A longitudinal investigation of the effects of parental discipline strategies on social competence in early childhood

Karleah Harris¹, Charlene Harris², Lisa Dunkley³

Abstract: In the current study, we investigated the associations between parenting discipline strategies (i.e., physical punishment and non-violent punishment) and social development using n = 3265 reports from primary caregivers across three waves of data. Analyses were conducted using cross-lagged structural equation modeling, where we evaluated the developmental effects of physical punishment and non-violent punishment on social competence. The findings showed partial support for developmental changes between non-violent punishment and social competence unfold reciprocally and longitudinally; the relationship between physical punishment and social competence appeared unrelated, as physical punishment in Wave 2 only negatively predicted social competence in Wave 3. These findings underscore the importance of understanding the developmental pathways for parenting discipline strategies and social skill development among children living in urban neighborhoods.

Introduction

The development of social competence in early childhood has long been documented as a critical component of positive adjustment outcomes (Akhtar et al., 2017; Huber et al., 2019; Rose-Krasnor, 1997). Developmental researchers recognize that children develop important prosocial skills, including communication, cooperation, as well as emotional regulation skills, based on meaningful and appropriate interactions with others (Dodge et al., 1986). Studies testing the relationship between social competence and adjustment outcomes have focused on the importance of early socialization processes between the parent and the child (Baker et al., 2011; Mirabile et al., 2018; Spruijt et al., 2019). These studies have been uniquely framed by Baumrind’s (1978) traditional parenting typology and extended by Maccoby and Martin (1983) to include authoritative, authoritarian, permissive, and neglectful parenting styles based on two dimensions, i.e., “demandingness or control” and “responsiveness or “warmth.” According to the research, parenting dimensions assess demandingness as the degree to which parents control children’s behavior and can range from using such behavioral control methods as physical punishment, i.e., spanking, to rule-setting. In contrast, responsiveness includes parental behaviors that demonstrate warmth and support; examples include time-out and removal of privileges or admonishment of the child, which has been associated with a decrease in undesired behaviors in children (Gonzalez et al., 2019).

In reviewing the literature on parenting styles and its consequence, one area that has received considerable empirical attention is parental discipline practices. These efforts defined physical punishment as aggressive or violent behaviors by parents such as hitting, smacking, slapping, and spanking a child (Brown et al., 2018; Gonzalez et al., 2019) “to control their child’s misbehavior and to promote compliance” (Straus & Donnelly, 2017, p. 4). Most studies examining physical discipline methods found that parents’ use of stringent discipline increases the risk of long-term adverse outcomes including depression, low self-control, and poor cognitive and social skills which heightens the risk of maltreatment across the lifespan.
A longitudinal investigation of the effects of parental discipline strategies... (Gershoff & Grogan-Kaylor, 2016; Heilmann et al., 2021; Piko et al., 2012; Yildirim et al., 2020); although positive effects of physical discipline were observed in African American children (Simons et al., 2013). Other studies examined links between non-physical discipline methods and effects (LeCuyer et al., 2011; Ma et al., 2022) and demonstrated that non-physical discipline reduced the risk of harmful outcomes and increased prosocial behaviors and social skills, especially in young children over time (Yu et al., 2018). While these studies identified parental discipline as a significant predictor of behavioral outcomes in children (LeCuyer et al., 2011), more recent studies add support for the reciprocal or bidirectional nature of these effects (Xing et al., 2021), thus supporting our approach to exploring the bidirectional impact of parental discipline in the study.

Although the link between parental physical discipline and negative child and adolescent outcomes seems to be well established in research, there remains a cultural debate on its use as well as the effects of physical discipline among ethnic groups (Heilmann et al., 2021; Tompkins & Villaruel, 2022; Ward et al., 2022; Wolf & Suntheimer, 2020). Research on diverse samples showed that African American parents are more likely to report the use of physical punishment as a form of discipline in children; a direct contrast to European American and Hispanic parents (Gershoff et al., 2018a; Lansford et al., 2004; Simons & Wurtele, 2010). Indeed, African American parents have been found to endorse the use of physical punishment as an appropriate method of discipline approach more readily than their European American counterparts, who are more likely to approve of non-physical discipline styles (Flynn, 1998; Gershoff et al., 2018b; Simons et al., 2013). Despite the prevalence and acceptability of physical discipline use by African American parents, numerous studies noted increased positive behaviors in African American children over time, and more adverse effects were observed in European American youth (McLoyd & Smith, 2002). The use of physical discipline by African American parents is best understood in the cultural normative context (Deater-Deckard & Dodge, 1997), which suggests that both the parent and child are socialized to perceive physical punishment as a typical developmental experience; thus, they are more willing to accept its practice.

