Published in final edited form as:

Soc Dev. 2014 August 1; 23(3): 470–486. doi:10.1111/sode.12048.

Maternal Social Coaching Quality Interrupts the Development of Relational Aggression During Early Childhood

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Abstract

Previous research has shown that parents of socially competent young children provide them with elaborative, explicit, appropriate and emotion-laden advice about peer interactions. The current study analyzed mothers' conversations with preschoolers ($N=175$; 52% female; M age = 52 months, $SD = 7$ months) about peer conflicts involving relational aggression. Conversations were coded for maternal elaboration, emotion references, and discussion of norm violations. Information about relational and physical aggression was collected from teachers at two assessments approximately 12 months apart for a subsample of 136 children. Regression analyses, controlling for physical aggression, showed that average and high levels of effective coaching operated as a protective factor against stable high levels of relational aggression. Theoretical and practical implications for our understanding of the early development of relational aggression are discussed.

Keywords

parental influence; observation methods; aggression; preschool

A growing body of research indicates that relational aggression, a subtype of aggressive behavior characterized by attempts to damage a peer's relationships (Crick & Grotpeter, 1995), is a significant quality of children's peer interactions during the preschool years (Bonica, Arnold, Fisher, Zeljo, & Yershova, 2003; Crick, Ostrov, Burr et al., 2006; Nelson, Hart, Yang, Olsen, & Jin, 2006; Ostrov, 2010). Relational aggression is a complex form of social behavior as evidenced by its concurrent and longitudinal associations with indicators of maladjustment (e.g., internalizing and externalizing problems; Card, Stucky, Sawalani, & Little, 2008; Crick, Ostrov, & Werner, 2006) and social adjustment (e.g., popularity, friendship intimacy; Hawley, Little, & Card, 2007; Puckett, Aikins, & Cillessen, 2008). Research investigating the early emergence and developmental course of relational aggression remains scarce; however available evidence suggests that broad qualities of parenting are associated with relational and physical aggression (e.g., Casas et al., 2006;

Hart, Nelson, Robinson, Olsen, & McNeilly-Choque, 1998; see Kawabata, Alink, Tseng, van IJzendoorn, & Crick, 2011, for a review). Little is understood about parenting factors that uniquely impact the development of relational aggression. The current investigation draws on models that highlight the explicit ways in which parents influence children's peer competence (Ladd & Pettit, 2002; Parke, Burks, Carson, Neville, & Boyum, 1994). Specifically, in a short-term longitudinal study, we examined in an early childhood sample, the relationships between mother-child conversations about peer conflicts and developmental changes in children's relational aggression.

Developmental Changes in Relational Aggression

An important, but under-researched, question is the extent to which individual differences in relationally aggressive behavior are stable over time, particularly when demonstrated early in childhood. Ostrov (2010) observed rates of relational and physical aggression in 3- to 6-year old children and found that stability coefficients for relational aggression were modest over a 4-month period ($r = .37$). Vaillancourt, Brendgen, Boivin, and Tremblay (2003) studied a conceptually similar construct to relational aggression, children's use of indirect aggression, in a nationally representative sample of Canadian children. The major difference between the two constructs is that indirect aggression generally occurs behind the back of the target, relational aggression would include the construct in its definition, but can also include overt attempts to inflict harm. The terms have few differences, and are thought by some to ultimately capture the same phenomenon (Vaillancourt et. al, 2003). The stability of indirect aggression across 2- and 4-year periods was even higher than that reported by Ostrov (2010) ($r = .54$ and $.45$, respectively). The Vaillancourt study used mother-ratings of child aggression, which might have resulted in somewhat inflated stability estimates due to the use of a single informant across the assessments. Nonetheless, these findings provide important evidence that children who display high levels of relational aggression in early childhood are likely to remain aggressive over time, a pattern that has been widely shown to be true for physically aggressive children (e.g., Brame, Nagin, & Tremblay, 2001; Olweus, 1979; Patterson, 1992).

Parental Influences on Children's Social Competence

Parke et al. (1994) proposed a tripartite model to describe how parents influence children's peer relations. According to this model, children learn competent ways of interacting with peers via three interrelated processes: the quality of the parent-child relationship; parents' provision of opportunities for social contact with age-mates; and explicit advice from parents about peer interaction. Ladd and Pettit (2002) refer to the latter two mechanisms as "direct" parental influences because they involve explicit efforts on the part of parents to foster children's peer competence. A large body of literature has linked broad parenting styles and practices (e.g., coercive and psychological control; low levels of warmth and responsiveness) with problematic social outcomes including aggression (e.g., Harrist, Pettit, Dodge, & Bates, 1994; McFadyen-Ketchum, Bates, Dodge, & Pettit, 1996), however, these relations are relatively modest. Mize and Pettit (1997) argued that children may also need direct or explicit forms of guidance from their parents to acquire social skills.

