more readily than do European Americans (Flynn, 1998), and African American parents are less likely to include physical acts in their definitions of child maltreatment than are European American parents (Korbin,

Coulton, Lindstrom-Ufuti, & Spilsbury, 2000). There is some evidence that physical discipline and children's adjustment are unrelated after taking into account the context of parenting such as warmth and involvement (e.g., Larzelere, Klein, Schumm, & Alibrando, 1989). McLoyd and Smith (2002) found that only in the context of low maternal support, but not high maternal support, spanking predicted an increase over time in mother-reported internalizing and externalizing problems for European American, African American, and Hispanic children from the Children of the National Longitudinal Survey of Youth.

Understanding how the experience of physical discipline relates to long-term adjustment and whether the effect of physical discipline differs across ethnic groups is complicated by methodological limitations of much previous research. Retrospective reports of college students about their parents' discipline strategies when they were children or retrospective reports provided by parents are the most common way of investigating effects of physical discipline (e.g., Graziano & Namaste, 1990), but this method is limited by inaccurate memories and retrospective biases. Perhaps the most accurate way of measuring parents' use of physical discipline is through detailed diaries in which each discipline episode is recorded (Larzelere, Schneider, Larson, & Pike, 1996). Goodenough (1975) found that during an interview, parents recalled spanking their children six times less frequently than they reported in a parenting diary. However, it is generally practical for parents to complete these diaries only over short periods of time.

Another problem is that physical discipline is endogenous to the family system and may grow out of child characteristics or other family context features which may be the real predictors of child outcomes. Difficult child temperament or child male gender may lead some parents to respond more readily with physical punishment (Campbell, 1990; Patterson, 1982), and may also have a direct effect on child behavior problems (Bates, 1989). Family stressors such as low socioeconomic status and marital instability may make parents more emotionally volatile and less flexible, increasing the likelihood that they will resort to spanking to gain child compliance (Day, Peterson, & McCracken, 1998). Some of these contextual factors may be correlated with ethnicity and may even account for ethnic differences in parenting behavior. For example, Pinderhughes, Nix, Foster, Jones, and the Conduct Problems Prevention Research Group (2001) found that differences in parental warmth and consistent discipline between African American and European American families were no longer significant once the confounding factor of neighborhood poverty was taken into account. In spite of such confounds, past studies have not routinely controlled for these factors.

Finally, it is important to evaluate ethnic differences in the effect of physical discipline from a developmental perspective, bearing in mind that this effect may depend on the developmental period during which the discipline occurs. Day et al. (1998) found that European American and African American parents in the National Survey of Families and Households reported spanking children younger than five years of age more frequently than they reported spanking children five years of age or older; however, African American parents spanked children of all ages more frequently than did European American parents. From her review of the literature, Gershoff (2002) concluded that there was not yet consensus on the question of when the effects of physical discipline on children's adjustment are greatest.

It is unclear from the extant literature whether ethnic differences in effects of physical discipline on children's adjustment depend on the developmental stage of the child. One possibility is that the cognitive processing required to interpret parents' use of physical discipline as a signal of care and concern might become more sophisticated with age; ethnic differences in effects of physical discipline on externalizing behaviors would then be expected to be larger for adolescents than for younger children. An alternate possibility is that African American adolescents might have greater difficulty than African American preschoolers in viewing a

physically punitive act as anything other than an act of hostility. If this were the case, ethnic differences in effects of physical discipline on externalizing behaviors would then be expected to be less pronounced for adolescents than for younger children.

What is needed to address these limitations and questions is a prospective study of ethnicity as a moderator of the effect of physical discipline on subsequent adjustment, using multiple methods of measuring discipline and times of measurement, and controlling for other variables associated both with the context of spanking and with child adjustment. The present study fulfills these criteria. We sought to replicate and extend the findings reported by Deater-Deckard et al. (1996) who followed a sample of children from kindergarten through third grade; the present study follows the same sample through eleventh grade. Specifically, we first examined whether race moderates the effects of pre-kindergarten physical discipline on externalizing behavior problems when adolescents are in grade 11. Second, we tested whether these effects hold using a new measure of discipline during early adolescence. We hypothesized that the experience of physical discipline both in early childhood and in adolescence would predict higher levels of externalizing problems in grade 11 for European American, but not African American, adolescents. In the present study, we controlled for aspects of children's temperament that may elicit physical discipline (see Campbell, 1990; Patterson, 1982) and also contribute to later behavior problems (Bates, 1989). We also controlled for child gender, parents' marital status, and socioeconomic status, which are other predictors of whether parents spank and may influence how spanking affects children's subsequent adjustment (Day et al., 1998); we chose to include pre-kindergarten control variables because these variables may affect not just externalizing behaviors but also whether and how frequently parents use physical discipline. Thus, it was possible for us to investigate effects of physical discipline above and beyond other characteristics that put children and adolescents at risk for externalizing behavior problems.