While parental discipline outcomes can be attributed to cultural factors, namely race or ethnicity of parents, some studies have focused on other contextual factors such as neighborhood and family factors that can also impact behavior outcomes in childhood and adolescence (Kotchick & Forehand, 2002). In this context, there is strong evidence that higher rates of physical discipline were found among youth in urban settings (Creavey et al., 2018). This is because parents in disadvantaged neighborhoods often experience additional family stressors such as lower socioeconomic status and family stability, which may increase the likelihood of harsh childrearing practices such as physical punishment in such environments (Creavey et al., 2018). In this sense, it is helpful to explore the impact of parental discipline on child outcomes above and beyond the contextual effects of ethnicity and family structure to better understand the associations between parental discipline practices and children’s social competence in diverse urban contexts.

Despite the evidence in the literature, physical discipline remains a common practice by parents in most U.S. households; there is a general lack of knowledge on the use of physical punishment practices such as spanking across developmental stages, making it difficult to explicitly test for consequences of physical discipline over time. Thus, for researchers to fully understand the developmental implications of physical discipline and expand on the existing knowledge base, the current study investigates developmental changes between two parental discipline strategies (physical and non-violent punishment) and social competence above and beyond the influence of individual characteristics of the sample.

The Current Study

Using three waves of data, we tested the reciprocal and longitudinal associations between two parental discipline strategies—physical discipline and non-violent discipline—on children’s social competence and vice versa. Further, we tested the extent these effects varied across control variables, i.e., ethnicity/race (i.e., European American, African American/Black, Hispanic/Latino, and Other) and family
structure (i.e., two biological parents vs. other family situation) as these factors seem to provide additional information on understanding parenting disciplinary practices within context.

Method

Sample and Procedures

The study was approved by the Institutional Review Board (IRB) at the University of Arkansas at Pine Bluff. Data were part of the Fragile Families and Child Wellbeing Study (FFCWS) public use dataset available. Data are free to download from Princeton University's Office of Population Research (OPR) data archive. A detailed description of the FFCWS sampling and design can be found elsewhere (Reichman et al., 2001). The current study examined primary caregiver and children interviews from 20 large cities between 1998 and 2000 (Waldfogel et al., 2010). Primary caregivers consisted of biological parental caregivers (mothers and fathers) and non-biological parental caregivers who were interviewed at or shortly after the child’s birth and subsequently interviewed through additional waves of data, i.e., age 3 (Wave 3), 5 (Wave 4), and 9 (Wave 5), respectively. Our analyses focused on 3,265 primary caregivers (biological and non-biological) who participated in the study across three data points. Based on the responses, 26.5% of children reported living in households with two biological parents as caregivers.

Measures

**Family structure variable.** Youth in the study were asked to describe their current living situations. Responses were given as 1 = biological mother and father, 2 = biological mother and a new partner, 3 = mother only, 4 = biological father and her new partner, 5 = biological father only, and 6 = other primary caregivers. These responses were dichotomized into two groups 1 = two biological parents situation and 2 = other parent situation.

**Ethnicity/Race.** The youth in the sample were asked to report their ethnicity. Responses were given as 1 = European American only, non-Hispanic, 2 = African American/Black, non-Hispanic, 3 = Hispanic/Latino, 4 = Other, non-Hispanic, and 5 = Multiracial, non-Hispanic. The sample participants for each ethnicity included African American/Black (58.7%), European American (14.9%), Hispanic/Latino (19%), and Other ethnic groups (7.4%). The responses were grouped into four categories for our analyses where 1 = White only, non-Hispanic, 2 = African American/Black, non-Hispanic, 3 = Hispanic/Latino, and 4 = Other. More than half the sample (67.1%) were African American.

**Physical punishment.** The primary caregiver’s use of physical punishment strategies was measured by a subset of 5 items from the Conflict-Tactic Scale (CTS) by Straus et al. (1998), which includes questions on physical punishment, e.g., spanking and slapping. Response choices reflected the frequency of each behavior’s use in the last 12 months ranging from 0 = never to 6 = more than 20 times. Cronbach’s alphas ranged from .71 to .88.

