

# Independent Contributions of Early Positive Parenting and Mother–Son Coercion on Emerging Social Development

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**Abstract** In the current study, we explored associations between parent–child coercion and positive parenting in the toddler period in relation to children’s social-behavioral development during the school-age period. The data were drawn from the Pitt Mother & Child Project, a sample of 310 low-income, ethnically diverse boys. Drawing on tenets of both attachment and social learning theory, it was hypothesized that coercive mother–son interaction would lead to reductions in positive maternal parenting in the toddler period, and that both positive parenting and mother–son coercion in the toddler period would contribute to children’s conduct problems at school entry and lower social skills and peer rejection in middle childhood. The results were largely confirmed, such that mother–son coercive interaction at 18 months was related to decreases in positive parenting at 24 months. Additionally, mother–son coercive interaction and positive parenting at 24 months were linked to child conduct problems at age 5, which in turn predicted child social skills and peer rejection during middle childhood. In addition to indirect effects through child conduct problems, mother–son coercion continued to be independently related to school-age peer rejection. The findings are discussed with respect to the importance of early coercive interactions in the growth of child social-behavioral development from early to middle childhood.

**Keywords** Coercion · Conduct problems · Parenting · Toddlerhood · Peer rejection

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## Introduction

It is well established that maternal behaviors play an important role in child social and behavioral development. Based on multiple theoretical perspectives, most notably attachment [1] and social-learning [2, 3] models, parent–child interaction during the infant and toddler periods may set the stage for and may be a salient factor in predicting later child outcomes [4, 5]. Children who experience high levels of harsh and rejecting parenting may internalize and model this negativity in their interactions with siblings, peers, and adults across time and different social contexts [6, 7]. Conversely, infants and toddlers with parents that are contingently responsive and proactively supportive are likely to show lower levels of disruptive behavior and higher levels of social competence with peers and adults at school-age [7, 8]. The current study sought to extend our understanding of how coercive parent–child interactions and positive parenting during the toddler period might independently contribute to children’s antisocial and prosocial behavioral development during the school-age period using a large cohort of low-income boys from an urban community. Such findings have potential implications for the early identification of risk factors associated with children’s prosocial and problematic outcomes, as conduct, social skills, and peer rejection problems consistently have been linked to problematic adjustment issues during adolescence and adulthood [9–11].

## Parent–Child Coercion in Early Childhood and Later Social Development

During the past several decades there has been an increasing acceptance and recognition of the importance of reciprocal and transactional processes in which children contribute to their own development by influencing parenting and their

subsequent development [12, 13]. One of the most heavily researched dyadic processes in parent–child interaction is coercion, which Patterson hypothesized to begin in early childhood based on variation in parent management skills and individual differences in children’s activity and aggression [2]. Subsequent theory and research has suggested that such coercive patterns might begin during the “terrible twos” based on children’s recently acquired physical mobility but without concomitant cognitive appreciation for the consequences of their behavior on others and their own well-being [3, 14].

The coercive cycle is hypothesized to begin with the parent’s desire for changing the child’s ongoing behavior with a directive and the child’s aversive response with non-compliant behavior. A demand by the mother may elicit an aversive response from the child, which, in turn, may ward off further maternal demands. If the mother gives in to the child’s aversive behaviors, this could reinforce the child’s negative response. Typically, such conflict ends with the parent yielding to the child’s disruptive behavior or less frequently, the parent using harsh verbal or physical means to end the conflict. Importantly, the child learns from these interactions that if I push hard and long enough, I get my way. This pattern of behaviors, when repeated throughout early childhood, was anticipated to result in an escalation of negative behaviors displayed both by the parent and the child, and become a prevalent pattern. Theoretically, a prototypical pattern of coercion established in early childhood was postulated to limit the child’s repertoire to develop less acrimonious approaches to resolve conflict with others, and to use disruptive and coercive means to get his/her way with peers, teachers, and other adults outside of the home [3, 5].

Consistent with Patterson’s formulation, the restrictive, non-democratic and coercive approach to discipline would be expected to prevent children from learning self-regulatory abilities and adaptive social skills, and from creating opportunities for social exploration [15]. Extant research has not only supported the association between early parent–child coercion and later conduct problems both in early and middle childhood [14, 16–19], but early coercive interactions parenting behaviors have been linked to lower levels of child social skills, social competence, and self-regulatory capacities, as well as subsequent peer rejection [6, 9, 20].