Social Coaching and Children's Peer Competence

Mothers advise their children about making friends and dealing with peer conflicts as early as the preschool years. Mize and Ladd (1990) defined social coaching as the parental practice of giving advice and providing assistance to a child about peer relationships. In an initial study, Laird, Pettit, Mize, Brown and Lindsey (1994) evaluated the frequency and content of parent-child dialogues about peers in a sample of preschoolers and their mothers. Approximately half of mothers reported that they talked to their children about peers daily. Mothers who reported more frequent conversations with children about peers tended to be more involved with and encouraging of children's peer interactions. Importantly, frequent peer-focused conversations predicted higher levels of social competence even after controlling for the overall level of general parenting encouragement and involvement, suggesting that the peer focused content of these conversations is significant.

Only a few studies have observed parents' social coaching strategies with a focus on content. Finnie and Russell (Finnie & Russell, 1988; Russell & Finnie, 1990) observed mothers' supervision strategies during a laboratory peer play session and found that mothers of high social status, or popular, preschoolers provided more group-oriented, positive, and active strategies, compared to mothers of less socially competent children. Mize and Pettit (1997) assessed both the style and the content of mothers' discussions with children about videotaped peer conflicts. Mothers who elaborated extensively, framed conflicts in a positive, resilient fashion, and who endorsed prosocial strategies had children who were less physically aggressive, more prosocial, and higher in peer acceptance according to teachers. Similar to findings by Laird et al. (1994), high quality social coaching predicted children's social competence independently of the general style of mother-child interaction. Together, these studies suggest that individual differences in the occurrence and quality of parents' explicit instruction about peer interactions are associated in significant ways with indicators of social competence during early childhood. Because of the lack of longitudinal studies on this topic, however, we cannot make assumptions about the direction of influence.

Parental Influences on Relational Aggression

Far less is known about specific parenting qualities that predict children's use of relational aggression. Studies examining broad parenting practices suggest that children whose parents use high levels of harsh and coercive parenting and psychological control, and low levels of responsiveness, are more relationally aggressive and physically aggressive than their peers (Cote, Vaillancourt, Barker, Nagin, & Tremblay, 2007; Hart et al., 1998; Nelson et al., 2006). In perhaps the most important study of parenting and relational aggression, to date, Vaillancourt, Miller, Fagbemi, Cote and Tremblay (2007) identified two distinct trajectories of children's use of indirect aggression from ages 4 to 10 using mother-reports: a stable low aggression group and an increasing group. Importantly, they found that ineffective parenting (low support, inconsistency) practices measured when children were 2 years of age predicted increasing rates of indirect aggression for boys and girls. These authors did not examine whether these same parenting practices predicted increasing rates of physical aggression in children, although ample evidence from other studies (Casas et al., 2006; Hart et al., 1998; Nelson & Crick, 2002) suggests this was likely the case.

Despite the similarities in parenting behaviors correlated with children's relational and physical aggression, recent research has shown that adults hold different sets of beliefs and feelings about different subtypes of aggression. For example, in a study conducted with school-age children, Werner and Grant (2008) found that mothers described relationally aggressive behaviors as more acceptable and normative than physical aggression, and they attributed less responsibility to children for using relational aggression. Research with educators has also shown that teachers are less likely to include relationally aggressive behaviors than physically aggressive actions in definitions of bullying (Craig, Henderson, & Murphy, 2000). Mothers of preschoolers reported being less upset, less likely to intervene, and less likely to communicate to their child that a social or moral rule was violated in hypothetical scenarios depicting relational aggression as compared to physical aggression (Werner, Senich, & Przepyszny, 2006).

The underlying premise of the current investigation is that mothers' distinctive beliefs about subtypes of aggression impact their discussions with young children about aggressive peer conflicts. Moreover, we reasoned that mother-child discussions about aggression represent an important context in which children learn adaptive ways of processing information about and appropriate strategies for managing peer conflicts. For example, if mothers are relatively accepting of relational aggression, they might be less likely to communicate clearly that these behaviors are wrong, which in turn could influence children's developing normative beliefs about relational aggression (Werner & Grant, 2008). It is also possible that mothers' cognitions about relational aggression impact the amount of time they spend discussing relational aggression with children, or the extent to which they emphasize the emotions of children who are the targets of relational aggression.