**Non-violent punishment.** Primary caregivers reported their use of non-violent disciplinary methods using 4-items from the Conflict-Tactic Scale (CTS) by Straus et al. (1998). The questions assessed the use of violent discipline methods where primary caregivers (1) explained to the child why something was wrong, (2) gave the child something else to do instead of what they were doing wrong, (3) took away privileges or grounded, and (4) put the child in in “time out” or sent the child to their room. Response choices reflected the frequency of each behavior’s use in the last 12 months ranging from 0 = never to 6 = more than 20 times during the past 12 months. Cronbach’s alphas ranged from .75 to .84.

**Social competence.** Primary caregivers reported children’s social competence using the 9-items adapted from the 13-item express subscale of sociability and empathy from the Adaptive Social Behavior Inventory (ABSI) (Hogan et al., 1992; Greenfield et al., 1997). For the study, each primary caregiver was asked to indicate whether the child; understands others’ feelings when they are happy, is open and direct about what he/she wants, whether the child was sympathetic to other children’s distress, or is confident
with other people. Responses ranged from was not true (0), sometimes or somewhat true (1), or very true or often true of her child (2). Cronbach’s alphas ranged from .71 to .91.

Data Analysis Plan

An examination of skewness and kurtosis of main study variables was in acceptable range, i.e., below +2 and -2 (George & Mallery, 2019), whereas incomplete or missing data were handled via Full Information Maximum Likelihood (FIML) in AMOS. The analyses consisted of crossed-lagged regression models to assess developmental changes between parental discipline strategies (physical punishment and non-violent punishment) and social competence across three waves of data using structural equation modeling (See Figure 1). Standard fit statistics, including the comparative fit index (CFI), the root means square error of approximation (RMSEA), and the chi-square statistic, were used to assess model fit across all path analyses (Byrne, 2013). To test for differences in the model using two control variables (race and family structure), we conducted multigroup comparisons by family structure and ethnicity, where free default models (unconstrained) were compared to fixed models (constrained). A summary of the fit for the unconstrained and constrained models for both race and family structure is reported in Table 2.

Results

The descriptive statistics of the study items for the three points of data are included in Table 1. The bivariate correlations between parental discipline measures (physical punishment and non-violent punishment) and social competence across three waves of data are shown in Table 2. The correlations indicate that physical punishment and social competence were not consistently related across three-time points. For example, physical punishment at T1 was positively correlated with social competence at T1 through T3; \( r_s = .05, p < .05 \); but physical punishment appeared unrelated to social competence at all other time points. On the contrary, non-violent discipline and school competence were positively correlated with social competence across each wave—\( r_s \) ranged from .08 to .16.

Table 1. Correlations between parental discipline and social competence

<table>
<thead>
<tr>
<th>Variables</th>
<th>( \alpha )</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Physical Punishment T1</td>
<td>.79</td>
<td>3.52</td>
<td>1.38</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>2. Physical Punishment T2</td>
<td>.71</td>
<td>3.22</td>
<td>1.31</td>
<td>.36**</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>3. Physical Punishment T3</td>
<td>.88</td>
<td>2.42</td>
<td>1.10</td>
<td>.24**</td>
<td>.30**</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>4. Non-violent Punishment T1</td>
<td>.75</td>
<td>4.69</td>
<td>1.10</td>
<td>.47**</td>
<td>.23**</td>
<td>.16**</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>5. Non-violent Punishment T2</td>
<td>.79</td>
<td>4.62</td>
<td>1.12</td>
<td>.22**</td>
<td>.45**</td>
<td>.21**</td>
<td>.40**</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>6. Non-violent Punishment T3</td>
<td>.84</td>
<td>3.80</td>
<td>1.29</td>
<td>.23**</td>
<td>.27**</td>
<td>.53**</td>
<td>.37**</td>
<td>.45**</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>7. Social Competence T1</td>
<td>.71</td>
<td>1.71</td>
<td>.29</td>
<td>.05*</td>
<td>.02</td>
<td>-.03</td>
<td>.16**</td>
<td>.12**</td>
<td>.10***</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>8. Social Competence T2</td>
<td>.76</td>
<td>1.73</td>
<td>.30</td>
<td>.05*</td>
<td>.01</td>
<td>-.02</td>
<td>.15**</td>
<td>.13**</td>
<td>.08**</td>
<td>.35**</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>9. Social Competence T3</td>
<td>.91</td>
<td>1.84</td>
<td>.28</td>
<td>.05*</td>
<td>.02</td>
<td>.03</td>
<td>.11*</td>
<td>.14**</td>
<td>.17**</td>
<td>.12**</td>
<td>.11**</td>
<td>–</td>
</tr>
</tbody>
</table>

Note. Significant coefficients are bolded.

