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Parental Endorsement of Spanking and Children's Internalizing and Externalizing Problems in African American and Hispanic Families

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Abstract

This study assessed prospective, bidirectional associations between maternal endorsement of spanking and children's internalizing and externalizing behavior problems in low-income urban African American and Hispanic ($N = 592$) families drawn from the *Three City Study*. Children in sample families were followed from early childhood through middle childhood with three sets of interviews and assessments at ages 3, 4, and 9 years. Cross-lagged path analyses tested longitudinal bidirectional associations between parental endorsement of spanking and children's internalizing and externalizing problems, with multi-group comparisons employed to test group differences between race/ethnic groups. African American and Hispanic mothers showed similar endorsements of spanking. Results suggest that associations between spanking endorsement and child functioning were due primarily to parenting effects, with spanking predicting changes in children's behaviors, rather than child evocative effects, with limited evidence of child behaviors predicting changes in parental spanking. Maternal spanking endorsement predicted short-term decreases in children's internalizing problems in early childhood, but over the longer term spanking was associated with increased internalizing and externalizing problems for both African American and Hispanic children in middle childhood among economically disadvantaged families.

Keywords

corporal punishment; spanking; children's behavior problems; transactional models

There is consensus in the literature that spanking is adversely associated with child functioning, particularly children's aggressive behaviors and conduct problems (Gershoff, 2002). Despite strong bodies of research and recommendations from the American Academy of Pediatrics (1998) discouraging such behavior, spanking and other forms of corporal punishment continue to be widely-endorsed disciplinary tactics. In fact, recent statistics show that nearly 80% of American preschool children are slapped or spanked (Zolotor, Theodore, Runyan, Chang, & Laskey, 2011). Given the dichotomy between the recommendations of professional organizations and the practices of parents, continued

examination of parents' use of spanking and associations with children's socio-emotional functioning is clearly warranted.

Much of the research on the repercussions of spanking focuses on children's externalizing behaviors and is based on propositions from social learning theory that parents' use of physical discipline will teach children behavioral scripts of aggressiveness which they will then employ themselves (Deater-Deckard & Dodge, 1997). That is, research has presumed that correlations between spanking and children's behaviors derive from a causal link in which parental spanking leads to increases in children's externalizing behavior problems. Recently, studies on parental spanking have begun to employ transactional theoretical models (Berlin et al., 2009; Gershoff, Lansford, Sexton, Davis-Kean, & Sameroff, 2012; Lansford et al., 2011; Maguire-Jack, Grooms, & Berger, 2012) arguing that associations between parent and child behaviors may be driven at least in part by the influence of child characteristics and behaviors on parenting practices (Bell, 1968; Sameroff, 2009). Using both nationally representative and low-income community samples with infants to early adolescents, studies employing transactional models show some support for reciprocal relations between corporal punishment and children's externalizing problems (Berlin et al., 2009; Gershoff et al., 2012; Lansford et al., 2011; Lansford, Wager, Bates, Dodge et al. 2012; Lansford, Wager, Bates, Pettit et al. 2012; Maguire-Jack et al., 2012). These studies generally reveal that, across periods of time ranging from three to four years, spanking is both predicted by children's early externalizing problems and predictive of later externalizing problems. Although the increasing use of longitudinal cross-lagged models represents a methodological improvement over unidirectional OLS regression analyses (MacKenzie, Nicklas, Waldfogel, & Brooks-Gunn, 2012; Taylor, Manganello, Lee, & Rice, 2010), there remain important conceptual limitations of the extant literature linking parental spanking and child functioning.

One limitation of the existing literature on spanking is the lack of attention to children's internalizing problems. Whereas social learning theory proposes that spanking leads to children's increased use of aggression, attachment and emotional security theories suggest that children who experience harsh parenting may generalize their negative representations of parent-child interactions to themselves and to other interpersonal situations, thereby developing less emotional security and greater levels of sadness or anxiety (Davies, Harold, Goeke-Morey, & Cummings, 2002). This model proposes that parental spanking may lead to an increase in children's internalizing problems. There is less of a theoretical rationale for child evocative effects in this realm, although it is plausible that children who exhibit behaviors such as sullenness, fearfulness, or a lack of response to parental requests or overtures may increase parental frustration, eventually evoking harsher disciplinary techniques from parents. Surprisingly few studies have addressed either the role of children's internalizing problems in evoking corporal punishment or the role of spanking in predicting heightened internalizing problems. The limited research addressing these issues shows that spanking predicted higher internalizing problems in both early childhood and early adolescence (Christie-Mizell, Pryor, & Grossman, 2008; Maguire-Jack et al., 2012; McKee et al., 2007). Children's anxiety has been associated with lower parental warmth (Moore, Whaley, & Sigman, 2004), but also with lower, rather than higher, rates of parental spanking (Grogan-Kaylor & Otis, 2007). Only one study to date has explored relations between spanking and internalizing problems in cross-lagged models; in this diverse low-income sample, internalizing problems were not found to evoke increased parental spanking (Maguire-Jack et al., 2012). Together, this literature suggests that spanking will promote but not respond to internalizing problems, but the sparse evidence on reciprocal associations between spanking and internalizing behaviors warrants further examination.

A second limitation of the extant research considers the developmental timing of reciprocal associations between spanking and children's functioning. On the whole, research on spanking and corporal punishment has studied children ranging in age from infancy through adolescence, but there is limited consensus about when spanking is most salient for children or the extent to which the consequences of spanking might last over time. The lack of converging evidence on this issue may be reflected in the short time periods across which many studies of parental spanking occur, primarily spanning one to four years and focusing on links from infancy to early childhood (Berlin et al., 2009; Maguire-Jack et al., 2012) or across middle childhood (Gershoff et al., 2012; Lansford et al., 2011; Lansford, Wager, Bates, Pettit et al. 2012). Only one study by Lansford and colleagues (2004) explored long-term associations between spanking and children's functioning in a community sample by computing early childhood (kindergarten) and late childhood (grades 6 and 8) parental physical discipline composite variables. Results revealed that more physical discipline experienced in both early and late childhood predicted higher externalizing behaviors when youth were in 11th grade, with a stronger association for White in comparison to African American youth. Although this study explored long-term associations and racial/ethnic group differences, it neither addressed bidirectional associations between spanking and child behaviors, nor considered children's internalizing problems. In short, the extant literature has not adequately explored how bidirectional links between spanking and children's internalizing and externalizing problems evolve throughout early and into middle childhood, which are the primary developmental periods in which parents engage in spanking (Zolotor et al., 2011).

