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The Social Context of Young Children's Peer Victimization

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Abstract

The goal of this study was to investigate differences in the social context of peer victimization for preschoolers and kindergarteners. Data were collected from 168 children. For preschoolers, neither social acceptance nor friendships were significantly related to peer victimization. Instead, playing with peers and exposure to aggressive peers were associated with higher rates of peer victimization. For kindergarteners, exposure to aggressive peers also contributed to the risk for peer victimization, but being liked by peers and having friends were inversely related to victimization, thereby providing a buffering effect. The developmental implications of these findings are discussed.

Keywords

peer victimization; social acceptance; friendships; social play; aggression

When children congregate together, the possibilities for peer interactions are endless. Sometimes, positive interactions result—friendships are formed and maintained, children engage in joyful play with peers, and the peer group responds with warmth and acceptance. At other times, negatively toned interactions develop. In the extreme form, some children are victimized by peers, the recipients of physical attacks and hostile words, gestures, or acts. Because such peer victimization, particularly when it is repeated and persistent, places children at risk for a number of socioemotional and academic difficulties (Hanish & Guerra, 2002; Schwartz, McFadyen-Ketchum, Dodge, Pettit & Bates, 1998), understanding the processes that contribute to this problem is crucial.

Many children are involved in peer victimization episodes. Estimates indicate that approximately three-quarters of all children participate in attacks on other children; some serve as victimizers, others actively encourage the attackers, and others watch from the sidelines, doing little to intervene. Only a relatively small percentage of children step in to defend the victims (Salmivalli, Lagerspetz, Bjorkqvist, Osterman & Kaukiainen, 1996). Moreover, multiple peers (other than the bullies) witness or participate in approximately 85% of victimizing interactions (Atlas & Pepler, 1998). The mechanisms that drive peers to victimize some children have been hypothesized to reflect attempts to establish and maintain social dominance (Adler & Adler, 1995; Hawker & Boulton, 2001), as well as attempts to preserve group cohesion and homogeneity (Bukowski & Sippola, 2001). Clearly, peer victimization involves a complex set of social processes, and social relationships and interactions underlie its occurrence. The primary aim of the present study was to investigate the social context of peer victimization in early childhood, focusing specifically on the roles played by the quality of relationships with peers (i.e., social acceptance, mutual friendships, and social play experiences) and the extent to which available peers are aggressive. A second aim was to assess age-related differences in the influence of these peer factors on victimization for preschoolers and kindergarteners.

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Peer Relationships and Victimization

Children's peer relationships are multifaceted; friendships, social acceptance, and playful interactions each confer different developmental opportunities (Gest, Graham-Bermann & Hartup, 2001; Rubin, Bukowski & Parker, 1998). As past research has shown (Boivin, Hymel & Bukowski, 1995; Boulton, 1999; Hodges & Perry, 1999), each type of peer relationship is individually associated with victimization experiences such that children who have many friends, children who are liked by peers, and children who play with others at recess or free play times are less likely to be victimized, although these factors have rarely been examined in the same study. Having positive relationships with peers serves a protective function because children who are well liked and engaged with others are less likely to be attacked and aggressively segregated from the group. Positive social relationships seem to be particularly important for those children who exhibit behaviors that appear aberrant or disruptive (such as aggression and withdrawal) and are most likely to be victimized (Hanish & Guerra, 2000b; Schwartz, McFadyen-Ketchum, Dodge, Pettit & Bates, 1999). Thus, one important influence on peer victimization seems to be the quality of relationships that children form with their peers.

A second important influence on peer victimization is the extent to which children are exposed to peers who exhibit aggressive behaviors. Peers' aggression is a necessary component of victimization; without peer-directed aggression, peer victimization cannot occur. Just as individual children vary in their level of aggressiveness, groups of peers also vary, with some peer groups exhibiting higher levels of aggression and others exhibiting lower levels. These group differences have been found at the level of the entire classroom, as well as at the level of individual peer and friendship groups. Such differences may be due to differing characteristics of group members, such as negative affect, activity level, or competitiveness, as well as differing patterns of modeling, reinforcement, and punishment by peers or teachers (Cairns, Cairns, Neckerman, Gest & Gariépy, 1988; DeRosier, Cillessen, Coie & Dodge, 1994; Dishion, Eddy, Haas, Li & Spracklen, 1997). Although little research has examined the relation between aggression levels in the peer group and children's likelihood of being victimized by peers, it is reasonable to assume that exposure to more aggressive peers corresponds to a greater probability of being victimized.

Developmental Considerations in Young Children's Peer Victimization

Because many children experience their first opportunities for extended peer interaction in preschool and kindergarten, these years are a formative time for the development of peer relationships in general, including peer victimization. In fact, peer victimization is a common occurrence during this age period (Alsaker & Valkanover, 2001; Crick, Casas & Ku, 1999; Kochenderfer & Ladd, 1996). Importantly, the quality, nature, and pattern of peer interactions that emerge at these early ages form the building blocks for peer victimization. For instance, Olson (1992) has shown that peer victimization can develop over the course of repeated interactions with schoolmates as rejected and aggressive preschoolers instigate negative interactions with peers and, after repeated exposure to these aversive exchanges, peers begin to respond by seeking out and victimizing these youngsters.

During preschool and kindergarten, children learn how to build and maintain friendships, form opinions about which children are liked or disliked, establish groups of consistent play partners, acquire reputations, and develop social skills. These developments occur at a relatively rapid pace; consequently, the way in which social interactions contribute to peer victimization may differ for preschoolers and kindergarteners, given that the latter are older, more mature, and are more sophisticated in their behaviors, emotions, and cognitions related to social interactions. Although 3-and 4-year-olds, like older children, form reciprocal friendships that

are moderately stable across time and situation and differentiate their peers in terms of popularity (Walden, Lemerise & Smith, 1999), the nature and structure of these preschool peer relationships differ from those of kindergarteners in important ways. By the time children reach the age of 5 or 6 years, they are more likely to have reciprocal friends and to be members of small networks of peers, they engage in less solitary and more social play, and they spend more time with members of social and friendship networks (Rubin & Coplan, 1998; Strayer & Santos, 1996). The complexity of social relationships increases as well, with older children engaged in larger, denser, and more cohesive social groups (Strayer & Santos, 1996; Vespo, Kerns & O'Connor, 1996). These changes in the nature and quality of young children's peer relationships may influence the association between peer relationships and victimization such that this association varies for preschoolers and kindergarteners. For instance, because younger children are less involved with peers than older children, the relation between victimization and relationship qualities (social acceptance, mutual friendships, or social play) may be weaker and less well established among preschoolers than it is for kindergarteners, who are more socially connected.

