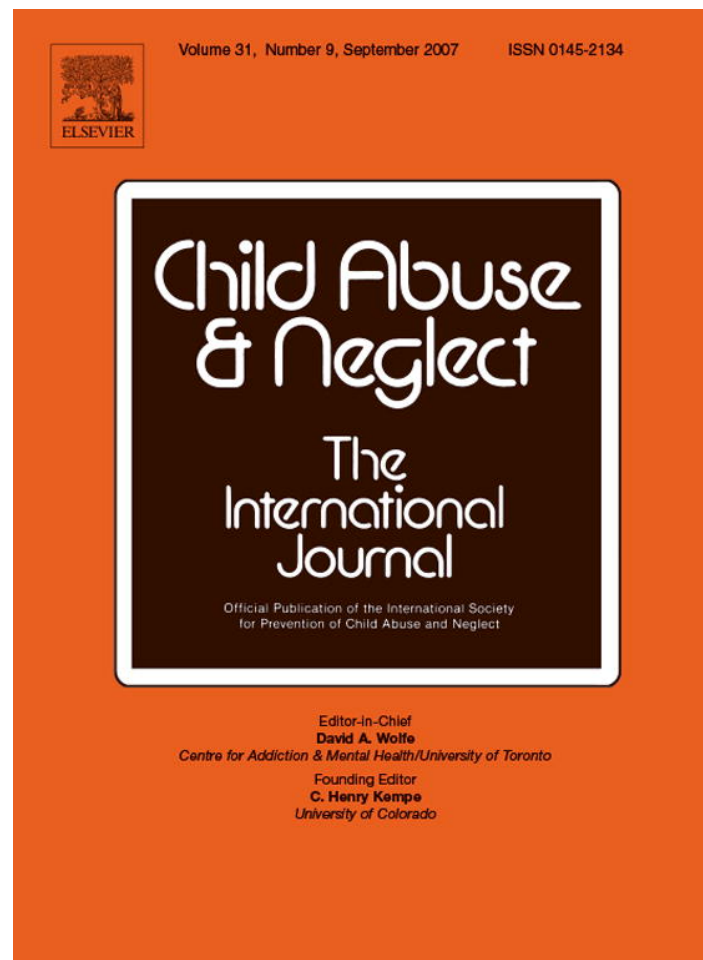


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## Peer status and behaviors of maltreated children and their classmates in the early years of school<sup>☆</sup>

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### Abstract

**Objective:** The aims of the present study were to investigate (1) whether young children with a known history of maltreatment by caregivers have more problematic peer relationships and classroom behaviors than other children, and (2) if children's behaviors with peers mediated associations between maltreatment and children's problem peer relations.

**Method:** Participants included 400 young children (ages 4–8, *M* age = 6.6), and 24 teachers in 22 schools. Six percent of children had a known history of maltreatment. Multiple methods (ratings and nominations) and reporters (children and teachers) were utilized to obtain information on peer relationships. Teachers reported children's physical/verbal aggression, and withdrawn and prosocial behaviors.

**Results:** Young children were able to nominate and rate whom they liked versus disliked in their classes, and their reports were modestly correlated with teacher reports. Regardless of the reporter, maltreated children were significantly more disliked, physically/verbally aggressive, withdrawn, and less prosocial, compared with their classmates. Among all children, physical/verbal aggression, withdrawal, and prosocial behavior were associated independently with some aspect of peer status. Maltreatment had indirect associations with peer likeability and peer rejection via maltreated children's relatively higher levels of physical/verbal aggression and, in some cases, withdrawal and relatively lower prosocial behavior. Maltreatment had an indirect association with teacher-reported peer acceptance via children's withdrawal.

**Conclusions:** Findings indirectly associate early family experiences with problems in peer relationships, especially lower peer likeability and more rejection, via children's behaviors with peers. The finding that linkages exist even

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in the very earliest years of school highlights the need for very early home- or school-based efforts focused on improving behavior and relationships of maltreated children and others children with similar profiles.

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*Keywords:* Peer relationships; Aggression; Prosocial behavior; Withdrawal; Early childhood

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## Introduction

Many theorists have proposed that a child's social competence is at least partly an outgrowth of experiences in close relationships with caregivers (Criss, Pettit, Bates, Dodge, & Lapp, 2002; Grimes, Klein, & Putallaz, 2004; Hartup, 1992; Kerns, 1996; Parke et al., 2002; Parker, Rubin, Price, & DeRosier, 1995). Similarly, many major developmental theories lead to the hypothesis that child maltreatment will result in problems in peer relationships, even in the early years of school (Bolger & Patterson, 2001; Doyle & Markiewicz, 1996; Mueller & Silverman, 1989). These propositions have been supported by studies showing how qualities of parent–child relationships in early childhood are correlated with or precede children's capacities to develop positive peer relationships (Bolger & Patterson, 2001; Criss et al., 2002). For example, Elicker, England, and Sroufe (1992) observed that children who were securely attached to caregivers before age 2 displayed greater social competence with peers, were more likely to make friends, and were more popular at age 10–11 compared with their insecurely attached peers. In addition, in a cross-sectional study, 67% of a low likeability group of boys had experienced high rates of punitive and ineffective discipline by parents (Bierman & Smoot, 1991).

Shortly after entering school, children become facile in making judgments about others. They begin to have opinions about other children as desirable or undesirable playmates, and come to know the general behaviors of each child. In the following years, children begin to develop strong preferences for playmates; they increasingly prefer playing with specific other children and most begin to dislike playing with certain other children. For example, Mueller and Silverman (1989) reported a stage theory of peer relationships that identifies a "shared pretense stage" (p. 535) that occurs in the years prior to school entry (ages 3–6 in North America). In this stage, children are increasingly less likely to play alone, play simple games with peers, focus on play objects, and engage in "social pretend play" (e.g., playing "family," p. 536). The next stage, "play friendship" (ages 6–10, p. 536), is a continuation of the play behaviors in the previous stage, with continued enjoyment of activity play. The beginnings of friendship formation occur in this stage. Experiences of rejection or acceptance in these early years can be quite important for functioning and later development. Being rejected or highly disliked by peers during childhood has been found to be correlated with the development of antisocial behavior and other behavioral problems (Coie, Terry, Lenox, Lochman, & Hyman, 1995). However, few researchers have examined the interface of negative home experiences, such as maltreatment, and experiences of peer rejection and acceptance among children in the first years of school. In the current study, the aims were to examine young children's peer relationships and their behaviors with classmates, while also examining the influences of a history of maltreatment in the home on relationships and behavior.