Relatedly, one of the ongoing debates in the literature on corporal punishment addresses whether there are cultural or racial/ethnic differences in parents' endorsement of spanking or in associations with children's functioning. Some studies find that spanking predicts heightened child externalizing across multiple racial/ethnic groups including European Americans, African Americans, and Hispanics (Berlin et al., 2009; Gershoff et al., 2012; McLoyd & Smith, 2002); other studies have reported null effects or protective associations with externalizing problems in African American children (Christie-Mizell et al., 2008; Deater-Deckard, Dodge, Bates, & Pettit, 1996; Horn, Joseph, & Cheng, 2004; Stacks, Oshio, Gerard & Roe, 2009; Lansford et al., 2011; Lansford, et al. 2012; Whaley, 2000) and Hispanic children (Slade & Wissow, 2004; Stacks et al., 2009). This literature suggests that parents' reasons for spanking and the repercussions of spanking may differ across racial/ethnic groups.

Differences in parents' use of spanking or in associations with children's functioning may be driven by a variety of factors, including cultural beliefs and contextual forces. For example, Pinderhughes and colleagues (Pinderhughes, Dodge, Bates, Pettit, & Amaldo, 2000) found that African Americans more strongly endorsed spanking as a parenting technique than whites (see also MacKenzie et al., 2011; Taylor, Hamvas & Paris, 2011). Similarly, results from two nationally representative studies showed that African American parents more strongly endorsed and frequently used spanking than White or Hispanic parents (Grogan-Kaylor & Otis, 2007; Slade & Wissow, 2004). On the other hand, these studies and others indicated that rates of spanking between White and Hispanic parents were not significantly different (MacKenzie et al., 2011). In an attempt to explain these findings, some have argued that African American parents' endorsements of spanking are driven by beliefs that stricter, physical discipline will help to prepare children to face discrimination and that within a context in which such parenting behaviors are seen as more normative, spanking may have less of a negative influence on children's behaviors (Thomas & Dettlaff, 2011). Much less attention has been paid to reasons for spanking among Hispanic families, but some research suggests that acculturation and nativity may play a role, with native-born U.S Hispanic mothers showing a higher propensity to spank (MacKenzie et al., 2011). However,

there is limited evidence from prior literature on whether parents from different racial/ethnic groups differ in other reasons for spanking, such as in response to children's characteristics or behaviors.

Furthermore, it remains unclear whether the more limited associations between spanking and children's behavior problems among African American families can be explained by norms associated with race/ethnicity *per se* (Gershoff et al., 2012; MacKenzie et al., 2012; Mosby, Rawls, Meehan, Mays & Pettinari, 1999; Taylor et al., 2011; Taylor, Rice, Newman, & DeJong, 2011) or by the influence of economic or contextual forces such as higher levels of community violence or economic stressors associated with poverty (Durant, 2008; Mosby et al., 1999; Pinderhughes et al., 2000; Thomas & Detlaff, 2011). Much of the research on group differences in parental disciplinary practices is limited to White and African American families and to samples with a broad range of economic resources, thus raising concerns over shared variance between race/ethnicity and family and community contexts of economic and social disadvantage. One way to begin to tease these issues apart is through the use of ethnically/racially diverse samples that share similar ecological and economic contexts.

The present study aims to contribute to the extant literature base on spanking and to address previous conceptual and methodological limitations by assessing short- and long-term prospective bidirectional associations between maternal endorsement of spanking and children's internalizing and externalizing problems. Analyses tested differences in associations between African American and Hispanic families using a representative sample of low-income families in high poverty urban neighborhoods to better address race/ethnic differences, controlling for economic and contextual disparities. Based on prior research, we expected stronger bidirectional associations between spanking and externalizing behaviors than between spanking and internalizing behaviors, and expected that short-term associations would be stronger than longer-term associations. Due to limited prior work comparing African American and Hispanic families which adequately controlled for economic and contextual differences, we did not have explicit hypotheses regarding differences between these groups.

Method

Data were drawn from the *Three City Study*, a longitudinal, multi-method study of children and families living in Boston, Chicago, and San Antonio (Winston et al., 1999). The survey component of the *Three City Study* selected a stratified, randomly drawn sample of approximately 2,400 poor and low-income (i.e., family income of 200% or less of poverty line) children and adolescents and their primary female caregivers (over 90% biological mothers) living in concentrated poverty neighborhoods in the three cities. Interviews were conducted in 1999 (screening response rate of 90% and interview response rate of 82.5%), 1½ years later in 2000/2001 (88% retention rate), and 4½ years later in 2005 (80% retention rate of wave 1 sample). Two-hour in-person interviews with mothers and child assessments were conducted in families' homes at each wave. This study received IRB approval from all universities and data collection firms involved following APA guidelines regarding informed consent of adults and informed assent of children, with small payments provided to participating families.

The analytic sample for the present study ($N = 581$) focused on children aged 2 to 4 years in the first wave. This age group was chosen both because early childhood is the most common age for experiencing corporal punishment (Zolotor et al., 2011), and because the relevant child functioning measures were not collected for infants. The analytic sample was restricted to children who resided with their biological mothers in all waves (excluding 90 children

who lived with other relatives or in foster care), and to families identified as African American ($n = 270$) or Hispanic ($n = 311$), excluding white and other race/ethnicities ($n = 55$) because these subsamples were too small to analyze separately.