Other developmental changes also contribute to age-related differences in the nature and quality of children's peer interactions, particularly with respect to peer victimization. As children grow older, their social cognitive abilities become more advanced, making their conceptualizations of peers more elaborate and contributing to children's ability to understand their peers' social and behavioral reputations (e.g., reputation as a victim; Rubin *et al.*, 1998). Moreover, older children are better than younger children at regulating their emotions and behaviors in social situations, resulting in greater self-control (Cummings, Iannotti & Zahn-Waxler, 1989; Kopp, 1982). In addition, classroom activities become increasingly structured and geared toward academic rather than social activities, with teachers holding greater expectations for self-control and positive social interactions for kindergarteners as compared to preschoolers. This change in structure also means that kindergarten children have less choice in deciding what activities to engage in and who to interact with. Thus, children who do not particularly like one another are likely to have more contact with one another during kindergarten than they might during preschool. As a result of these changes, peers may become increasingly likely to direct aggressive behaviors toward particular children based on their reputations (or other factors), rather than directing them more indiscriminately. Thus, the extent to which peers are aggressive should relate to peer victimization differently for preschool and kindergarten children.

The Present Study

The research was designed to address four issues. First, we assessed the contributions of three distinct aspects of young children's social relationships—social acceptance, friendships, and social play—to peer victimization. Rarely have multiple indicators of relationship quality been examined in the same study. We hypothesized that each indicator would be inversely related to peer victimization. This hypothesis is consistent with prior research with middle childhood and preadolescent samples showing that children who are well liked and are positively engaged with peers are less likely to be victimized (Boivin *et al.*, 1995; Boulton, 1999; Crick *et al.*, 1999; Hodges & Perry, 1999).

Second, we examined the extent to which exposure to peers differing in levels of aggressive behavior was related to children's risk for peer victimization. Although this question is central to conceptualizations of peer victimization, relatively little research has focused on the peer group's contributions to peer victimization; in comparison, studies of the individual characteristics that are related to victimization for particular youngsters are quite common. We expected that exposure to more aggressive peers would positively relate to peer victimization.

To our knowledge, prior research has not examined how peer relationship quality and peer characteristics jointly relate to peer victimization. Thus, our third goal was to examine the relations among the indicators of relationship quality, peers' aggression, and victimization. To meet this goal, we were interested in examining the relative contributions of relationship quality and peers' aggression to peer victimization. Each of these aspects offers unique information about the nature of children's interactions with peers, yet little is known about the relative importance of relationship qualities and peers' characteristics to children's likelihood of being victimized. We expected that each would contribute unique variance to peer victimization. We also hypothesized that peers' aggression would moderate the relation of social relationship quality to peer victimization such that the lack of high-quality social relationships (i.e., being well liked, having friends, and playing with others) would be most strongly related to victimization when peers tended to be more aggressive.

The final aim of this study was to examine differences in the relations between peer victimization and relationship quality and peers' aggression in preschoolers and kindergarteners. Little research has explored age-related differences in peer victimization in early childhood; instead, most research has focused on the middle childhood and preadolescent ages. Given the previously reported age differences in the breadth and complexity of young children's peer relationships, we expected that social relationships would be more strongly related to victimization for kindergarteners than for preschoolers. However, we also expected that peers' aggression would be more strongly related to victimization for preschoolers than for kindergarteners because younger children are less skilled at regulating their behavioral impulses, and, therefore, they should be more likely to indiscriminately attack peers to achieve goals or in response to feelings of frustration or anger (Cummings *et al*., 1989).

Methods

Participants

At the beginning of the fall semester, parents were informed of the nature of the research project and consented to the collection of naturalistic observation data and teachers' reports of children's observable behaviors. All but two children participated in this aspect of the research. In addition, in a separate consent procedure, 81% of the parents permitted their children to participate in a sociometric interview. Thus, the sample consisted of 168 children (with 135 of these having sociometric data) enrolled in eight preschool and four kindergarten classes at a university-sponsored school that provided full-day childcare. The participants were drawn from four waves of data collection, with each wave separated by one year (with three classes in each wave). Preschool class sizes ranged from 17 to 20 children and kindergarten classes ranged from 16 to 23 children; data from all participating children were used to calculate rates of peer aggression to permit a precise estimation of peer group effects. However, because 30% of the children attended the school for multiple years, data from only one year were used at the individual level to eliminate non-independent data from one year to the next.

The 87 participating preschoolers ranged in age from 2 years, 11 months to 5 years, 5 months (M = 3 years, 9 months, SD = 6 months) and the 81 participating kindergarteners ranged in age from 4 years, 5 months to 7 years, 0 months (M = 5 years, 4 months, SD = 5 months), with age calculated at the beginning of the school year. The overlap in age between the two groups was minimal. Only one preschooler was older than 60 months and only 11 kindergarteners were younger than 60 months. Thus, the age difference between preschool and kindergarten classes was significant, $t(166) = -20.76$, $p < .001$. Furthermore, preschool and kindergarten children attended separate classes. Despite close physical proximity, the classrooms were relatively distinct; kindergarten classes provided much more structured learning environments than preschool classes, and the vast majority of children's peer interactions were with classmates. Approximately half (52%) of the children were boys, and this gender distribution was

consistent across ages and classes. The sample was predominantly non-Hispanic White (66%), with 11% Asian American, 9% Hispanic, 5% African American, and 2% Native American. The remaining 7% of the children were either of another or mixed ethnicity.

