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Cooperative Coparenting Moderates the Association between Parenting Practices and Children's Prosocial Behavior

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Abstract

The current study examined how aspects of the parenting and coparenting relationships relate to children's prosocial behavior in early childhood. Fifty-eight two-parent families from a larger ongoing longitudinal study participated in this study. Mothers completed questionnaires that measured their use of inductive reasoning, as well as their children's prosocial behavior. Furthermore, parents and their children participated in three triadic interaction tasks that were coded to assess cooperative coparenting behavior. Results revealed that cooperative coparenting was positively associated with children's prosocial behavior. A significant interaction also emerged between maternal inductive reasoning and cooperative coparenting behavior. These findings underscore the important role of a cooperative coparenting subsystem in influencing children's emerging prosocial behavior, as well as highlight the association between positive parenting practices and children's prosocial development within the context of cooperative coparenting behaviors. This study demonstrates the utility of understanding family-level processes that contribute to children's prosocial development during early childhood.

Keywords

prosocial behavior; parenting; coparenting; early childhood

Children's early development of prosocial behavior, such as helping and sharing, is important for promoting positive social relationships later in life (Eisenberg, Fabes, & Spinrad, 2006). Prosocial children are generally more accepted by peers and have better friendship quality (Clark & Ladd, 2000; Denham, McKinley, Couchoud, & Holt, 1990). Conversely, children who engage in low levels of prosocial behavior are less socially competent with their peers and are more likely to engage in antisocial behaviors in early and middle childhood (Eron & Huesman, 1984; Lansford et al., 2006). Children's early development of prosocial behavior occurs within their family context and is potentially influenced by multiple family processes. In general, it has been found that both an authoritative parenting style and the use of inductive reasoning are important predictors of

children's prosocial behavior (Eisenberg et al., 2006; Krevans & Gibbs, 1996). However, research on the association of broader family mechanisms, other than parenting, and the development of prosocial behavior has been limited. One approach to understanding children's socialization within the family environment is family systems theory which posits that families are comprised of multiple subsystems including the parenting relationship (parent-child dyad) and the coparenting relationship (joint-parent-child triad) that independently and jointly contribute to children's social development (Cox & Paley, 1997). Therefore, the current study investigates how parenting and coparenting interact to affect children's prosocial behavior.

During early childhood, prosocial behavior (voluntary behavior that is intended to benefit another person) generally includes helping, sharing, comforting, cooperating, and being considerate to others (Eisenberg et al., 2006; Hastings, Utendale, & Sullivan, 2007). These behaviors emerge, in large part, through the ongoing daily exchanges between the parent and child (Hay & Cook, 2007). Indeed, the parenting practices that parents implement on a regular basis can potentially facilitate children's development of prosocial behavior (Carlo, McGinley, Hayes, Batenhorst, & Wilkinson, 2007; Hastings et al., 2007). One specific parenting practice that has been examined as a correlate of children's prosocial behavior is inductive reasoning—when a parent gives explanations for desiring the child to change her/his behavior (Eisenberg et al., 2006; Krevans & Gibbs, 1996; Zahn-Waxler, Radke-Yarrow, & King, 1979). The use of inductive reasoning enables parents to underscore the needs and well-being of others, make clear the effects of children's actions, inform their children of societal norms, and explain why rules are necessary (Hastings et al., 2007). Particularly during early childhood when children's social and emotional understanding is improving (Dunn & Munn, 1985; Zahn-Waxler, Radke-Yarrow, Wagner, & Chapman, 1992), inductive reasoning is thought to foster children's developing perspective-taking skills which are needed to engage in prosocial behavior (Hastings et al., 2007; Zahn-Waxler et al., 1979).