The Current Study

The primary goal of this study was to evaluate whether the quality of mothers' social coaching impacts the development of young children's relationally aggressive behavior. We focused on three qualities identified in previous research on social coaching. The first quality, *elaboration*, refers to the extent to which mothers elaborate on important aspects of social situations during discussion with children. Several studies suggest that maternal elaboration is predictive of important social and emotional outcomes in young children including emotion understanding and internalization (Laible, 2004) and teacher-rated social competence (Mize & Pettit, 1997). We also coded mother-child discussions for *emotion references*. Parents use emotion-based language for many reasons including to help children to be aware of and clarify their own emotions, and to teach children appropriate responses to emotion-laden experiences (Brown & Dunn, 1991; Denham & Auerbach, 1995; Miller & Sperry, 1988; Wang & Fivush, 2005). Longitudinal studies have found that maternal explanations of emotions are related to more advanced understanding of emotions in children (Brown & Dunn, 1991; Garner, Dunsmore, & Southam-Gerrow, 2008) and to lower levels of aggression and higher prosocial behavior (Garner et al., 2008). Finally, we measured mothers' communication of *rule violation*, a dimension that captures the extent to which mothers highlight that aggressive actions violate social or moral conventions. Although rule violation has not yet been studied in actual coaching contexts, Werner et al. (2006) asked mothers to describe their responses to hypothetical displays of preschoolers'

aggression. Mothers who indicated they would respond to relational aggression with strategies that communicated rule violation had daughters who engaged in less relational aggression and more prosocial behavior (Werner et al., 2006).

Our central analysis focused on the association of social coaching qualities with future levels of child relational aggression. Specifically, we tested the hypothesis that social coaching will interrupt the developmental course of relationally aggressive behavior in young children. As stated previously, intraindividual differences in relational aggression are moderately stable during early childhood and comparable to those for physical aggression (Crick, Ostrov, Burr et al., 2006; Murray-Close & Ostrov, 2009; Ostrov, 2010; Vaillancourt et al., 2003). Given prior findings showing that ineffective parenting predicted increasing levels of relational aggression in young children (Vaillancourt et al., 2007), we reasoned that high quality social coaching might act as a protective factor against increasing use of relational aggression. We tested this hypothesis by exploring the interaction of social coaching quality and children's initial level of relational aggression in the prediction of future relational aggression, controlling for the level of physical aggression. Therefore, social coaching was examined as a moderator of the trajectory of relational aggression over time—a common approach for the identification of protective factors in development (e.g., Lansford et al., 2006).

We also examined child gender as a potential moderator of the prospective associations of maternal social coaching and children's use of relational aggression. According to social learning theory (Bandura & Walters, 1959), children identify more strongly with same-gender parental models. Consistent with this theory, several studies have found evidence to support the hypothesis that mothers play a particularly salient role in daughters' early peer competence. The most direct evidence comes from Mize and Pettit's (1997) study of preschoolers in which they found that mothers' social coaching predicted indicators of girls' peer competence but not boys'. Two studies of maternal social information processing patterns provide additional support for gender-specific pathways of influence in the peer domain. MacBrayer, Milich, and Hundley (2003) found that maternal attributions of hostility were correlated with daughters' hostile attributions, and Werner and Grant (2008) reported that mothers' normative beliefs about relational aggression were predictive of daughters' normative beliefs as well as teacher-rated peer competence. Both of these studies focused on school-age children. We therefore hypothesized that associations between mothers' social coaching and children's aggressive behavior would be stronger for daughters than for sons.

Method

Participants

Participants in this study included 175 children (91 females; mean age at school year start = 4.30 years, $SD = 0.62$) and their mothers (mean age = 35.21 years, $SD = 6.17$) and teachers ($N=11$). Children were recruited in 4 consecutive cohorts from local preschools and childcare centers in a medium-sized city in the northwestern United States. Eight-five percent of children were White, 5% were Asian or Asian-American; 2% were African-American; and the remaining belonged to other ethnic groups. Thirty-five percent of mothers graduated from high school, earned a GED, or completed an Associate's degree;

30% earned a Bachelor's degree; and 34.5% earned a graduate or professional degree. Seventy-eight percent of mothers were married to target children's biological fathers at the initial assessment. Forty percent of mothers reported family income of 10-40K per year; 30% reported income of 40-70K, and 29% reported income greater than 70K. Twenty-four percent of families were receiving public assistance at the initial assessment.

Teacher-ratings of child behavior at Time 2 were available for 136 children (77% of the Time 1 sample). We compared children with data at Time 1 only with those in the longitudinal sample on initial levels of relational and physical aggression. Children in the longitudinal sample were less physically aggressive than those in the Time 1 only sample, $F(1, 173) = 5.50, p = .02$. There were no differences in relational aggression, $F(1, 173) = 0.90, p = .34$.

Equivalence of cohorts—We compared Cohorts 1-4 on demographic and behavioral characteristics to determine their equivalence. Cohorts differed on child ethnicity, $\chi^2(3) = 7.73, p = .05$, maternal education status, $\chi^2(6) = 18.25, p < .01$, and marital status, $\chi^2(3) = 9.25, p = .026$. One-way ANOVAs conducted on child age and teacher-ratings of relational and physical aggression at both assessments, however, revealed no significant effect of Cohort. We therefore combined the cohorts into a single sample but statistically controlled for family demographic variables in our primary analyses.