Measures

Spanking—Mothers' endorsement of spanking was assessed at each wave with two items from the Parent Styles Scale (Shumow, Vandell, & Posner, 1998), "sometimes the child needs a good spanking to help him/her understand" and "I spank the child when he/she has done something really wrong" (1 = *definitely true* to 4 = *definitely false*). Items were strongly correlated within wave ($r = .62$ to $.66$, all $p < 0.001$) and were reversed and averaged such that higher scores indicate a greater endorsement of spanking. It is important to acknowledge that this measure taps into mothers' endorsement and engagement in spanking but does not address the numerical frequency (in terms of times per month, for example) that mothers spank their children. Reports on spanking frequency ("During the past 12 months, how often have you spanked or hit [child]? 1 = *almost every day* to 6 = *never*") were collected in the first two waves only, and hence could not be used in our longitudinal analyses. Correlations between this variable and our combined spanking endorsement variable were also strongly significant ($r = .38$ to $.46$, $p < 0.001$), supporting the validity of the spanking endorsement variable.

Children's functioning—Children's internalizing and externalizing problems were assessed at each wave using maternal reports on the age-appropriate full version of the Child Behavior Checklist (CBCL; Achenbach, 1991, 1992; Achenbach & Rescorla, 2001), a well-validated and commonly used measure of children's functioning. The CBCL externalizing subscale ($\alpha_{1-3} = .90$ to $.95$) captures aggression, destructive behaviors, and rule breaking, and the internalizing subscale ($\alpha_{1-3} = .83$ to $.95$) captures anxiety, depression, withdrawal, and somatic complaints. Standardized scores (t-scores) for each subscale were used as continuous measures of children's internalizing and externalizing functioning.

Covariates—Child and maternal demographic characteristics were included as covariates in all analyses. Child characteristics included child's age coded in months and child's gender (1 = *male*, 0 = *female*). Race/ethnicity was designated by mothers and coded as African American (1) or Hispanic (0). Maternal marital status was coded using two indicators to delineate married (1) or cohabiting (1) versus single (0). Maternal educational attainment was coded as a continuous variable (1 = *less than 8th grade* to 8 = *college degree or higher*). Other family characteristics, such as income and employment, were not significantly associated with variables of interest in this economically disadvantaged sample and were excluded from final models.

Statistical Methods

Prospective cross-lagged structural equation models, alternately termed cross-lagged path or autoregressive models, between spanking and children's internalizing and externalizing problems were tested using Mplus 6.0 (Muthén & Muthén, 2010). Path models can simultaneously analyze multiple concurrent and prospective associations between numerous variables, allowing assessment of bidirectional links between maternal spanking and children's functioning across the three waves of data (Asher, 1983). Hence, these models incorporate temporality and reverse causation, and also allow for the modeling of continuity within constructs, thus helping to control for potential bias due to unmeasured influences from genetic or environmental forces not assessed in the current study.

There was a moderate amount of missing data on the primary constructs of interest, ranging from 1 – 4% in wave 1 to 25% in wave 3, and a minimal amount of missing data on

covariates, ranging from 0% to 1%, levels that are deemed acceptable to use in methods that appropriately address missing data (Enders, 2010). Little's Chi Square test suggested that the data were missing completely at random, $\chi^2 = 84.46$, $df = 84$, $p = .47$. In order to address missing data concerns, analyses were estimated using full information maximum likelihood estimation (FIML), which produces unbiased parameter estimates using all of the observed information for each case and is preferred over multiple imputation in structural equation modeling (Enders, 2010). Analyses also employed population weights that adjust for sample stratification and differential response, making the sample representative of African American and Hispanic low-income children and families living in low-income neighborhoods in Boston, Chicago, and San Antonio.

Figure 1 presents our conceptual model. The model was specified to include both internalizing and externalizing problems, with the two domains of children's functioning permitted to covary within each wave. The primary paths of interest in the models are the cross-lagged paths linking maternal spanking and children's functioning between waves 1 and 2 and waves 2 and 3. Long-term cross-lagged paths linking wave 1 and wave 3 spanking and socio-emotional functioning were examined but were not statistically significant and diminished the quality of model fit and consequently were not included in the final models. In line with past literature, models allowed longitudinal short- and long-term within-construct paths for spanking and children's behaviors respectively (Berlin et al., 2009; Lansford et al., 2011, 2012; Maguire-Jack et al., 2012). Models also included covariates as predictors of both mother and child behaviors at all waves, allowing covariate paths to vary over the waves. These varying paths were included because associations might shift over time as children develop due to sleeper effects, re-emergence of earlier patterns of behaviors, or newly emerging or heightened correlations (e.g., differences between male and female children's externalizing problems may grow over time; Miner & Clark-Stewart, 2009). Allowing covariate paths to vary also significantly improved model fit.

The first SEM analysis assessed the cross-lagged path model for the full sample. Model fit was assessed using the chi-square statistic, which is sensitive to sample size; the Tucker-Lewis Index (TLI), a relative fit index in which values closer to 1.00 considered a good fit (Hu & Bentler, 1999); the comparative fit index (CFI), an incremental fit index in which values close to or greater than .95 demonstrate a superior fit (Hu & Bentler, 1999); the root mean square error of approximation (RMSEA), related to the complexity of the model and thus sensitive to the number of estimated parameters, in which values less than .05 suggest a superior fit (Browne & Cudeck, 1993); and the standardized root mean square residual, an absolute fit index in which values less than .06 indicate strong fit (Hu & Bentler, 1999). The second SEM analysis incorporated multiple group modeling techniques (Byrne, 2001) to test whether parameter estimates for the cross-lagged paths (between spanking and children's internalizing and externalizing problems) were significantly different across racial/ethnic groups. For these models, chi-square difference tests were conducted to identify statistically significant group differences using the Satorra-Bentler scaled chi-square test (Satorra & Bentler, 2001), which allows for difference testing in nested models that have been estimated using population weights.

Results

Table 1 presents weighted descriptives for the full sample as well as for the African American (41%) and Hispanic (59%) subsamples, with significant subgroup differences indicated with superscripts. Children averaged 3 years 5 months in wave 1, 4 years 10 months in wave 2, and 9 years 3 months in wave 3, and half were male. The majority of mothers (59%) were single, 35% were married, and 6% cohabiting with a partner. Mothers' average education level was a high school degree, and most families were poor, with an

average income 85% of the federal poverty line (data not shown). African American mothers had higher levels of education and were more likely to be single, whereas Hispanic mothers had higher rates of marriage.