Method

Participants

Children in this study were participants in the ongoing Child Development Project, a multi-site longitudinal investigation of children's adjustment (see Dodge, Bates, & Pettit, 1990; Pettit, Laird, Dodge, Bates, & Criss, 2001). Participants were recruited in two cohorts when children entered kindergarten at the age of 5 years in 1987 or 1988 at three sites: Knoxville and Nashville, TN and Bloomington, IN. Parents were approached at random during kindergarten preregistration and asked if they would participate in a longitudinal study of child development. About 15% of children at the targeted schools did not preregister. These participants were recruited on the first day of school or by letter or telephone. Of those asked, approximately 75% agreed to participate. The sample consisted of 585 families at the first assessment. Follow-up assessments were conducted annually through grade 11, when participants were 16 years old.

The sample in the present study included 453 families who completed assessments when the children were in grade 11 (50% girls). The sample was restricted to European American (n = 379; 84%) and African American (n = 74; 16%) children because there were not enough children in other ethnic groups (n = 5) to include in analyses. The families' Hollingshead (1979) index of socioeconomic status at age 5 ranged from 11 to 66 (M = 40.35, SD = 14.38). Compared to the original sample, the families who provided data in grade 11 (78% of the original sample) were of slightly higher socioeconomic status, but participants and nonparticipants did not differ by race, single-parent status, or mothers' reports of children's externalizing behaviors in kindergarten.

Procedure and measures

Demographic and temperament control variables—During home interviews before children started kindergarten or in the first weeks of school, parents reported their race, marital status, education, and occupation (the latter two were used to create an index of socioeconomic status based on Hollingshead criteria). In addition, mothers completed the retrospective Infant Characteristics Questionnaire (Bates & Bayles, 1984; Bates, Freeland, & Lounsbury, 1979), a retrospective account of the child's temperament that has been found to have validity (Bates, Pettit, Dodge, & Ridge, 1998). From this measure, three scales were derived: difficultness (9 items, α = .86), unadaptability (4 items, α = .72), and resistance to control (3 items, α = .83). Of these, difficultness and resistance to control have been previously linked to externalizing behavior problems, and thus would be expected to be associated with discipline (Bates et al., 1998). When adolescents were in grade 6, their mothers completed a six-item measure of neighborhood safety adapted from the Self-Care Checklist (Pettit, Bates, Dodge, & Meece, 1999; Posner & Vandell, 1994). Responses (1 = very safe to 6 = very unsafe) were averaged to create a scale (α = .90) reflecting mothers' overall appraisal of the safety of the neighborhood, their safety coming home and being home alone, and their children's safety playing inside and outside the home. Although measures of neighborhood safety were not available for all time points, most (81%) families lived in the same census tract across years of assessment in early adolescence, and moves resulted in few qualitative changes in neighborhood quality (see Beyers, Bates, Pettit, & Dodge, 2003).

Child physical discipline—During the summer before children started kindergarten, trained researchers conducted in-depth interviews with mothers in their homes asking questions regarding how the child was disciplined, whether the child was ever physically punished, and, if so, how physical punishment was delivered (e.g., spanking with hand or with object; see Deater-Deckard et al., 1996). Following these questions, interviewers privately rated the discipline received by the child on a 5-point scale ranging from 1 (nonrestrictive, mostly positive guidance; the parent reports no physical punishment; the majority of misbehavior is controlled with reasoning or appropriate use of other non-physical punishments, or the parent monitors the child to avoid trouble) to 3 (moderately restrictive, sometimes physical; the parent reports a mixture of discipline methods and some sense that the type of discipline covaries with the nature of the misbehavior) to 5 (strict, often physical; the parent reports numerous restrictive and physical means of discipline and uses physical discipline for much misbehavior). Although this rating captured a range of parental behaviors, physical discipline was the major parenting behavior that determined the rating parents received; 13%, 32%, 40%, 13%, and 3% of the sample were rated in categories 1–5, respectively. The interviews of 56 randomly selected mothers were either attended in person or listened to on tape by a second rater; interrater reliability was good (r = .80).

Adolescent physical discipline—When adolescents were in grades 6 and 8, mothers completed an interview during which they were asked how often during the last year they dealt with their child's misbehavior by using physical discipline including (a) slapping or hitting with their hand, (b) spanking, and (c) using a belt or paddle. The frequency of each of these three types of discipline was rated on a 4-point scale (1 = never, 2 = rarely, 3 = sometimes, 4 = frequently), and the three items were averaged to create a scale reflecting the frequency with which mothers used physical discipline in each year. The degree of stability in the use of physical discipline from grade 6 to grade 8 was moderately high (r (412) = .55, $p < .001$), so a more reliable composite was created by averaging the discipline scales across grades (α = .79). Although the composite rating ranged from 1.00 (never physically disciplined) to 3.83 (frequently physically disciplined across years and types of physical discipline), a mean composite rating of 1.41 indicated that, on average, adolescents were never or rarely physically disciplined.

