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Aggression and the Failure of Friendship to Buffer Against Loneliness

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Abstract

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Do children's attributions of their friends' aggressive behaviors matter? In short, yes, children's attributions of their mutual friends' aggressive behaviors do matter in terms of children's reports of loneliness. The goal of the present research was to examine how children's perceptions of their mutual friends' aggressive behaviors related to loneliness after controlling for peer group factors (i.e. peer liking, peer popularity, number of mutual friends, and the child's own level of aggression) known to contribute to loneliness. Self-report measures of loneliness, friendship nominations, and classroom nominations for liking, popularity, and aggression were collected from 185 third through sixth grade children. Preliminary analyses revealed that children do in fact attribute aggressive behaviors to their mutual friends. Both boys ($n = 89$) and girls ($n = 96$) were equally likely to ascribe relationally aggressive behaviors to their mutual friends. However, differential patterns emerged with respect to overt aggression. Boys were more likely than girls to ascribe overtly aggressive behaviors to their mutual friends. Moreover, boys were more likely to attribute overtly aggressive behaviors to their mutual friends than relationally aggressive behaviors. For both boys and girls, attributions of relationally aggressive behavior were related to an increase in loneliness, even after controlling for other peer factors related to loneliness. However, attributions of overtly aggressive behavior were unrelated to children's reports of loneliness. Moreover, gender did not moderate the relation between attributions of overt or relational aggression and loneliness. In sum, attributions of friends' aggression are related to children's reports of loneliness but differentially with respect to type of aggression.

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Loneliness and Children's Attributions of their Friends' Aggressive Behaviors

Loneliness is perhaps best defined as, "the cognitive awareness of a deficiency in one's social and personal relationships, and the ensuing affective reactions of sadness, emptiness, or longing" (Asher & Paquette, 2003, p. 75). Thus the nature and evaluation of personal relationships are closely tied to feelings of loneliness. During middle childhood, friendships serve to protect against feelings of loneliness even in the context of negative peer experiences that have been linked to loneliness (e.g., peer rejection, victimization). Notably important to the relation between loneliness and friendships are children's evaluations of their relationships. For example, children who attribute positive qualities to their friendships report lower loneliness than those who believe their friendships are less positive (Hartup & Stevens, 1997; Parker & Asher, 1993). In essence, it is not enough for children simply to be engaged in a friendship; children must perceive security and support from their friends.

But what about children's attributions of their friends' behaviors? Children make evaluations about the quality of their relationships with their peers as well as attributions about their friends' prosocial and aggressive behaviors (Card, Little, & Selig, 2008). Perhaps attributions about negative, disruptive behaviors of close peers are associated with children's feelings of loneliness. The present research evaluated children's attributions of their mutual friends' aggressive behaviors in relation to their self reports of loneliness after considering other peer variables associated with children's reports of loneliness.

This introduction is presented in four sections. First, children's loneliness and peer social standing is reviewed. Next, the importance of aggressive behaviors is

discussed as it may relate to loneliness. Third, research on children's loneliness and children's friendship relationships is considered. The final section summarizes the goals of the present research.

Peer Social Standing and Loneliness

Children's social adjustment with their peers is linked to their status within the peer group and is critical with respect to concurrent and future adjustment including children's feelings of loneliness. Peer status within the group has been considered in different ways. Children's sociometric popularity (peer liking) is determined by how well liked they are by their peers. Children's social recognition, or peer popularity, has been assessed by asking children who they consider to be the popular children in their group (Cillessen & Borch, 2006; Parkhust & Hopmeyer, 1998). Peer liking and peer popularity have been shown to be associated with somewhat different outcomes. Children who are liked by their peers, relative to those not liked, engaged in more prosocial behaviors and less aggressive behaviors (Parkhurst & Hopmeyer 1998; Rubin, Bukowski, & Parker, 2006). Popular children, however, engaged in both prosocial and antisocial behaviors including aggression (Parkhurst & Hopmmeyer, 1998). Peer liking and peer popularity, although separate constructs, have considerable overlap (LaFontana & Cillessen, 2002) and both are directly linked to positive social outcomes including psychological well-being and high-quality friendships (Rubin et al., 2006; Sandstrom & Cillessen, 2006).

