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Relational and Overt Aggression in Preschool

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Abstract: This research was designed as an initial attempt to assess relational aggression in preschool-age children. Our goal was to develop reliable measures of relational aggression for young children and to use these instruments to address several important issues (e.g., the relation between this form of aggression and social-psychological adjustment). Results provide evidence that relationally aggressive behaviors appear in children's behavioral repertoires at relatively young ages, and that these behaviors can be reliably distinguished from overtly aggressive behaviors in preschool-age children. Further, findings indicate that preschool girls are significantly more relationally aggressive and less overtly aggressive than preschool boys. Finally, results show that relational aggression is significantly related to social-psychological maladjustment (e.g., peer rejection) for both boys and girls.

Longitudinal investigations have shown that childhood aggression is one of the best known social predictors of future maladjustment (Berkowitz, 1993; Loeber, 1990; Parker & Asher, 1987). These studies have demonstrated the significance of aggression for identifying children at risk for developmental difficulties. However, although many important advances have been made in our understanding of childhood aggression, much of this knowledge has been gained through the study of aggressive boys only (cf. Crick & Dodge, 1994; Parke, 1992; Robins, 1986). The lack of attention to aggressive girls has likely occurred because the study of overt aggression has been emphasized, a form of aggression that is more characteristic of boys than of girls (Berkowitz, 1993; Block, 1983; Parke & Slaby, 1983). However, in recent research, a relational form of aggression has been identified that has been shown to be relatively more characteristic of girls (Crick & Grotpeter, 1995; Lagerspetz, Bjorkqvist, & Peltonen, 1988).

In contrast to overt aggression, which harms others through physical damage or the threat of such damage (e.g., pushing, hitting, kicking, or threatening to beat up a peer), relational aggression harms others through damage to their peer relationships (e.g., using social exclusion or rumor spreading as a form of retaliation). Crick and Grotpeter (1995) proposed that, when attempting to inflict harm on others (i.e., aggressing), children do so in ways that are most likely to thwart or damage the social goals of the target. Thus, boys are likely to use physical forms of aggression that hinder the instrumentally oriented dominance goals that tend to be characteristic of boys (Block, 1983). In contrast, Crick and Grotpeter hypothesized that girls are more likely to use relational forms of aggression because they are effective in hindering the affiliative, intimacy goals that tend to be more typical of girls (Block, 1983).

Recent studies of relational aggression have demonstrated the importance of a focus on this form of aggression in addition to overt aggression (for a review see Crick et al., in press). These studies have provided evidence that relationally aggressive behaviors are highly aversive and damaging to children. For example, the majority of children view these behaviors as mean, hostile acts that cause harm and that are frequently enacted in anger (Crick, 1995; Crick, Bigbee, & Howes, 1996). In addition, children who are frequently targeted as the victims of relationally aggressive acts experience significantly more psychological distress (e.g., depression, anxiety) than their nontargeted peers (Crick & Grotpeter, 1996; Crick & Bigbee, in press). Thus, being the frequent target of relational aggression may result in emotional difficulties for children.

Relational aggression may also be harmful for the initiators of these behaviors. Specifically, relationally aggressive children are more socially and emotionally maladjusted than their nonrelationally aggressive peers. For example, relationally aggressive children report significantly higher levels of loneliness, depression, and negative self-perceptions than do their peers (Crick & Grotpeter, 1995). In addition, frequent engagement in relational aggression is significantly related to concurrent and future peer

rejection for both boys and girls (Crick & Grotpeter, 1995; Crick, 1996; Grotpeter & Crick, 1996). These studies provide evidence that the current lack of research on relational aggression has delayed our understanding of a salient and potentially damaging aspect of children's socialization within the peer context.

Although important information has been generated in past studies of relational aggression, one significant limitation of this work has been the exclusive focus on the study of school-age children. To date, no research has been conducted on relational aggression as exhibited in the peer groups of young children. It is important to generate this knowledge because, as has been proposed by a number of investigators (e.g., Ladd & Mars, 1986; Levy-Shiff & Hoffman, 1989; Olson & Lifgren, 1988; Wasik, 1987), early detection of children's social difficulties (e.g., aggressive behavior patterns) serves an important function in the prevention and treatment of childhood adjustment problems. Further, research on relational aggression in young children is also needed because it would provide essential information regarding the development of these behaviors. That is, it would provide knowledge needed to determine when and how relationally aggressive strategies first appear in children's social behavioral repertoires. Accordingly, the present research was designed as an initial attempt to identify relational aggression in the peer groups of young children. Our first goal was to develop age-appropriate, reliable instruments that could be used to assess relational aggression in preschool-age children.