Procedures

Multiple methods and reporters were used to collect the data, including behavioral observations and observer ratings, teacher ratings, and sociometric ratings and nominations. All measures were obtained during the first half of the school year, except for the social acceptance and friendship data, which were obtained during the spring semester to allow the children time to get to know one another. Specifically, behavioral observations and observer ratings were obtained during the fall semester, and teacher ratings were obtained at the conclusion of the fall semester. The data represented a subset of measures from a larger assessment protocol designed to assess young children's behavioral, social, emotional, and early academic functioning.

Measures

Peer Victimization.—At the end of the fall semester, primary classroom teachers completed a 7-item measure of children's peer victimization. This measure consisted of the two physical and three relational peer victimization items developed by Crick *et al*. (1999), as well as two additional items assessing verbal forms of peer victimization that were added for the present study. Items were answered using a 5-point Likert type scale and averaged together (alpha = . 92).

Classroom observers also rated children's tendency to be victimized by peers. The observers (12, 8, 10, and 8 in waves 1 through 4, respectively) observed children's play patterns and social interactions on a daily basis (see below). At two times during the fall semester, observers rated each child on a single item assessing his or her tendency to be physically, verbally, or relationally victimized by peers. Ratings were made using a 7-point Likert-type scale. Prior to completing the ratings, observers were trained to use the scale. Scale scores were computed by averaging across raters and across early fall and late fall ratings. Inter-rater reliability was alpha = .83.

Previous research has demonstrated that multi-informant composite indexes of peer victimization are better indicators of children's functioning than are single-informant measures (Ladd & Kochenderfer-Ladd, in press) and typically produce more reliable estimates (Rushton, Brainerd & Pressley, 1983). Thus, we combined teachers' and observers' ratings of peer victimization to form a composite index. Prior research has shown that teachers' and observers' ratings were reliable and valid for both preschoolers and kindergarteners (Ryan, Logan, Hanish, Martin & Fabes, 2001). The teachers' and observers' ratings were correlated, $r(162) = .22$, $p < .01$.[1] To create a composite peer victimization score, each measure was standardized and averaged together.

Social Acceptance.—Social acceptance ratings were obtained using procedures developed by Asher, Singleton, Tinsley, and Hymel (1979). Children were interviewed individually in a separate room in their school. Pictures of each classmate (except those without parental permission) were presented one at a time. After identifying the picture, children indicated how much they liked to play with each individual using a 3-point scale, ranging from *'a little bit'* to *'a lot'*. The rating scale corresponded with line drawings of faces, with expressions varying

[1]We also assessed the independent relations among teacher-reported victimization and observer-rated victimization and the social constructs of interest. These analyses suggested similar patterns of relations with social play, acceptance, friendships, and peers' aggression for both victimization measures, providing further support for the use of the combined measure.

from negative to neutral to positive, and children were permitted to point to a face to indicate their answer. Prior to beginning the interview, children were trained to use the rating scale. Ratings were summed and standardized within sex and class.

The psychometric properties of sociometric procedures with young children have been previously established (Denham & McKinley, 1993). Moreover, to assess its validity in the present sample, we correlated it with teachers' ratings on several measures of related constructs, including popularity (Eisenberg, Fabes, Guthrie & Reiser, 2000), behavioral regulation (the Inhibitory Control subscale of the Children's Behavior Questionnaire (CBQ); Rothbart, Ahadi & Hershey, 1994), prosocial behavior (the Prosocial subscale of the Children's Behavior Scale (CBS); Ladd & Profilet, 1996), and social withdrawal (the Asocial subscale of the CBS; Ladd & Profilet, 1996). Correlations with popularity, behavioral regulation, and prosocial behavior ranged from $r = .21$ to.28, ps $< .10$ for preschoolers and from $r = .44$ to.57, ps $< .001$ for kindergarteners. Correlations with social withdrawal were $r = -.26$ and $-.34$, ps $< .05$ and .01, for preschoolers and kindergarteners, respectively. There were significant grade differences in the relations for popularity, $Z = 2.03$, $p < .05$, and prosocial behavior, $Z = 4.43$, $p < .001$, but not in the relations with behavioral regulation or withdrawal.

Reciprocated Friendships.—Children's reciprocated friendships were also assessed in the individual sociometric interviews. Pictures of children's classmates were presented in a randomly ordered array. After receiving training on how to complete the task, the child was asked to select up to three children with whom he or she 'liked to play with the most.' Mutual nominations were summed to create a variable reflecting the number of mutual friendships (Bukowski, Hoza & Boivin, 1994). Scores on this variable could range from 0 to 3. These data were only collected from children in waves 2, 3, and 4. Thus, the sample size for analyses with this variable was 95 (n = 49 preschoolers and 46 kindergarteners). In the present sample, this measure was significantly correlated with teachers' ratings on behavioral regulation, rs = .30 and .32, ps $< .05$, for pre-schoolers and kindergarteners, respectively. It was also correlated with teachers' ratings of prosocial behavior, rs = .52 and .43, ps $< .001$ and .01, for preschoolers and kindergarteners, respectively. However, for neither group was this measure correlated with teachers' ratings of social withdrawal, rs $= -.09$ and $-.22$, ns, for preschoolers and kindergarteners, respectively.

Social Play.—Children's tendencies to engage in social play were assessed using naturalistic observations of children's daily interactions. Observations of social play, defined as direct interaction with one or more children (e.g., rule-based play, social conversation, sociodramatic play), were used. Independent observers, who were present in classrooms and on the playground during free play periods (all times except teacher-directed group activities, lunchtime, and naptime), observed children in a randomly listed order throughout the fall semester. After observing a child for 10 seconds, the observer recorded information on the child's behavior and activities.

A total of 31,880 observations were collected, with an average of 191 observations per child. To account for differences in the numbers of observations per child (e.g., due to school absences), scores were computed by calculating the proportion of times out of the total number of observations that the child was observed to play with peers (e.g., number of observations of social play/total number of observations). Prior to beginning data collection, observers were extensively trained on the coding procedures. Reliability was assessed on a regular basis throughout the semester by having two independent observers simultaneously code the same child (obtained on 9% of the observations). Reliability estimates for the social play code were high (kappa = .92). These procedures have been used in previous studies and have demonstrated very good reliability and validity (Fabes, Shepard, Guthrie & Martin, 1997; Martin & Fabes, 2001).