### **Early Parent–Child Attachment, Positive Parenting, and Later Social Development**

Attachment theory emphasizes the importance of parental contingent responsiveness during infancy to establish trust and security in the parent–infant relationship [1]. Parents who are warm, intimate, sensitive, and responsive have infants that develop a secure attachment to parents, which in turn has been positively linked to multiple facets of social

competence during the preschool and school-age period [21, 22]. Infants whose parents display contingently responsiveness have been found to be more motivated to comply with their parents’ requests, internalize parents’ rules and regulations, and be better able to control their emotions and behaviors [23–25]. Conversely, insecurely attached children are thought to develop internal working models in which others are viewed as unavailable, rejecting, and hostile [22]. Furthermore, positive parenting creates positive valence in the parent–child relationship and provide a model for non-coercive interaction [26]. Related research on the contribution of positive parenting during early childhood suggests that providing supportive, nurturant, and/or involved parenting is associated with higher levels of prosocial behavior, better social problem solving ability, better self-regulatory capacity, better social competence, and lower rates of conduct problems, even after controlling for the effects of harsh parenting [14, 23, 25, 27–30].

### **Independent Contributions of Positive Parenting and Parent–Child Coercion on Social Development**

Whereas attachment theory focuses on providing a secure and positive base, primarily during the infant period, parenting becomes more complicated in the second year with the advent of children’s increasing physical mobility. As such, evaluating only high levels of positive or negative parenting behaviors may not suffice in capturing salient elements of parent–child relationship. The support for the influence of simultaneous effects of negative and positive parenting behaviors on the child development comes mostly from the intervention research. While some studies highlighted the effects of increasing the positive parenting behaviors (e.g., warmth, responsiveness, and positive engagement) in reducing the negative parenting behaviors [31–33], others focused on the importance of reducing the negative behaviors (e.g., inconsistent discipline, harsh parenting) to promote the positive parenting behaviors and adaptive child outcomes [32, 34, 35].

### **The Current Study**

This study was designed as a prospective study to examine the associations between components of both positive and coercive mother–son interaction between 18 and 24 months in relation to multiple indices of children’s social development between ages 5–10 in a sample of boys from low-income families from an urban community. Although there has been an increasing interest in studying longitudinal associations between multiple facets of early parenting and child social development, only a few studies have compared the independent contributions different parenting dimensions during the toddler period in relation to multiple dimensions

of child social-behavioral development. Such findings could be especially important for boys growing up in low-income, urban communities because of their risk for a host maladaptive outcomes during adolescence and adulthood [36, 37]. Thus, the current sample provided an excellent opportunity to study how dimensions of positive and negative parenting and mother–son interaction might be linked to multiple social outcomes at school-age among this cohort of boys from low-income backgrounds.

This study had two specific aims and hypotheses. First, bidirectional associations between mother–son coercion and maternal positive parenting were investigated between 18 and 24 months, permitting the study of how dimensions of positive and negative parenting are related to one another over time during a developmental period of transition (i.e., terrible twos). Based on social learning and attachment theories [1, 2] and extant research [31–33] we expected that higher levels of positive maternal parenting would predict decreases in subsequent coercion, and higher levels of coercion at 18 months would be associated with lower levels of positive maternal parenting at 24 months. Second, we examined independent contributions of mother–son coercion and maternal positive parenting in relation to multiple social outcomes during middle childhood, including child conduct problems and social skills, and peer rejection. We expected that higher levels of early mother–son coercion would be positively associated with higher levels of child conduct problems at 5 years, lower social skills at age 7, and peer rejection at ages 10–11. Similarly, we hypothesized that maternal positive parenting would contribute unique variance in relation to lower levels of conduct problems and peer rejection and higher levels of social skills during the school-age period after accounting for the contribution of early mother–son coercion.

## Method

### Participants

Participants were 310 low-income boys and their mothers who were recruited from Women, Infants, and Children (WIC) Nutritional Supplement clinics in metropolitan area of Pittsburgh for the Pitt Mother & Child Project (PMCP). PMCP is a longitudinal study whose goal was to identify child, family, and community factors associated with child vulnerability and resiliency in low-income families. Families were recruited when children were between 6 and 17 months old [18]. Other than for a subgroup of infants first seen at 12 months, for most children assessments began when boys were 18 months old, with subsequent home and/or laboratory assessments at ages 2, 3.5, 5, 5.5, 6, 8, 10, 11, 12, 15, 17, 20, and 22 years old. At the time of recruitment,

participants were primarily European American (51%) and African American (39%). About one-third of the mothers were single or divorced and two-thirds of the mothers had 12 years of education or less. Sixty-eight percent of the families were living below the federal poverty line (mean per capita income that based on individual family members = \$2892/year).