In previous studies, all of which have been conducted with school-age children, three methods have been used to assess relationally aggressive behavior, namely peer, teacher, and self-report (e.g., Crick, 1995; Crick, 1996; Crick & Grotpeter, 1995; Lagerspetz et al., 1988). For the assessment of relational aggression, the results of these studies indicate that peer- and teacher-report methods are superior to self-report, a finding that has also been demonstrated for the assessment of overt aggression (Ledingham, Younger, Schartzman, & Bergeron, 1982; Pekarik, Prinz, Liebert, Weintraub, & Neale, 1976; Semler, 1960). Further, these studies have shown that teachers' and peers' assessments of relational aggression are significantly related, and evidence for favorable reliability and validity of both types of measures has been obtained (e.g., Crick, 1995, 1996; Crick & Grotpeter, 1995; Grotpeter & Crick, 1996). However, a number of investigators have proposed that peers are more valid informants than teachers for the assessment of both relational and overt aggression in school-age children because (a) children in the elementary-school years and beyond are mature enough to be sensitive to the presence of adults in social contexts and, thus, are unlikely to engage in aggression when teachers are present; and (b) peer assessment of aggression in school-age children is based on multiple informants (e.g., all of a child's classmates) and, thus, is likely to be a more reliable indicator of children's behavior than teacher assessment, which is based on a single informant (Coie, Dodge, & Kupersmidt, 1990; Crick & Grotpeter, 1995; Lagerspetz et al., 1988; Ledingham et al., 1982).

Although the above arguments seem valid for the assessment of aggression in school-age children, a number of considerations may make them less applicable to assessment in preschool samples. First, young children are less likely to be inhibited by the presence of adults and, thus, are more likely than older children to engage in aggression when teachers are looking on (Coie et al., 1990). Because they have greater access to children's peer interactions than elementary-school teachers, preschool teachers may be able to provide more valid information regarding children's social behavior. Second, in contrast to elementary-school teachers where one teacher typically leads each class, preschool classrooms often employ several teachers (e.g., a head teacher and one or more assistant teachers). Thus, more adult informants are available in preschool classrooms to report on children's behavior, a situation that may lead to more accurate behavioral assessment by teachers. Third, past research has shown that young children may have difficulty reporting reliably on some aspects of their peers' behavior. Specifically,

although preschoolers have been shown to be reliable informants for behaviors that are obvious and concrete (e.g., physical aggression; Johnston, DeLuca, Murtaugh, & Diener, 1977; Ladd & Mars, 1986), research evidence indicates that they may be relatively unreliable informants for behaviors that are more subtle (e.g., social withdrawal; Ladd & Mars, 1986). Thus, young children may have more difficulty identifying relational aggression than overt aggression in their peer groups, because relationally aggressive behaviors are often more indirect and subtle (e.g., it may be relatively easy for young children to recall which peers hit others but more difficult for them to recall which peers exclude others from group activities when they are mad at them).

On the basis of these considerations, we used a multi-informant approach to the assessment of relational (and overt) aggression in the present research. Specifically, both teacher and peer reports of aggression were elicited and the degree to which these informants agreed in their assessments was evaluated. Overt aggression was also assessed so that the relation between peer and teacher reports of these behaviors could be compared with the relation between peer and teacher reports of relational aggression.

Another objective of this research was to assess the distinctiveness of relational and overt aggression in young children. Past research of school-age populations has demonstrated that relational and overt aggression are relatively distinct forms of behavior with most aggressive children exhibiting one form of aggression or the other but not both (e.g., Crick, 1996; Crick & Grotpeter, 1995; Grotpeter & Crick, 1996). Because we presently do not know at what age this pattern emerges, we sought to assess whether it is apparent by the time children reach the preschool years.

An additional issue that was addressed in this research was the evaluation of gender differences in relational aggression. Past research with school-age samples has demonstrated that, in contrast to overt aggression, girls are more likely to exhibit relational aggression than are boys (Crick & Grotpeter, 1995; Lagerspetz et al., 1988). This relation was also assessed in this study to determine whether gender differences in relational aggression are apparent at young ages or whether these differences do not appear until children are more mature.

The final issue addressed in this study was consideration of the relation between relational aggression and social-psychological adjustment in preschoolers. Because relational aggression has been shown to be significantly related to maladjustment in school-age children (Crick, 1996; Crick & Grotpeter, 1995), we sought to assess whether these same patterns were apparent in young children. If so, assessment of relational aggression may be a useful tool for identifying children at risk for adjustment difficulties at young ages. Several aspects of social-psychological adjustment were assessed in this research including peer rejection, peer acceptance, depressed affect, and prosocial behavior. These particular indices of adjustment were chosen because they have been shown in past studies to be significantly related to at least one of the forms of aggression under study (e.g., Bukowski & Newcomb, 1984; Coie & Dodge, 1983; Dodge, 1983; Crick & Grotpeter, 1995).

Method

Participants

A total of 65 preschoolers participated, 31 from two junior preschool classrooms (3.5 to 4.5 years old; 16 boys and 15 girls) and 34 from two senior preschool classrooms (4.5 to 5.5 years old; 18 boys and 16 girls), all of whom attended one preschool located in a moderately sized midwestern town. Children in the participating preschool were enrolled in either full-day (8-hr) or half-day (4-hr) programs. Each age group

in the study (i.e., junior and senior) included one full- and one half-day classroom. The parental consent rate was 97%. Approximately 73% of the children were European American, 16% were Asian American, 5% were African American, 5% were Latino, and 2% were American Indian.