Overview of Procedures

In the early fall of the first year of this study, we identified all group childcare centers and preschool programs serving children ages three to six in the local area. Center directors were contacted and meetings were scheduled upon our request. Two childcare centers and three preschools expressed interest in participating. These five programs included 11 classrooms serving approximately 150 children in the targeted age range. Letters were sent home with children describing the study and inviting parents to allow their child to participate in a study of social development and parent-child interaction. A total of 65 parents provided consent in the first year, and 37 mother-child dyads completed the social coaching task, representing a participation rate of approximately 25% of the eligible sample.

To increase the sample size for this investigation, we followed similar recruitment procedures each fall semester during the subsequent three consecutive years. Each year, participating childcare centers and preschools sent consent forms home with children in the appropriate age range who had not already participated in the study. Low turnover in participating childcare programs resulted in fewer eligible children in the participating centers in years two through four. In the third year of the study, two additional preschool programs agreed to take part, thereby increasing our pool of new participants. Numbers of mother-child dyads in Cohorts 2, 3, and 4 were 48, 60, and 30, respectively, again, representing a participation rate of approximately 25% of the eligible sample for years two and three and a participation rate of 30% of the eligible sample in year four.

Following the informed consent process, lead teachers completed behavior ratings on participating children in the winter semester for each cohort. Laboratory sessions took place in the spring and early summer of the same academic year. During the laboratory session,

mother-child dyads engaged in a series of structured and semi-structured interaction tasks, one of which was the conversation task designed to elicit naturalistic social coaching behavior from mothers. Sessions lasted between 60-90 minutes, and interactions were videotaped behind a one-way mirror. The current study focuses only on the social coaching task. Approximately one year following the collection of Time 1 teacher-ratings, children's teachers were contacted and asked to provide follow-up behavior ratings (Time 2). More than 70% of children had transitioned to a new classroom at Time 2 and were thus rated by different teachers at each assessment. Adult participants provided written informed consent, and child participants provided verbal assent prior to data collection.

Assessment of Mothers' Social Coaching Qualities

During the laboratory session, each mother-child dyad was presented with a hand-made book consisting of stories illustrated with cartoons showing preschool-age children engaged in social conflicts. Peer conflicts were similar to those used in assessments of young children's social information processing (e.g., Casas & Crick, 2007). The first 4 vignettes depicted *ambiguous provocations* in which a negative outcome resulted for the target child but the intention of the provocateur is unclear. These stories were not used for the analyses of this study, but were provided to stimulate conversation between mothers and children who may have had different feelings and attributions about the hostility of various types of aggression. Following the ambiguous stories, mothers read 4 additional stories that depicted clearly *hostile provocations*, two of which the target child used relational aggression to retaliate against a provoking peer. The remaining two stories depicted a child using a physical or instrumental retaliation. Retaliatory behaviors included, "I'm telling my friends not to play with you" and "I'm not your friend anymore". Across all stories in the task, half described relational conflicts (e.g., target child does not receive an invitation to a peer's birthday party; a peer gets up and leaves when the target child sits down next to him/her) and half described physical or instrumental conflicts (i.e., the target child is pushed out of line to go to recess; target child is hit with a ball while playing in the sandbox).

Mothers were instructed to discuss each story with their child "as she would if she were reading a book to her child at home". The instructions were purposefully broad so as to elicit conversations about peer relationships that might naturally take place in the home context, and to avoid self-report biases that might occur when adults are asked to provide explicit instruction or coaching to children. The task continued until the dyad discussed all stories. Transcripts were made from the videotaped conversations, and mothers' social coaching qualities were coded from these transcripts and the videotapes by trained research assistants.

Measures

Child aggression: Teacher-ratings (time 1 and time 2)—Lead teachers assessed children's aggressive behavior using the Preschool Social Behavior Scale-Teacher Form (PSBS-T; Crick, Casas, & Mosher, 1997) at Time 1 and Time 2. This measure consists of 25 items and 6 subscales. In the present study, the *relational aggression* (9 items) and *physical aggression* (8 items) scales were used. A sample item for relational aggression is: "How often does this child ignore someone or refuse to listen to peers when angry?" Teachers rated target children on each item using a 5-point Likert scale (1 = *never/almost never true*

to 5 = *always/almost always true*). Scores were computed by averaging across items making up each scale. The PSBS-T has been shown to have excellent psychometric properties in prior research. Factor analyses confirm the existence of separate factors for relational and physical aggression across several samples, and Cronbach's alphas for the two subscales typically exceed .90 (Bonica et al., 2003; Crick et al., 1997; Estrem, 2005; Johnson & Foster, 2005; Ostrov & Keating, 2004). Teacher ratings of aggression using the PSBS-T have also been found to correlate significantly with naturalistic observations (Ostrov & Keating, 2004). Both scales were reliable in this sample ($\alpha = .88$ for relational aggression and .88 for physical aggression).