Turning to the primary variables of interest, Table 1 indicates that within this urban economically disadvantaged sample, maternal endorsement of spanking did not differ significantly between African American and Hispanic families. Children's internalizing and externalizing scores were generally similar as well, with the exception that African American children received higher reports of both internalizing and externalizing problems in wave 2 than their Hispanic peers. Table 2 presents bivariate correlations between all study variables.

Cross-Lagged Path Model Assessing Spanking and Children's Behaviors

The full sample cross-lagged path model found that the data fit well with the conceptualized model, $\chi^2(16) = 43.78, p < 0.001$, CFI = .96, TLI = .77, RMSEA = .06, SRMR = .04. Table 3 presents the unstandardized and standardized estimates for the path coefficients of interest (covariate results available upon request), with the standardized estimates also shown in Figure 1. Covariances between internalizing and externalizing problems were strong, ranging from .47 to .77 across the waves (all $p < .001$). Results indicated significant continuity within both spanking endorsement and internalizing/externalizing problems. Adjusting for this within-construct continuity, results revealed that wave 1 spanking was not significantly associated with wave 2 externalizing, but wave 2 spanking predicted increased externalizing problems at wave 3 with a 1 standard deviation (SD) shift in spanking predicting a 0.22 SD increase in externalizing problems from wave 2 to wave 3 ($\beta = .22, p < .01$), reflecting a small negative longer-term effect of maternal spanking. No child evocative effects emerged, with children's externalizing problems not significantly predicting mothers' later spanking endorsement. Turning to cross-lagged paths with children's internalizing problems, adjusting for the significant continuity in both children's and maternal behaviors, results showed that higher spanking endorsement at wave 1 predicted decreased internalizing problems at wave 2 ($\beta = -.14, p < .05$), whereas spanking at wave 2 predicted an increase in children's internalizing problems at wave 3 ($\beta = .24, p < .01$). Again, no significant child evocative effects were found.

Differences between African American and Hispanic Families

Multiple group path analyses were conducted to test for differences in associations between maternal spanking endorsement and children's behaviors across African American and Hispanic families. Following Byrne's instructions (2001), a comparison of the unconstrained and fully constrained models using the Satorra-Bentler scaled chi-square test (Satorra & Bentler, 2001) revealed a statistically significant difference, $\Delta\chi^2 = 85.71, \Delta df = 62, p < .05$, indicating that African American and Hispanic families differed at the model level. Subsequent analyses focused solely on the cross-lagged paths of interest, constraining one path at a time to identify the sources of invariance. The final columns of Table 3 present coefficients from the models allowing paths to vary across groups. Results indicated that among both African Americans and Hispanics, spanking at wave 2 predicted increased externalizing behaviors among children at wave 3, with the paths of a similar size (0.18 and 0.28 SDs) according to the nonsignificant Satorra-Bentler Scaled χ^2 difference test. On the other hand, only among African Americans did we find child evocative effects, with child externalizing at wave 1 predicting an increase in spanking at wave 2 ($\beta = .28, p < .01$), a path that was not significant among Hispanics ($\beta = -.01, ns$). Constraining this path to be equivalent indicated a difference that did not meet standard levels of statistical significance according to the Satorra-Bentler Scaled χ^2 ($\Delta\chi^2 = 3.01, \Delta df = 1, p < .10$).

Turning to the paths related to internalizing, results revealed that only among Hispanics was spanking at wave 1 predictive of decreased internalizing problems among children at wave 2 ($\beta = -.23, p < .01$), with a nonsignificant path among African Americans ($\beta = .03, ns$). Again, the Satorra-Bentler Scaled χ^2 indicated that this difference did not meet standard significance levels ($\Delta\chi^2 = 2.69, \Delta df = 1, p < .10$). Among both groups the models showed that wave 2 spanking predicted heightened internalizing problems at wave 3, with nonsignificant differences between the coefficients. Child evocative effects related to internalizing behaviors were not found in either group, with no significant differences in paths.

Discussion

The current study adds to the literature on the implications of corporal punishment in diverse families in the U.S., both replicating and extending prior research that has reported associations between parental spanking and children's heightened behavior problems. This research extends prior work in four arenas. First, by considering both child evocative and parenting effects in longitudinal bidirectional models, results provided evidence that maternal endorsement of spanking is associated with changes in child functioning but does not, overall, appear to occur in response to children's behaviors. That is, higher levels of children's internalizing and externalizing problems did not predict increased maternal endorsement of spanking over time in the full sample. These findings are in contrast to numerous other studies on the reciprocal relations between spanking and children's externalizing which have found evidence of child evocative effects in diverse samples (Gershoff et al., 2012; Lansford, Wager, Bates, Dodge et al. 2012; Lansford, Wager, Bates, Pettit et al. 2012; Maguire-Jack et al., 2012). However, Berlin and colleagues (2009) also studied a solely low-income and racially diverse sample and failed to find significant evocative effects of child externalizing on parental spanking, suggesting, perhaps, that socioeconomic status may play a role in such relationships.

Second, this study added to the literature by addressing both children's internalizing and externalizing behavior problems in the same model, adjusting for the covariation between these related arenas of functioning. Third, by considering associations among maternal spanking and children's functioning over both shorter and longer prospective time periods from early through middle childhood, our research highlighted the complexity of developmental timing in these associations. Our results revealed that mothers' endorsement of spanking when children were 3 years of age predicted small but statistically significant short-term declines in internalizing problems by age 4, suggesting that spanking may serve as a relatively brief deterrent to young children's emotional problems (Jaffee, et al., 2004; Snyder, Cramer, A Frank, & Patterson, 2005). However, these short-term benefits were cancelled out by larger longer-term effects in which higher spanking endorsement at age 4 predicted increased internalizing problems and externalizing problems by age 9.