* \( p < .05 \); ** \( p < .01 \); *** \( p < .001 \)

An examination of longitudinal paths in the developmental changes between physical punishment and social competence showed, as expected that non-violent punishment positively and significantly predicted social competence at each time point (\( \beta_s \) ranged from .111 to .156, \( ps = .001 \)). Reciprocal effects were also observed for social competence, which positively predicted physical punishment (\( \beta_s \) ranged from .035 to .061, \( p<.05 \) and \( p<.001 \), respectively). By contrast, the association between physical punishment and social competence showed physical punishment at T2 negatively predicted social competence at T3 (\( \beta = -.070, p < .05 \)) but did not predict physical punishment at T1 and social competence at T2. Significant stability paths were observed over the three-time points. Fit indices provided evidence of adequate model fit, \( \chi^2 (3265) = 237.725, df = 13, p < .001; CFI = .943, NFI = .940, RMSEA = .059. \)
Next, additional analysis tested for longitudinal invariance across family structure and ethnicity, although there were no significant differences. The analysis of family structure (two-parent vs. other parent situation) indicated a similar result across all family structure groups. As for invariance across ethnicity, the multigroup analysis of invariance showed no evidence of variation across racial/ethnic groups.

Table 2. Multigroup Analysis of relationships across background variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Tested Model</th>
<th>$\chi^2$ (df)</th>
<th>$p$</th>
<th>CFI</th>
<th>NFI</th>
<th>RMSEA</th>
<th>$\Delta \chi^2$</th>
<th>$\Delta$ CFI</th>
<th>$\Delta$ RMSEA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Family Structure</td>
<td>Unconstrained Model</td>
<td>231.984 (26)</td>
<td>&lt;.001</td>
<td>.939</td>
<td>.933</td>
<td>.048</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Constrained Model</td>
<td>241.251 (34)</td>
<td>&lt;.001</td>
<td>.938</td>
<td>.930</td>
<td>.042</td>
<td>9.267</td>
<td>.001</td>
<td>.006</td>
</tr>
<tr>
<td>2. Ethnicity/Race</td>
<td>Unconstrained Model</td>
<td>223.113 (52)</td>
<td>&lt;.001</td>
<td>.944</td>
<td>.931</td>
<td>.032</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Constrained Model</td>
<td>246.551 (76)</td>
<td>&lt;.001</td>
<td>.944</td>
<td>.924</td>
<td>.026</td>
<td>23.438</td>
<td>.000</td>
<td>.006</td>
</tr>
</tbody>
</table>

Note. $\chi^2$ = Chi-square statistic, df = degrees of freedom, $\chi^2$/df = chi-square to degrees of freedom ratio, $\Delta \chi^2$/df = difference in chi-square between the default and unconstrained and constrained models, CFI = comparative fit index, ACFI = difference in comparative fit index between the default model and the unconstrained and constrained models NFI = Normed Fit Index, RMSEA = root mean square error of approximation, $\Delta$RMSEA = difference in RMSEA between the unconstrained and constrained models.

Discussion

The current study investigated the importance of understanding parental discipline strategies and social competence over time in a young urban sample. Drawing on Baumrind’s parenting typology to examine the effect of parenting behaviors on social competence, we assessed the reciprocal or bidirectional effects between two parental disciplinary strategies—physical punishment and non-violent punishment—and their impact on social competence. Because we expected sample characteristics such as ethnicity/race as well as family structure to influence parental discipline in this population, we controlled for these effects in multivariate analyses across cross-lagged effects. Overall, we found partial support for reciprocal effects between parenting and social competence in the sample. This is in line with previous work, which found mixed support for the link between parental discipline and social competence; our study explored parental discipline techniques using longitudinal data, thus providing insight into parental discipline methods over time. In addition, while it is debated whether parental disciplinary practices can vary across cultures, including ethnicity and family structure, the findings demonstrate that even when controlling for these effects, the effects remained consistent; thus, no differences were observed in the sample where over 50%
of the families were African American.