Children with low social status are often at risk for many problems. It is well documented that children who are socially rejected (i.e., not liked) by their peers experience greater feelings of loneliness (Asher, Parkhurst, Hymel, & Williams, 1990; Cassidy & Asher, 1992; Ladd, 1990). However, given the considerable overlap between

liking and popularity during middle childhood, peer relation researchers have suggested

disentangling the constructs for a better understanding of how each relate to negative

social experiences. Gorman, Schwartz, Nakamoto, and Mayeux (2011) found that

unpopularity was uniquely and positively related to loneliness, relational victimization,

and number of mutual friendships whereas disliking was negatively related to academic

performance in six and seventh grade students.

Increased loneliness in the context of peer rejection appears to be related to the

absence of children's meaningful relationships with their peers (Asher et al., 1990).

Stated another way, peer rejection relates to missed opportunities for children to engage

in positive interactions with their peers and may increase the probability of being left out

of group activities. In sum, peer status and peer liking are important with respect to

children's social development and are associated with enhanced feelings of loneliness.

Aggression and Loneliness

The construct of aggression has been widely researched within the peer relations

domain. A good working definition of aggression from Braine (1994) suggested the

following four components: (1) an intentional act; (2) with the potential for harm; (3) that

is committed by an individual in an aroused physical state; and (4) is viewed as aversive

by the victim. A particularly popular strategy for understanding aggression has been to

categorize aggressive behavior into subtypes, with over 200 schemes being proposed over

the years as noted by Underwood, Galen, and Parquette (2001). A commonly used

scheme in recent years includes relational aggression, which consists of causing harm to

social relations versus overt aggression which consists of causing harm through physical

or verbal means (Crick & Grotpeter, 1995). Considerable attention has been given to

gender differences and categories of aggression, with some research suggesting that boys are more likely to engage in overt aggression than relational aggression and girls are more likely to use relational aggression than overt aggression (e.g., Crick & Grotpeter, 1995). Other studies have suggested that although boys are more likely to engage in overt aggression than girls, boys and girls are equally likely to engage in relationally aggressive behaviors (e.g., for review see Dodge, Coie, & Lynam, 2006).

Both relational and overt aggression have been associated with negative psychosocial outcomes, both in terms of concurrent adjustment and as a predictor for both internal and external adjustment difficulties later in childhood (e.g., see Dodge et al., 2006). The literature on the relation of loneliness to aggression, however, has provided mixed results. Some research has documented that internalizing and externalizing difficulties were negatively associated (Mesman, Bongers, & Koot, 2001; Moffit, Caspi, Harrington, & Milne, 2002), suggesting that children who were more likely to feel lonely were less likely to behave aggressively. Child reports of loneliness in grade 3 were negatively related to teacher reports of the child's aggression in grade 5 and teacher reports of child aggression in grade 3 were negatively related to loneliness in grade 5 (Palmen, Vermande, Deković, & van Aken 2011). Other research has suggested that externalizing behaviors occur simultaneously with internalizing behaviors. Crick and Grotpeter (1995) found that children in grades 3 through 6, who were classified as relationally aggressive from peer reports, reported greater loneliness.

Although research findings on the relation between aggression and loneliness have been mixed, aggression during middle childhood has been clearly linked to peer social standing. Children who behaved aggressively were often rejected by their peers

(Rubin et al., 2006) and as stated previously peer rejection has been reported as being positively associated with loneliness (Asher et al., 1990; Cassidy & Asher, 1992; Ladd, 1990).

Friendship and Loneliness

Friendships offer important and unique developmental experiences and provide social resources. During middle and late childhood, friendships support the acquisition of social skills and social understanding including conflict resolution, self-identity, and understanding for other's needs (e.g. for review see Hartup & Stevens, 1997). Having at least one friend has shown to mitigate feelings of loneliness and peer victimization. The number of friendships children have also assuaged feelings of loneliness for rejected children. (Asher, Hymel, & Renshaw, 1984; Asher et al., 1900; Parker & Asher, 1993). However, reciprocity regarding the acknowledgement of the relationship and children's evaluations of their friendships can have an impact on the positive effects of having a friend.