Teacher Assessment of Social Behavior

A teacher rating measure of preschoolers' social behavior (Preschool Social Behavior Scale—Teacher Form; PSBS–T) was constructed for use in the present research. This measure was adapted from a teacher rating instrument developed in prior research to assess the social behavior of elementary school children (Children's Social Behavior Scale—Teacher Form; CSBS–T; Crick, 1996). The resultant teacher measure (PSBS–T) consisted of 23 items, 8 of which assessed relational aggression (e.g., “This child tries to get others to dislike a peer”), 8 of which assessed overt aggression (e.g., “This child kicks or hits others”), 4 of which assessed prosocial behavior (e.g., “This child is helpful to peers”), and 3 of which assessed depressed affect (e.g., “This child looks sad”; see Table 1 for item descriptions). The response scale for each item ranged from 1 (*never or almost never true of this child*) to 5 (*always or almost always true of this child*). Teachers were provided with both written and verbal instructions on how to complete the PSBS–T and were asked to fill it out for each of their participating students. In each classroom, the PSBS–T forms were completed jointly by all of the teachers (i.e., number of teachers per classroom ranged from 2 to 3). Specifically, all of the teachers for a particular classroom held a meeting to discuss the ratings that should be given for each child for each item and the PSBS–T forms were completed at these meetings (i.e., on the basis of group consensus). Unlike most classrooms in elementary schools, preschools generally have more than one teacher per class. Because of this unique situation, each of the teachers may develop a different degree of knowledge and familiarity with each child. Thus, we asked the teachers to complete the rating forms as a group to help ensure that the most complete and reliable information possible was obtained for each child (only one form was completed for each child and the ratings on this form reflected the consensus opinion).

Peer Assessment of Social Behavior

A peer-nomination measure was developed for use in the present research that assessed peer reports of children's use of relational aggression, overt aggression, and prosocial behavior (Preschool Social Behavior Scale—Peer Form; PSBS–P). Similar to the teacher-rating measure, this instrument was based on a peer-nomination measure developed in prior research to assess the social behavior of elementary school children (e.g., Crick & Grotpeter, 1995). The items on the instrument and the procedures used to administer them were adapted for use with younger children. Adaptation of the items was aided by pilot observations of preschoolers' social behavior. Adaptation of the administration procedures was based on those developed in past research for the use of peer-nomination measures with young children (for a review, see Asher & Hymel, 1981). Both the items on the preschool measure and the administration procedures were pilot tested with preschool-age children before their use in this research.

The resultant peer-report measure consisted of 17 items, 6 of which assessed overt aggression (e.g., pushing or shoving peers), 7 of which assessed relational aggression (e.g., telling peers that they can't come to your birthday party unless they do what you say), and 4 of which assessed prosocial behavior (e.g., being nice to peers). The measure was administered to children in two individual 15-min interviews, Sessions A and B, by Juan F. Casas, Monique Mosher, or a trained undergraduate research assistant. Half of the items were administered in each session, which were completed approximately 1 week apart for each child. The order in which children completed Sessions A and B was randomized.

A picture-nomination procedure was used to administer the interviews, a method that has been commonly used to elicit peer-reports of social behavior and adjustment in young children (Asher & Hymel, 1981).

Following standard procedures, during each interview the child was shown pictures of each of her classmates (pictures were taken by Juan F. Casas prior to the start of the study) and was first asked to name each child. These procedures were followed to ensure that the child thought about the whole class before responding to each item and to make sure that she recognized all of her classmates. Next, the child was presented with several practice items that were designed to help her learn the response format of the peer-nomination items. Specifically, she was shown pictures of food items (e.g., corn, pizza, spinach) and was asked to point to a food that she liked the most, a second food that she liked the most, and finally a third food that she liked the most. Using a similar format, she was then asked to point to three disliked foods. When it became apparent that the child understood the response format, the interviewer administered the behavioral items. For each item, the child was asked to point to the pictures of up to three peers who fit the behavioral descriptor (e.g., point to the picture of a kid who pushes and shoves other kids, point to the picture of one more kid who pushes and shoves other kids, point to the picture of one more kid who pushes and shoves other kids). The number of nominations children received from their peers for each item on the peer-report instrument was summed and then standardized within classroom.

Teacher and Peer Assessment of Social–Psychological Adjustment

In addition to the behavioral items, the teacher- and peer-report measures also contained items that assessed children's social–psychological adjustment. Specifically, the teacher-rating measure included two peer acceptance items, one that assessed acceptance with same-sex peers (i.e., “This child is well liked by peers of the same sex”) and one that assessed acceptance with opposite-sex peers (i.e., “This child is well liked by peers of the opposite sex”). Teachers responded to these items using the same response scale described previously for the behavioral items. In addition, the prosocial behavior and the depressed affect scales of the PSBS–T (described above) were also used as indicators of children's social–psychological adjustment.