We examined the distribution of all study variables and found that teacher-ratings of physical aggression at Time 2 were skewed and kurtotic. All other aggression variables were normally distributed. We calculated logarithmic and square root transformations on scores for physical aggression and retained the former variable because it resulted in a more normally distributed estimate. Table 1 includes raw scores; however we used transformed variables in our central analyses.

Social Coaching Qualities

Observational codes focused explicitly on the content of *mothers'* conversation during the coaching task. The coding scheme was developed by the first and third authors for the purpose of this study. The coding scheme consisted of global and discrete codes that were developed by adapting schemes used in previous research (Laible, 2004; Mize & Pettit, 1997; Werner et al., 2006). The code for emotional references was added based on hypotheses for the current study, and previous research (Brown & Dunn, 1991; Garner et al., 2008). Videotapes of the social coaching task were transcribed by trained research assistants blind to the hypothesis of the study and were reviewed, further developing the definitions and distinctions between codes and scores. Following an extended training phase, Cohort 1-2 conversations were coded by the third author, and Cohorts 3-4 were coded by the second and fourth authors. Each coding dimension (elaboration, emotion references and rule violation) was scored on a 5-point scale ranging from 1 (very low) to 5 (very high) for each story. Approximately 25% of transcripts were double coded by the first author for reliability. Kappas were .85 for elaboration, .80 for emotion references, and .74 for rule violation.

Scores for *elaboration* captured the extent to which mothers engaged children in discussion about key issues in the conflicts by helping them attend to relevant cues and details in each story by asking open-ended questions or making statements. We considered the key issues to include discussion of characters' intentions and emotions, the child's experience with similar events, and strategies for handling the situations. Very low scores were given to mothers who read the story verbatim, paraphrased the story, or engaged children in discussion about superficial content (e.g., pointing out character names).

Emotion references captured the extent to which mothers specifically highlighted the emotions of characters in the story by focusing on emotion cues (e.g., facial expressions), encouraging children to think about how the characters in the story feel (or how child would feel if s/he were the character in story), and making emotional statements or asking questions about emotions. Very low scores were assigned when mothers did not appeal to

emotions or feelings of characters in the story, did not respond to child's reference to emotions, or they implicitly, but not explicitly acknowledged others feelings or how behaviors make other people feel.

Rule violation captured the extent to which mothers communicated that children's aggressive behavior in each vignette violated a social or moral rule (Note that we coded for rule violation only in the clearly hostile stories.) Specific elements of this dimension include statements (explicit or implicit) that aggressive actions are inappropriate, and the presence of additional elements such as explanations of why behavior is wrong, discussion of consequences of aggression, suggestions of alternative courses of action, or discussion of how to remedy the situation. Very low scores were given to mothers who failed to communicate either explicitly or implicitly that aggressive behavior is wrong.

Results

Preliminary Analyses

Descriptive statistics and intercorrelations among study variables can be found in Tables 1 and 2. A series of correlations and independent samples t-tests revealed several findings of importance. Boys were more physically aggressive than girls at Time 1, $t(173) = 2.68, p < .01$ and Time 2, $t(132) = 2.25, p < .05$. No gender differences in relational aggression were found; there were also no gender differences in mothers' use of the three coaching strategies. Moderate overlap in aggressive behavior was found; relational and physical aggression were significantly correlated at both time points. Finally, both relational and physical aggression demonstrated modest stability across the 12-month period, slight decreases were not significant. Intraindividual differences in physical aggression were somewhat more stable than those for relational aggression, $z = -1.59, p < .06$.

We used correlations and a series of one-way ANOVAs to examine the associations of child and family demographic characteristics (child ethnicity; maternal age, education status, and marital status) with coaching qualities. There was a significant effect of maternal education status on elaboration, $F(3, 173) = 7.07, p < .001$, emotion references, $F(3, 173) = 3.20, p < .05$, and rule violation, $F(3, 173) = 3.01, p < .05$. Post hoc tests showed that mothers with a Bachelor's degree used higher levels of elaboration compared to mothers with a graduate/professional degree and to those with an Associate's degree or less. Mothers with a Bachelor's degree also used more frequent emotion references and higher rule violation compared to mothers with a graduate/professional degree, but they did not differ significantly from mothers with an Associate's degree or less. There were no differences in coaching qualities as a function of mothers' marital status or age. Mothers of White children, however, used more frequent emotion references compared to mothers of children of other ethnicities, $F(1, 173) = 5.07, p < .05$.

Do Maternal Coaching Qualities Predict Child Relational Aggression at Time 2?