Peer Group Aggression.—Peer group aggression was assessed using multiple methods. Secondary classroom teachers (who were different than the primary classroom teachers who completed the measure of peer victimization) completed the 7-item Aggression subscale of the Children's Behavior Scale (Ladd & Profilet, 1996; alpha = .94 in the present sample) for all the children in the classroom using a 3-point Likert-type scale. In addition, classroom observers rated children's aggressive behaviors using a single item measure of aggression that assessed the extent to which the child displayed physical or verbal aggression toward others. Items were rated on a 7-point, Likert-type scale (alpha = .92). Teacher-rated and observed aggression were correlated, $r = .69$, $p < .001$. These two measures were standardized and averaged together to enhance the reliability of the estimate (Rushton *et al*., 1983). This composite score was used as a basis for calculating peer group aggression.

Because children of this age tend to interact predominantly with peers of their own sex (Martin & Fabes, 2001), the relevant peer group for a child was defined as all same-sex classmates. Peer group aggression was computed by averaging together same-sex classmates' scores on aggression. This method of calculating peer group aggression is also supported by the finding that boys ($M = .26$, $SD = .98$) were more aggressive than girls ($M = -.28$, $SD = .74$), $t(166) = 4.00$, $p < .001$. For example, a girl in a class with eight other girls would have a score on the peers' aggression variable that was equal to the mean of the aggression scores for all nine girls in the class (the child's own score plus those of her eight female peers). This procedure resulted in the identification of 24 unique peer groups (16 for preschoolers and eight for kindergarteners). Scores on this index of peers' aggression ranged from .53 to .94 for preschoolers, and from −.69 to .67 for kindergarteners.

Results

Analyses focused on differences in the social context of peer victimization for preschool and kindergarten children. We first examined the relations between victimization and several indices of children's relationships with peers, namely social acceptance, friendships, and social play. We next considered the role of peers' aggressive behavior in relation to children's risk for victimization, examining the main effects of peers' aggression in isolation and with social relationship indicators in the model, as well as the extent to which peers' aggression moderated the relations between relationship quality and victimization. In all analyses, we evaluated patterns of effects for preschoolers and kindergarteners separately because the two groups were well differentiated by age and by classroom structure.

Preliminary Analyses

Means and standard deviations on each variable for the sample as a whole, and for preschoolers and kindergarteners separately, are presented in Table 1. Comparisons of preschoolers' and kindergarteners' scores on each variable indicated that kindergarteners were more likely than preschoolers to engage in social play. We also compared boys' and girls' scores on each variable. Boys ($M = .13$, $SD = .77$) were more likely than girls ($M = -.13$, $SD = .77$) to be victimized, $t(166) = 2.17$, $p < .05$. No other gender differences were found.

The correlations among the three social relationship variables are presented in Table 2. Acceptance was significantly correlated with friendship (particularly for kindergarteners), but there were no significant relations between acceptance and social play or between friendship and social play.

Relations Between Peer Victimization and Relationship Quality

We next examined the relations between peer victimization and the social relationship variables —first for the sample as a whole (Table 2, Panel A), then for preschoolers (Panel B) and

kindergarteners (Panel C) separately. Gender was controlled using partial correlations. As expected, victimization was inversely related to social acceptance and number of friends for the sample as a whole. In analyses by grade, these findings held for kindergarteners but not for preschoolers (see Table 2, Panels B and C). These grade differences were statistically significant ($Z = 2.87$, $p < .01$ and $Z = 2.58$, $p < .01$, for acceptance and friendships, respectively). In contrast, social play was unrelated to victimization for the sample as a whole (Table 2, Panel A). Analyses by grade revealed a positive relation between social play and victimization for preschoolers and no relation for kindergarteners; this grade difference was also statistically significant ($Z = 2.68$, $p < .01$; Panels B and C).

As a follow-up to these analyses, we tested the joint relations of social acceptance and friendships to victimization for kindergarteners. This analysis assessed the extent to which these two indices of relationship quality were related to victimization in an additive way. In a two-step hierarchical regression analysis, gender was entered on the first step as a control variable, and social acceptance and friendship variables were entered on the second step. Gender made a significant contribution to victimization; boys were more likely to be victimized than girls, $\beta = -.29$, $p < .01$, explaining 13% of the variance. Social acceptance and friendships together explained an additional 47% of the variance in kindergarteners' victimization scores, and both variables contributed to this effect, $\beta = -.45$, $p < .001$ and $\beta = -.38$, $p < .001$, for social acceptance and friendships, respectively.

Multilevel Analysis of The Role of Peers' Aggression

The effects of peers' aggression on victimization were examined using Hierarchical Linear Modeling (HLM) 5.05 (Raudenbush, Bryk & Congdon, 2000). HLM is a multilevel modeling analysis that permits simultaneous estimation of variation between individual children (Level 1) and between groups (Level 2) effects. Thus, we could examine the additive and interactive effects of peer group aggression (Level 2) and relationship quality (i.e., acceptance, social play, or friendships; Level 1) on individuals' victimization experiences while adjusting for biases in the estimates of standard errors that could result from the non-independence of children in peer groups. The use of this analytic procedure is appropriate for the present data because individual children were nested within their same-sex peer groups; thus children in the same peer group could have more similar victimization experiences than children in different peer groups.

As a first step, we examined the validity of our assumption that children in the same peer group have more similar victimization experiences than children in different peer groups by calculating intraclass correlations (ICCs). ICCs provide an estimate of the amount of variance in victimization due to membership in a peer group; the intercept-only model (i.e., no predictor variables) was used as a basis for this calculation (Hox, 1995). ICCs that reach or exceed .10 indicate sufficient within-group variance on the outcome variable (i.e., victimization) to warrant the use of multi-level procedures (Kreft, 1996). The ICCs for the preschool and kindergarten samples were .38 and .14, respectively. The higher ICC for the preschool sample suggests that a greater proportion of the variance in victimization was due to the effect of the peer group for the younger children (38% of the variance due to peer group influences versus 62% of the variance due to individual factors) than it was for the older children (14% versus 86%).