The peer-nomination instrument included two sociometric items in which children were asked to nominate up to three peers that they “liked to play with the most” (peer acceptance) and three peers that they “liked to play with the least” (peer rejection). As with the behavioral items, the number of nominations children received from each of their peers for each of the two items was summed and then standardized within classroom. In addition to the peer acceptance and peer rejection scores, children's prosocial behavior scores from the PSBS–P were also used as indicators of children's social–psychological adjustment.

Results

To address the stated objectives, we conducted analyses that assessed (a) the psychometric properties of the newly developed peer-nomination and teacher measures of children's social behavior, (b) the distinctiveness of relational and overt aggression, (c) the relation between peer and teacher reports of relational and overt aggression, (d) gender differences in relational and overt aggression, and (e) the relation between aggression and social–psychological adjustment.

Assessment of Relational and Overt Aggression

Teacher-rating measure

A principal-components factor analysis (varimax rotation) was first conducted to assess whether, as has been demonstrated for teacher ratings of older children (Crick, 1996), relational aggression would emerge as a separate factor independent of overt aggression. This analysis yielded the four predicted

factors, relational aggression, overt aggression, prosocial behavior, and depressed affect. These factors accounted for 81% of the variation in scores. Specifically, the relational aggression factor accounted for 50% of the variation (eigenvalue = 9.5), the overt aggression factor accounted for 16% of the variation (eigenvalue = 3.0), the prosocial behavior factor accounted for 10% of the variation (eigenvalue = 1.9), and the depressed affect factor accounted for 6% of the variation (eigenvalue = 1.1). A factor loading of .40 was used as the criterion for determining substantial cross-loadings (Appelbaum & McCall, 1983; Tabachnick & Fidell, 1983). Only four of the items failed to meet this criterion (i.e., two overt aggression items and two relational aggression items had cross-loadings above .40) and these four items were dropped from the measure. Thus, the final version of the teacher instrument consisted of six relational aggression items, six overt aggression items, four prosocial behavior items, and three depressed affect items. Factor loadings for the items of the resulting four scales were moderate to high, ranging from .62 to .90 (see Table 1 for item descriptions and factor loadings). Computation of Cronbach's alpha showed all four scales to be highly reliable; $\alpha = .96, .94, .88,$ and $.87$ for the relational aggression, overt aggression, prosocial behavior, and depressed affect scales, respectively. The relation between relational and overt aggression was further assessed with correlation coefficients. These analyses yielded $r = .76, p < .001$, for boys, and $r = .73, p < .001$, for girls, for the relation between teachers' assessments of relational and overt aggression.

Peer-nomination measure

A principal-components factor analysis with varimax rotation of the factors was also conducted on children's scores from the peer-nomination measure. This analysis yielded the three predicted factors, relational aggression, overt aggression, and prosocial behavior. These factors accounted for 57% of the variation in children's scores. Specifically, the overt aggression scale accounted for 30% of the variation (eigenvalue = 3.6), the relational aggression scale accounted for 16% of the variation (eigenvalue = 1.9), and the prosocial behavior scale accounted for 11% of the variation (eigenvalue = 1.3). As with the teacher-rating measure, a .40 criterion was used to identify items on each scale with substantial cross-loadings (Appelbaum & McCall, 1983; Tabachnick & Fidell, 1983). On the basis of this criterion, 5 items were dropped from subsequent analyses of the peer measure: 2 overt aggression items and 3 relational aggression items. Thus, the final version of the peer measure consisted of 12 items: 4 overt aggression items, 4 relational aggression items, and 4 prosocial behavior items (see Table 2 for item descriptions and factor loadings). Computation of Cronbach's alpha showed that children's responses to all three scales were reliable; $\alpha = .71, .77,$ and $.68$, for the relational aggression, overt aggression, and prosocial behavior scales, respectively. The relation between relational and overt aggression was further assessed with correlation coefficients. These analyses revealed $r = .46, p < .01$, for boys, and $r = .37, p < .05$, for girls.

The Relation Between Peer and Teacher Assessments of Aggression

It was next of interest to evaluate the degree to which teachers and peers agreed in their assessments of children's relational and overt aggression. To address this issue, we computed correlation coefficients that were conducted separately for boys and girls. The analyses of boys' scores yielded $r = .32, p < .05$, for teacher and peer assessments of overt aggression, and $r = .11, ns$, for teacher and peer assessments of relational aggression. The analyses of girls' scores yielded $r = .31, p < .05$, for teacher and peer assessments of overt aggression, and $r = .42, p < .01$, for teacher and peer assessments of relational aggression.

Gender and Age Differences in Relational and Overt Aggression

To assess gender and age differences in aggression, we conducted four 2 (sex) \times 2 (age group: junior and senior classes) analyses of covariance in which children's aggression scores served as the dependent variables. Because prior analyses showed that relational and overt aggression were correlated, relational aggression served as the covariate for analyses of gender and age differences in overt aggression and overt aggression was used as the covariate for analyses of gender and age differences in relational aggression (see Price & Dodge, 1989, for a similar approach). In the first set of analyses, teacher- and peer-assessed overt aggression served as the dependent variables. In the second set of analyses, teacher- and peer-assessed relational aggression served as the dependent variables.