Burgeoning research on coparenting, how parents work together in their parental roles, has found that the coparenting subsystem influences children's socioemotional development, above the effect of the parent-child and marital relationships (Karreman, van Tuijl, van Aken, & Dekovic, 2008; Mangelsdorf, Laxman, & Jessee, 2011; McHale & Rasmussen, 1998). One key dimension of coparenting is cooperation, which is generally defined as the extent to which parents support each other's parenting efforts (Feinberg, 2003; Van Egeren & Hawkins, 2004). Research has shown that when the coparenting relationship is cooperative, children in early and middle childhood exhibit fewer behavior problems (McHale, Johnson, & Sinclair, 1999; Schoppe, Mangelsdorf, & Frosch, 2001) and have more positive peer relationships—one indicator of which is greater prosocial behavior (McHale et al., 1999). Even though work has demonstrated a link between cooperative coparenting and children's early social interactions among peers, very little research has specifically examined coparenting and children's prosocial behavior.

Two possible mechanisms by which the coparenting relationship affects children's prosocial behavior are through modeling of social relationships and children's emotional security within the family. Research has shown that children who are exposed to helpful models are in turn more likely to be helpful themselves (Eisenberg et al., 2006; Rushton & Littlefield, 1979). It has been argued that the quality of the coparenting relationship is particularly salient to young children who, through observing their parents, learn and internalize social behaviors that will inform their behavior in relationships (Mangelsdorf et al., 2011). Indeed, coparents who model cooperative behaviors for their children may foster the development of their children's prosocial behavior by demonstrating positive interpersonal behavior that is responsive to the needs of others (Cox & Paley, 1997; Mangelsdorf et al., 2011). Cooperative coparenting behaviors may also promote a sense of family security for young

children, which then provides children with the opportunity to focus on their own and others' emotions and behavior (Davies & Cummings, 1994; Mangelsdorf et al., 2011; McHale & Rasmussen, 1998). Focusing on another's emotions and behaviors may further encourage the perspective-taking skills needed to recognize social situations that call for prosocial behavior and then proceed to engage prosocially. A cooperative coparenting relationship may therefore provide an important overall family context that fosters children's ability to learn and engage in prosocial behavior.

To date, research indicates that parenting and potentially coparenting influence children's prosocial behavior. Even though family systems theory recognizes that multiple subsystems interact to affect child outcomes (Cox & Paley, 1997), very little research examines how parenting and coparenting interact to affect children's social development. There is work, however, that has explored the interactive effects of the coparenting relationship and other family subsystems. First, Schoppe-Sullivan, Weldon, Cook, Davis, and Buckley (2009) found that supportive coparenting buffered children from developing externalizing behaviors such that when parents engaged in high levels of supportive coparenting behavior, there was no association between children's low levels of effortful control and externalizing behavior. Second, Leary and Katz (2004) discovered that hostile-withdrawn coparenting interacted with children's vagal suppression such that for children who were unable to suppress vagal tone (psychophysiological marker of emotion regulation), hostile-withdrawn coparenting was associated with higher levels of peer conflict. Comparatively, for children who were able to suppress vagal tone, there was no association between hostile-withdrawn coparenting and peer conflict. These emerging results provide support for continued exploration of interactions between the coparenting subsystem and other family relationships.

In sum, the current study examined associations between maternal inductive reasoning, cooperative coparenting, and the change in children's prosocial behavior from 24-months to 4-years. Consistent with previous work, we expected that mothers who reported greater inductive reasoning, as well as coparents who engaged in higher levels of coparenting cooperation, would have children with higher levels of prosocial behavior. We also hypothesized that coparenting cooperation would moderate the association between maternal inductive reasoning and children's prosocial behavior. We expected that cooperative coparenting would buffer children from developing low levels of prosocial behavior such that when coparents engaged in higher levels of cooperation there would be no association between maternal inductive reasoning and children's prosocial behavior. This interaction would further demonstrate that lower levels of inductive reasoning would be associated with less prosocial behavior only when coparents engaged in lower levels of cooperation, but not when they engaged in higher levels of cooperation.