Next, we calculated three sets of models of increasing complexity; models were calculated separately for preschoolers and kindergarteners (see Table 3). In Model 1, we tested the effect of peer group aggression (Level 2) on victimization. Peer group aggression was centered before entry. The intercept indicated that the mean standardized victimization score was .09 for preschoolers and −.11 for kindergarteners.[2] Significant estimates for peer group aggression were obtained for both preschoolers and kindergarteners, suggesting that peer group aggression was associated with individual levels of victimization for children of both ages. Adding peer

group aggression to the model reduced the Level 2 variance (compared to the intercept-only model) by 63% for preschoolers and by 99% for kindergarteners; this indicates that 63% (for preschoolers) and 99% (for kindergarteners) of the between-group variation in victimization was due to peer group aggression.

For Model 2 equations, we added a Level 1 predictor (centered by subtracting the grand mean before entry). Social play, acceptance, and friendships were tested in separate analyses, and the findings are presented in separate panels in Table 3. For preschoolers, neither social play, acceptance, nor friendships significantly predicted victimization, although peer group aggression continued to make a significant contribution to victimization. Not surprisingly, these variables explained a relatively small amount of the Level 1 variance (9%, 0%, and 2% for social play, acceptance, and friendships, respectively). These findings parallel those obtained previously with one exception—the positive relation between social play and victimization did not reach significance in these analyses, though it did in the correlations. For kindergarteners, however, acceptance and number of friendships were inversely associated with victimization, explaining 12% and 12%, respectively, of the Level 1 variance.

The appropriate interaction terms were added in the third set of models. These terms test the extent to which the relation between the Level 1 predictor and victimization varied according to the level of aggression exhibited by the peer group. As may be seen in Table 3, there was no evidence of moderation for either preschoolers or for kindergarteners.

Discussion

These findings revealed an interesting set of differences in the relations between victimization and social experiences for preschool and kindergarten children. For preschoolers, neither social acceptance nor friendships played a significant role in predicting peer victimization. Instead, playing with peers and exposure to aggressive peers were associated with higher rates of peer victimization. For kindergarteners, exposure to aggressive peers also contributed to the risk for peer victimization, but being liked by peers and having friends were inversely related to victimization, thereby providing a buffering effect.

Developmental Implications

That preschoolers' social acceptance, friendships, and social play were not inversely related to peer victimization was somewhat surprising. In fact, for preschoolers, social play was positively correlated with peer victimization. These findings are different from those found in studies of older children (Boivin *et al*., 1995; Boulton, 1999; Hodges & Perry, 1999) and from what was obtained for the kindergarteners in our sample. Comparing the present findings to those of previous studies of preschoolers provides some support for the generalizability of these results. Patterson, Littman, and Bricker (1967) reported that, in their sample of 3- and 4-year-olds, children who played more with their peers were also more likely to be victimized. Thus, their findings are consistent with those obtained in this study. However, the generalizability of the findings for social acceptance is less clear. On the one hand, Crick *et al*. (1999) reported no relation between acceptance and physical victimization in their sample of preschoolers; on the other hand, however, they reported a negative association between acceptance and relational victimization in this sample. Notably, the average age of the children in the Crick *et al*. sample (4 years, 6 months) was greater than the average age of the preschoolers in our sample (3 years, 9 months). Thus, this discrepancy in findings may reflect a developmental progression in the relation between social acceptance and victimization; that is, as children get older, being accepted by peers may become a buffer for peer victimization.

[2]Estimates are slightly different for the model containing the friendship variable due to the reduced sample size for this variable.

The findings for kindergarteners support this interpretation. For kindergarteners, the correlations between victimization and acceptance and between victimization and number of friendships were consistently negative. In contrast, correlations with social play were close to zero (rather than positive as was found for preschoolers). Thus, patterns of relations for kindergarteners were similar to those reported for older samples and suggest a protective effect of social relationships on peer victimization (Boivin *et al*., 1995; Boulton, 1999; Hodges & Perry, 1999). One interesting finding in this study was that both acceptance and friendships contributed unique variance to peer victimization for kindergarteners, suggesting that these two aspects of relationships conferred different protective advantages.

Both age-related differences and similarities were found in the relation between victimization and peers' aggression. On the one hand, it is notable that the peer group context accounted for more variance in preschoolers' victimization experiences (38%) than in kindergarteners' victimization experiences (14%). Thus, although the peer group context predicted victimization for both age groups, it was a more important predictor for younger than for older children, for whom individual factors (i.e., acceptance and friendships) played a greater role. It is also interesting that, for pre-schoolers, peer group aggression explained 63% of the peer group effect, whereas it explained 99% of the peer group effect for kindergarteners. This suggests that, for younger children, there were other (unmeasured) aspects of the peer group that also contributed to children's victimization risk. Together these findings highlight the importance of research examining the role that peers play in children's victimization experiences, particularly in young children's victimization experiences.

On the other hand, for both preschoolers and kindergarteners, being part of an aggressive peer group was significantly related to victimization. Peer group aggression seemed to explain the positive correlation between social play and victimization for preschoolers given that the strength of this relation fell when peers' aggression was included in the model. This suggests that, for preschoolers, playing with peers, particularly playing with aggressive peers, puts children at risk for being victimized by bringing them into contact with others who might victimize them. For kindergarteners, exposure to an aggressive peer group was also related to the likelihood of being victimized, but being accepted by peers and having mutual friends significantly lowered this risk.

These findings may reflect developmental changes in children's ability to regulate their behavior. Aggression peaks during the preschool years and becomes less common as children grow older and their social and behavioral skills improve (Cummings *et al*., 1989). Thus, preschoolers may be less effective at controlling their aggressive impulses and, as a result, direct them rather indiscriminately to their interactional partners. Kindergarteners' aggressive behavior, in contrast, may be relatively more controlled and directed toward specific peers, namely those who are lower on the social hierarchy. If this is true, it would suggest that victimization is more stable for kindergarteners than for preschoolers. Crick *et al*. (1999) found data to support this in that they reported higher one-month stability coefficients for physical victimization for kindergarteners relative to preschoolers. Moreover, the stability of victimization has been found to increase over the course of elementary school (Hanish & Guerra, 2000a).