Children with and without a known history of maltreatment by caregivers were included. Based on evidence that maltreated children have fewer social skills when relating to their peers (Kinard, 1999; Salzinger, Feldman, Hammer, & Rosario, 1993), it was hypothesized that, compared to their classmates, maltreated children would be relatively more physically/verbally aggressive, more withdrawn, less proso-

cial, rated as less liked, and would receive more nominations of rejection and fewer nomination of acceptance. Additionally, it was expected that children's behaviors with peers, especially physical/verbal aggression, would be the mechanism linking maltreatment at home to lower peer status. This hypothesis was tested by examining whether children's behaviors mediated the association between maltreatment and peer status, so that any significant association between maltreatment and peer status would be accounted for by children's behaviors with classmates (Baron & Kenny, 1986; Holmbeck, 1997). Finally, both child and teacher reports of children's peer status were included, and multiple methods of measuring peer status were used, including rating and nomination measures both from children and teachers. These methods were employed to compare children and teachers' reports of peer status and examine whether they were similarly related to behaviors with peers.

### *Maltreatment by caregivers and peer relationships*

In recent studies, the peer status of maltreated and other children has been compared; results have shown that children who have been maltreated are at increased risk of being rejected by their peers (see Bolger, Patterson, & Kupersmidt, 1998; Conaway & Hansen, 1989; Salzinger, Feldman, Ng-Mak, Mojica, & Stockhammer, 2001). For example, Dodge, Pettit, and Bates (1994) completed a 5-year (K to grade 4) longitudinal study of children who were assessed for physical maltreatment in their first 5 years of life. Classmates had less preference for maltreated children than other children in every year of the study, and problems escalated over time. Despite this previous study, most studies of maltreated children's peer relationships have used observational methods with very young children or have used group survey methods with participants in the middle years of childhood or older (Bolger & Patterson, 2001; Bolger et al., 1998; Salzinger et al., 2001). Less is known about maltreated and other children's peer experiences in early childhood (prior to about age 8). At this age, it is difficult to use the typical group assessments of peer relationships that are used with older children (Cillessen & Bukowski, 2000; Crick, Casas, & Mosher, 1997; Crick et al., 1999; Wu, Hart, Draper, & Olsen, 2001). In the current study, individualized assessments of young children were completed and teacher reports were gathered.

### *Children's behaviors, peers, and maltreatment*

Although parent–child interactions set the stage for the formation of peer relationships, children's peer relationships are often more direct outcomes of their social behaviors and related competencies. Children who lack social competence by demonstrating aggression or low prosocial behaviors are more likely to be actively disliked by classmates. The lack of social skills in these children is often hypothesized to originate partly from a lack of opportunities to acquire appropriate skills within the home (Dodge & Feldman, 1990; Dodge, Pettit, Bates, & Valente, 1995; Ladd & Mize, 1983). This suggests that children's own behaviors when interacting with peers is the mechanism or mediator that account for the links between maltreatment by parents in the home and children's standing with their peers.

There is evidence that children's behaviors in the classroom are associated with peer standing and maltreatment. First, physical and verbal aggression, such as hitting or name-calling, have been associated with negative peer status. Children who engage in physical/verbal aggression often show impulsive and disruptive behavior when dealing with peers, which often results in dislike and avoidance by others. Studies have shown that 40–50% of rejected children are physically aggressive (Cillessen, Van Ijzendoorn,

Van Lieshout, & Hartup, 1992; Rubin, Bukowski, & Parker, 1998). Second, cooperative and prosocial behaviors have also been associated with acceptance (and lowered rejection) by peers (Coie, Dodge, & Kupersmidt, 1990; Zimmer-Gembeck, Geiger, & Crick, 2005). For example, children accepted by peers have been found to initiate and maintain positive interactions with others (Rubin et al., 1998). Finally, withdrawn behavior is also important to consider. Withdrawn children are more rejected, but this finding has generally been found among older children (Coie et al., 1990). Rubin (1982) found that withdrawn preschoolers and kindergarteners did not appear to be rejected by their peers. However, by late childhood (about age 10–13), withdrawal becomes less acceptable and is increasingly correlated with rejection (Younger, Gentile, & Burgess, 1993). Teachers, compared to children, are more likely to rate withdrawn children as rejected, so the source of information may be critical when studying withdrawn behavior (Rubin, Burgess, & Coplan, 2002). The current study included assessments of peer status by children and teachers to allow for such a comparison of findings.

Children's behaviors with peers follow from their experiences at home. When children have been maltreated, they have relatively higher levels of aggressive behaviors with other children and have fewer prosocial skills (Dodge, Bates, & Pettit, 1990; Salzinger et al., 2001), and they have been found to be more withdrawn with peers (Hoffman-Plotkin & Twentyman, 1984; Kaufman & Cicchetti, 1989; Prino & Peyrot, 1994). However, studies of maltreated children and withdrawn behavior are quite limited in number, and little research has considered withdrawal as a mediator of the association between maltreatment and peer rejection.

#### *Assessment of children's social behaviors and peer standing*

*Children's behaviors.* Teacher reports of children's behaviors were used in the current study to differentiate more clearly between physical/verbal aggression, prosocial interactions, and withdrawn behavior. Young children and teachers have been found to differ in their ability to discriminate between behaviors displayed in peer interactions. Young children have increasing exposure to peers' behaviors (Ladd, 1996), but they may be poor informants about some types of behavior, because they lack the cognitive and perceptual skills needed to recognize and distinguish among them. For example, in a cross-sectional study, peer nominations of children from different age groups (first grade, fourth grade, and seventh grade) were examined (Younger, Schwartzman, & Ledingham, 1985). Young students had difficulties differentiating between aggressive and withdrawn behavior among their peers. Hence, teacher reports of children's behaviors were used in the current study.

*Peer status.* Status in the peer group is most often assessed with sociometric measurement techniques. Among the sociometric methods available, the two most often used are nominations and ratings (Schneider, 2000). Nominations involve identifying a specific or unlimited number of classmates according to certain criteria. For example, children might be asked to nominate (via selecting pictures, providing codes, or providing names) three children whom they like and three children whom they do not like. Peer rating scales, on the other hand, involve asking each child to rate the level of preference for each group member on a Likert-type scale. The use of nominations and ratings of other children in the current study resulted in measures of acceptance (positive nominations) rejection (negative nominations) and likeability (average rating) by the group. Because it was unclear whether young children would have the capacity to complete nominations and ratings reliably, teacher reports were also collected as they are a desirable adjunct to the reports of young children.