Method

Participants and Procedure

The current study utilized data from a larger longitudinal study of emotion development ($N = 161$). Families were recruited through newspaper birth announcements, flyers posted at daycares, and a database of local families interested in participating in research studies. The current study included the 58 children ($M_{\text{age}} = 42.24$ months, $SD_{\text{age}} = .76$ months; 35 girls) and their parents (mothers' $M_{\text{age}} = 34.12$ years, $SD_{\text{age}} = 4.76$ years; fathers' $M_{\text{age}} = 36.29$ years, $SD_{\text{age}} = 5.77$ years) who participated in the 42-month triadic interaction tasks. The subsample was primarily Caucasian (children, 89.7%; mothers, 93.1%; fathers, 94.8%). Annual family income ranged from \$21,000 to over \$60,000 per year ($M = \$51,000$ to \$60,000). Mothers averaged 15.92 years of education ($SD = 2.67$ years) and fathers averaged 16.84 years of education ($SD = 2.45$ years).

There were significantly more girls in the subsample ($t = 2.04, p < .05$) and families whose fathers participated in the 42-month laboratory assessment had a higher average household income (M for subset = \$51,000 to \$60,000; M for overall sample = \$41,000 to \$50,000; $t = 2.75, p < .01$) and their children had higher levels of prosocial behavior at age 4 (M subset = 1.26, M overall sample = 1.12, $t = 2.16, p < .05$). The families in the subsample were not significantly different from the larger sample on any other key variables.

The current study used data from the 24-month, 42-month, and 4-year assessments. At the 24-month assessment, mothers were mailed questionnaires and also participated in a laboratory visit with their children. At the 42-month assessment, children and their parents participated in a laboratory visit that included three 5-min *triadic interaction tasks*. For the free-play task, families were instructed to play with the toys in the room as they normally would. For the structured play task, the experimenter brought a tower block game into the room and instructed families to play the game if they would like. For the clean-up task, parents were instructed to get their child to clean-up the toys, but to not actually clean-up the toys themselves. At the 4-year assessment, mothers were mailed questionnaire packets. This study was approved by an Institutional Review Board and families provided informed consent at each assessment.

Measures

Prosocial behavior—At the 24-month assessment, mothers completed the Infant Toddler Social Emotional Assessment (ITSEA; Briggs-Gowan & Carter, 1998), a reliable and valid measure of children's social-emotional competencies (Carter, Briggs-Gowan, Jones, & Little, 2003). We used the 5-item prosocial peer relations subscale (e.g., "Takes turns when playing with others") which is rated on a 3-point scale (0 = not true/rarely, 1 = somewhat true/sometimes, 2 = very true/often). Scores were averaged and higher scores indicate higher levels of prosocial behavior. For the current sample Cronbach's α was .72. At the 4-year assessment, mothers completed the MacArthur Health and Behavior Questionnaire that was designed to measure mental and physical health, and academic and social functioning (HBQ; Armstrong, Goldstein, & The MacArthur Working Group on Outcome Assessment, 2003). The HBQ has good internal consistency and test-retest reliability (Lemery-Chalfant et al., 2007). The 20-item prosocial behavior subscale that assesses a range of sharing, helping, and empathy-related behaviors was utilized (e.g., "Comforts a child who is crying or upset"). Items are rated on a 3-point scale (0 = Rarely applies, 1 = Applies somewhat, 2 = Certainly applies). Scores were averaged and higher scores indicate higher levels of prosocial behavior. For the current sample Cronbach's α was .88.

Parenting practices—At the 24-month assessment, mothers completed the Parenting Practices Questionnaire which was designed to assess specific parenting practices (PPQ; Robinson, Mandlco, Olsen, & Hart, 1995). The PPQ has shown satisfactory reliability and validity in previous research (Locke & Prinz, 2002). The current study used the 7-item inductive reasoning subscale (e.g., "Helps child to understand the impact of behavior by encouraging child to talk about the consequences of (his) (her) own actions"). Items are rated on a 5-point scale ranging from 1 (*Never*) to 5 (*Always*). Scores were averaged and higher scores indicate more inductive reasoning. For the current sample Cronbach's α was .84.