Our prospective analyses tested the hypothesis that effective social coaching would interrupt the developmental course of relationally aggressive behavior in young children. Effective coaching was conceptualized as higher levels of elaboration, emotion references and rule

violation. We tested this hypothesis using a series of hierarchical multiple linear regression equations. To avoid problems with multicollinearity, we computed separate models using each coaching dimension. In each model the dependent variable was time 2 relational aggression scores. We included the following control variables: child gender (0 = male; 1 = female), age, ethnicity (1 = White, 0 = other), maternal education (dummy-coded into 2 variables: 1 = Bachelor's degree vs. 0 = other; and 1 = Professional/graduate degree vs. 0 = other), marital status (1 = married vs. 0 = other), time 1 relational aggression (to control for the stability of relational aggression across the one-year period), time 1 physical aggression (to control for the overlap between relational and physical aggression), and time 2 physical aggression (to control for concurrent overlap between teacher-ratings of relational and physical aggression). In addition to the controls, we entered a single coaching quality and the two-way interactions of child gender by coaching quality and time 1 relational aggression by coaching quality to test our moderation hypotheses.

Prediction from maternal elaboration—The first model used maternal elaboration as the social coaching quality predictor variable (refer to Table 3). The regression model was highly significant, $F(12, 122) = 8.40, p < .001$. Girls, children who were younger at the initial assessment, and those who were physically aggressive at time 2 were described by teachers as more relationally aggressive at time 2. As expected, initial levels of relational aggression significantly predicted subsequent relationally aggressive behavior. Although the main effect of maternal elaboration did not predict time 2 relational aggression scores, this coaching quality interacted with initial levels of relational aggression to predict time 2 relational aggression.

We explored this interaction by identifying groups of children whose mothers were high (>1 SD above sample mean), low (<1 SD below sample mean) and average on observed elaboration. Next we computed the regression model previously described separately for each coaching group. Among children whose mothers used low levels of elaboration, time 1 relational aggression scores significantly predicted time 2 scores, $\beta = .45, p < .05$. In contrast, initial relational aggression scores failed to significantly predict subsequent relational aggression among children whose mothers engaged in average, $\beta = .12, ns$, or high levels of elaboration, $\beta = .14, ns$.

Prediction from maternal emotion references—This regression model was identical to the one previously described with the exception of the inclusion of observed emotion references in the place of maternal elaboration. The model was again highly significant, $F(12, 122) = 8.40, p < .001$. The same univariate predictors of time 2 relational aggression emerged (gender, age, time 1 relational aggression and time 2 physical aggression). Importantly, the interaction of maternal emotion references and initial relational aggression scores was significant. We found that, among children whose mothers used infrequent emotion references, initial relational aggression scores predicted higher levels of future relational aggression, $\beta = .97, p < .01$. This was not true for children whose mothers used average levels of emotion references, $\beta = .11, ns$ or high levels, $\beta = -.25, ns$.

Prediction from rule violation—Our final regression model included rule violation as the coaching quality indicator. The model was significant, $F(12, 122) = 7.42, p < .001$.

However, the only significant predictors were time 1 relational aggression ($\beta = .15, p = .05$) and time 2 physical aggression ($\beta = .65, p < .001$). Maternal use of rule violation did not explain individual differences in children's use of relational aggression, nor did it moderate the association of time 1 and time 2 relationally aggressive behavior.

Discussion

To our knowledge, this is the first study to directly observe mothers' discussions with young children about relational aggression. Drawing on prior research on social coaching and peer competence (e.g., Mize & Pettit, 1997) and on survey-based studies of parental cognitions about relational aggression (Werner & Grant, 2008; Werner et al., 2006), we hypothesized that maternal coaching qualities would be predictive of children's use of relational aggression across a one-year period. Our results showed that among children who engaged in initially high levels of relational aggression, those whose mothers used average or high levels of elaborative, emotion-focused social coaching about relationally aggressive peer conflicts were significantly less relationally aggressive the following year compared to children whose mothers used low levels of effective coaching. We interpret these results as evidence that effective social coaching operates as a protective factor for children at-risk for relational aggression.

Effective Social Coaching as a Protective Factor

The most important results of this study showed that social coaching quality moderated the one-year stability of young children's relationally aggressive behavior. Although longitudinal studies of relational aggression are still rare, the available longitudinal evidence suggests that individuals' relational aggression is moderately stable across early and middle childhood (Ostrov, 2010; Vaillancourt et al., 2003, 2007). Our results extend this research by showing that this stability was present *only* for children whose mothers engaged in low levels of effective coaching. Children whose mothers used average or high levels of effective coaching showed little stability in relationally aggressive behavior across the study period.