### *Study hypotheses*

In sum, there were four primary hypotheses in the current study.

1. Children who were more physically/verbally aggressive, more withdrawn, and less prosocial will be rated as less liked, more often nominated as rejected, and less often nominated as accepted. This was expected regardless of whether peer status was reported by children or teachers.
2. Compared to their classmates, children with a history of maltreatment will be more physically/verbally aggressive, more withdrawn, and engage in lower levels of prosocial behavior.
3. Compared to their classmates, children with a history of maltreatment will be less liked, more rejected, and less accepted by their peers.
4. Children's physical/verbal aggression will mediate the association between maltreatment and peer status. This finding will provide cross-sectional support for the expectation that aggressive behaviors are correlated with maltreatment and are the more direct correlates of status with peers. In addition, withdrawn and prosocial behaviors were examined as potential mediators of the association between maltreatment and peer status.

In addition to these four hypotheses, we examined associations between child's sex, social behaviors with peers and peer status, and the agreement between child and teacher reports of peer status. Many studies of physical/verbal aggression, withdrawal, prosocial behavior, and peer status have identified sex differences in levels of behaviors. This makes it important to consider child's sex in the current research (Zimmer-Gembeck et al., 2005). The examination of child and teacher reports also is important to provide information about methodologies for studies of young children, including intercorrelations between different reporters and to test the possibility of differential associations of teacher and child reports with other key study constructs.

## **Method**

### *Participants*

Participants included 25 children with a history of maltreatment and their 375 classmates. These 400 participants (46% female) were in their first 4 years of school and were between the ages of 4 and 8 years,  $M = 6.6$  years,  $SD = .9$ . Most children (90%) were ages 5, 6 or 7 and in grades 1, 2 or 3. This study was conducted in an area of Australia where many children start a preschool year at 4 or 5 years of age and do not have a kindergarten year. Hence, most children are age 5 or 6 in grade 1, and graduate from high school at 16 or 17.

Maltreated children were referred by child protection agencies after a notification of abuse by a caregiver. From March 2003 to December 2004, 26 consecutive referrals, which met the child age requirement, were contacted for participation in this study; one parent refused participation resulting in the inclusion of 25 children with a history of maltreatment. Parents were offered a free parenting intervention as part of their participation. These data were collected as part of the assessment prior to the intervention.

All children had experienced physical abuse and emotional neglect in the past, but all families reported ceasing the abuse or neglect. All families had continued contact with child protection agencies for case management and to manage parent behaviors. None of the referred children was known to have a history

of sexual abuse. For the purpose of this study these children will be referred to as children with a known history of maltreatment or maltreated children. The maltreated children comprised 6% of the sample. This is consistent with the percentage of maltreated children found in a large US study (i.e., 107 out of 1,920; Bolger & Patterson, 2003).

The maltreated children defined the classrooms that were included in this study. There were 24 participating classrooms (one classroom had two maltreated children) in 22 different schools (21 public and 1 private). All schools were in an urban area of Australia. The average participation rate across the classrooms was 74%, and 81% of classrooms had a participation rate of 65% or higher. Because reports of peer standing may be more valid when higher consent rates are obtained (Crick & Ladd, 1989), all of the following analyses were repeated including classrooms that had consent rates of 70% or greater ( $n = 243$  children; 61%).

### *Procedure*

After ethical approval from Griffith University, parents of children, principals, and teachers gave active consent. Following consent, photographs were taken of each child. All children smiled for the camera. Pictures remained at the school and were returned to the children when assessments were completed. Two researchers collected sociometric nominations and ratings from each child in an individual session. Teachers provided information on each child in his/her class. One teacher withdrew from the study, and two teachers did not nominate any children as disliked by others. Teachers were blind to the aims of the study and reported on all children in their classrooms, but, given the young age of the children, it was likely that most teachers had some knowledge of children's families. Data were collected over 1.5 years (2003–2004) taking care to avoid the first 3 months of each school year, so that children would have sufficient time to become familiar with each other and teachers would have extensive knowledge of their students' behaviors at school.

### *Measures*

*Child reports of peer status: acceptance and rejection.* Children nominated classmates whom they liked and disliked. These nominations were collected in an individualized and confidential session using techniques detailed by McCandless and Marshall (1957). The testing took approximately 15 minutes per child. Children were told that they were going to be asked about themselves and their classmates, assured of the confidentiality of their answers, and asked for their assent before beginning.

Following procedures described in a previous study of young children (Wu et al., 2001), each child was presented with a board of the photographs of all children who were in his or her class and had parental consent. Each child was first asked to name the pictured children, including him or herself. This was a preliminary task completed to determine if the child was familiar with and able to identify and name all his/her classmates. The child was then asked to point to the picture of a child with whom he or she liked to play with the most and the researcher removed the selected child's picture from the board. Second and third nominations were elicited in a similar manner. The three pictures were then replaced and the child was asked to point to three classmates that he or she liked to play with the least.

The nominations each child received were summed to construct raw scores. Following the procedures of Coie, Dodge, and Coppotelli (1982), these raw scores were standardized within classroom to adjust for unequal class sizes. These standardized continuous scores are referred to as *peer acceptance* and *peer*

*rejection*. The test-retest reliability based on past studies with preschool children has been moderate, .30s to .50s (Hymel, Vailancourt, McDougall, & Renshaw, 2002). For example, Wu et al. (2001) reported a test-retest reliability of .56 for peer acceptance and .42 for peer rejection.

*Child reports of peer status: likeability.* The rating technique detailed in Asher, Singleton, Tinsley, and Hymel (1979) and used by Wu et al. (2001) was used to collect children's ratings of likeability for all participating classmates. After identifying their own pictures and removing them, children placed photographs of their classmates into one of three boxes. One box had an illustration of a happy face and described as the box for *children you like to play with a lot*. A second box had a neutral face and described as the box for *children you kind of like to play with*. The third box had a sad face and was described as the box for *children you do not like to play with*. Prior to this assessment, children practiced with food examples. Rating values of 0, 1, and 2 were assigned to pictures placed in the boxes with sad, neutral, and happy faces, respectively. Each child's *peer likeability* score was an average of all ratings received from his/her classmates. This measure has had good test-retest reliability in past studies, ranging from .50 to .80 (Asher et al., 1979; Wu et al., 2001). As is standard practice to adjust for classroom differences in scaling (see Wu et al., 2001), scores were standardized within each classroom.