Conclusions

This research adds an important element to our understanding of young children's victimization. Although there is considerable research showing that child characteristics predict the extent to which children form positive or victimized relationships with others (Hanish & Guerra, 2000b; Ladd, Price & Hart, 1988; Schwartz *et al*., 1999), there is little information pertaining to social context factors as predictors of these critical relationship qualities. Thus, one valuable extension of the present research is to examine the interrelations

among child characteristics, social relationships, and peers' behavior, and the relative contributions of each of these factors to peer victimization.

Because we relied on a correlational design to examine hypotheses about age-related differences in the social influences on peer victimization, these analyses cannot demonstrate causality. This is a particularly important point given that sociometric data were collected subsequent to teachers' ratings and observational data. Thus, these results should not be interpreted to indicate that being accepted and having friends *leads to* lower victimization rates. Nor should it be assumed that being victimized *leads to* lower levels of social acceptance or having fewer friends (we did not control for earlier levels of social relationships, which would be necessary for such an assumption). It may be, for instance, that kindergarteners who have difficulty forming or maintaining positive peer relationships are at risk for peer victimization because their interactions with peers are aversive or because they are seen as weak members of the group or as 'easy targets' (Perry, Williard & Perry, 1990; Schwartz, Dodge & Coie, 1993). Alternatively, being victimized may harm children's social relationships if peers shun victimized children in order to preserve their own status within the group (Adler & Adler, 1995; Hawker & Boulton, 2001). A longitudinal design would provide the opportunity to test such causal hypotheses, and the present findings provide a foundation for future tests of the developmental course of early peer victimization.

In the present study, we used sociometric methods to assess social acceptance and friendships. The psychometric properties of these methods have been demonstrated in previous studies (Denham & McKinley, 1993), and in the present study we assessed validity by correlating these measures with teachers' ratings on several related constructs for both preschoolers and kindergarteners. These correlations revealed no meaningful grade differences in the magnitude of the validity estimates for friendships, or in the relations between social acceptance and behavioral regulation and social acceptance and withdrawal. However, the magnitude of the relations between social acceptance and popularity and between social acceptance and prosocial behavior were lower for preschoolers than for kindergarteners. Thus, the findings for social acceptance should be interpreted with this in mind. It is notable, however, that findings for friendships and social play were quite similar to those for social acceptance; that is, among preschoolers none of the measures of peer relationship quality were associated with lower levels of victimization. The consistency of these results, and their clear contrast with those for kindergarteners, are quite intriguing.

Our sample size was modest for some of our analyses. This was necessary due to the complexity of data collection, which required intensive, daily observations of the children as well as obtaining questionnaire and interview data. Sample size issues are most relevant to two sets of analyses—the analyses with the reciprocated friends variable and the multi-level analyses. Because the measure of reciprocated friends was not obtained in Wave 1, analyses with this variable consisted of $n = 46$ participants for the kindergarten subsample and $n = 49$ participants for the preschool subsample. Recall that the analyses consistently demonstrated significant relations between friendships and victimization for kindergarteners. The effect size for the correlation between friendships and victimization was .32 ($r = -.57$) for this group. Assuming a large effect size in the population ($f^2 = .35$; Cohen, 1988), power was > = .94 for all analyses; even assuming a more moderate effect ($f^2 = .23$), power was still > = .80 (power was calculated using the G*Power program; Buchner, Erdfelder & Faul, 1997). Thus, the present sample size was adequate for demonstrating this relation among kindergarteners. The effect size for this same relation for preschoolers was .01 ($r = -.09$). A very large sample size of 787 would be required to demonstrate statistical significance with such a low correlation. Thus, it is reasonable to conclude from the magnitude of the obtained relations that having reciprocated friends helps to protect kindergarteners from being victimized but seems to do little to reduce the likelihood of being victimized for preschoolers.

For multi-level analyses, power influences the ability to detect a significant multi-level effect. In the present study, we obtained intraclass correlations of .38 for preschoolers and .14 for kindergarteners, which clearly surpass the minimum requirements for using multi-level modeling (Kreft, 1996). Moreover, we detected significant effects for peer group aggression for both age groups, indicating that power was clearly adequate. Furthermore, the fact that inclusion of the social relationship variables as Level 1 predictors resulted in findings that closely paralleled those obtained using zero-order correlations lends further support to these analyses. We did not, however, obtain significant effects when we tested for the interaction of social relationship qualities and peers' aggression. This may reflect either no real effect in the population or power limitations. As McClelland and Judd (1993) have discussed, power to detect moderational effects in field studies is often minimized due to limited distributions of the predictor and moderator variables. Thus, we recommend cautious interpretation of the moderational findings.

In sum, this study highlights the importance of the qualities and contexts associated with peer relationships in understanding peer victimization for young children. Peer victimization, by definition, occurs within the peer milieu, making the peer group the most prominent ecological context. Future research that focuses on exploring the qualities, characteristics, and interaction styles of children with their peers will be critical in continuing to build models that explain how and why peer victimization occurs.

References

Adler PA, Adler P. Dynamics of inclusion and exclusion in preadolescent cliques. Social Psychology Quarterly 1995;58:145–162.

Alsaker, F. D. & Valkanover, S. (2001). Early diagnosis and prevention of victimization in kindergarten. In J. Juvonen & S. Graham (Eds.), *Peer harassment in school: The plight of the vulnerable and victimized* (pp. 175–195). New York: Guilford Press.

Asher SR, Singleton LC, Tinsley BR, Hymel S. A reliable sociometric measure for preschool children. Developmental Psychology 1979;15:443–444.

Atlas RS, Pepler DJ. Observations of bullying in the classroom. Journal of Educational Research 1998;92:86–99.