For the current study, boys and their mothers participated in home assessments at 18 months, a combined home and lab assessment at 24 months, and home assessments at ages 5 and 5.5. Mothers completed questionnaires about the child, parenting, and family interactions, and also were observed in structured activities with their sons to provide information on mother–son interaction, parenting, and child behavior. Teacher questionnaires were administered when boys were age 7, and peer nominations were obtained of peer acceptance/rejection when children were between 9 and 11 years old at a study-only, YMCA-style summer day camp that was held for two adjacent years.

### Measures

The study utilizes multiple methods (questionnaires, observations, peer nominations) and informants (mothers, teachers, peers) to assess parenting and child behavior across multiple settings from child age 18 months to age 10. Parenting, child oppositional behavior, and mother–son interaction during the toddler period were generated from observations in the lab, boys' aggression during toddlerhood, child conduct problems, and family SES were reported on by mothers, children's social skills were based on teacher reports, and peer relationships were evaluated by peers.

#### *Parent–Child Coercion*

At 18 and 24 months of age, mother–child dyads were video recorded at the lab visits while they engaged in a 5 min clean-up task. Following a 15-min period where children were allowed to play with a series of attractive toys while mothers completed demographic information with the examiner, mothers were instructed to ask their child to put the all of the toys in a basket. The Early Parenting Coding System (EPCS) [38] was used to code the positive and negative verbal and non-verbal maternal behaviors. Coders were trained so that both molecular and global codes were reliable with those of the master coder and lead author of the EPCS [39]. EPCS includes ten molecular codes representing the number of occurrence of each behavior and six global codes representing overall impression of the coder that was rated on a 4-point scale.

For the current study, because of our interest in mother–son coercion, separate indices of mother–son coercion were generated at 18 and 24 months using scores of

maternal negative behaviors and child noncompliance at each age during the clean-up task. The z-scores were calculated for maternal negative behaviors and child noncompliance. The coercion variable was created by summing these maternal and child scores at each age.

From all other available molecular codes, two molecular codes representing maternal negative behaviors were included; *negative physical* (e.g., parent holds child's hand and forces child to put a toy in the basket) and *critical statements* (e.g., "Don't!", "Are you going to act like that?"). The kappa coefficients were 0.67 and 0.75 for negative physical and critical statements, respectively. The two codes were standardized and aggregated into a single measure of maternal negative behavior at 18 months ( $\alpha=0.63$ ) and 24 months ( $\alpha=0.68$ ). Child noncompliance also was coded molecularly during the 5-min clean-up task at 18 and 24 months of age, with scores representing the total number of seconds the child demonstrated noncompliant behavior. An aggregated composite score of noncompliance included behaviors of changing the task, walking away, passive noncompliance, verbal noncompliance, and struggling or resisting the mother [40]. The kappa coefficient scores were 0.71 and 0.79 at 18 and 24 months, respectively.

#### Positive Parenting

Positive maternal behaviors also were coded at 18 and 24 months during the clean-up task using codes generated by the EPCS. These included two molecular codes (physical approval and verbal approval) and one global code (global warmth). Thus, the composite maternal positive measure included (1) *physical approval* (e.g., parent nods as child puts a toy in the basket), (2) *verbal approval* (e.g., "There you go" "Nice job") and (3) *global warmth* (e.g., mothers' positive affect). The kappa coefficients were 0.77, 0.89, and 0.81 for physical approval, verbal approval, and global warmth, respectively. The composite factor score for maternal positive behaviors were created with these three codes at 18 months ( $\alpha=0.62$ ) and 24 months ( $\alpha=0.68$ ).

Although measures of child noncompliance, maternal negative and positive behaviors were generated from the same 5-min clean-up task at both 18 and 24 months, because concurrent associations between each of these variables were only modest to moderate in magnitude, we believe they represent related but independent constructs: noncompliance and maternal negative  $r=.09$ , *ns* at 18 months and  $r=.29$ ,  $p<.01$  at 24 months; child noncompliance and maternal positive  $r=-.14$ ,  $p<.05$  at 18 months and  $r=-.24$ ,  $p<.01$  at 24 months; maternal negative and maternal positive  $r=-.06$ , *ns* at 18 months and  $r=-.19$ ,  $p<.01$  at 24 months.