Coparenting—Coparenting behaviors during the triadic interaction tasks were coded based on the Coparenting and Family Rating System (CFRS; McHale, Kuersten-Hogan, & Lauretti, 2000). Global codes for each of the 5-min intervals were given for cooperation, coparental warmth, competition, and verbal sparring. The current study focused on cooperation. Cooperation was rated on a 5-point scale ranging from 1 (*very low*) to 5 (*very*

high) and describes the degree to which parents overtly cooperate while interacting with their child. This included reiterating the other parent's statements to their child and actively building on the interaction to facilitate the other parent's activities with their child. Coders trained until the secondary coder achieved the criterion of a kappa of .80 with the primary coder. 20% of the videos were randomly selected to calculate inter-rater reliability. Reliability for cooperation was good (adjusted $\kappa = .88$). Cooperation scores for the three tasks were positively correlated ($r_s = .51$ to $.71$) and were averaged to create a cooperation composite.

Results

Preliminary Analyses

The pattern of missing data was assessed (ITSEA, 36.2%; PPQ, 25.9%; HBQ, 15.5%), indicating that thirty-two of the families (55.2%) had complete data for all assessments. Little's MCAR $\chi^2 = 2.03$, $p = .85$ suggests that missing data were likely missing completely at random. Given that listwise deletion and mean substitution have been shown to bias parameter estimates and unnecessarily limit power (Widaman, 2006), we imputed the missing data in SPSS 19 using the recommended expectation/maximization (EM) algorithm (Jelić, Phelps, & Lerner, 2009). All data and analyses presented are based on imputed data. Descriptive statistics and correlations are presented in Table 1. The only significant correlation that emerged was between prosocial behavior at 24-months and 4-years of age. No other significant bivariate correlations emerged. Finally, no gender differences in prosocial behavior were evident at age 24 months or at age 4, $t(56) = 1.98$, $p > .05$ and $t(56) = .01$, $p > .05$, respectively. Therefore, gender was not included in the regression model.

Regression Analyses

A hierarchical regression was conducted to examine associations between maternal inductive reasoning, coparenting cooperation, and the change in children's prosocial behavior from 24-months to 4-years. All continuous variables were centered. The variables were entered in the following order: (Step 1) prosocial behavior at 24-months, (Step 2) mother report of inductive reasoning at 24-months, (Step 3) observed coparenting cooperation at 42-months, (Step 4) the interaction of observed coparenting cooperation $\times$ mother report of inductive reasoning. The overall model was significant, $F(4, 53) = 3.72$, $p < .01$, $R^2 = .22$. Children's prosocial behavior at 24-months was significant, $\beta = .30$, $p < .05$ and coparenting cooperation at 42-months was significant, $\beta = .10$, $p < .05$. Furthermore, a significant cooperation $\times$ inductive reasoning interaction emerged, $\beta = -.22$, $p < .05$. The interaction was plotted and simple slopes calculated (Aiken & West, 1991; Preacher, Curran, and Bauer, 2006). The slope of the line representing low cooperation was significantly different from zero ($\beta = .25$, $t = 2.44$, $p < .05$; Figure 1). Specifically, there was a positive association between inductive reasoning and prosocial behavior. At high levels of coparenting cooperation, there was no association between inductive reasoning and children's prosocial behavior ($\beta = -.10$, $t = -.86$, $p = .40$). This suggests that when high coparenting cooperation is present, prosocial behavior shows stability despite low levels of maternal inductive reasoning.

Discussion

There is increasing evidence to suggest that when children are more prosocial they are more likely to have positive social relationships later in life (Eisenberg et al., 2006). Given this, we investigated mothers' use of inductive reasoning and observed coparenting cooperation as correlates of children's prosocial behavior in early childhood. Consistent with a family systems perspective, we also examined whether coparenting cooperation moderated the

association between inductive reasoning and children's prosocial behavior. Contrary to previous research and our hypothesis, we found that mothers' use of inductive reasoning was not directly related to the change in children's prosocial behavior. This may be due to the measure of maternal inductive reasoning used in the current study. Specifically, the questionnaire was designed to assess general use of inductive reasoning, not to specifically assess mothers' use of inductive reasoning to promote prosocial behavior. This is important because research has shown that inductions vary in their content. They can be in reference to the consequences of children's actions towards others, which research suggests is the most important type of inductive reasoning for prosocial development, or they can provide matter-of-fact societal information (Eisenberg et al., 2006). Future work would benefit from including questionnaire and observational measures designed to assess parental use of inductive reasoning during situations that call for prosocial behavior.