Analyses did not yield any significant effects due to age group for either teacher or peer reports of aggression. In addition, analyses did not yield significant effects due to gender for peer reports of aggression. However, analyses of overt aggression as assessed by teachers yielded a significant effect of gender, $F(1, 60) = 23.6, p < .001$. Specifically, boys ($M = 12.5, SD = 4.8$) were significantly more overtly aggressive than girls ($M = 8.8, SD = 4.1$). In contrast, analyses of relational aggression as assessed by teachers yielded a significant effect of gender, $F(1, 60) = 16.4, p < .001$. Specifically, girls ($M = 13.9, SD = 5.8$) were significantly more relationally aggressive than boys ($M = 10.1, SD = 4.7$).

Gender differences in aggression were also assessed through a descriptive analysis of the percentage of boys versus girls who were classified into extreme groups of aggressive and nonaggressive children. For each aggression variable, children with scores one standard deviation above the sample mean were considered aggressive and the remaining children were considered nonaggressive. Four distinct aggression groups were identified: (a) nonaggressive, (b) overtly aggressive, (c) relationally aggressive, and (d) relationally plus overtly aggressive. Two sets of groups were identified, one based on peer assessments of aggression and a second based on teacher assessments of aggression. The percentage of boys and girls classified into each of the four groups for each set of classifications was then computed.

For classifications based on teacher assessments of aggression, 74% of the boys and 65% of the girls were identified as nonaggressive; 12% of the boys and 3% of the girls were identified as overtly aggressive; 0% of the boys and 26% of the girls were identified as relationally aggressive; and 15% of the boys and 7% of the girls were identified as overtly plus relationally aggressive.

For classifications based on peer assessments of aggression, 66% of the boys and 87% of the girls were identified as nonaggressive; 11% of the boys and 7% of the girls were identified as overtly aggressive; 9% of the boys and 3% of the girls were identified as relationally aggressive; and 14% of the boys and 3% of the girls were identified as overtly plus relationally aggressive.

The Relation Between Aggression and Social–Psychological Adjustment

The relation between aggression (as assessed by both teachers and peers) and social–psychological adjustment was first evaluated with correlation coefficients (see Table 3). The indices of social–psychological adjustment included in these analyses were peer reports of peer rejection, peer acceptance, and prosocial behavior, and teacher reports of peer acceptance with same-sex peers, acceptance with opposite-sex peers, prosocial behavior, and depressed affect. Consistent with prior analyses, these coefficients were computed separately for boys and girls.

These analyses indicated that, in general, both forms of aggression were significantly related to social–psychological maladjustment. However, the overall pattern of the obtained relations varied somewhat for boys versus girls, and for relational aggression versus overt aggression. First, the correlations between

peers' assessments of relational aggression and peer-assessed rejection showed that relational aggression was related to relatively high levels of peer rejection for both boys and girls. However, in contrast to girls, both peer- and teacher-assessed relational aggression were also positively related to peer acceptance (as assessed by both peers and teachers) for boys. Thus, relational aggression was related to both peer acceptance and peer rejection for boys but was related to peer rejection only for girls.

Analyses of the relation between overt aggression and peer status showed that overt aggression was positively related to rejection by peers for both boys and girls. Further, overt aggression as assessed by teachers was negatively related to teacher-assessed acceptance by opposite-sex peers for boys (marginally significant) and negatively related to acceptance by both opposite- and same-sex peers for girls.

Analyses of the relation between aggression and prosocial behavior showed that both forms of aggression (teacher-assessed for boys and teacher- and peer-assessed for girls) were negatively related to teacher assessments of prosocial behavior. Finally, analyses of children's teacher-assessed depressed affect scores revealed that teacher assessments of overt aggression tended to be positively related to depressed affect for boys. In contrast, teacher assessments of relational aggression were positively related to depressed affect for girls.

In addition to the assessment of the relation between aggression and adjustment, it was also of interest to evaluate whether relational aggression would predict concurrent adjustment over and above overt aggression. To address this issue, we computed a series of hierarchical regression equations in which children's adjustment scores served as the dependent variables and their overt aggression and relational aggression scores served as the predictors. Children's overt aggression scores were entered into each equation at Step 1 and their relational aggression scores were entered at Step 2 (i.e., so that the relative contribution of relational aggression could be assessed). These equations were computed only for those dependent variables that were shown in the correlational analyses (described above) to be significantly related to one of the forms of aggression. Analyses were conducted separately for boys and girls, and for teacher and peer reports of aggression.