#### Child Conduct Problems

The age 4–18 version of the Child Behavior Checklist (CBCL) [41] is a 113-item parent report measure that assesses the frequency of child problem behaviors. For the current study, we utilized the 33-item broadband externalizing scale to assess child conduct problems ( $\alpha=0.88$ ) based on maternal reports when boys were age 5 and 5.5 years. To obtain a more generalizable score of conduct problems, a single externalizing score was generated by taking the mean of both assessments. When only data from one of the two assessments were available, either age 5 or age 5.5 scores were used.

#### Child Social Skills

The Social Skills Rating Scale (SSRS) [42] was utilized to assess various aspects of social skills based on teacher reports when children were at age 7. Teachers rated children's behavior on a 3-point scale in terms of their frequency (0 = never, 1 = sometimes, 2 = very often). The items allow the estimation of a total social skills scale and three subscales: cooperation (e.g., "Follows your directions";  $\alpha=0.91$ ), assertion (e.g., "Invites others to join in activities";  $\alpha=0.82$ ), and self-control (e.g., "How often controls temper with adults";  $\alpha=0.90$ ). The total score of social skills was used in this study ( $\alpha=0.93$ ).

#### Peer Rejection

During two consecutive summers when children were between the ages of 9 and 11 (i.e., it took 2 years to recruit the initial sample and assess at 18 months old), children were invited to participate a 2-week summer day camp. Children were assigned to groups of 11–12 children (i.e., huddles) for activities such as small and large group games, field trips and free plays. Each huddle was heterogeneous with respect to child age and previous history of child conduct problems, the latter based on worries about deviant peer contagion effects. The children were assigned to huddles to ensure that they had not previously met [43]. On successive Fridays of both weeks of the camp, sociometric interviews were conducted with children from which peer ratings of relationship characteristics were collected. Children were asked to rate how well they liked their peers on a 3-point scale (0 = don't like, 1 = likes ok, 2 = likes a lot) [44]. A mean sociometric rating was calculated for each child where lower scores indicated higher levels of peer rejection. To maximize the number of children included in analyses and use of data from both years the camp was held, a peer rejection score was generated by taking the average peer ratings when scores from both years were available, and using one of the two scores when the child attended the camp in only one of the 2 years.

### Covariates

To account for potential child effects on mother–son coercion and positive parenting [45], and because of its direct relation with child conduct problems during the preschool and school-age periods [46, 47], toddler aggression was included as a covariate. The *Aggression* factor of the Toddler Behavior Checklist (TBC) [48] was administered to mothers at 18 months to assess conduct problems. Mothers rated their infant on a 4-point scale (e.g., “Fights with siblings or other children”;  $\alpha=0.75$ ). To account for later child conduct problems, the broad-band externalizing scale of age 2–3 version of the CBCL was included [41],  $\alpha=0.89$  at age 42 months.

Similarly, as socioeconomic status has been repeatedly linked to higher levels of mother–son coercion and lower levels of positive parenting, as well as to child conduct problems [36, 49, 50], family SES also was included as a covariate in multivariate models. Although the sample was predominantly low SES, because considerable variation was evident in terms of family income and neighborhood quality, family SES also was included as a covariate. The Hollingshead scale was used based on maternal reports of parental occupational status and education when children were 18 months old [51].

### Analysis Plan

We initially conducted two selective attrition analyses to examine whether the boys who attended the summer camp ( $n=167$ ) differed from those who did not ( $n=143$ ) and to examine whether boys with teacher reports on social skills ( $n=174$ ) differed from those who did not ( $n=136$ ) on early childhood study variables, including infant aggression at 18 months, family SES at 18 months, child conduct problems at 24 months, and both positive parenting and mother–son coercion at 18 and 24 months. Results indicated no selective attrition effects based on the presence or absence of camp- or teacher-based data for any of the aforementioned study variables. In analyses, missing data were addressed by using full information maximum likelihood procedures in MPLUS.