Adolescent externalizing behaviors—In grade 11, seven indicators of adolescent externalizing behavior problems were assessed. Mothers completed the well-validated Child Behavior Checklist (CBCL; Achenbach, 1991a), and adolescents completed the comparable Youth Self Report version (YSR; Achenbach, 1991b). The Externalizing subscales were used in the present investigation (α = .91 and .88 for mothers and adolescents, respectively). Each of 33 items for the CBCL and 30 items for the YSR was rated on a 3-point scale (0 = not true, 1 = somewhat or sometimes true, 2 = very true or often true). The items were summed to create the scales.

Mothers and adolescents also independently completed reactive and proactive aggression questionnaires. The parent version of this instrument was adapted from a version that has been administered to teachers (Dodge & Coie, 1987) and includes 6 items assessing reactive (e.g., 'When my child has been teased or threatened, she gets angry easily and strikes back') and proactive (e.g., 'My child uses physical force in order to dominate other kids') aggression. Mothers rated how true each item is for their child on a 5-point scale (1 = never true, 5 = always true). Reactive and proactive aggression items were averaged to create a scale (α = .80). Adolescents completed an expanded version of this measure with 26 items measuring reactive (e.g., 'How often have you hit others to defend yourself') and proactive (e.g., 'How often have you used physical force to get others to do what you want') aggression. For each item, adolescents rated on a 5-point scale how often they had behaved in that way (0 = never, 4 = always or almost always). Reactive and proactive aggression items were averaged to create a scale (α = .90). Results reported below did not change when separate measures of reactive and proactive aggression were used instead of the composite variables.

Finally, adolescents completed the Adolescent Behavior Questionnaire to indicate the frequency with which they engaged in a series of problem behaviors. The Violence subscale was the average of 11 items (α = .85) reflecting how many times the adolescent used intimidation, was physically cruel to people, was physically cruel to animals, carried a weapon for defense, started fights, got in fights, threatened others with a weapon, used a weapon to cause harm, used a weapon to get things, fought in a gang, and forced sexual contact. The School Trouble index was the average of 3 items reflecting how many times the adolescent had been suspended in-school, suspended out-of-school, and expelled from school (α = .35); note that the alpha for these items would be expected to be low because the items represent alternative responses to school problems. The Police Trouble subscale (α = .74) was the average of 3 items reflecting how many times the adolescent had been questioned by the police, brought to the police station, and arrested. Outliers on these three measures of the frequency of serious problem behaviors were recoded to the highest non-outlying value.

Results

Preliminary analyses

Descriptive statistics and bivariate correlations among the measures are shown in Table 1. The number of cases available for analyses varied somewhat based on the year the data were collected (i.e., pre-kindergarten, grades 6 and 8, or grade 11) and the respondent (i.e., mother vs. adolescent). European American participants were more likely than African American participants to have complete data by grade 11, but participants with complete data versus those with some missing data by grade 11 did not differ on measures of socioeconomic status, single-parent status, or mothers' reports of children's externalizing behaviors in kindergarten. As shown, African American mothers reported higher levels of physical discipline both when their children were in kindergarten and when they were in sixth and eighth grade. Mothers reported using less physical discipline with daughters than with sons, if they were married, or if they were of higher socioeconomic status. The experience of physical discipline was moderately stable from kindergarten through adolescence. Not surprisingly, the indicators of externalizing

behavior problems in grade 11 were positively correlated with one another. Correlations between physical discipline and other variables are shown separately by race in Table 2. The correlations show positive associations between physical discipline and adolescent problem behavior in the European American group but negligible or even negative associations between the same variables in the African American group.

Race as a moderator of the link between physical discipline and externalizing behaviors

A series of hierarchical linear regressions was conducted entering race, child gender, parent marital status, SES, difficult temperament, unadaptability, and resistance to control (step 1), physical discipline (step 2), and the physical discipline × race interaction (step 3). Preliminary regressions included a fourth step with the physical discipline × race × child gender interaction; none of the three-way interactions was significant. Preliminary analyses were also conducted with grade 11 SES rather than kindergarten SES as a control variable (the correlation between SES at these two time points was .70). Controlling for grade 11 SES did not change the substantive findings; the analyses below control for kindergarten SES to include an SES measure that precedes or is concurrent with the discipline measures as well as the externalizing behavior measures. Analyses were conducted separately for early (i.e., pre-kindergarten) and later (i.e., grades 6 and 8) physical discipline. Results of these regressions are summarized in Table 3. Betas shown in the table are for the step at which each predictor was entered. With a few exceptions that are summarized below, the betas did not change substantially with the addition of variables in later steps.