Analyses revealed that, for boys, teacher reports of relational aggression significantly predicted peer reports of peer acceptance, $F \Delta(2, 31) = 4.1, p < .01$ ($R^2 \Delta = 17.2$), and teacher reports of acceptance by same-sex peers, $F \Delta(2, 31) = 4.5, p < .01$ ($R^2 \Delta = 21.6$). In addition, peer reports of relational aggression tended to predict teacher reports of acceptance by same-sex peers, $F \Delta(2, 31) = 1.8, p < .07$ ($R^2 \Delta = 10.2$). These analyses indicate that relational aggression adds unique information to overt aggression in the prediction of peer acceptance for preschool boys.

These analyses also revealed that, for girls, teacher reports of relational aggression tended to predict peer reports of peer rejection, $F \Delta(2, 28) = 9.2, p < .07$ ($R^2 \Delta = 7.7$), and teacher reports of depressed affect, $F \Delta(2, 28) = 1.8, p < .09$ ($R^2 \Delta = 10.0$). In addition, peer reports of relational aggression significantly predicted peer reports of peer rejection, $F \Delta(2, 28) = 3.8, p < .05$ ($R^2 \Delta = 13.3$). These analyses indicate that relational aggression adds unique information to overt aggression in the prediction of maladjustment (especially peer rejection) for preschool girls.

Discussion

Findings from this study significantly extend our knowledge of relational aggression by demonstrating the importance of this form of aggression for preschoolers. Results provide the first evidence that relationally aggressive behaviors appear in children's behavioral repertoires at relatively young ages (3–5 years of

age). Further, they demonstrate that relational aggression is significantly associated with social-psychological maladjustment for preschool-age children.

Results of this study indicate that both teachers and peers viewed relationally aggressive behaviors in preschoolers as relatively distinct from overtly aggressive behaviors. Support for the distinctiveness of these two forms of aggression was obtained in several ways. First, the factor analyses of both the teacher-rating instrument (PSBS-T) and the peer-nomination measure (PSBS-P) yielded separate factors for relational and overt aggression. Second, results showed that, although children's overt and relational aggression scores were positively correlated (particularly for the teacher-based scores), they were not more highly correlated than the associations found in past research for other forms of aggression. For example, in several past studies, correlations in the .70 to .80 range have been obtained for the association between reactive and proactive forms of aggression, two behaviors also hypothesized to be distinct (Crick & Dodge, 1996; Dodge & Coie, 1987; Price & Dodge, 1989). Third, despite the significant degree of association obtained between relational and overt aggression in the present study, it was possible to identify distinct types of relationally and overtly aggressive children. In fact, a substantial proportion of the aggressive children identified in this study (63% using peer-based scores and 65% using teacher-based scores) were classified as either overtly aggressive or relationally aggressive but not both. These results are similar to those that have been obtained in past research for school-age children (i.e., 9–12 year olds; Crick & Grotpeter, 1995). These findings significantly extend our knowledge of aggression by demonstrating that, although overlap is apparent, relational and overt forms of aggression are distinct enough to be considered different constructs for children as young as 3 or 4 years of age.

The degree to which the preschool-age children in this sample distinguished between relational and overt aggression was greater than might be expected given results of previous research that has shown that young children tend to hold relatively undifferentiated views of their peers' behavior (Younger, Schwartzman, & Ledingham, 1985, 1986). On the basis of the results of the factor analyses, the present findings provide evidence that young children do not view their peers' aggressive acts in completely undifferentiated terms (e.g., they do not seem to view both relational and overt aggression as simply "bad" or "mean" behavior). These results are encouraging as they suggest that young children may be useful informants for the identification of relationally aggressive versus overtly aggressive children.

Despite the favorable evidence supporting the hypothesized distinction between physical overt aggression and relational aggression in the present sample, it is also important to recognize that there was considerable overlap in the two behavior types. Perhaps many children may engage in both of these types of behaviors but exhibit one form of aggression predominately. Further, the method we used to construct the aggression scales (i.e., by dropping items that cross-loaded onto both the overt and the relational aggression scales) may have minimized the degree of association between the two measures. Additional research is needed before firm conclusions can be drawn regarding these issues.

The comparison of teachers' and peers' reports of boys' aggression showed that, as we hypothesized, these two informants agreed to a greater extent in their assessments of overt aggression than in their assessments of relational aggression (i.e., the association between teachers' and peers' reports of overt aggression was significant whereas the association between their reports of relational aggression was nonsignificant for boys). However, this hypothesized pattern was apparent for boys only. In contrast, the association between teachers' and peers' reports of girls' aggression was significant for both overt and relational aggression.

The above results indicate that, contrary to our expectations, teachers' and peers' assessments of girls' use of relational aggression agreed to a relatively high degree. Although the obtained correlation was only

moderate in magnitude ($r = .42$), it was larger than might be expected when compared with the peer–teacher agreement typically obtained in past studies of aggression. For example, in a meta-analytic review of studies of behavioral and emotional problems in childhood, Achenbach, McConaughy, and Howell (1987) reported an average correlation of .42 between teacher and peer reports of aggressive, undercontrolled behavior. Thus, the agreement obtained between teacher and peer reports of girls’ relational aggression in the present research was equivalent to that typically obtained in past studies despite the fact that: (a) the correlation reported by Achenbach et al. was based on the assessment of forms of aggression that are more visible and direct (e.g., physical aggression) than relational aggression, and (b) many of the studies on which Achenbach et al. based their findings included participants who were much older than the preschoolers who provided the peer assessments in this research. In light of these considerations, the cross-informant agreement obtained here for girls’ relational aggression appears promising. Overall, the present results regarding peer and teacher agreement indicate that these two informants agreed at least to a moderate extent in their assessments of relational and overt aggression for girls, and in their assessments of overt aggression only for boys.