We then estimated the path model that included all variables predicting the peer rejection outcome with MPLUS [52]. Specifically, coercion and positive parenting were regressed onto each other at 18 and 24 months of age. This path included autoregressive paths from one time point to the next (e.g., coercion at 18 months to coercion at 24 months) and also concurrent covariances between the measures at each time point to avoid overestimating the cross-lagged coefficients (e.g., covariance between coercion at 18 months and positive parenting at 18 months). The latter model was built upon this cross-lagged effect of coercion and positive parenting to predict child conduct problems at age 5. Then, child social skills at age 7 were regressed

onto child conduct problems, controlling for the early childhood coercion and positive parenting variables. Finally, peer rejection was added as an outcome to be predicted by all earlier assessed study variables. In all analyses, toddler aggression and family SES were included in the model to rule out “third variable” explanations based child behavior or socioeconomic differences. As the model evaluation criteria, the fit statistics of Chi square ( $\chi^2$ ), comparative fit index (CFI), root mean square error of approximation (RMSEA), and Standardized/Weighted Root Mean Square Residual (SRMR) were reported.

### Results

Table 1 provides the descriptive statistics and correlations of the study variables. Coercion and positive parenting behaviors were concurrently negatively associated at each time point of 18 and 24 months of age, but these correlations were much stronger at 24 versus 18 months of age. Among child outcomes in middle childhood, as expected higher levels of child conduct problems were associated with lower levels of social skills and higher levels of peer rejection. There are variations in the associations of the coercion and positive parenting behaviors with the child outcomes. Child conduct problems were associated with positive parenting and coercion measured at 24 months of age, whereas peer rejection was associated with coercion at 24 months of age and positive parenting behaviors at each time point of 18 and 24 months of age. Social skills were not associated with any parenting measures.

The final path model in which coercion and positive parenting were linked to later child conduct problems, social skills, and peer rejection had satisfactory fit indices,  $\chi^2(20)=32.25$ ,  $p=.05$ ; CFI=0.96; RMSEA=0.05; SRMR=0.04. We built the model step by step; first testing the bi-directional association between coercion and positive parenting, then including child conduct problems, child social skills and peer rejection respectively, as dependent variables. We provide the coefficient values for the final path model as seen in Fig. 1. The analyses revealed that both autoregressive paths for the coercion and positive parenting were statistically significant from 18 to 24 months:  $\beta=0.25$ ,  $p<.01$  for coercion and  $\beta=0.47$ ,  $p=.01$  for positive parenting, controlling for the effects of family SES and toddler aggression. To test our first hypothesis, we analyzed the longitudinal association between positive maternal parenting and coercion, subsequently.

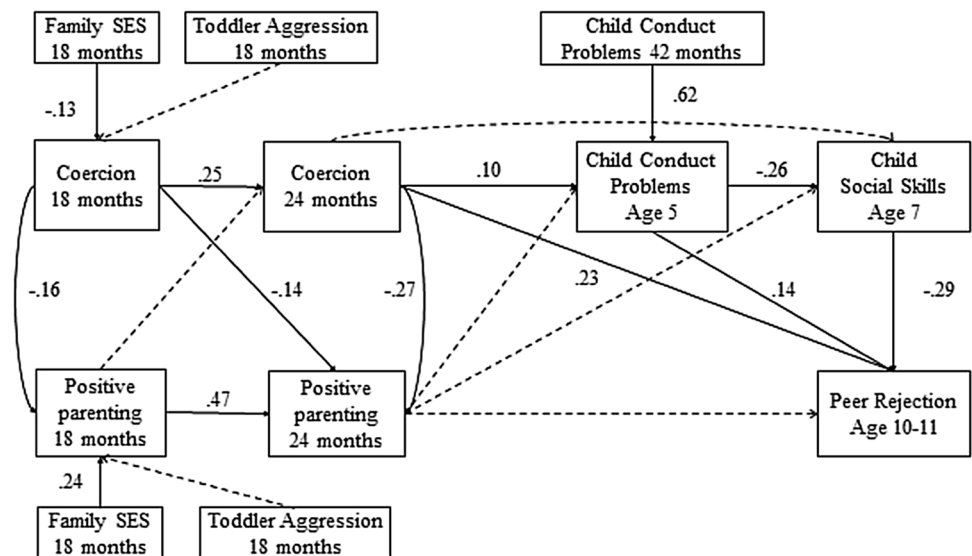
Whereas higher levels of coercion at 18 months predicted a significant decreased positive parenting at 24 months ( $\beta=-0.14$ ,  $p=.03$ ), positive parenting at 18 months was not related to subsequent coercion ( $\beta=0.00$ , *ns*).