As shown, there were no main effects of race on any grade 11 externalizing behaviors at step 1. However, after entering the effects of early physical discipline and the early discipline × race interaction, the main effect of race became significant in the prediction of grade 11 adolescent-reported levels of reactive and proactive aggression; after entering the effects of adolescent physical discipline and the adolescent physical discipline × race interaction, the main effect of race became significant in the prediction of adolescent-reported violence and police trouble, with African American adolescents higher than European American adolescents on the externalizing behaviors. There were significant main effects of early physical discipline on mothers' reports of adolescents' CBCL externalizing behaviors and mothers' reports of adolescents' reactive and proactive aggression. There were significant main effects of later physical discipline on mothers' reports of adolescents' CBCL externalizing behaviors and adolescents' reports of police trouble, although the latter was not significant after entering the adolescent physical discipline × race interaction.

The pattern involving the physical discipline × race interactions was more consistent both across reporters and over time. There was a significant statistical interaction between physical discipline experienced prior to kindergarten and race in the prediction of three of the seven adolescent outcome variables, including adolescents' reports of grade 11 YSR externalizing behavior, school trouble, and police trouble. There was a significant interaction between physical discipline experienced during sixth and eighth grades and race in the prediction of all seven adolescent outcome variables, including adolescents' reports of grade 11 YSR externalizing behavior, reactive/proactive aggression, violence, school trouble, and police trouble and mothers' reports of adolescents' CBCL externalizing behavior and reactive/proactive aggression.

Teacher reports of externalizing behavior problems were not available for grade 11 but were available from grade 8 (the last time point at which teachers' assessments were collected). Regressions comparable to those reported for grade 11 adolescent and mother reported outcomes were conducted using grade 8 teachers' reports on the Teacher Report Form (Achenbach, 1991c). The early discipline × race and adolescent discipline × race interactions in these regressions were not significant. To explore early adolescent externalizing behaviors

further, we conducted comparable analyses using mother-reported externalizing behaviors from grade 8; the interaction terms in these regressions also were not significant. Adolescent-reported externalizing behavior was not assessed in grade 8 but was assessed in grade 9. Significant interaction terms predicting grade 9 adolescent-report YSR externalizing mirrored the findings predicting grade 11 adolescent-reported YSR externalizing.

To understand better the discipline × race interactions predicting grade 11 outcomes, we calculated regression slopes (see Aiken & West, 1991; Jaccard, Turrisi, & Wan, 1990) showing the association between discipline and externalizing behaviors separately for the European American and African American adolescents, controlling for child gender, parent marital status, SES, difficult temperament, unadaptability, and resistance to control. As shown in Table 4, early and later physical discipline were generally positively related to grade 11 externalizing behaviors for European American adolescents but were generally negatively related for African American adolescents.

To follow up on this overall pattern of race differences in associations between physical discipline and different externalizing behaviors, we conducted two additional regression analyses. These regressions predicted a composite measure of externalizing behaviors created by standardizing and averaging the seven different measures of externalizing behaviors and were conducted separately for early versus later physical discipline. In these regressions, the early physical discipline × race and later physical discipline × race interactions were significant ($\beta = -.14$, $p < .01$ and $\beta = -.24$, $p < .001$ for early and later discipline, respectively). The calculated slopes showed that both early and later physical discipline were significantly positively related to grade 11 externalizing behaviors for European American adolescents (early discipline slope = .13; later discipline slope = .20; $p < .05$ or better) but negatively related to grade 11 externalizing behaviors for African American adolescents (early discipline slope = −.10, ns; later discipline slope = −.47, $p < .05$).

The role of socioeconomic status and neighborhood safety—Although we controlled for the main effect of socioeconomic status in all analyses, it is still possible that the discipline × race interactions reflect interactions of discipline with socioeconomic status. To investigate this possibility we added discipline × socioeconomic status interactions to the third step of each of the regressions reported above; only one of these interactions was significant: adolescent discipline × socioeconomic status in the prediction of grade 11 violence. However, after including the early childhood discipline × socioeconomic status interaction, the early discipline × race interaction was no longer a significant predictor of YSR externalizing or police trouble; the early discipline × race interaction remained a significant predictor of school trouble. After including the early adolescent discipline × socioeconomic status interaction, the early adolescent discipline × race interaction was no longer a significant predictor of YSR externalizing or violence but remained a significant or marginally significant predictor of the other five measures of grade 11 externalizing behavior problems. Thus, although some of the discipline × race interaction effects were attenuated by the inclusion of discipline × socioeconomic status interactions, the moderating role of ethnicity in the association between physical discipline and subsequent externalizing behaviors could not be explained away by socioeconomic effects.