These results both replicate other studies finding negative links between corporal punishment and children's problem behaviors (Gershoff, 2002), and support social learning (Bandura, 1977), social control (Hirschi, 1969), and emotional attachment (Davies et al., 2002) theoretical models arguing that the use of physically hurtful and power-assertive parenting may control children's behavior in the short term, but also provides models of aggressive behaviors, limits internalization of positive interpersonal skills, and restricts emotional connections to parents and others among young children. During early childhood, when children's social scripts, emotional regulation, and social skills are developing rapidly, the use of corporal punishment may be particularly important, with long-term consequences for children's healthy functioning (National Research Council and Institute of Medicine, 2000). These findings also extend prior literature, in which only a handful of studies have

assessed potential associations between parents' spanking and children's internalizing problems, finding positive prospective links in early childhood (Maguire-Jack et al., 2012) and early adolescence (Christie-Mizell et al., 2008). And yet the switch in directionality of results related to children's internalizing in the current study leaves open questions of the relative role of developmental timing versus short and longer-term effects of parental spanking, important issues for future research to address.

The fourth contribution of this research was consideration of racial/ethnic differences in a representative sample of low-income urban families. The sampling framework, which limited the sample solely to low-income families in concentrated poverty urban neighborhoods, eased concerns regarding economic resources and contextual forces differentially influencing both the endorsement and effects of parental spanking behaviors. Overall, our results suggest that maternal spanking endorsement was similarly normative and was related to children's functioning in a largely parallel manner across African American and Hispanic groups, replicating other research studies which have used sophisticated methods as well as representative and large-scale samples to address race/ethnic differences in this arena (Berlin et al., 2009; Gershoff, 2012; Lansford et al., 2011). Two distinct patterns in associations between parental spanking and children's behaviors emerged, however. The first indicated that spanking predicted short-term decreases in children's internalizing problems only within Hispanic, not African American families. The second difference indicated a child evocative effect only among African Americans, in which higher levels of young children's externalizing problems induced short-term increases in maternal spanking. No child evocative effects emerged for children's internalizing behaviors. Other research has found spanking to be more culturally normative among African Americans than among other racial and ethnic groups (Durant, 2008; Gershoff et al., 2012; MacKenzie et al., 2012; Pinderhughes et al., 2000), which may explain why spanking behaviors increased in response to children's externalizing behavior problems in this racial subgroup, as parents use a culturally-accepted parenting technique to try to stem children's misbehaviors. However, our results suggest that this response was not productive: among African American families, early heightened externalizing problems among children predicted increased parental spanking, which in turn led to greater growth in children's externalizing behaviors. This pattern suggests the importance of identifying strategies to interrupt this chain of escalating problems behaviors by engaging pediatricians and other child health and development professionals to encourage more productive parental responses (American Academy of Pediatrics, 1998).

Limitations

Prior to concluding, it is important to acknowledge limitations of this research. First and foremost, although the analytic models incorporated cross-lagged longitudinal path modeling, often referred to as causal modeling (Asher, 1983), the data in this study were correlational, and hence results cannot be construed as truly causal. Secondly, measures were all drawn from maternal reports, leading to concerns over reporter bias and unmeasured heterogeneity. Thus, for example, mothers who had a strong belief in and frequently engaged in corporal punishment may have reported their children's behaviors as more extreme as a mechanism to explain or justify their use of spanking. Yet, it is important to note that the use of prospective longitudinal modeling, adjusting for continuities over time in both spanking and children's functioning and for related child and family factors, limits the likelihood that results were biased by unmeasured factors. As noted by methodologists, assessment of within-person change controls for time-invariant unmeasured factors that might bias measured relationships (Duncan, Magnuson, & Ludwig, 2004; Johnson, 2005). It is also important to reiterate that the measures of spanking assessed mothers' endorsement and engagement in spanking but did not address the exact frequency of spanking behavior.

Similarly, we did not have measures of fathers' spanking. Other research has suggested the importance of fathers' disciplinary practices (Coley, Carrano, & Lewin-Bizan, 2011; DeGarmo, 2010; Eiden, Edwards, & Leonard, 2007) and the need for future research to more carefully track children's exposure to spanking from all caregivers over time.

Finally, it is important to reiterate that, although drawn from a representative sample of low-income African American and Hispanic families in concentrated poverty neighborhoods in three cities, results cannot necessarily be generalized to other cultural or geographic groups or to families with greater economic and social resources. Although one of our primary goals was to assess racial/ethnic differences in parental spanking while better controlling for different economic and neighborhood contexts, the results from our study may differ from what would be found with more economically and socially advantaged African American and Hispanic populations. Moreover, the analytic sample in this study was not large enough to separately consider poor European American families nor to address variability in subgroups of Hispanic families which derived from different regions of origin with varying lengths of residence in the U.S. (primarily families of Mexican, Dominican, and Puerto Rican ancestry, ranging from newer immigrants to multi-generational residence in the mainland U.S.). Subgroups of the highly diverse U.S. Hispanic population may have unique cultural norms and parenting behaviors (Figuerosa-Moseley, Ramey, Keltner, & Lanzi, 2006), an important issue to address in future research on parental spanking and children's behaviors.

Conclusion

In conclusion, our results provide support for the American Academy of Pediatrics' recommendations that parents desist from using spanking as a disciplinary tactic due to its lack of long-term effectiveness in controlling children's behavior and potential for harm to children's well-being (American Academy of Pediatrics, 1998). Even among families living in poverty, in poor and often dangerous neighborhoods — contexts in which parents often feel that stricter parental control is necessary to ensure the safety of their children (Taylor et al., 2011) — results suggest that as children age into middle childhood, maternal endorsement of spanking is associated with increased levels of both internalizing and externalizing behavior problems among African American and Hispanic children.