Findings from this research also indicate that the gender differences in relational aggression that have been documented in school-age children (Crick & Grotpeter, 1995) are also apparent in preschool-age children, at least for teachers’ assessments of aggression. That is, teachers but not peers rated preschool girls as significantly more relationally aggressive and less overtly aggressive than preschool boys, findings that are consistent with past research conducted on school-age children (Crick & Grotpeter, 1995; Lagerspetz et al., 1988). It is not clear whether the lack of gender differences obtained for peer reports in this study reflects a lack of statistical power (e.g., because of the relatively small sample size) or reflects developmental differences in children’s usage or understanding of aggression (e.g., young children may be more willing than older children or teachers to report gender-atypical instances of aggression). Given the gender-segregated nature of children’s play at these ages (Maccoby & Jacklin, 1987), it seems likely that children have little opportunity to observe the aggressive behaviors of their opposite-sex peers. If so, they may be much less aware than teachers of gender differences in aggressive behavior, particularly relationally aggressive behaviors that are less likely to draw attention in a group than physically aggressive behaviors. Thus, the relatively high percentage of boys identified as aggressive by peers, regardless of aggression form, may at least partly reflect children’s stereotypes at this age (i.e., boys are “known” to be more aggressive so in the absence of knowledge about boys’ vs. girls’ actual behaviors, peers may have nominated boys frequently for all aggressive behaviors).

Finally, the present results provide the first evidence that relational aggression in preschoolers is significantly related to social–psychological maladjustment for both boys and girls. Similar to the findings from past research on relational aggression in school-age children (Crick, 1996; Crick & Grotpeter, 1995) and consistent with past studies of overt aggression in preschool and kindergarten children (Ladd & Price, 1987; Levy-Shiff & Hoffman, 1989; Wasik, 1987), relational and overt aggression in preschoolers (both boys and girls) were shown in the present study to be significantly related to relatively high levels of peer rejection. Longitudinal research with school-age children has demonstrated that relationally aggressive behavior predicts future peer rejection for both sexes (Crick, 1996), possibly because these types of behaviors are aversive and upsetting to peers (Crick, 1995; Crick, Bigbee, & Howes, 1996) or because, by their very nature, relationally aggressive acts limit the number of potential playmates or friends available to the aggressive child (Crick & Grotpeter, 1995). Longitudinal research with preschool-age children is needed to determine whether this same temporal pattern holds for the relation between relational aggression and peer rejection for young children. A similar temporal pattern has been demonstrated in past research for the relation between overt aggression and peer

rejection for young children (e.g., Denham & Holt, 1993; Ladd & Price, 1987; Ladd, Price, & Hart, 1988); however, it has not yet been investigated for other forms of aggression with this age group.

Interestingly, the results from this study also showed that, for boys only, relational aggression was significantly associated with relatively high levels of peer acceptance. The results based on the teacher-report measure of peer acceptance suggest that this favorable peer status may be derived from the positive sentiments of other boys (e.g., results of the regression analyses revealed that, for boys, relational aggression as rated by both teachers and peers predicted teacher-rated acceptance by same-sex peers). If so, these results may reflect a relatively positive attitude toward relational aggression among some preschool-age boys. Further, they may indicate that, as has been found for school-age children (Crick & Grotpeter, 1995), the peer status of some relationally aggressive children may be controversial in nature (i.e., they may be liked by some peers but disliked by other peers; see Coie et al., 1990, for a discussion of controversial peer status). These findings are consistent with past research that has shown that a considerable proportion of children view aggression among boys, but not among girls, as sometimes leading to favorable status within the peer group (e.g., by making them look “tough”; Crick, Bigbee, & Howes, 1996). Of course, given the relatively small sample size reported here, future research with larger samples is needed before firm conclusions can be drawn regarding the peer acceptance of relationally aggressive preschoolers of both sexes.

Analyses of children's social–psychological adjustment scores also showed that both relational and overt aggression were significantly related to relatively low levels of prosocial behavior (e.g., sharing, helping others) for both boys and girls. These findings indicate that young relationally and overtly aggressive children may suffer from a lack of positive interpersonal skills, in addition to their difficulties with the inhibition of aversive behaviors. This dual behavior pattern seems likely to result in poor adjustment outcomes for aggressive children (cf. Levy-Shiff & Hoffman, 1989). This may be especially true for girls, as past research has shown engagement in positive, prosocial behaviors to be particularly important factors in the healthy adjustment of girls relative to boys (Coie, Dodge, & Coppotelli, 1982).