An additional possibility is that socioeconomic status is a less relevant control variable and moderator than is perceived neighborhood safety (see Pettit, Bates, & Dodge, 1997), which may be a better indicator of a cultural context in which physical discipline occurs. We re-ran the regressions, substituting mothers' reports of neighborhood safety for socioeconomic status. None of the early discipline × neighborhood safety interactions was significant; one of the seven adolescent discipline × neighborhood safety interactions was significant ($\beta = -.13$, $p < .05$, predicting mother reported reactive/proactive aggression). For this interaction, there was

a significant positive association between physical discipline and reactive/proactive aggression in neighborhoods above the median in safety but a nonsignificant negative association between physical discipline and reactive/proactive aggression in neighborhoods below the median in safety. After controlling for neighborhood safety and entering the early discipline × neighborhood safety interaction, the previously significant early discipline × race interactions predicting YSR externalizing and police trouble were no longer significant, but the interaction predicting school trouble remained significant. Six of the seven previously significant adolescent discipline × race interactions remained significant; one (predicting school trouble) was no longer significant. Thus, although some of the discipline × race interaction effects were attenuated by the inclusion of discipline × neighborhood safety interactions, ethnic differences in effects of physical discipline could not be entirely explained away by the inclusion of information about neighborhood safety.

Discussion

Our results support the conclusion that the experience of physical discipline in the first five years of life and during early adolescence is associated with higher levels of externalizing behavior problems in grade 11 for European American adolescents, but with lower levels of behavior problems for African American adolescents. These results were consistent for boys and girls; held after controlling for parents' marital status, socioeconomic status, and child temperament; and could not be explained away by interactions of physical discipline with socioeconomic status or neighborhood safety. These findings replicate and extend those of Deater-Deckard et al. (1996).

We found that African American mothers reported using physical discipline more often during both developmental periods than did European American mothers, even controlling for socioeconomic status, which is consistent with reports from other studies (Day et al., 1998; Giles-Sims et al., 1995). Also consistent with other studies (e.g., Day et al., 1998), it is important to note that adolescents in this sample were, on average, rarely or never physically disciplined. A variety of factors may lead parents from different groups to employ different parenting strategies. These factors may have cultural roots but also may include more family-proximal stressors and beliefs. Pinderhughes, Dodge, Bates, Pettit, and Zelli (2000) found that mothers' and fathers' use of physical punishment is predictable from a family context of stress or parents' worries that their child is turning into a hostile aggressor whose future is at risk. These family-context factors also differed across ethnic groups and fully accounted for the ethnic difference in physical punishment. That is, if a parent is under stress or believes that his or her child is growing up dangerously, that parent will be likely to employ physical punishment to deter those negative outcomes. African American families experience stress and worry to a heightened degree (McLoyd, 1990), thus accounting for their tendency to use physical punishment (Pinderhughes et al., 2000). In sum, it appears that ethnic differences in the decision to employ physical punishment can be explained by the family context.

Researchers have investigated how different ecological niches contribute to parents' attitudes, practices, and goals in raising their children and how these may be differentially effective depending on the cultural context in which they are situated (Garcia-Coll & Magnuson, 1999). As several scholars have noted, different parenting styles may be adaptive for different ethnic groups depending on these groups' family characteristics, assimilation experiences, broader cultural contexts, and parents' socialization goals (e.g., Bulcroft, Carmody, & Bulcroft, 1996; Ogbu, 1985). Gunnoe and Mariner (1997) have argued that the *context* in which spanking occurs is more important than spanking per se in predicting its effects on children's development. Consistent with this perspective, in parenting narratives analyzed by Mosby, Rawls, Meehan, Mays, and Pettinari (1999), parents and elders within the African American

community argued that physical discipline was a more effective method of discipline than was reasoning but that teaching, and not anger, must accompany the physical discipline.

It is possible that African American children regard spanking as a legitimate, albeit painful, parenting practice that is carried out with their best interests at heart, whereas European American children view spanking as a scary experience in which their parents are out of control. For example, Graziano and Hamblen (1996) reported that 85% of the middle-class, primarily white, parents in their sample reported experiencing moderate to high levels of anger, remorse, and agitation when disciplining their children. Furthermore, Straus (1996) found that 54% of mothers in a Minnesota sample reported that in over half of the times in which they had used physical discipline, it was the wrong strategy to have used. Ethnic differences in the meaning that children attach to being spanked may explain why physical discipline is related differently to their subsequent externalizing behavior. It has been hypothesized, for example, that African American children may ascribe meaning to spanking as a legitimate expression of parental authority,' whereas European American children may regard it as an 'act of interpersonal aggression' (Gunnoe & Mariner, 1997, p. 768).