It is important to recognize that stability can be positive or negative depending on whether children engaged in low or high initial levels of relational aggression. Our results provide important information about the developmental trajectory for children at greatest risk for future relational aggression – namely, those who showed initially high levels of this behavior. Among these children, mothers' social coaching quality appeared to operate as a protective factor to the extent that children who experienced effective coaching were less relationally aggressive one year later than their initial aggression scores would predict. At-risk children whose mothers engaged in low levels of effective coaching, on the other hand, showed a trajectory of continued high engagement in relational aggression.

The mechanisms that might account for this pattern require further study. One possibility is that ineffective social coaching influences children's developing social-cognitive and emotion skills in an adverse way. For example, children whose mothers fail to highlight important aspects of conflictual peer interactions, such as the causes of conflict, might be more likely than other children to develop a hostile attribution bias. Elaborative discussions

are also likely to include weighing the pros and cons of different strategies for resolving conflicts. Having a repertoire of prosocial but assertive responses to conflict might function as a protective factor against retaliatory aggression in young children who already have a propensity to use relational aggression.

The results of this study also significantly extend prior research on family risk factors for relational aggression. In the most comprehensive review and meta-analysis conducted to date, Kawabata et al. (2011) examined associations between four broad dimensions of parenting and relational aggression. The results showed that children whose parents used high levels of harsh and coercive parenting, psychological control, or uninvolved parenting, or who used low levels of positive parenting, were at risk for relational aggression. Notably, however, the authors acknowledged that the lack of studies controlling for concurrent levels of physical aggression significantly limits our understanding of the unique parenting factors that contribute to children's use of relational aggression. The results of the current study shed some light on how relational aggression develops in young children, independent of physical aggression.

It is worth noting that, in the current study, mothers' discussion of rule violation did not predict patterns of child relational aggression over time. One prior study found that mothers who reported responses to hypothetical displays of their children's relational aggression that included clear statements of rule violation, had children who were less relationally aggressive (Werner et al., 2006). Similarly, Werner and Grant (2008) found that mothers' power assertive responses, characterized by intent to use higher levels of assertion and disapproval, predicted higher prosocial behavior and peer acceptance. Both of these studies, however, measured mothers' proposed responses to their child's displays of relational aggression, which is likely a different context than that used in the current study. Our findings raise the possibility that, in the context of actual discussions about hypothetical peers who engage in relational aggression, maternal elaboration and use of emotion references are better teaching tools than clear statements of rule violation. Continued investigation of this particular dimension of social coaching is clearly needed.

It is also noteworthy that the current study found a significant effect of maternal educational status on their use of elaboration, emotion references, and rule violation. It was surprising that mothers with a Bachelor's degree used higher levels of all aspect of social coaching than those with more education, however they only differed significantly from those with less education on one dimension: elaboration. These findings suggest that mothers with high levels of education, graduate/professional degrees, may not be engaging in effective social coaching in order to allow more independence for their children, or potentially as a consequence of the amount of time that they spend with their children. Future studies could examine this issue and the potential relationships between maternal education, frequency of conversations with children, and time spent with children and their social coaching. Additional research is needed to identify maternal and child characteristics that may influence social coaching, and how these potential interactions might work.

Strengths and Limitations

The present study is the first observational investigation of mother-child discussions about relational aggression, and one of the first studies to find unique and prospective associations between specific parenting behaviors and children's use of relational aggression during the preschool years. Strengths of this study include the use of an observational measure of parenting and a prospective design, as just mentioned, in addition to the use of an independent informant of child aggression and controlling for overlap between relational and physical aggression in our models. These methodological strengths allow us to conclude with some degree of confidence that maternal coaching explains variance in future levels of child relational aggression, variance that is not shared with child physical aggression. Nonetheless, several limitations of our study design warrant mention when interpreting our results. First, our sample was a convenience sample taken from childcare centers in two small college towns, resulting in relatively low participation rates. Additionally, because we advertised the study as a study of family and peer relationships, mothers who were more involved in their children's peer relationships may have participated, potentially impacting the findings of our study. The sample was also predominantly White and very highly educated. It is important to replicate this study with more diverse populations, including families with children not attending group childcare.

We also collected data across 4 cohorts that differed on maternal education, marital status, and family income, although not on maternal discussion qualities or child relational aggression. Although we statistically controlled for socio-demographic variables in our analyses, it is nonetheless possible that the associations between maternal coaching and relational aggression vary across certain characteristics of mothers. In addition, although our sample was diverse with respect to indicators of socio-economic status, the majority of participants were White. Racially and ethnically diverse samples are needed to determine whether these factors moderate the associations of parenting and relational aggression (see Brown, Arnold, Dobbs, & Doctoroff, 2007). Another limitation to our design was the use of a laboratory setting to assess maternal social coaching. Though an observational view of mothers' conversations with their children about peers provides a unique and important glimpse into the parent-child relationship, a laboratory setting could have influenced mothers' conversations with their children causing them to engage in more discussion with their children than they would engage in in a natural setting. Finally, although the longitudinal design allowed us to make stronger causal inferences than a cross-sectional design, the design is still correlational and alternative explanations need to be considered. It is possible, for example, that unmeasured third variables (such as genetic factors or mother and child IQ) could have contributed to the relationships reported here. Such variables should be considered in future research.