While previous research has established that the coparenting relationship is associated with children's peer relationships, very few studies have focused specifically on prosocial behavior. Consistent with our hypothesis, we found that children were more prosocial when their parents engaged in more cooperative coparenting behaviors. These results are consistent with earlier research that has found that a cooperative coparenting relationship is uniquely associated with children's social outcomes above and beyond the effect of parenting. We also hypothesized that coparenting cooperation would moderate the association between maternal inductive reasoning and children's prosocial behavior. As predicted, children exhibited lower levels of prosocial behavior when their parents engaged in low levels of cooperation and when mothers reported infrequently using inductive reasoning. The results also suggest that cooperative coparenting has a 'protective-stabilizing' effect (Luthar, Cicchetti, & Becker, 2000), such that even when inductive reasoning is low, children's prosocial behavior remains stable under conditions of high cooperative coparenting. These findings demonstrate that parents who engage in high levels of coparenting cooperation may buffer their children from developing low levels of prosocial behavior when their mothers lack inductive reasoning in their repertoire of parenting practices. A highly cooperative coparenting subsystem may model positive interpersonal behavior, as well as serve as a stable context that supports children's well-being, thereby fostering their prosocial development. Given that these analyses controlled for children's initial levels of prosocial behavior, supportive coparenting behaviors presumably encouraged children's increasing levels of prosocial behavior across early childhood.

Although notable findings emerged, some limitations need to be acknowledged. First, the study was limited to self-report of maternal inductive reasoning, and potential differences in maternal and paternal use of inductive reasoning and their association with children's prosocial behavior were not examined. Second, few mothers reported using low levels of inductive reasoning. Even though there was variability in reported use of inductive reasoning, the findings may not generalize to families whose mothers do not implement this parenting practice. Third, findings from the current study may not apply to ethnic minority families, families of lower socioeconomic status, or families that do not consist of two, heterosexual, married, or cohabitating coparents. Finally, the study did not take into account heritability estimates of prosocial behavior. Typically, twin studies have shown substantial shared environmental and modest genetic influences on prosocial behavior in early childhood (Knafo & Plomin, 2006). Given the complex environmental and genetic processes underlying children's prosocial behavior, incorporating family systems and genetically informed perspectives into future work would contribute to a more holistic understanding of children's prosocial development.

Overall, this study contributes to our understanding of how multiple family processes contribute to changes in prosocial behavior from the toddler to the preschool period. The findings highlight the important role of a cooperative coparenting subsystem in influencing children's prosocial behavior, as well as the association between maternal use of inductive reasoning and children's prosocial development within the context of cooperative coparenting behaviors. Given the importance of prosocial behavior in the quality of children's social relationships, uncovering the family characteristics that are associated with prosocial behavior should remain a significant goal for investigations.

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Figure 1.
Observed Coparenting Cooperation $\times$ Mother Report of Inductive Reasoning
Note. $\beta = -.22$, $t = -2.11$, $p < .05$.

Table 1

Correlations and Descriptive Statistics for Study Measures

Measure	1	2	3	4	M	SD	Range
24-month assessment							
1. Prosocial behavior	--				1.08	.33	0.20 – 1.62
2. Inductive reasoning	.04	--			3.90	.56	2.57 – 5.00
42-month assessment							
3. Cooperation	.08	.03	--		3.10	.77	1.33 – 4.67
4-year assessment							
4. Prosocial behavior	.30*	.17	.23	--	1.27	.31	0.55 – 1.95

Note.

* $p < .05$.