The findings of these studies support a cultural context perspective. Given the cultural context for European American families, physical punishment of a child is indeed associated with later externalizing problems. Given the context for African American families, however, parents' employment of sub-abuse-levels of physical punishment is not associated with long-term adverse externalizing problems. Instead, for African American children, physical punishment is related to *fewer* externalizing behavior problems. This pattern of findings held for both developmental periods but was more consistent across outcomes for physical discipline administered during early adolescence than for physical discipline during the child's first five years of life. Later physical discipline appears to be more protective for African American adolescents than does early physical discipline. This finding is interesting from a developmental perspective. Although the possibility remains open to future empirical tests, this finding could be interpreted as meaning that as adolescents' cognitive processing becomes more sophisticated, they are better able to interpret parents' use of physical discipline as an appropriate parenting strategy when it is regarded in that light within a cultural community.

This perspective highlights the need to embed the study of parenting in family and cultural contexts. Rohner's (1986) parental acceptance-rejection theory suggests that if children interpret their parents' behavior as rejection, it will have deleterious effects on their adjustment. Indeed, in one empirical investigation of this theory, Rohner, Bourque, and Elordi (1996) found that children's perceptions of the harshness and justness of their parents' physical punishment did not have direct effects on their psychological adjustment; instead, these effects were fully mediated by children's perceptions of their parents' acceptance and rejection. Thus, it appears that the effect of punishment depends on the context in which it is employed and the meaning that it delivers for the parent and child. We found preliminary support for this position in the present study in demonstrating that socioeconomic status and neighborhood safety attenuated the association between physical discipline and some subsequent externalizing behaviors.

A limitation of some of the research that has documented associations between physical discipline and externalizing problems is that physical discipline has not been distinguished from physical abuse. For example, items about being thrown against a wall and hit with a closed fist have sometimes been combined with items about spanking to create scales of physical discipline (e.g., Swinford, DeMaris, Cernkovich, & Giordano, 2000), but these scales may more accurately reflect abuse than discipline. We must be clear that in the present study we have focused on milder forms of physical discipline, not abuse. In other work with the same sample we have found that physical abuse in the first five years of life elevated the risk of psychological, behavioral, and academic adjustment problems in grade 11 for African

American as well as European American adolescents; when there were race differences, early physical abuse had more detrimental effects on African American than European American adolescents (Lansford et al., 2002). Thus, it is important to recognize that the findings reported here apply to physical *discipline* rather than physical *abuse*.

The developmental implications of these findings are also noteworthy. Constructs were assessed at four time points: pre-kindergarten (ethnicity, child gender, parent marital status, SES, difficult temperament, unadaptability, resistance to control, and physical discipline), grade 6 (neighborhood safety, physical discipline), grade 8 (physical discipline), and grade 11 (externalizing behaviors). Assessment of the control variables either concurrently with or prior to the assessment of physical discipline reduces the chance that findings are accounted for by demographic or temperament effects on physical discipline. Furthermore, assessment of externalizing behaviors after the assessment of physical discipline lends temporal support to the directional hypothesis that physical discipline affects externalizing behaviors. We found even stronger evidence for ethnic differences in effects of physical discipline using measures of adolescent physical discipline than measures of pre-kindergarten physical discipline. Although replication of this finding is needed, it is possible that the cognitive processing required to interpret parents' use of physical discipline might become more sophisticated with age. In addition, it may be that as children are exposed to more socialization over time, they become more like the adults around them in terms of norms and beliefs.

Limitations, directions for future research, and conclusions

Although many interactions between race and physical discipline were significant, effect sizes were modest. After entering the main effects of the control variables and physical discipline, significant interactions explained as little as 1% of additional variance in grade 11 externalizing behaviors. McClelland and Judd (1993) have argued that effect sizes as small as these may be practically and theoretically important. Furthermore, the consistency across analyses and our inability to explain away these interactions by adding other potentially explanatory effects such as socioeconomic status and neighborhood safety are noteworthy.

The area in which our findings were not consistent was in the prediction of teacher- and mother-reported externalizing behaviors in grade 8. Although grade 11 outcomes were the main focus of this paper, we conducted exploratory analyses with grade 8 outcomes because this was the last time point at which teachers' reports were obtained. These results do not replicate the Deater-Deckard et al. (1996) finding of race differences in effects of early physical discipline on teacher-reported externalizing behavior in grade 3. One reason for this lack of replication may be that from kindergarten through grade 7, teachers describe increasing levels of externalizing problems for African American but not European American children (Keiley, Bates, Dodge, & Pettit, 2000). This overall pattern of change over time in teachers' views of African American and European American children's externalizing behaviors may mask ethnic differences in effects of physical discipline that teachers perceived earlier in elementary school. Deater-Deckard et al. (1996) did not find ethnic differences in effects of early physical discipline on mother-reported externalizing behavior in grade 3, nor did we find such effects in grade 8. It is interesting that ethnic differences in effects of adolescent discipline on mother-reported externalizing behaviors emerged by grade 11. Future research will be needed to help delineate parameters under which such ethnic differences are detected.