**Table 1** Descriptive statistics of the study variables

	Mean (SD)	Range	2	3	4	5	6	7	8	9	10
1. Family SES	23.37 (9.24)	6–58	0.10	-0.08	0.02	0.25**	0.20**	-0.07	-0.14*	0.14*	-0.12
2. Toddler aggression	17.53 (6.45)	0–37	-0.01	-0.03	0.01	0.01	-0.02	0.33**	0.32**	0.02	0.01
3. Coercion at 18 months of age	0.01 (1.43)	-2.67–4.76			0.23**	-0.13*	-0.19**	0.03	0.12	-0.05	0.15
4. Coercion at 24 months of age	0.01 (1.61)	-2.62–5.69				-0.04	-0.27**	0.08	0.16*	-0.05	0.27**
5. Positive parenting at 18 months of age	0.01 (1.03)	-2.78–3.62					0.48**	-0.11	-0.12*	0.04	-0.18*
6. Positive parenting at 24 months of age	0.00 (1.00)	-2.38–2.63						-0.09	-0.16*	0.09	-0.21*
7. Child conduct problems at 42 months of age	16.00 (7.83)	0–38							0.63**	-0.02	0.19*
8. Child conduct problems at 5 years of age	13.24 (7.52)	0–38								-0.22**	0.31**
9. Social skills	37.97 (10.51)	8–58									-0.28**
10. Peer rejection	1.20 (0.39)	0.13–1.94									

\* $p < .05$ ; \*\* $p < .01$

**Fig. 1** The results of the study model predicting peer rejection at 10–11 years of age. Notes (1) The model included family SES, toddler aggression, and early child conduct problems as exogenous control. (2) Dashed lines represent the paths that were non-significant. (3) The values are standardized coefficients



Next, we included the estimation of our second hypothesis, whether mother–son coercion and positive parenting in early childhood predicted child conduct problems at age 5 and subsequent social skills and peer rejections in middle childhood, controlling for the effects of family SES, toddler aggression, and child conduct problems at age 42 months. After testing bi-directional associations between coercion and positive parenting, we first included child conduct problems in our analyses. Higher levels of observed coercion ( $\beta = 0.10, p < .05$ ) predicted maternal reports of child conduct problems at age 5, whereas observed positive parenting behaviors did not ( $\beta = -0.07, ns$ ).

We then added teacher reports of child social skills at age 7 and peer nominations of rejection at ages 10–11 to the model. Although neither early mother–son coercion nor positive parenting were directly linked to child social skills, child conduct problems at age 5 were negatively associated with age-7 social skills ( $\beta = -0.26, p < .01$ ). Based on links between early positive parenting and coercion to child conduct problems, we tested for indirect effects of coercion and positive parenting to child social skills via child conduct problems. We used model indirect command in MPLUS and tested the indirect effects with 10,000 bootstraps.

The significance of the indirect effects from the mediation analyses utilized bias-corrected bootstrap confidence intervals [53, 54]. We also used  $k^2$  statistics [55] to measure the effect size of the mediation analyses. The results indicated that the child conduct problems mediated the association between positive parenting and child social skills ( $\beta = 0.44, SE = 0.20, p = .03; R^2 = 0.039$ ) and between early coercion and child social skills ( $\beta = -0.24, SE = 0.12, p = .04; R^2 = 0.041$ ). Thus, positive parenting was associated with high social skills, whereas coercion was associated with

low social skills via the mediating role of child conduct problems.

Whereas no direct effects of early positive parenting or coercion were found for child social skills, mother–son coercion at 24 months predicted peer rejection at ages 10–11 ( $\beta = 0.23, p < .05$ ) after accounting for the previous estimation. In addition, both child conduct problems at age 5 ( $\beta = 0.14, p < .05$ ) and social skills at age 7 ( $\beta = -0.29, p < .01$ ) were associated with later peer rejection in expected directions.

Based on finding of the significant associations between early positive parenting and coercion to child conduct problems, and between age 5 child conduct problems to later peer rejection, we again tested for indirect effects from coercion and positive parenting to peer rejection via child conduct problems. While no indirect effect was evident from coercion to child conduct problems to peer rejection ( $\beta = 0.01, SE = 0.01, ns$ ), there was a significant indirect effect from positive parenting to child conduct problems to peer rejection ( $\beta = -0.02, SE = 0.02, p < .05; R^2 = 0.038$ ).