Boivin M, Hymel S, Bukowski WM. The roles of social withdrawal, peer rejection, and victimization by peers in predicting loneliness and depressed mood in children. Development and Psychopathology 1995;7:765–785.

Boulton MJ. Concurrent and longitudinal relations between children's playground behavior and social preference, victimization, and bullying. Child Development 1999;70:944–954. [PubMed: 10446727]

Buchner, A., Erdfelder, E. & Faul, F. (1997). *How to use G*Power* [On-line]. Available at http://www.psycho.uni-duesseldorf.de/aap/projects/gpower/how_to_usegpower.html

Bukowski WM, Hoza B, Boivin M. Measuring friendship quality during pre- and early adolescence: The development and psychometric properties of the Friendship Qualities Scale. Journal of Social and Personal Relationships 1994;11:471–484.

Bukowski, W. M. & Sippola, L. K. (2001). Groups, individuals, and victimization: A view of the peer system. In J. Juvonen & S. Graham (Eds.), *Peer harassment in school: The plight of the vulnerable and victimized* (pp. 355–377). New York: Guilford Press.

Cairns RB, Cairns BD, Neckerman HJ, Gest SD, Gariépy JL. Social networks and aggressive behavior: Peer support or peer rejection? Developmental Psychology 1988;24:815–823.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd edn). Hillsdale, NJ: Erlbaum.

Crick NR, Casas JF, Ku HC. Relational and physical forms of peer victimization in preschool. Developmental Psychology 1999;35:376–385. [PubMed: 10082008]

Cummings EM, Iannotti RJ, Zahn-Waxler C. Aggression between peers in early childhood: Individual continuity and developmental change. Child Development 1989;60:887–895. [PubMed: 2758884]

Denham SA, McKinley M. Sociometric nominations of preschoolers: A psychometric analysis. Early Education and Development 1993;4:109–122.

DeRosier ME, Cillessen AHN, Coie JD, Dodge KA. Group social context and children's aggressive behavior. Child Development 1994;65:1068–1079. [PubMed: 7956465]

Dishion TJ, Eddy M, Haas E, Li F, Spracklen K. Friendships and violent behavior during adolescence. Social Development 1997;6:207–223.

Eisenberg N, Fabes RA, Guthrie IK, Reiser M. Dispositional emotionality and regulation: Their role in predicting quality of social functioning. Journal of Personality and Social Psychology 2000;78:136–157. [PubMed: 10653511]

Fabes RA, Shepard SA, Guthrie IK, Martin CL. Roles of temperamental arousal and gender-segregated play in young children's social adjustment. Developmental Psychology 1997;33:693–702. [PubMed: 9232384]

Gest SD, Graham-Bermann SA, Hartup WW. Peer experience: Common and unique features of number of friendships, social network centrality, and sociometric status. Social Development 2001;10:23–40.

Hanish LD, Guerra NG. The roles of ethnicity and school context in predicting children's victimization by peers. American Journal of Community Psychology 2000a;28:201–223. [PubMed: 10836091]

Hanish LD, Guerra NG. Predictors of peer victimization among urban youth. Social Development 2000b; 9:521–543.

Hanish LD, Guerra NG. A longitudinal analysis of patterns of adjustment following peer victimization. Development and Psychopathology 2002;14:69–89. [PubMed: 11893095]

Hawker, D. S. J. & Boulton, M. J. (2001). Subtypes of peer harassment and their correlates: A social dominance perspective. In J. Juvonen & S. Graham (Eds.), *Peer harassment in school: The plight of the vulnerable and victimized* (pp. 378–397). New York: Guilford Press.

Hodges EVE, Perry DG. Personal and interpersonal antecedents and consequences of victimization by peers. Journal of Personality and Social Psychology 1999;76:677–685. [PubMed: 10234851]

Hox, J. J. (1995). *Applied multilevel analysis* [Electronic version]. Amsterdam: TT-Publikaties. Available at http://multilevel.ioe.ac.uk/publref/papers/amaboek.pdf

Kochenderfer BJ, Ladd GW. Peer victimization: Cause or consequence of school maladjustment? Child Development 1996;67:1305–1317. [PubMed: 8890485]

Kopp CB. Antecedents of self-regulation: A developmental perspective. Developmental Psychology 1982;18:199–214.

Kreft, I. G. G. (1996). *Are multilevel techniques necessary? An overview, including simulation studies* [On-line]. Available at http://www.stat.ucla.edu/~kreft/quarterly/quarterly.html

Ladd, G. W. & Kochenderfer-Ladd, B. (in press). Identifying victims of peer aggression from early to middle childhood: Analysis of cross-informant data for concordance, estimation of relational adjustment, prevalence of victimization, and characteristics of identified victims. *Psychological Assessment.*

Ladd GW, Price JM, Hart CH. Predicting preschoolers' peer status from their playground behaviors. Child Development 1988;59:986–992.

Ladd GW, Profilet SM. The Child Behavior Scale: A teacher-report measure of young children's aggressive, withdrawn and prosocial behaviors. Developmental Psychology 1996;32:1008–1024.

Martin CL, Fabes RA. The stability and consequences of young children's same-sex peer interactions. Developmental Psychology 2001;37:431–446. [PubMed: 11370917]

McClelland GH, Judd CM. Statistical difficulties of detecting interactions and moderator effects. Psychological Bulletin 1993;114:376–390. [PubMed: 8416037]

Olson SL. Development of conduct problems and peer rejection in preschool children: A social systems analysis. Journal of Applied Child Psychology 1992;20:327–350.

Patterson, G. R., Littman, R. A. & Bricker, W. (1967). Assertive behavior in children: A step toward a theory of aggression. *Monographs of the Society for Research in Child Development, 32 (5, Serial No. 113*).

Perry DG, Williard JC, Perry LC. Peers' perceptions of the consequences that victimized children provide aggressors. Child Development 1990;61:1310–1325. [PubMed: 2245726]

Raudenbush, S., Bryk, T. & Congdon, R. (2000). HLM Hierarchical Linear and Nonlinear Modeling (Version 5.05) [Computer software]. Scientific Software International, Inc.