*Teacher reports of peer status.* As used in previous research of young children (Wu et al., 2001), each teacher nominated three children that other children in the class appeared to *most like to play with* and three children whom other children in the class appeared to *least like to play with*. Teachers were also asked to rate how well other children liked to play with each child on a five-point Likert-type scale (1 = very little to 5 = very much). Given the need to change wording and to include only one reporter, this measurement should be considered "parallel but not identical" (Wu et al., 2001, p. 425) to child-reported peer nominations and ratings. Scores were standardized within classroom.

*Teacher reports of children's social behaviors.* Teachers rated each child in his/her classroom on a range of social behaviors. Subscales were drawn from the Preschool Social Behavior Scale-teacher (PSBS-T) (Crick et al., 1997). Subscales measured physical aggression (e.g., pushes or shoves other children), verbal aggression (verbally threatens to hit or hurt other children), prosocial behavior (e.g., helpful to peers), and withdrawal (e.g., does not play with other children). Response options ranged from 1 (*almost never true of this child*) to 5 (*almost always true of this child*). The original PSBS-T had high interitem correlations, .87–.96 (Crick et al., 1997). In the current study the interitem correlations were  $\alpha = .80$  for physical/verbal aggression,  $\alpha = .82$  for withdrawn behavior, and  $\alpha = .89$  for prosocial behavior. Scores were calculated by averaging the ratings received for the items pertaining to each dimension of social behavior, and standardized within classroom. Higher scores reflected more physical/verbal aggression, withdrawn, and prosocial behavior. The relational aggression subscale of this measure was not completed by teachers in the current study to reduce the length of the teacher questionnaire and improve the participation rate.

#### *Data analyses, assumptions, outliers, and the impact of consent rates and age*

Group comparisons (*t* tests, analysis of variance), correlations, and regression analyses were used to test hypotheses. Prior to these analyses, the statistical assumption of univariate normality was assessed. The distributions of children's social behavior and peer standing deviated from the normal distribution. To improve the distributions of these measures, all measures were transformed. For variables with negatively

skewed distributions, a  $\log_{10}$  transformation was used after adding a constant to raw scores to make all values positive. For variables with positive skew, square root transformations were used. All analyses were repeated after transforming variables. The results were quite similar, so the analyses reported here relied upon untransformed variables to allow for easier interpretation and clearer comparisons with previous research.

Using multiple regression analysis diagnostics, data were assessed for outliers and influential data points. One outlier was identified, with an unusually high score for both physical/verbal aggression and withdrawn behavior. This child was removed, and analyses were repeated. At most, the removal of this child reduced the variance accounted for by 2.2%. However, all independent variables made the same significant independent contributions in final regression analyses. The child was maintained in the sample. There were no indications of multicollinearity problems.

All analyses of child reports of peer status were repeated excluding child and teacher data from classrooms that had consent rates under 70%. Variance accounted for in the multivariate models of child report of peer status was similar or increased when transformed data were used. The increase was largest when peer rejection was the dependent variable. These findings are available upon request from the second author.

The correlations of age with peer status and children's behaviors ranged from  $-.01$  to  $.04$ , all  $p > .05$ . Because of these small and nonsignificant correlations, age was not adjusted in the following analyses. To examine whether there was any evidence that children who were younger had more difficulties with nominations than older children, correlations between nominations with ratings were calculated for two age groups of children's, those ages 4 and 5 ( $n = 92$ ) and those ages 6, 7, and 8 ( $n = 308$ ). Correlations were similar; the correlations between ratings and peer like were  $r = .42$  for the younger age group and  $r = .50$  for the older age group, and the correlations between ratings and peer dislike were  $r = -.52$  and  $r = -.57$ , respectively.

## Results

### *Descriptive statistics and child biological sex differences*

Means, standard deviations,  $t$  test results, and effect sizes ( $\eta^2$ ) for boys and girls are presented in Table 1. Children's reports of peer status revealed that boys were rated as significantly less liked and more rejected than girls. Teacher reports revealed no sex differences in likeability and peer acceptance, but boys were significantly more rejected than girls. Finally, boys were significantly more aggressive, slightly more withdrawn, and significantly less prosocial than girls. Because of these differences, child's sex was included as a covariate in all multivariate analyses.

### *Agreement between methods and reporters*

As shown in Table 2, the rating of peer likeability was significantly correlated with the nomination indices of acceptance and rejection for both peer and teacher reports,  $r$  values ranged from an absolute value of  $.15$ – $.59$ , and child and teacher reports were significantly intercorrelated,  $r$  values ranged from an absolute value of  $.20$ – $.47$ , all  $p < .01$ . There were some differences in the magnitudes of correlations between peer standing measures when reports from children were compared to reports from teachers.

Table 1  
Means, standard deviations, and comparisons of peer status and behaviors for boys and girls

	Boys		Girls		<i>p</i>	eta <sup>2</sup>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Peer relations						
Child report <sup>a</sup>						
Likeability	−.22	1.01	.26	.85	<.01	.06
Acceptance	−.05	.94	.06	1.00	.29	.00
Rejection	.22	1.06	−.27	.78	<.01	.06
Teacher report <sup>a</sup>						
Likeability	−.02	1.00	.04	.93	.43	.00
Acceptance	−.04	.94	.06	1.00	.36	.00
Rejection	.11	1.01	−.11	.92	.04	.04
Behaviors <sup>a</sup>						
PV aggression	.31	1.04	−.29	.77	<.01	.09
Withdrawn	.13	1.04	−.08	.87	.04	.05
Prosocial	−.23	.90	.28	.98	<.01	.07

Note: Boys  $n = 218$  for child report, and ranged from 169 to 201 for teacher report and behaviors. Girls  $n = 182$  for child report, and ranged from 149 to 171 for teacher report and behaviors. PV: physical/verbal.

<sup>a</sup> Measures were standardized by classroom (converted to  $z$ -scores). Hence, each classroom had a mean score of 0 and a standard deviation of 1.

First, acceptance and rejection were more strongly negative correlated for child reports than for teacher reports,  $z = -3.61$ ,  $p < .01$ . Second, likeability was more strongly correlated with both acceptance and rejection for child reports than teacher reports,  $z = 3.26$  and  $-2.81$ , respectively, both  $p < .05$ . Hence, children's ratings and nominations were somewhat less differentiated than reports from teachers.