## Discussion

Utilizing a fairly large sample of low-income boys at risk for multiple socioemotional adverse outcomes [7], the current study used observational data to examine the effects of early coercive mother–son interaction and positive parenting behaviors on multiple later child social-behavioral outcomes: child conducts problems, social skills and peer rejection. The findings suggest the differential roles of acrimonious mother–son interaction and positive parenting ( $r = -.23, p < .01$ ) during the toddler period in the development of social-behavioral outcomes during the school-age

period. The hypotheses of the study were largely supported such that negative mother–son coercion at 18 months was related to decreases in positive parenting at 24 months. Moreover, negative mother–son coercive interaction and positive parenting were linked to child conduct problems at age 5, which then indirectly predicted child social skills at age 7 and peer rejection at age 10–11. The mother–son coercion at 24 months had a direct contribution to peer rejection, even after accounting for the effects of early child behaviors.

### Early Parent–Child Coercion and Positive Parenting

Although many studies have investigated associations between parent–child coercive interactions and positive parenting behaviors during early childhood, only a few have examined these associations as early as the toddler period. Similar to previous longitudinal studies conducted during early childhood [33, 56–58], our results provided evidence of within domain, short-term stability for both mother–son coercion ( $r = .23$ ,  $p < .01$ ) and positive parenting ( $r = .48$ ,  $p < .01$ ). Results of the cross-lagged analyses indicated a significant negative effect of coercive mother–son interaction at 18 months on subsequent positive parenting behaviors at 24 months, but not a significant effect of early positive parenting on subsequent coercive mother–son interaction. While attachment theory emphasizes the positive valence of parent–child interaction and extant research support the importance of increasing positive parenting behaviors to decrease the negative parenting and coercive parent–child interaction [31–33], the results of the current study showed that it may be more important to decrease the coercion between mothers and sons to promote the positive valence in their relationship. Consistent with coercion theory [2], decreasing rates of coercion in mother–son interactions in the toddler period may gain importance as parenting becomes more complicated based on children’s rapid increase in physical mobility, need for autonomy, and opposition to gain the independence [3].

### Parent–Child Coercion and School-Age Child Outcomes

Consistent with the premise that parents’ attempts to control toddlers may unwittingly reinforce and promote children’s aggressiveness and noncompliance, our results indicated that children who engaged in higher levels of coercive mother–child interaction in toddlerhood showed higher levels of conduct problems at 5, lower levels of social skills at 7, and higher levels of peer rejection at 10–11 years. The results indicated stable effects of parenting on later child social behavioral outcomes, even after controlling for the early child problem behaviors. These results are consistent with the early studies [5, 14, 17, 18, 59] suggesting that

coercive interactions provide negative behavioral schemas and constitute a negative role model for children [60]. Consistent with coercion theory, acrimonious mother–child interaction in early childhood may lead children to relate to peers in a similar manner, limiting the child’s opportunities to learn alternative approaches to conflict resolution, anger management, and maintaining close relationships with others [2]. Consequently, children who lack these necessary social skills required for a positive relationship are more likely to be rejected by their peers [61–63]. Although there are several studies that have tested links between conflictual parent–child interaction and school-age peer rejection during the preschool years [27, 64], the current study suggests that such associations can be identified beginning during the toddler period.

### Early Positive Parenting and Children’s Later Social Adjustment

As previous research suggests that warm and sensitive parenting motivates children to cooperate with parents and teaches them how to regulate their emotions and behaviors, and gain the necessary social skills to interact with others [25, 43], we were interested in examining associations between early positive parenting and multiple child social outcomes after accounting for variance attributable to parent–child coercive interaction. We found an indirect association from early positive parenting to later social skills and to later peer rejection through age-5 child conduct problems. This finding supported the previous research documenting the link between social-behavioral deficits with peer rejection [62, 63, 65]. The inability to regulate their feelings and behaviors, to interpret others’ behaviors, to respond affectively to others, and to communicate and cooperate effectively may influence these children’s standing in a peer group [5, 63, 66, 67]. When these boys experience difficulties in forming positive social relationships and become disruptive in a group, it increases the probability that they will be rejected by their peers in later childhood.

The current findings are consistent with attachment theory, which suggest that warm and contingently responsive parenting behaviors provide a predictably in the relationship that encourages children to manage problems effectively, fosters emotion and behavior regulation, and to be eager to comply with the parental demands [24, 66, 68]. Whereas the pathway from early positive parenting to peer rejection was more complex, and only found for children who showed elevated levels of disruptive problem behavior at age 5. As past research on peer rejection during the school-age period suggests it is a reliable predictor of later antisocial behavior [69], lower academic attainment [10], negative school attitudes [70], and school drop-out [9, 71], research on the



early childhood antecedents could be critical to preventing peer rejection.