We have focused on physical discipline in relation to the development of externalizing behavior problems only. Others have reported that physical discipline also affects internalizing problems such as depression and suicidal ideation (Straus, 1995). Whether race moderates associations between physical discipline and later internalizing behaviors, academic achievement, prosocial behavior, and other domains of children's and adolescents' adjustment is a question remaining for future research.

The design of our study did not enable us to examine whether the results reflected biological relatedness between parents and their children. It is possible that the positive association between European American parents' use of physical discipline and their children's externalizing behavior problems is the result of a biological predisposition for impulsivity; for parents, this may take the form of ignoring social norms for their reference group and using physical discipline in the heat of anger, whereas for children, this may take the form of externalizing behavior problems. If African American parents, on the other hand, are not reacting with impulsive anger but instead are using physical discipline as a planned parenting strategy acceptable to their cultural group, their children's lower externalizing problems may also be related to dispositional characteristics shared with their parents. Future research using behavioral genetics designs will help elucidate these contributions.

It is important to recognize that despite differences across ethnic groups, there is also large within-group variability in parents' discipline strategies (see McLoyd, Cauce, Takeuchi, & Wilson, 2000, for a review). Ethnicity is only one of a number of factors that influence parents' use of physical discipline and its effects on children's subsequent externalizing behaviors (Pinderhughes et al., 2000; Simons, Wu, Lin, Gordon, & Conger, 2000). Future research would benefit from an examination of factors within different ethnic groups that may mediate or moderate associations between physical discipline and subsequent adjustment.

An additional question is *why* there are race differences in the effects of physical discipline on subsequent externalizing problems. To address this question, future research should focus on understanding mechanisms through which physical discipline might increase European Americans' risk for externalizing behaviors and decrease African Americans' risk. A better understanding of these mechanisms would likely lead to clearer explanations regarding how African American adolescents are learning *not* to use violence to solve problems when their parents use physical punishment to discipline them. As described above, one mechanism may be children's cognitive interpretations of the experience of physical discipline. Although we had information from children and their mothers about the children's adjustment in grade 11, we had data about physical discipline only from mothers and, thus, no information about children's interpretations of these discipline experiences.

We want to be clear that we are not advocating the use of spanking. Other strategies such as using time-outs, removing privileges, and rewarding desirable behaviors may also be effective child-rearing strategies for parents (Roberts & Powers, 1990). However, our results do support the position that there are ethnic differences in long-term effects of physical discipline on externalizing behavior problems. These findings highlight the importance both of investigating cultural differences in research on child development and of cultural sensitivity when making recommendations regarding optimal parenting practices.

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Table 1

Bivariate correlations and descriptive statistics

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	*M*	SD
1. Race[a]	–																	83% E.A.
2. Gender[b]	.03	–																52% male
3. Parent marital status[c]	−.32***	−.06	–															26% 2 parents
4. Socioeconomic status[d]	−.40***	−.05	.37***	–													39.61	14.00
5. Difficult temperament[d]	.07	−.02	.02	.00	–												3.29	.94
6. Unadaptable[d]	.13**	.00	−.03	−.03	.37***	–											2.98	1.08
7. Resistance to control[d]	−.01	−.08	.01	−.08	.50***	.18***	–										3.58	1.13
8. Neighborhood unsafe[d]	43***	.04	−.33***	−.39***	.11*	.10*	.12*	–									1.98	.84
9. Early physical discipline[d]	14***	−.09*	−.08	−24***	11**	.09*	.20***	.25***	–								2.60	.96
10. Later physical discipline[d]	.27***	−.06	−.17***	−.29***	.08	.06	.10*	.31***	.39***	–							1.41	.46
11. YSR externalizing[e]	.03	−.02	−.15**	−.09	−.01	−.10*	.11*	.00	.07	04	–						11.63	7.49
12. CBCL externalizing[d]	.15**	−.01	− .24***	−.24***	.11*	−.03	.19***	.18***	.20***	22***	.45***	–					8.29	7.75
13. Reactive/Proactive aggression[e]	.16**	−.29***	−.19***	−.14**	.02	−.02	.06	.07	.12*	16**	.64***	.27***	–				.70	.47
14. Reactive/Proactive aggression[d]	.03	−.05	−.13**	−.19***	.08	−.05	.20***	.11*	.23***	14**	.38***	54***	.29***	–			1.72	.59
15. Violence[e]	.13**	−.20***	−.16**	−.11*	.01	−.09	.11*	.08	.07	07	.53***	.30***	.60***	.27***	–		5.64	10.47
16. School trouble[e]	.16**	−.09*	−.27***	−.18***	.05	−.01	.09*	.13**	.15**	09	.41***	.32***	.39***	.25***	48***	–	3.59	7.54
17. Police trouble[e]	.15**	−.16**	−.18***	−.15**	.01	−.10*	.05	.15**	.06	00	.45***	.28***	44***	.28***	.51***	.39***	1.61	3.79

Note: Sample size for correlations ranges from 376 to 574.