Nevertheless, in keeping with the main study goals, we found evidence that effective parental discipline methods increased the likelihood of positive outcomes. Our finding is consistent with existing work that suggests parental disciplinary strategies characterized by high levels of responsiveness or warmth promote socially competent behaviors in young children (Barnett et al., 2012; Bigner & Gerhardt, 2019; Jeon & Neppl, 2019; Spruijt et al., 2019). Contrary to our expectations, when it came to the link between physical punishment and social competence, physical punishment at T2 negatively predicted social competence at T3 but seemed unrelated to social competence at the other time points. The significant negative association between physical punishment and social competence supports the findings in the review by Gershoff and colleagues (2018a), which shows physical punishment in children increases the risk for negative behavioral (Ma et al., 2022) and psychological in late years. Consequently, the findings reinforce the need for parents to use alternative disciplinary techniques as punishment to promote the development of social skills in young children.

The present study was limited in that parenting disciplinary strategies and social competence were based exclusively on primary caregivers’ reports, which may affect social desirability in the responses. Thus, to fully understand the impact of discipline on social competence, it is important to include reports by children as well as teachers. Although not a focus of this study, we can assume that the association between parental discipline and social competence might vary by the sex of the child. This is supported by other studies which suggest parents are more likely to use physical punishment in boys than girls (Marshall et al., 2021). Thus, there is a need to compare the associations between discipline and social competency in girls and boys. While these efforts may have provided additional insight into these relationships, the current findings improve our understanding of the developmental changes between parenting discipline practices and social competencies during childhood years and broaden the existing work by using an ethnically diverse urban sample. Although the study does not allow us to detect changes in parental discipline over time, the data suggest primary caregivers reported greater use of non-violent methods of discipline; however, physical punishment methods appeared to decrease over time, as physical punishment scores gradually declined in later years. Future studies should incorporate additional parental discipline measures to understand the pathways between parental discipline and social competence (i.e., prosocial behaviors), especially given the heterogeneity of urban families.

Finally, the results of the study provide partial evidence for bidirectional relationships between parental discipline and social competence; our findings have implications for prevention and intervention programs aimed at developing social competence among youth living in high-risk urban settings. These findings suggest that early childcare professionals should increase parental involvement in education which is important to improving communication with parents and vice versa, thereby increasing children’s social competence. Thus, including parents and teachers in Early Childhood Education and Care (ECEC) may support healthy social competencies, which are vital to education and learning. Also, the results of the study emphasize the importance of discipline in the development of social skills, even in a high-risk sample. Consequently, early childcare professionals should discourage physical punishment, such as spanking to reduce the risk of poor social competence in subsequent years. Given that the majority of the sample includes at-risk families, it is even vital for childcare professionals in this population to encourage caregivers to use positive parenting discipline to foster more positive behaviors in children from a young age to protect against adverse outcomes in later years.

Declarations

Authors’ Declarations

Acknowledgements: The data utilized in this investigation are publicly available from the Fragile Families and Child Wellbeing Study was supported by R01HD036916, R01HD039135, and R01HD040421, as well as The Annie E. Casey Foundation and the Bill and Melinda Gates Foundation. The funders were not involved in the writing of this article or the decision to submit it for publication.

Authors’ contributions: The authors contributed equally to this paper.
Karleah HARRIS et al.

**Competing interests:** The authors declare that there were no competing interests.

**Funding:** See acknowledgment.

**Ethics approval and consent to participate:** This study did not involve human subjects due to the use of secondary data. Therefore, no approval was needed for participation.

**Publisher’s Declarations**

**Editorial Acknowledgement:** The editorial process of this article was carried out by Dr. Ibrahim H. Acar.

**Publisher’s Note:** Journal of Childhood, Education & Society remains neutral with regard to jurisdictional claims in published maps and institutional affiliation.

**References**


A longitudinal investigation of the effects of parental discipline strategies...


Yıldırım, E. D., Roopnarine, J. L., & Abolhassani, A. (2020). Maternal use of physical and non-physical forms of discipline and