### Peer status, maltreatment, and children's social behaviors

*Children with and without a known history of maltreatment.* A series of  $t$  tests were conducted to compare the peer status and behaviors of children with and without a known history of maltreatment. Results of

Table 2  
Correlations between rating and nomination measures of peer relationships as reported by children and teachers

	1	2	3	4	5
Child report					
1. Likeability	—				
2. Acceptance	.52**	—			
3. Rejection	−.59**	−.40**	—		
Teacher report					
1. Likeability	.47**	.38**	−.41**	—	
2. Acceptance	.41**	.43**	−.24**	.35**	—
3. Rejection	−.31**	−.20**	.37**	−.42**	−.15**

Note:  $n$  ranged from 315 to 400. All variables were standardized within classroom.

\*\*  $p < .01$ .

Table 3

Means, standard deviations, and comparisons of peer status and social behaviors between children with and without a known history of maltreatment in the home

	No known history of maltreatment		Known history of maltreatment		<i>p</i>	eta <sup>2</sup>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Child report <sup>a</sup>						
Likeability	.06	.95	−.83	.91	<.01	.05
Acceptance	.03	.97	−.41	.92	.03	.01
Rejection	−.07	.92	1.10	1.05	<.01	.09
Teacher report <sup>a</sup>						
Likeability	.06	.95	−.86	.91	<.01	.05
Acceptance	.04	.97	−.51	.85	<.01	.02
Rejection	−.04	.95	.64	1.15	<.01	.03
Behaviors <sup>a</sup>						
Overt aggression	−.03	.92	1.04	1.16	<.01	.07
Withdrawn behavior	.00	.94	.55	1.25	.01	.02
Prosocial behavior	.06	.95	−.94	.66	<.01	.06

*Note:* Child report— $n=375$ , no known history of maltreatment and  $n=25$ , known history of maltreatment. Teacher rating— $n=322$ , no known history of maltreatment and  $n=21$ , known history of maltreatment. Teacher acceptance— $n=349$ , no known history of maltreatment and  $n=23$ , known history of maltreatment. Teacher rejection— $n=299$ , no known history of maltreatment and  $n=19$ , known history of maltreatment. Teacher report of social behaviors— $n=334$ , no known history of maltreatment and  $n=22$ , known history of maltreatment.

<sup>a</sup> All variables were standardized within classroom. Hence, values can range from less than 0 to greater than 0.

these analyses are presented in Table 3. This table also includes effect sizes (eta<sup>2</sup>). As shown in Table 3 and in support of the hypothesis that maltreated children would have more problematic relationships with peers than other children, significant differences were found on almost all measures. Regardless of whether peer status was based upon child or teacher report, children with a known history of maltreatment were less liked by their classmates (i.e., had lower ratings), were less accepted, and were more rejected. When comparing behaviors between children with and without a known history of maltreatment, maltreated children were significantly more physically/verbally aggressive, more withdrawn, and less prosocial when compared to their classmates. Maltreatment status accounted for between 1% and 9% of the variance in children's peer status and behaviors.

*Correlations between peer status measures and child behaviors.* As expected, there were significant associations between peer status and all measured children's behaviors (see Table 4). Based on children's reports of their classmates, children who were more liked and accepted were also relatively less aggressive and withdrawn, and they were more prosocial. Similarly, children who were relatively more rejected were more physically/verbally aggressive, more withdrawn, and less prosocial. Findings based on teacher reports of peer status showed similar patterns of associations.

*Behaviors as mediators.* Six hierarchical regression models were estimated to test the final hypotheses that children's behaviors would mediate the association between maltreatment and peer status. Dependent variables in the first three models were children's reports of peer standing (Table 5). Dependent

Table 4  
Correlations between peer status and children's behaviors

Children's behavior	Child report			Teacher report		
	Likeability	Acceptance	Rejection	Likeability	Acceptance	Rejection
PV aggression	-.31**	-.14*	.49**	-.34**	-.16**	.40**
Withdrawal	-.36**	-.24**	.22**	-.45**	-.29**	.18**
Prosocial	.44**	.30**	-.44**	.50**	.27**	-.27**

Note: Child report  $n = 356$ , teacher report  $n$  ranged from 316 to 343. PV: physical/verbal. All variables were standardized within classroom.

\*  $p < .05$ .

\*\*  $p < .01$ .

variables in the final three models were teacher reports of peer standing (Table 6). In all six regression models, sex (coded 0 = male, 1 = female) and maltreatment (coded 0 = no, 1 = yes) were entered in Step 1, and children's physical/verbal aggression, withdrawn behavior, and prosocial behavior were entered in Step 2.

*Behaviors as mediators of the association between child reports of peer status and maltreatment.* As has been described by Baron and Kenny (1986) and Holmbeck (1997), a multiple regression modeling method was used to test mediators of the association between child reports of peer status and maltreatment. In these models, sex and maltreatment accounted for 8% of the variance in peer likeability,  $F(2,353) = 16.3$ ,  $p < .01$ , a nonsignificant 1% of the variance in peer acceptance, and 14% of the variance in peer rejection,  $F(2,353) = 29.8$ ,  $p < .01$  (Step 1, Table 5). In models of likeability and rejection, child biological sex and maltreatment were significantly associated with peer status, with girls more liked and less rejected than boys, and maltreated children less liked and more rejected than others. Neither sex nor maltreatment was significantly associated with peer acceptance.

Next, mediators of the association between maltreatment and peer likeability, and between maltreatment and peer rejection were examined. In Step 2, children's behaviors accounted for an additional 18% of the variance in peer likeability,  $F_{\text{chg}}(3,350) = 28.8$ ,  $p < .01$ , 10% of the variance in peer acceptance,  $F_{\text{chg}}(3,350) = 12.6$ ,  $p < .01$ , and 19% of the variance in peer rejection,  $F_{\text{chg}}(3,350) = 32.9$ ,  $p < .01$  (Table 5). First, peer likeability was no longer significantly associated with maltreatment, while all children's behaviors were associated with peer likeability. Second, although withdrawal and prosocial behavior were significantly associated with peer acceptance, maltreatment and peer acceptance were not significantly associated. Third, in the model of child report of peer rejection, the association between rejection and maltreatment was reduced from  $B = 1.19$  to  $B = .67$ , and physical/verbal aggression and prosocial behavior were significantly associated with peer rejection. Sobel's tests indicated that maltreatment had significant indirect effects on likeability and rejection via children's behaviors, Sobel's test ranged from an absolute value of 3.1–5.0, all  $p < .01$ . More specifically, findings showed that maltreatment had a significant indirect association with peer likeability via children's physically/verbally aggressive, withdrawn, and prosocial behaviors. Yet, the association between physical/verbal aggression and peer likeability was small in magnitude ( $p = .03$ ) and should be interpreted with caution and along with findings from previous research. Regarding peer rejection and maltreatment, physical/verbal aggression and prosocial behavior, but not withdrawal, were partial mediators of this association.