[a] Coded 0 = European American, 1 = African American.

[b] Coded 1 = male, 2 = female.

[c] Coded 1 = single parent, 2 = two parents.

[d] Mother report.

[e] Adolescent report.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 2

Bivariate correlations between discipline and other constructs separately by race

	Early physical discipline		Later physical discipline	
Variable	**European American**	**African American**	**European American**	**African American**
Gender[a]	−.12*	−.02	−.10*	.07
Parent marital status[b]	−.04	−.05	−.04	−.26*
Socioeconomic status[c]	−.21***	−.21*	−.21***	−.10
Difficult temperament[c]	.08	.19	.07	.00
Unadaptable[c]	.03	.24*	.03	.03
Resistance to control[c]	.19***	.25*	.14**	−.03
Neighborhood unsafe[c]	.25***	.06	.20***	.21
YSR externalizing[d]	.12*	−.06	.09	−.19
CBCL externalizing[c]	.21***	.07	.24***	−.03
Reactive/Proactive aggression[d]	.14**	−.07	.17**	−.16
Reactive/Proactive aggression[c]	.24***	.17	.20***	−.10
Violence[d]	.10	−.14	.13*	−.26*
School trouble[d]	.22***	−.17	.12*	−.19
Police trouble[d]	.13*	−.18	.03	−.24

[a] Coded 1 = male, 2 = female.

[b] Coded 1 = single parent, 2 = two parents.

[c] Mother report.

[d] Adolescent report.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 3

Regressions examining race as a moderator of the link between physical discipline and adolescent externalizing behaviors in Grade 11

		YSR externalizing[a]		CBCL externalizing[b]		Reactive/Proactive aggression[a]		Reactive/Proactive aggression[b]		Violence[a]		School trouble[a]		Police trouble[a]	
Step	**Predictor**	**β**	**ΔR^2**	**β**	**ΔR^2**	**β**	**ΔR^2**	**β**	**ΔR^2**	**β**	**ΔR^2**	**β**	**ΔR^2**	**β**	**ΔR^2**
1	Race	−.01	.06**	.01	.12***	.10	.14***	−.07	.09***	.05	.10***	.06	.10***	.06	.08***
	Gender	−.03		.00		−.30***		−.05		−.21***		−.11*		−.16**	
	Parent marital status	−.16**		−.18**		−.11*		−.11*		−.11*		−.19***		−.12*	
	SES	−.02		−.16**		−.07		−.17**		−.06		−.10		−.08	
	Difficult temperament	−.04		.06		.01		.03		−.03		.00		.00	
	Unadaptable	−.13*		−.08		−.04		−.10		−.12*		−.06		−.13*	
	Resistance to control	.14*		.14*		.04		.19**		.11		.08		.02	
2	Early physical discipline	.05	.00	.17**	.03**	.06	.00	.16**	.02**	.03	.00	.09	.01	.02	.00
3	Early discipline × Race	−.12*	.01*	−.07	.00	−.07	.00	−.01	.00	−.09	.01	−.17**	.02**	−.12*	.01*
2	Adolescent physical discipline	.00	.00	.14**	.02**	.06	.00	.08	.01	.00	.00	−.02	.00	−.13*	.01*
3	Adolescent discipline × Race	−.16*	.02*	−.14*	.01*	−.16*	.01*	−.15*	.01*	−.21**	.03**	−.16*	.02*	−.18**	.02**

Note: Sample size ranges from 362 to 411.

[a] Adolescent reported.

[b] Mother reported.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 4

Regression slopes depicting physical discipline × race interactions predicting externalizing behaviors

	Early physical discipline[b]		Later physical discipline[b]	
Outcome	**European American**	**African American**	**European American**	**African American**
1. YSR externalizing[a]	.69	−1.37	1.44	−3.65*
2. CBCL externalizing[b]	1.46***	.19	3.19***	−1.11
3. Reactive/Proactive aggression[a]	.04	−.04	.13*	−.18
4. Reactive/Proactive aggression[b]	.09**	−.08	.17*	−.19
5. Violence[a]	.61	−1.45	2.12	−6.75
6. School trouble[a]	1.12**	−1.66*	.88	−3.99*
7. Police trouble[a]	.26	−.80	−.39	−3.11***

Note: Sample size ranges from 308 to 342 European Americans and from 51 to 69 African Americans. Controls for child gender, parent marital status, SES, difficult temperament, unadaptability, and resistance to control.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

[a] Adolescent reported.

[b] Mother reported.