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References

- Achenbach, T.M. Manual for the Child Behavior Checklist/4–18 and 1991 Profile. Burlington: University of Vermont, Department of Psychiatry; 1991.
- Achenbach, T.M. Manual for the Child Behavior Checklist/2–3 and 1992 Profile. Burlington: University of Vermont, Department of Psychiatry; 1992.
- Achenbach, T.M.; Rescorla, L.A. Manual for the Child Behavior Checklist/2–3 and 1992 Profile. Burlington: University of Vermont, Department of Psychiatry; 2001.
- American Academy of Pediatrics. Guidance for effective discipline. *Pediatrics*. 1998; 101:723–728. [PubMed: 9521967]

- Asher, HB. Causal Modeling. Newbury Park, CA: Sage Publications; 1983.
- Bandura, A. Social Learning Theory. New York: General Learning Press; 1977.
- Bell RQ. A reinterpretation of the direction of effects in studies of socialization. *Psychological Review*. 1968; 75(2):81–95. [PubMed: 4870552]
- Berlin LJ, Ispa JM, Fine MA, Malone PS, Brooks-Gunn J, Brady-Smith C, Bai Y. Correlates and consequences of spanking and verbal punishment for low-income White, African American, and Mexican American toddlers. *Child Development*. 2009; 80(5):1403–1420. [PubMed: 19765008]
- Browne, MW.; Cudeck, R. Alternative ways of assessing model fit. In: Kollen, KA.; Long, JS., editors. *Testing Structural Equation Models*. Thousand Oaks, CA: Sage; 1993. p. 136–162.
- Byrne, BA. *Structural Equation Modeling with AMOS: Basic Concepts, Applications, and Programming*. Mahwah, NJ: Lawrence Earlbaum; 2001.
- Christie-Mizell CA, Pryor EM, Grossman ERB. Child depressive symptoms, spanking, and emotional support: Differences between African American and European American youth. *Family Relations*. 2008; 57:335–350.
- Coley RL, Carrano J, Lewin-Bizan S. Unpacking links between fathers' antisocial behaviors and children's behavior problems: Direct, indirect, and interactive effects with harsh parenting. *Journal of Abnormal Child Psychology*. 2011; 39:791–804. [PubMed: 21360188]
- Davies PT, Harold GT, Goeke-Morey MC, Cummings EM. Child emotional security and interparental conflict. *Monographs of the Society for Research in Child Development*. 2002; 67(3) Retrieved from <http://www.jstor.org/stable/3181513>.
- Deater-Deckard K, Dodge KA. Externalizing behavior problems and discipline revisited: Nonlinear effects and variation by culture, context, and gender. *Psychological Inquiry*. 1997; 8(3):161–175.
- Deater-Deckard K, Dodge KA, Bates JE, Pettit GS. Physical discipline among African American and European American mothers: Links to children's externalizing behaviors. *Developmental Psychology*. 1996; 32(6):1065–1072.
- DeGarmo DS. Coercive and prosocial fathering, antisocial personality, and growth in children's postdivorce noncompliance. *Child Development*. 2001; 81:503–516. [PubMed: 20438456]
- Duncan GJ, Magnuson K, Ludwig J. The endogeneity problem in developmental studies. *Research in Human Development*. 2004; 1(1–2):59–80.
- Durant JE. Physical punishment, culture, and rights: Current issues for professionals. *Journal Developmental and Behavioral Pediatrics*. 2008; 29(1):55–66.
- Eiden RD, Edwards EP, Leonard KE. A conceptual model for the development of externalizing behavior problems among kindergarten children of alcoholic families: Role of parenting and children's self-regulation. *Developmental Psychology*. 2007; 43(5):1187–1201. [PubMed: 17723044]
- Enders, CK. *Applied Missing Data Analysis*. New York: Guilford; 2010.
- Figueroa-Moseley CD, Ramey CL, Keltner B, Lanzi RG. Variations in Latino parenting practices and their effects on child cognitive developmental outcomes. *Hispanic Journal of Behavioral Sciences*. 2006; 28(1):102–114.
- Gershoff ET. Corporal punishment by parents and associated child behaviors and experiences: A meta-analytic and theoretical review. *Psychological Bulletin*. 2002; 128(4):539–579. [PubMed: 12081081]
- Gershoff ET, Lansford JE, Sexton HR, Davis-Kean P, Sameroff AJ. Longitudinal links between spanking and children's externalizing behaviors in a national sample of White, Black, Hispanic, and Asian American families. *Child Development*. 2012; 83(3):838–843. [PubMed: 22304526]
- Grogan-Kaylor A, Otis MD. The predictors of parental use of corporal punishment. *Family Relations*. 2007; 56:80–91.
- Hirschi, T. *Causes of Delinquency*. Berkeley: University of California; 1969.
- Horn IB, Joseph JG, Cheng TL. Nonabusive physical punishment and child behavior among African-American children: A systematic review. *Journal of the National Medical Association*. 2004; 96(9):1162–1168. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2568462>. [PubMed: 15481744]