**Table 5**  
**Hierarchical regressions testing children's behavior as mediators of associations between maltreatment and child reports of peer status (n = 356)**

Step	IV	DV = peer likeability					DV = peer acceptance					DV = peer rejection				
		R <sup>2</sup>	ΔR <sup>2</sup>	B	SE B	β	R <sup>2</sup>	ΔR <sup>2</sup>	B	SE B	β	R <sup>2</sup>	ΔR <sup>2</sup>	B	SE B	β
1	Child sex	.08**	.08**	.40	.10	.21**	.01	.01	.08	.10	.04	.14**	.14**	-.40	.10	-.21**
	Hx maltreatment			-.72	.21	-.18**			-.36	.21	-.09			1.19	.20	.30**
2	Child sex	.27**	.18**	.19	.09	.10	.11**	.10**	-.06	.10	-.03	.33**	.19**	-.12	.09	-.06
	Hx maltreatment			-.27	.19	-.07			-.07	.21	-.02			.67	.18	.17**
	PV aggression			-.12	.06	-.12*			-.01	.06	-.01			.34	.05	.34**
	Withdrawal			-.23	.05	-.23**			-.14	.06	-.14*			.10	.05	.10
	Prosocial			.25	.06	.25**			.24	.07	.24**			-.17	.06	-.17**

Note: IV, independent variable; DV, dependent variable; PV, physical/verbal; Hx, history.

\* p < .05.

\*\* p < .01.

**Table 6**  
Hierarchical regressions testing children's behavior as mediators of associations between maltreatment and teacher reports of peer status

Step	IV	DV = peer likeability (n = 340)					DV = peer acceptance (n = 343)					DV = peer rejection (n = 316)				
		R <sup>2</sup>	ΔR <sup>2</sup>	B	SE B	β	R <sup>2</sup>	ΔR <sup>2</sup>	B	SE B	β	R <sup>2</sup>	ΔR <sup>2</sup>	B	SE B	β
1	Child's sex	.05**	.05**	.02	.10	.01	.02	.02	.03	.11	.02	.04**	.04**	-.19	.11	-.10
	Hx maltreatment			-.94	.22	-.23**			-.48	.22	-.12*			.63	.23	.15**
2	Child's sex	.37**	.32**	-.27	.09	-.14*	.12**	.10**	-.11	.11	-.06	.19**	.15**	.05	.11	.03
	Hx maltreatment			-.37	.19	-.09			-.15	.22	-.04			.19	.22	.05
	PV aggression			-.19	.05	-.19**			-.07	.06	-.07			.38	.06	.38**
	Withdrawal			-.33	.05	-.33**			-.23	.06	-.23**			.14	.06	.14*
	Prosocial			.29	.06	.29**			.14	.07	.14*			-.02	.07	-.02

Note: IV, independent variable; DV, dependent variable; PV, physical/verbal; Hx, history.

\* p < .05.

\*\* p < .01.

*Mediators of the association between teacher reports of peer status and maltreatment.* In the next series of three regression models, teachers' reports of peer standing were the dependent variables (Table 6). In these models, child sex and maltreatment accounted for 5% of the variance in likeability,  $F(2,337) = 8.2$ ;  $p < .01$ , a nonsignificant 2% of the variance in acceptance,  $F(2,340) = 2.5$ , and 4% of the variance in rejection,  $F(3,312) = 16.51$ ,  $p < .01$ . In each model, peer status was associated with maltreatment, but not child's biological sex.

In Step 2, children's behaviors accounted for an additional 32% of the variance in peer likeability,  $F_{\text{chg}}(3,334) = 55.8$ ,  $p < .01$ , an additional 10% of the variance in peer acceptance,  $F_{\text{chg}}(3,337) = 13.4$ ;  $p < .01$ , and an additional 15% of the variance in rejection,  $F_{\text{chg}}(3,310) = 19.2$ ,  $p < .01$ . Most important to testing the hypothesis that children's behaviors mediate the association between maltreatment and peer status, maltreatment was associated with all teacher report measures of peer status in Step 1 of these models, and after entering children's behaviors in Step 2, maltreatment was no longer significantly associated with peer status. Additionally, Sobel's tests showed that maltreatment had significant indirect effects on teacher reports of peer status via children's behaviors.

All three measured behaviors fully mediated the association between maltreatment and peer likeability, Sobel's tests ranged from  $-3.43$  to  $-2.41$ , all  $p < .01$ . Withdrawal mediated the association between maltreatment and peer acceptance, Sobel's test =  $-2.15$ ,  $p < .05$ , and prosocial behavior was significantly associated with peer acceptance, but Sobel's test indicated that the indirect effect of maltreatment on peer acceptance via prosocial behavior was not significant, Sobel's test =  $-1.85$ ,  $p > .05$ . Finally, physical/verbal aggression mediated the association between maltreatment and peer rejection, Sobel's test =  $-4.00$ ,  $p < .01$ , and withdrawal was significantly associated with peer rejection, but Sobel's test indicated that the indirect effect of maltreatment on peer rejection via withdrawn behavior was not significant, Sobel's test =  $1.73$ ,  $p > .05$ . It should also be noted that associations between prosocial behavior and peer acceptance ( $p = .04$ ), and between withdrawal and peer rejection ( $p = .02$ ) were small in magnitude, which accounts for the lack of significant indirect effects of maltreatment on peer status via these behaviors.

## Discussion

The results of this study support the hypothesis that, even among children who have entered school earlier than is typical in many countries or regions, young children with a known history of maltreatment were faring more poorly than other children. Young maltreated children (ages 4–8) were significantly less liked, more rejected, less accepted, more physically/verbally aggressive, more withdrawn, and less prosocial compared with other children. In addition, children's behaviors with their peers mediated associations between maltreatment and being liked or disliked by peers, suggesting that maltreated children engaged in more negative and less positive behaviors with their peers, and these patterns of behaviors were the more direct correlates of whether they were liked or disliked by their classmates. Similar conclusions can be drawn from this study regardless of whether peer relationships were assessed via peer reports or teacher reports of peer likeability, peer like, and peer dislike.