Conclusion and Future Directions

In conclusion, this study found that maternal elaboration and references to emotions during discussions about peer conflict operated as a protective factor for children who initially engaged in high levels of relational aggression. Although these are novel and significant results, additional research is needed to replicate and extend these results. Specifically, investigators should consider studying social coaching in a more naturalistic setting (e.g., the

home), exploring additional dimensions of social coaching not studied here (e.g., maternal hostile attributions about children), and examining coaching effects in more diverse populations. Moreover, given recent evidence that fathers might play a particularly salient role in the development of relational aggression (Kawabata et al., 2011), investigation of fathers' social coaching is needed.

On a final note, the research reported here has important applications to the development of preventive interventions for both relational and physical aggression. To date, very few empirically tested interventions specifically for relationally aggressive children have been published (see Leff, Wassdorp, & Crick, 2010, for a review). Most notable is the fact that, despite empirical evidence that parenting and parent-child relationships influence the development of aggressive and prosocial behaviors in children, none of existing programs on relational aggression have included parents. Drawing on the results of the current study, an effective prevention strategy might be to train parents of young, relationally aggressive children to seek out opportunities to discuss peer conflicts in a highly elaborative and emotion-focused manner.

Acknowledgments

Support for this research was provided to Nicole Werner by the US National Institute of Child Health and Human Development (1R03HD055974-01A2). Special thanks to the numerous graduate and undergraduate students who worked on this study over the years. We would also like to thank the directors, principals, teachers, and parents who supported this study.

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Table 1

Descriptive Statistics

Variable	Mean	SD	Min-Max	Skew	Kurtosis
Child Behavior					
1. Relational Aggression (Time 1)	1.77	0.59	1.00 – 3.89	0.95	0.55
2. Physical Aggression (Time 1)	1.29	0.43	1.00 – 3.50	2.19	5.66
3. Relational Aggression (Time 2)	1.57	0.60	1.00 – 4.00	1.50	2.32
4. Physical Aggression (Time 2)	1.19	0.39	1.00 – 4.13	4.04	24.43
Coaching Qualities					
5. Elaboration	3.03	0.85	1.00 – 4.83	-0.29	-0.29
6. Emotion References	2.25	0.73	1.00 – 4.67	0.56	0.67
7. Rule Violation	2.76	0.80	1.00 – 4.25	-0.36	-0.41

Note. All variables are raw scores.

Table 2
Intercorrelations of Child Aggression and Mothers' Coaching Qualities

Variables	1	2	3	4	5	6	7
1. RA (Time 1)							
2. PA (Time 1)	.32***						
3. RA (Time 2)	.17*	.22*					
4. PA (Time 2)	.06	.41***	.60***				
5. Elaboration	-.03	-.07	-.07	-.06			
6. Emotion References	.03	.09	-.04	-.03	.73***		
7. Rule Violation	.02	-.13	.02	-.00	.65***	.50***	

Note. RA=relational aggression; PA = physical aggression.

*
 $p < .05$,

**
 $p < .01$,

 $p < .001$.

Table 3
Regression Models Predicting Time 2 Relational Aggression from Maternal Social Coaching Qualities (Elaboration and Emotion References)

Variable	Dependent Variable: Time 2 Relational Aggression			
	Elaboration		Emotion References	
	B	SE B	B	SE B
Constant	2.17	0.39	2.27	0.39
Child Gender	0.19	0.09	.16*	0.09
Child Age	-0.13	0.07	-.14*	0.07
Child Ethnicity	-0.17	0.11	-.11	0.11
Ed: BA vs. other	-0.09	0.11	-0.07	0.10
Ed: Graduate vs. other	-0.02	0.10	-0.02	0.10
Marital Status	-0.08	0.10	-0.06	0.10
T1 PA	-0.10	0.13	-0.06	0.13
T2 PA	1.70	0.19	.68***	0.19
T1 RA	0.09	0.04	.15*	0.04
Coach	0.06	0.06	.09	0.06
Coach* Gender	-0.16	0.09	-.17†	0.09
Coach* T1 RA	-0.09	0.04	-.15*	0.04
R ²	.45		.45	
F	8.40***		8.45***	

Note. Child gender: boys = 0, girls = 1; T1 = Time 1; T2 = Time 2; RA=relational aggression; PA = physical aggression; Ed = maternal education; Coach = Specific aspect of social coaching reflected in each column (Elaboration & Emotion References).

* $p < .05$,
** $p < .01$,
*** $p < .001$.