- Hu LT, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*. 1999; 6(1):1–55.
- Jaffee SR, Caspi A, Moffitt TE, Polo-Tomas M, Price TS, Taylor A. The limits of child effects: Evidence for genetically mediated child effects on corporal punishment but not on physical maltreatment. *Developmental Psychology*. 2004; 40(6):1047–1058. [PubMed: 15535755]
- Johnson DR. Two-wave panel analysis: Comparing statistical methods for studying the effects of transitions. *Journal of Marriage and Family*. 2005; 67:1061–1075.
- Lansford JE, Criss MM, Laird RD, Shaw DS, Pettit GS, Bates JE, Dodge KA. Reciprocal relations between parents' physical discipline and children's externalizing behavior during middle childhood and adolescence. *Development and Psychopathology*. 2011; 23:225–238. [PubMed: 21262050]
- Lansford JE, Deater-Deckard K, Dodge KA, Bates JE, Pettit GS. Ethnic differences in the link between physical discipline and later adolescent externalizing behaviors. *Journal of Child Psychology and Psychiatry*. 2004; 45(4):801–812. [PubMed: 15056311]
- Lansford JE, Wager LB, Bates JE, Dodge KA, Pettit GS. Parental reasoning, denying privileges, yelling, and spanking: Ethnic differences and associations with child externalizing behavior. *Parenting Science and Practice*. 2012; 12(1):42–56.
- Lansford JE, Wager LB, Bates JE, Pettit GS, Dodge KA. Forms of spanking and children's externalizing behavior. *Family Relations*. 2012; 61:224–236. [PubMed: 22544988]
- MacKenzie MJ, Nicklas E, Waldfogel J, Brooks-Gunn J. Corporal punishment and child behavioural and cognitive outcomes through 5 years of age: Evidence from a contemporary urban birth cohort study. *Infant and Child Development*. 2012; 21(3):3–33.
- Maguire-Jack K, Gromoske AN, Berger LM. Spanking and child development during the first 5 years of life. *Child Development*. 2012; 83(6):1960–1977. [PubMed: 22860622]
- McKee L, Roland E, Coffelt N, Olson AL, Forehand R, et al. Harsh discipline and child problem behaviors: the roles of positive parenting and gender. *Journal of Family Violence*. 2007; 22(4):187–196.
- McLoyd VC, Smith J. Physical discipline and behavior problems in African American, European American and Hispanic children: Emotional support as a moderator. *Journal of Marriage and Family*. 2002; 64:40–53.
- Miner J, Clarke-Stewart A. Trajectories of externalizing behavior from age 2 to age 9: Relations with gender, temperament, ethnicity, parenting, and rater. *Developmental Psychology*. 2009; 44(3):771–786. [PubMed: 18473643]
- Moore PS, Whaley SE, Sigman M. Interactions between mothers and children: Impacts of maternal and child anxiety. *Journal of Abnormal Psychology*. 2004; 113:471–476. [PubMed: 15311992]
- Mosby L, Rawls AW, Meehan AJ, Mays E, Pettinari CJ. Troubles in interracial talk about discipline: An examination of African American child rearing narratives. *Journal of Comparative Family Studies*. 1999; 30(3):489–527. Retrieved from <http://www.jstor.org/stable/41603647>.
- Muthén, LK.; Muthén, BO. *Mplus User's Guide*. 6th ed.. Los Angeles, CA: Muthén & Muthén; 1998–2010.
- National Research Council and Institute of Medicine. *From Neurons to Neighborhoods: the Science of Early Childhood Development*. Washington, DC: National Academies Press; 2000.
- Pinderhughes EE, Dodge KA, Bates JE, Pettit GS, Amaldo Z. Discipline responses: Influences of parents' socioeconomic status, ethnicity, beliefs about parenting, stress, and cognitive-emotional processes. *Journal of Family Psychology*. 2002; 14(3):380–400. [PubMed: 11025931]
- Sameroff, A. *The Transactional Model of Development: How Children and Contexts Shape Each Other*. Washington, DC: American Psychological Association; 2009.
- Satorra A, Bentler PM. A scaled difference chi-square test statistic for moment structure analysis. *Psychometrika*. 2001; 66(4):507–514.
- Shumow L, Vandell DL, Posner JK. Harsh, firm, and permissive parenting in low-income families: Relations to children's academic achievement and behavioral adjustments. *Journal of Family Issues*. 1998; 19(5):483–507.

- Snyder J, Cramer DA, Afrank J, Patterson GR. The contribution of ineffective discipline and parent hostile attributions about child misbehavior to the development of conduct problems at home and school. *Developmental Psychology*. 2005; 41:1–12.
- Slade EP, Wissow LS. Spanking in early childhood and later behavior problems: A prospective study of infants and young toddlers. *Pediatrics*. 2004; 113(5):1321–1330. Retrieved from <http://pediatrics.aappublications.org/content/113/5/1321.short>. [PubMed: 15121948]
- Stacks AM, Oshio T, Gerard J, Roe J. The moderating effect of parental warmth on the association between spanking and child aggression: A longitudinal approach. *Infant and Child Development*. 2009; 18:178–194.
- Taylor CA, Hamvas L, Rice J, Newman DL, DeJong W. Perceived social norms, expectations, and attitudes toward corporal punishment among an urban community sample. *Journal of Urban Health*. 2011; 88(2):254–269. [PubMed: 21336503]
- Taylor CA, Hamvas L, Paris R. Perceived instrumentality and normativeness of corporal punishment use among Black mothers. *Family Relations*. 2011; 60(1):60–72. [PubMed: 22707816]
- Taylor CA, Manganello JA, Lee SJ, Rice JC. Mothers' spanking of 3-year-old children and subsequent risk of children's aggressive behavior. *Pediatrics*. 2010; 125:e1057–e1065. [PubMed: 20385647]
- Thomas KA, Detlaff AJ. African American families and the role of physical discipline: Witnessing the past in the present. *Journal of Human Behavior in the Social Environment*. 2011; 21(8):963–977.
- Whaley A. Sociocultural differences in the developmental consequences of the use of physical discipline during childhood for African Americans. *Cultural Diversity and Ethnic Minority Psychology*. 2000; 6:5–12. [PubMed: 10975163]
- Winston, PW.; Angel, RJ.; Burton, LM.; Chase-Lansdale, PL.; Cherlin, AJ.; Moffitt, RA.; Wilson, WJ. *Welfare, Children, and Families: Overview and Design*. Baltimore: Johns Hopkins University; 1999.
- Zolotor AJ, Theodore AD, Runyan DK, Chang JJ, Laskey AL. Corporal punishment and physical abuse: Population-based trends for 3-to-11-year-old children in the United States. *Child Abuse Review*. 2011; 20:57–66.

Figure 1.
Standardized Estimates for Combined Sample

Table 1

Weighted Descriptive Data on Full Sample and Split by Race/Ethnicity

Variable	Range	Combined Sample (N = 581)		Black (n = 270)		Hispanic (n = 311)	
		M/%	SD	M/%	SD	M/%	SD
Spanking							
Spanking ₁	1–4	2.87	0.95	2.89	0.88	2.86	0.99
Spanking ₂	1–4	2.89	0.88	2.96	0.83	2.83	0.92
Spanking ₃	1–4	2.71	1.01	2.84	0.97	2.63	1.02
Child Functioning							
Externalizing Problems ₁	30–91	51.36	10.31	52.12	10.86	50.81	9.87
Externalizing Problems ₂	30–82	48.87	10.35	51.85 ^a	10.21	46.63 ^a	9.89
Externalizing Problems ₃	33–84	53.04	10.15	54.86	9.82	51.84	10.20
Internalizing Problems ₁	30–92	51.85	10.30	53.23	11.05	50.87	9.79
Internalizing Problems ₂	30–80	47.50	10.39	50.01 ^b	9.47	45.41 ^b	9.43
Internalizing Problems ₃	33–86	52.48	10.48	50.71	9.80	53.64	10.76
Covariates (Wave 1)							
Child Age	24–60	41.32	10.27	41.19	10.34	41.42	10.23
Male Gender	0–1	50.39%		53.48%		48.22%	
Black	0–1	41.24%		100.00%		0.00%	
Maternal Education	1–8	4.10	2.09	4.49 ^c	1.99	3.78 ^c	2.12
Mother Cohabit	0–1	6.37%		3.32%		8.54%	
Mother Married	0–1	34.73%		9.29% ^c		52.86% ^c	