There have been a small number of important studies of the peer relationships of maltreated children age 6 or older. To our knowledge, the current study is the first to include very young children who were identified through notifications to a child welfare department. In addition, this was the first research study that has provided information on the peer relationships of a group of children age 4–8 in their normal

classrooms. Only three previous studies were found that included some maltreated children of a similar age range, ages 5–12 (Kaufman & Cicchetti, 1989), children age 6 (in kindergarten) who were followed annually until they were 10 years old (in grade 4, Dodge et al., 1994), and children who were in grades 2–4 (modal ages of 8–10) in the first wave of a 4-year longitudinal study (Bolger & Patterson, 2003).

#### *Associations among peer status, maltreatment, and children's behaviors*

Consistent with a previous study (Dodge et al., 1994), young maltreated children were not as liked by their peers and engaged in more negative and less positive behaviors with their classmates at school. Although anticipated, these finding of higher levels of withdrawal among maltreatment children diverges somewhat from previous research; Bolger and Patterson (2001) found no significant association between teacher/peer reports of withdrawal and chronic maltreatment in their 4-year longitudinal study of children initially in grades 2, 3, and 4. Previous studies also have shown that withdrawal is more prevalent in neglected children compared with physically abused children (Hoffman-Plotkin & Twentyman, 1984; Kaufman & Cicchetti, 1989).

Among all children who participated, children's behaviors were also found to correlate with peer status; children who are relatively more physically/verbally aggressive and withdrawn have more problems in their peer relationships, including being rated as less liked, and receiving more nominations of rejection (identified as disliked), and fewer nominations of acceptance (identified as liked). Alternatively, children who are more prosocial are having more success with peers. These findings were consistent across reporters, with child and teacher reports of peer status yielding similar results. Findings of associations between withdrawn behaviors and peer status contradict the suggestion that withdrawn behavior would not be associated with more negative peer standing among children in the earliest years of school (Rubin, Coplan, Fox, & Calkins, 1995; Rubin, Stewart, & Coplan, 1995). It is also important to note, however, that previous investigations of the link between withdrawn behavior and rejection have resulted in contradictory findings. As Coie and Dodge (1988) discussed, contradictory findings may be due to differences in attention to types of withdrawn behavior, such as withdrawal because of ostracism versus simply having lower levels of interactions with classmates. Teachers may be more likely to rate or nominate children as withdrawn if they have experienced ostracism, whereas children's reports of withdrawal among their peers or children observed as withdrawn may locate children who have been ostracized, but also may identify those who are withdrawn for other reasons. It seems that additional studies are needed that rely on multiple reporters and observations of withdrawal, while also assessing peer status and maltreatment (see Rubin & Asendorpf, 1993).

#### *Children's behaviors as mediators of associations between peer status and maltreatment*

Some or all of the children's behaviors measured in the current study either partially or fully mediated the association between maltreatment by caregivers and standing with classmates at school. Results were usually consistent regardless of whether peer status was reported by children or teachers, but some findings did depend upon reporter and/or upon the method used to assess peer status (ratings or nominations). More specifically, in four models of peer acceptance and rejection (as assessed with nominations), two child behaviors were independently and significantly associated with peer status, while in the other two models of peer likeability (as assessed with ratings), all three children's behaviors were associated. We suspect that these results reflect that peer likeability includes consideration of both peer acceptance and

rejection, and provides ratings for all children. Therefore, aggression, prosocial behavior, and withdrawal may all account for unique variance in child and teacher assessments of likeability. However, particular behaviors may be stronger correlates of being singled out as liked by others (accepted), especially when these are limited in number (e.g., prosocial behavior), whereas other behaviors are stronger correlates of being singled out as very disliked (rejected) by others (e.g., aggression).

Prior to accounting for children's behaviors, regression models also showed that maltreatment had a negative association with peer likeability and a positive association with rejection when reported by children and by teachers, but was not associated with child report of acceptance, and was only very modestly associated with teacher reports of acceptance. As found with aggression, maltreatment may be a better predictor of being overtly disliked by other children and recognized as disliked by teachers, and this also is reflected in ratings of likeability. However, maltreatment may not result in fewer nominations for being liked, because the limited number of nominations results in many children (both maltreated and other) with few nominations of acceptance.

When social behaviors of children were examined as mediators of the association between likeability and maltreatment, results supported the conclusion that this association was fully mediated by children's levels of physical/verbal aggression, withdrawal, and prosocial behavior. This was found whether children or their teachers reported likeability.

Turning to peer rejection, there were some differential associations between children's behavior and rejection when results based on child and teacher reports were compared. In total, however, all children's behaviors mediated the association between maltreatment and rejection in at least one of the two models. Physical/verbal aggression and prosocial behavior *partially* mediated this association when child report of peer rejection was examined, but aggression *fully* mediated the association between teacher-reported peer rejection and maltreatment. Consistent with previous research (Bolger & Patterson, 2001), withdrawal did not mediate the association between maltreatment and child or teacher report of peer rejection. Given the finding of partial mediation in the model of child-reported peer rejection, there may be other factors that are associated with maltreatment that account for the remaining direct association between maltreatment and rejection when child reports are gathered. These might include socioeconomic status (Cicchetti & Carlson, 1989; Dodge et al., 1994; Kaufman & Cicchetti, 1989; Wolfe, 1985), appearance and material possessions (Hymel et al., 2002; Rubin et al., 1998), and/or poor emotion regulation or particular social-cognitive deficits (Dodge et al., 1994; Kaufman & Cicchetti, 1989; Rubin et al., 1998; Rubin, Coplan, et al., 1995; Rubin, Stewart, et al., 1995).

The final two models examined peer acceptance. Maltreatment was associated with teacher report of peer acceptance, but not child report, and in the model of teacher-reported peer acceptance, withdrawal fully mediated the modest association between peer acceptance and maltreatment. Clearly, it is likeability and overt rejection by peers, rather than lack of acceptance, that are more likely to be associated with a history of maltreatment via children's behaviors with their classmates.

Two cautions regarding these findings include the use of multiple models and the use of regression to test mediation effects. One aim of this study was to compare findings when using teacher report or child report of peer status using ratings and nominations. Hence, we tested one construct at a time using multiple models. This might have resulted in an inflated Type I error rate. In addition, although regression models to test mediation are described in many texts and often used (Baron & Kenny, 1986; Holmbeck, 1997), this approach has some limitations, including the possibility of low power to detect effects (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). Even given the potential shortcomings of using a number of multiple regression models, results supported our mediational hypotheses and were generally consistent

with previous research with cross-sectional and longitudinal studies of similar age (Dodge et al., 1994) and older children (e.g., Bolger & Patterson, 2001).