Rothbart MK, Ahadi SA, Hershey KL. Temperament and social behavior in childhood. Merrill Palmer Quarterly 1994;40:21–39.

Rubin, K. H., Bukowski, W. & Parker, J. G. (1998). Peer interactions, relationships, and groups. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th edn, pp. 619–700). New York: Wiley.

Rubin, K. H. & Coplan, R. J. (1998). Social and nonsocial play in childhood: An individual differences perspective. In O. N. Saracho & B. Spodek (Eds.), *Multiple perspectives on play in early childhood education* (pp. 144–170). Albany, NY: State University of New York Press.

Rushton JP, Brainerd CJ, Pressley M. Behavioral development and construct validity: The principle of aggregation. Psychological Bulletin 1983;94:18–38.

Ryan, P., Logan, A., Hanish, L. D., Martin, C. L. & Fabes, R. A. (2001). *Assessing the Validity of Self-, Teacher-, and Observer-Ratings of Peer Victimization in Young Children.* Poster presented at the Biennial Meeting of the Society for Research in Child Development, Minneapolis, MN, April.

Salmivalli C, Lagerspetz K, Bjorkqvist K, Osterman K, Kaukiainen A. Bullying as a group process: Participant roles and their relations to social status within the group. Aggressive Behavior 1996;22:1–15.

Schwartz D, Dodge KA, Coie JD. The emergence of chronic peer victimization in boys' play groups. Child Development 1993;64:1755–1772. [PubMed: 8112117]

Schwartz D, McFadyen-Ketchum SA, Dodge KA, Pettit GS, Bates JE. Peer group victimization as a predictor of children's behavior problems at home and in school. Development and Psychopathology 1998;10:87–99. [PubMed: 9524809]

Schwartz D, McFadyen-Ketchum S, Dodge KA, Pettit GS, Bates JE. Early behavior problems as a predictor of later peer group victimization: Moderators and mediators in the pathways of social risk. Journal of Abnormal Child Psychology 1999;27:191–201. [PubMed: 10438185]

Strayer FF, Santos AJ. Affiliative structures in preschool peer groups. Social Development 1996;5:117–130.

Vespo JE, Kerns KA, O'Connor EM. Social organization in preschool classrooms: Social sets as social units. Journal of Social and Personal Relationships 1996;13:41–55.

Walden T, Lemerise E, Smith MC. Friendship and popularity in preschool classrooms. Early Education and Development 1999;10:351–371.

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Table 1

Means and Standard Deviations on All Variables for Entire Sample and for Preschoolers and Kindergarteners

	M			SD		
Variable	**Total**	**Pre**	**Kdg**	**Total**	**Pre**	**Kdg**
Victimization	.00	.08	−.08	.78	.80	.75
Acceptance	−.02	−.06	.01	.71	.66	.75
Friendship	1.13	1.06	1.20	.97	.90	1.04
Social Play	.46	$.38_a$	$.55_b$	.18	.16	.17

Note: Pre = preschool; Kdg = kindergarten. Means with different subscripts differ significantly at $p < .001$ using a *t*-test.

Table 2

Partial Correlations of Victimization, Social Relationships, and Peer Group Aggression Variables: For Entire Sample and for Preschoolers and Kindergarteners

Variable	1	2	3	4
		A. Total Sample		
1. Victimization	—	−.23**	−.31**	.07
2. Acceptance		—	.31**	.14
3. Friendship			—	−.02
4. Social Play				—
		B. Preschoolers		
1. Victimization	—	.01	−.09	−.33**
2. Acceptance		—	.24	.08
3. Friendship			—	.01
4. Social Play				—
		C. Kindergarteners		
1. Victimization	—	−.47***	−.57***	−.08
2. Acceptance		—	.38*	.17
3. Friendship			—	−.12
4. Social Play				—

Note: Partial correlations are controlling for gender. Sample sizes for entire sample range from $N = 95$ (for analyses with friendship) to $N = 168$; for preschoolers, from $n = 49$ to $n = 87$; and for kindergarteners, from $n = 46$ to $n = 81$.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 3

Multilevel Estimates for Models of Peer Group Aggression and Relational Qualities on Children's Victimization

	Preschool			Kindergarten		
	Model 1	**Model 2**	**Model 3**	**Model 1**	**Model 2**	**Model 3**
Intercept	.09 (.10)	.09 (.10)	.08 (.10)	−.11 (.08)	−.10 (.07)	−.10 (.08)
Peer Group Aggression (Level 2)	.90 (.23)**	.89 (.23)**	.89 (.23)**	.64 (.07)***	.63 (.15)**	.64 (.16)**
Social Play (Level 1)	—	1.19 (.80)	1.13 (.85)	—	−.86 (1.23)	−.79 (1.33)
Social Play X Peer Group Aggression	—	—	−.45 (1.81)	—	—	−.73 (2.97)
Intercept	.09 (.10)	.09 (.10)	.09 (.10)	−.11 (.08)	−.11 (.07)	−.11 (.07)
Peer Group Aggression (Level 2)	.90 (.23)**	.89 (.23)**	.90 (.23)**	.64 (.07)***	.65 (.16)**	.64 (.16)**
Acceptance (Level 1)	—	.02 (.12)	.04 (.13)	—	−.33 (.10)**	−.30 (.10)*
Acceptance X Peer Group Aggression	—	—	.30 (.32)	—	—	−.26 (.21)
Intercept	.04 (.12)	.04 (.12)	.04 (.12)	−.07 (.07)	−.07 (.10)	−.07 (.10)
Peer Group Aggression (Level 2)	.85 (.26)**	.83 (.26)**	.84 (.26)**	.70 (.10)***	.70 (.22)*	.70 (.22)*
Friendships (Level 1)	—	−.12 (.12)	−.12 (.12)	—	−.32 (.11)*	−.27 (.12)
Friendships X Peer Group Aggression	—	—	−.18 (.29)	—	—	−.32 (.30)

Note: Each panel represents a different HLM model including social play, acceptance, or friendships. Standard errors are presented in parentheses.

* $p < .05$.

** $p < .01$.

*** $p < .001$.