Note. Matched superscripts within a row indicate sig differences ($p < 0.05$) between African American and Hispanic subgroups

Table 2

Correlation Table

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Spanking ₁	-													
2. Spanking ₂	.49**	-												
3. Spanking ₃	.38**	.43**	-											
4. Externalizing Prob ₁	.19**	.12**	.11*	-										
5. Externalizing Prob ₂	-.05	.12**	-.04	.33**	-									
6. Externalizing Prob ₃	.17**	.28**	.29**	.32**	.37**	-								
7. Internalizing Prob ₁	.06	.01	.05	.75**	.34**	.29**	-							
8. Internalizing Prob ₂	-.13**	.00	-.04	.28**	.66**	.29**	.41**	-						
9. Internalizing Prob ₃	.17**	.22**	.17**	.26**	.21**	.64**	.31**	.23**	-					
1. Child Age	.10*	.05	-.06	.00	.02	-.12**	-.18**	-.06	-.08	-				
11. Male Gender	.00	.09	.01	-.04	.10*	-.04	-.08	.05	.01	.01	-			
12. African American	.01	.07	.10*	.06	.25**	.15**	.11	.23**	-.14**	-.01	.05	-		
13. Maternal Education	.00	-.13**	-.06	-.05	-.08	-.14**	-.03	-.10*	-.10*	-.06	-.01	.16**	-	
14. Mother Cohabiting	-.16**	-.15**	-.02	.00	.02	-.17**	-.05	-.03	-.16**	.05	.07	-.11*	-.06	-
15. Mother Married	-.19**	-.03	.13*	-.07	-.27**	-.04	-.07	-.22**	-.13**	.10*	-.02	-.45**	-.04	-.19**

Note.

*
p < .05**
p < .01

Table 3
Path Estimates for Combined Models and Multi-Group Models Predicting Internalizing and Externalizing Problems

	Combined Sample		African American		Hispanic		χ^2 Difference Test
	Unst Coeff (SE)	Stand Coeff	Unst Coeff (SE)	Stand Coeff	Unst Coeff (SE)	Stand Coeff	
Cross-Lagged Paths							
Spanking ₁ → Externalizing ₂	-0.81(0.71)	-0.07	0.43(1.22)	0.04	-1.32(0.84)	-0.13	$\chi^2(1) = 1.35$
Spanking ₂ → Externalizing ₃	2.54(0.75)**	0.22	2.06(0.99)*	0.18	3.06(0.95)**	0.28	$\chi^2(1) = 0.60$
Externalizing ₁ → Spanking ₂	0.01(0.01)	0.13	0.02(0.01)*	0.28	-0.00(0.01)	-0.01	$\chi^2(1) = 3.01^+$
Externalizing ₂ → Spanking ₃	-0.01(0.01)	-0.07	-0.01(0.01)	-0.06	0.00(0.02)	-0.00	$\chi^2(1) = 0.10$
Spanking ₁ → Internalizing ₂	-1.39(0.58)*	-0.14	-0.36(0.91)	-0.03	-2.15(0.75)**	-0.23	$\chi^2(1) = 2.69^+$
Spanking ₂ → Internalizing ₃	2.87(0.75)**	0.24	4.17(1.00)**	0.35	2.42(0.92)**	0.21	$\chi^2(1) = 2.01$
Internalizing ₁ → Spanking ₂	-0.01(0.01)	-0.13	-0.02(0.01) ⁺	-0.20	-0.01(0.01)	-0.08	$\chi^2(1) = 0.28$
Internalizing ₂ → Spanking ₃	0.00(0.01)	0.03	0.00(0.01)	0.03	0.00(0.02)	-0.00	$\chi^2(1) = 0.04$
Within-Construct Paths							
Externalizing ₁ → Externalizing ₂	0.29(0.06)**	0.29	0.38(0.08)** ^a	0.40	0.17(0.08)* ^a	0.17	
Externalizing ₁ → Externalizing ₃	0.22(0.06)**	0.22	0.26(0.09)**	0.29	0.19(0.07)**	0.19	
Externalizing ₂ → Externalizing ₃	0.23(0.06)**	0.24	0.17(0.09)*	0.18	0.31(0.08)**	0.31	
Internalizing ₁ → Internalizing ₂	0.32(0.05)**	0.35	0.35(0.06)**	0.41	0.30(0.07)**	0.32	
Internalizing ₁ → Internalizing ₃	0.27(0.06)**	0.27	0.32(0.08)**	0.36	0.22(0.07)**	0.21	
Internalizing ₂ → Internalizing ₃	0.17(0.07)*	0.15	0.08(0.08)	0.07	0.26(0.10)**	0.22	
Spanking ₁ → Spanking ₂	0.46(0.06)**	0.50	0.54(0.09)**	0.57	0.42(0.08)**	0.46	
Spanking ₁ → Spanking ₃	0.24(0.07)**	0.22	0.31(0.11)**	0.28	0.21(0.10)*	0.20	
Spanking ₂ → Spanking ₃	0.40(0.09)**	0.35	0.47(0.11)**	0.40	0.39(0.12)**	0.34	
Within-Wave Covariances							
Externalizing ₁ - Internalizing ₁	77.45(7.88)**	0.76	91.35(13.93)**	0.78	66.37(8.85)**	0.75	
Externalizing ₂ - Internalizing ₂	47.12(5.65)**	0.61	52.60(8.66)**	0.67	44.21(8.13)**	0.58	
Externalizing ₃ - Internalizing ₃	48.01(7.30)**	0.61	25.29(6.47)**	0.38	60.39(9.82)**	0.74	

Note.

+ $p < 0.1$

* $p < 0.05$

**

$p < 0.01$

Superscript numerals indicate significant differences ($p < 0.05$) between African Americans and Hispanics subgroups. Covariates include maternal education, child age, child gender, and maternal race/ethnicity in combined sample models.