#### *Multiple measures and reporters, study limitations, and future directions*

The conclusions to be drawn from the current study are quite similar whether one emphasizes child reports or teacher reports of peer status. Yet, findings did seem to depend upon whether the key construct of interest was peer or teacher ratings (likeability) as compared to nominations (peer acceptance or peer rejection). Teachers' ratings of child likeability and nominations of peer status had somewhat differentiated associations with maltreatment and children's behaviors in multivariate models, and teachers' ratings and nominations were more differentiated than children's reports. It is unclear whether this differentiation is a desirable aspect of measurement as it also was the case that teachers had some resistance to completing items that assessed peer rejection. In addition, associations between teacher ratings and nominations in the present study were slightly lower than in a previous study (Wu et al., 2001). The reason for these lower associations is not clear. It may be that there are cross-national differences in teachers' ratings of children just as previous research has found cross-national or cross-cultural differences in parents' ratings of their children's aggression, externalizing behaviors, and competencies (Russell, Hart, Robinson, & Olsen, 2003).

Correlations between children's ratings and nominations were quite similar to those reported by Wu et al. (2001) in their study of children age 3–6, and were slightly lower than those in a study of older children (Bukowski, Sippola, Hoza, & Newcomb, 2000). Hence, it may be that children's nominations and ratings of their classmates are increasingly intercorrelated as they get older. This makes it difficult to provide a single recommendation regarding the best source of information or method to use to gather information about young children's level of likeability, acceptance, and rejection. In fact, decisions should be made based on purpose and, secondarily, pragmatics, as conclusions drawn about associations between peer standing and other variables do not seem overly dependent on the source of information.

No child reports of physical aggression, verbal aggression, prosocial behavior, and withdrawal were collected in the current study. Instead, only teacher reports of children's behaviors were gathered. Child reports of behavior may have provided a slightly different picture of maltreated children. It was found that teacher reports of social behavior accounted for between 10% and 32% of the variance in teacher reports of peer status, and 10% and 19% of variance in peer reports of peer status. Because of shared method variance, teacher reports of social behavior would be expected to account for more variance in teacher reports of peer status compared with child reports of peer status. However, in the current study this only occurred for teacher ratings of likeability. Teacher reports of children's behaviors accounted for more variance in children's compared to teachers' nominations of rejection and the same amount of variance in children's compared to teachers' nominations of acceptance. Hence, there was limited evidence of inflated associations due to shared method variance in the current study. Further, wording of items for children and teachers were different to enable children to report their attitudes about their classmates and to allow teachers to base reports on their observations of children at school. These differences in items also did not seem to overly influence results.

In the current study, relational aggression was not assessed. Relational aggression has been increasingly of concern within schools, and in the developmental and child clinical research literature (Geiger, Zimmer-Gembeck, & Crick, 2004). Relational aggression involves harming others through damage to peer relationships for the purpose of controlling the behavior of others, such as using social exclusion or

threat of withdrawal of affiliation (Crick & Grotpeter, 1995). To the authors' knowledge, there have been no studies of relational aggression in maltreated children. This is a common behavior among children that may be as or more common than physical aggression, depending on age and gender, and should be assessed in future studies of maltreated children and their classmates. However, gender has almost always been an important correlate to consider in studies of relational aggression (Crick & Grotpeter, 1995; Crick et al., 1999; Geiger et al., 2004). Therefore, a study of maltreatment and relational aggression will require a larger group of maltreated children than was included here, so that it is possible to complete tests of gender differences in the relational aggression of maltreated children, and gender moderation of the association between maltreatment and relational aggression (for a discussion of gender and moderation, see Crick & Zahn-Waxler, 2003).

It has been rare for studies of children in the earliest years of school to have the large sample size of the current study. Yet, only 6% of children were identified as having a history of caregiver maltreatment. This percentage of children is similar to that found to have a history of maltreatment in a large study of children in the US (i.e., 107 out of 1,920; Bolger & Patterson, 2003). This gives some confidence that most of the participating children who had a history of maltreatment and contact with a child welfare agency were identified. Even if some maltreated children were not identified, this may be considered less problematic for interpreting and generalizing results, because having maltreated children in the group of classmates without a known history of maltreatment would most likely have reduced (rather than inflated) the effect sizes reported here. Yet, an improvement to this study would be collecting information about maltreatment at home for all participating children via both official and other reports.

Although large numbers of boys and girls participated in this study, there were 80% boys in the maltreated group of children. This may be due to the nature of the referrals received. It is unclear whether results would differ if more girls with a history of maltreatment had been included. Further, children with a known history of maltreatment were 6% of the total participant group, so comparisons of maltreated boys and girls could not be completed.

The cross-sectional design of the current study resulted in other study limitations. The findings of this study do not provide causal explanations and directionality of associations were not firmly established. However, findings add to the those from past longitudinal studies that have shown that chronicity of maltreatment and rejection are associated (Bolger & Patterson, 2001), and that earlier peer rejection exacerbates later antisocial behaviors, such as physical/verbal aggression (Coie et al., 1995; Miller-Johnson, Coie, Maumary-Gremaud, Bierman, & Conduct Problems Prevention Research Group, 2002).

### *Applications and conclusions*

Overall, the findings of the current study provide a better understanding of the peer relationships of young children with and without a history of maltreatment, and an extension of research on associations between social behaviors, maltreatment, and peer relations to a younger age group. Young maltreated children are relatively less liked, more rejected, and less accepted by their peers than other children, and most of these associations are either fully or partly mediated by their aggressive behaviors, their lack of prosocial behavior, and/or their withdrawal from interactions with classmates. However, depending somewhat on the reporter of peer relationship information (child or teacher), and the specific peer relationship measure under consideration (ratings of dislike-like, acceptance, rejection), all children, maltreated or not, who have more negative and less positive behaviors when interacting with classmates are more likely

to be less liked by their peers. These findings highlight the need for prevention and intervention efforts for maltreating families that start in the early years of childhood—particularly prior to the transition to regular interactions with a group of other children, but also emphasizes the importance of continuing to develop, offer, and/or evaluate programs in order to efficiently and effectively assist all children to improve their social behaviors with peers at school.

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