The present findings suggest a number of additional avenues to pursue in future research. First, it seems important to recruit a larger sample size than that used here in future studies of young children. This would allow for identification of extreme groups of relationally and overtly aggressive children and assessment of the potential risk status of each group. Additionally, future studies should also expand on the present findings by including adjustment measures that are broader in scope, and that are more independent of the assessments of aggression (i.e., so that different informants report on aggression vs. adjustment). Finally, another way to extend the present study would be to develop an observational measure of relational aggression. Although this method is not without potential difficulties for the assessment of these types of behaviors (Crick & Grotpeter, 1995), it seems likely that attempts to develop such a measure should start with the assessment of young children (i.e., because young children are less likely than older children to engage in forms of relational aggression that might be difficult to interpret as an outside observer).

In sum, results of the present study significantly enhance our knowledge of the social difficulties of young children by providing the first evidence of the importance of relational aggression for the study of preschoolers' peer interactions. These results indicate that assessment of relational aggression may play an important role in the early detection of children's adjustment difficulties. It will be important in future research to investigate further the contribution of relational aggression to children's social development. In particular, longitudinal study of the relation between relational aggression and social–emotional adjustment is needed to enhance our understanding of young children's risk status and to provide an empirical basis for intervention with relationally aggressive children.

Table 1
Factor Loadings for the Teacher Measure of Social Behavior (PSBS-T)

Item	Relational aggression	Overt aggression	Prosocial behavior	Depressed affect
Tells a peer that he or she won't play with that peer or be that peer's friend unless he or she does what this child asks	.84			
Tells others not to play with or be a peer's friend	.83			
When mad at a peer, this child keeps that peer from being in the play group	.81			
Tells a peer that they won't be invited to their birthday party unless he or she does what the child wants	.88			
Tries to get others to dislike a peer	.89			
Verbally threatens to keep a peer out of the play group if the peer doesn't do what the child asks	.85			
Kicks or hits others		.81		
Verbally threatens to hit or beat up other children		.75		
Ruins other peer's things when he or she is upset		.82		
Pushes or shoves other children		.72		
Hurts other children by pinching them		.83		
Verbally threatens to physically harm a peer in order to get what they want		.81		
Is good at sharing and taking turns			.76	
Is helpful to peers			.83	
Is kind to peers			.62	
Says or does nice things for other kids			.75	
Doesn't have much fun				.90
Looks sad				.87
Doesn't smile much				.82

Note. All cross-loadings were less than .40. PSBS-T = Preschool Social Behavior Scale—Teacher Form.

Table 2
Factor Loadings for the Peer Measure of Social Behavior (PSBS-P)

Item	Overt aggression	Relational aggression	Prosocial behavior
Kids who push or shove other kids	.64		
Kids who say they will knock someone's stuff over or mess it up if they don't get to play with it too	.80		
Kids who say they will push someone off a toy if they don't get to play on it too	.83		
Kids who throw things at other kids when they don't get their way	.61		
Kids who say they won't invite someone to their birthday party if they can't have their own way		.76	
Kids who won't let a kid play in the group if they are mad at the kid—they might tell the kid to go away		.69	
Kids who tell other kids that they can't play with the group unless they do what the group wants them to do		.71	
Kids who won't listen to someone if they are mad at them—they might even cover their ears		.64	
Kids who are good at sharing and taking turns			.80
Kids who are nice to other kids			.77
Kids who help other kids			.62
Kids who smile at other kids a lot			.62

Note. All cross-loadings were less than .40. PSBS-P = Preschool Social Behavior Scale—Peer Form

Table 3

The Relation Between Aggression and Social-Psychological Adjustment by Gender

Type of Aggression	REJ-P	ACC-P	ACC-T SAME	ACC-T OPP	PRO-P	PRO-T	DEP-T
Boys <i>t</i> (32)							
Peer-assessed aggression							
Overt	.57***	.20	-.01	-.28†	-.04	-.21	-.07
Relational	.34*	.26†	.28*	.00	.20	-.15	-.12
Teacher-assessed aggression							
Overt	.12	.20	-.09	-.38**	-.09	-.49**	.25†
Relational	.10	.42**	.23†	-.16	.08	-.45**	.18
Girls <i>t</i> (29)							
Peer-assessed aggression							
Overt	.28†	.14	-.16	-.21	-.15	-.32*	-.04
Relational	.45**	.01	-.04	-.09	-.23†	-.30*	-.18
Teacher-assessed aggression							
Overt	.57***	-.07	-.33*	-.32*	-.14	-.58***	.11
Relational	.22	-.05	.16	-.13	.05	-.53***	.30*

Note. REJ-P = Peer-assessed rejection; ACC-P = Peer-assessed acceptance; ACC-T SAME = Teacher-assessed acceptance with same-sex peers; ACC-T OPP = Teacher-assessed acceptance with opposite-sex peers; PRO-P = Peer-assessed prosocial behavior; PRO-T = Teacher-assessed prosocial behavior; DEP-T = Teacher-assessed depressed affect.

† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

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