Poverty is one of most salient factors that affect family dynamics and children's developmental outcomes [35, 50]. Parents and children from low-income families are exposed to many risk factors on a daily basis, including exposure to unsafe neighborhoods, and environmental toxins, as well as inaccessibility and inadequate financial resources to provide nutritionally sound food, child care, and preschool education for children [72]. These experiences compromise parent and child functioning and the emotional climate in parent–child interactions [36], leading to problems in several domains of social functioning when children reach school-age. Similar to a recent study using the current low-income sample that found harsh, rejecting parenting, early child oppositional behavior, and child self-regulation assessed prior to age 3.5 discriminated youth who were found to commit violent versus nonviolent offenses [11], findings from the current study suggest that low levels of positive parenting, and the combination of harsh parenting and child oppositional behavior contribute to multiple domains of children's social functioning at school-age.

Our findings also suggest that early coercion and positive parenting were relatively stable over time and associated with child social-behavioral development from toddlerhood to early adolescence, suggesting that early identification could be informed by assessments of child–parent interaction and targeting such interactions to improve child outcomes. Preventive interventions that address such parent–child interactions by increasing levels of positive parenting and parent–child interactions are recommended to address and promote children's future social adjustment [31, 33]. Our results highlight the importance of the toddler period as an optimal time to initiate such preventive efforts.

Our study had some limitations that must be considered in interpreting the results. Firstly, our sample included only boys from low socioeconomic, urban backgrounds. It is known that although parent–child coercive interaction results in negative child social development both for girls and boys, the strength of the association may be different in mother–son and mother–daughter dyads, as well as between father–son and father–daughter dyads [73]. Different socialization aims and parental attitudes for boys and girls may differentially contribute to the process of the trajectories of social-behavioral development, in which mothers may be more harsh and coercive with boys than girls [74, 75]. It is also likely that biological factors may contribute to the higher rates of aggressive behaviors in boys [76]. These children, with the probability of higher conduct problems, may be more likely to respond to negative parental behaviors with higher conduct problems which, in turn, elicit higher levels of negative behaviors from their parents [2]. Thus, the effects of early coercive interactions in mother–daughter dyads and

their effects on later social-behavioral development may be different, making it a prime avenue for future research. Similarly, the results need to be replicated in boys and girls living in higher SES rural and suburban contexts. Secondly, although retention of the sample was relatively high for low-income sample followed over the course of nearly a decade (i.e., retention of this sample continues to be high at age 22–83%), many children were unable to attend the summer camp because of other commitments or for other reasons. Although no differences emerged in selective attrition analyses, the sample size was comparatively small in the analyses for peer rejection, which was assessed only during the camp. Thirdly, although aggregated observationally-based measures were used to capture parent–child coercion, this strategy was not an ideal way of measuring the dyadic relationship between the mother and the child. A coding system that reflects the behaviors of the dyads simultaneously and that combines both molecular and molar ratings would be preferable in future studies [33]. Fourthly, a single informant was used to measure each construct and it may not be possible to disentangle the effects of the informant from the constructs. Thus, some of the insignificant associations may be the result of informant bias rather than the construct itself.

Despite these important caveats, the study also incorporated several methodological strengths, including the use of a multi-informant, multi-method and longitudinal approach, to examine the direct and indirect effects of parent, child, and parent–child dyadic relations on children's emerging conduct problems, social skills, and peer rejection. The results provide insights into the importance and the lasting and independent associations between early parent–child coercive interactions and positive parenting on three important child outcomes in middle childhood. The findings highlight the importance of the toddler period as a promising time to understand, identify, and potentially intervene in early parent–child dynamics to prevent the lasting negative effects on the child social-behavioral development.

## Summary

This study investigated the effects of early parent–son coercion and positive parenting on later social-behavioral development, including the important developmental transition periods with a sample of low-income and ethnically diverse boys and their mothers. The results showed that negative mother–son coercive interaction decreased the subsequent positive parenting behaviors, and both positive parenting and mother–son coercion in the toddler period contributed to children's conduct problems at school entry and lower social skills and peer rejection in middle childhood. The results have the potential to inform the intervention research by emphasizing the importance of

early coercive interactions in the growth of child social-behavioral development from early to middle childhood.

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