Typically, friendship is assessed by providing students classroom rosters and requesting them to circle the names of their friends (i.e., friendship nominations). Commonly, reciprocity of friendship nominations is a key requirement in this assessment (Hartup, Laursen, Stewart, & Eastenson, 1988; Hundley & Cohen, 1999). In other words, both children should agree upon the existence of the relationship by nominating each other as a "friend." Although children are not aware of whether or not the nomination for friendship is being reciprocated, research has shown that children did in fact like mutual friends (children who nominated each other as friends) more than unilateral-given friends (friendships in which a friendship nomination was given but not reciprocated (Hundley &

Cohen, 1999) and conflict resolution also differed between mutual friends and unilateral friends (Hartup et al., 1988). In the context of loneliness, children who were able to establish a mutual friendship reported less loneliness than children who did not have reciprocated friends (Asher et al., 1985) and were more likely to be accepted by their peers (Newcomb & Bagwell, 1996).

Although establishing a mutual friendship can be an important indicator of children's social functioning, it is equally important to consider children's perceptions of their relationships and of their friends' behavior in general. Prior research has shown that children's perception of their friendship quality is a critical aspect of the ability of a mutual friend to buffer against negative psychosocial outcomes. For example, children, in grades three through five, who believed they had a low quality relationship with a mutual friend, reported more loneliness than children who believed their friendship quality was positive (Parker & Asher, 1993).

Children also make evaluations and attributions about their friends' social behaviors. Card et al. (2008) reported that children were more likely to ascribe both aggressive behaviors and prosocial behaviors to their mutual friends than to their non-friends. These findings may not be as surprising as one might think given that children spend a great deal more of their time with their mutual friends than with children who are not their friends (Hartup, French, Laursen, Johnston, & Ogawa, 1993) and are able to witness greater variation in their friends' behaviors. However, the consequences of these perceptions and evaluations of friends' behaviors are unclear. Similar to perceptions regarding friendship quality, perceptions of mutual friends' aggressiveness might have repercussions specifically related to children's feelings of loneliness. Are children, who

are more likely to attribute aggressive behaviors to their mutual friends, more likely to report feeling of loneliness than children who attribute less aggressive behaviors to their mutual friends?

Present Research.

Children do ascribe aggressive behaviors to their mutual friends as shown by Card et al. (2008). What is unclear, however, is if these attributions matter with respect to adjustment in general, and loneliness specifically. Friends provide numerous resources for developmental and social adjustment but children's perceptions of their dyadic relationships have a significant impact on the possible positive benefits of having a mutual friend. Thus, and similar to children's perceptions of their interactions with their friends, children's beliefs about their friends' aggressive behaviors might relate to feelings of loneliness.

The goal of the present research was to examine children's attributions of their mutual friends' behavior as it relates to their feelings of loneliness. Specifically, this study examined the relation between children's perceptions of their mutual friends' aggressiveness (both overt and relational aggression) and loneliness after controlling for other social indicators of loneliness including peer group standing (i.e., social status) individual social behaviors (child's peer nominations for aggression) and relationship functioning (number of mutual friends).

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Methods

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Participants

Participants included 195 third through sixth grade children (girls $n = 101$; 3rd grade $n = 56$, 4th grade $n = 50$, 5th grade $n = 45$, 6th grade $n = 44$) from a university-

affiliated elementary school. The sample was comprised of children of diverse ethnic backgrounds (Caucasian = 64%, African American = 27%, other ethnicities = 10%). Data for this study were collected during the 2008-2009 academic school year. Permission for data collection was obtained from the University Institution Review Board (IRB) and all data collection procedures were compliant with IRB provisions and standards.

Measures

Questionnaires were administered to participants to assess loneliness, relationships, peer-perceived social behaviors, and social status (both peer liking and peer popularity). The loneliness questionnaire was a self-report measure. Relationships consisted of nominations of classroom friends. Each child completed classroom behavior nominations of classmates for aggression (both overt and relational). Social status was computed from classroom nominations of liking and disliking nominations as well as popular and least popular nominations.

Loneliness. Children's feelings of loneliness were assessed using the Loneliness and Social Dissatisfaction questionnaire created by Asher et al. (1984) and later revised by Asher and Wheeler (1985). The questionnaire consists of 24 items, 16 of which focus on children's feelings on loneliness (e.g., "I have nobody to talk to at school.") and social dissatisfaction in school ("It's easy for me to make friends at school;" reverse coded). Children are asked to respond using a 5-point-Likert-style response for how true each statement is for them (always true, true most of the time, sometimes true, hardly ever true, not at all true). Higher numbers are indicative of greater feelings of loneliness at school. The questionnaire has been shown to be internally reliable in elementary school-

aged children (Asher & Wheeler, 1985; Crick & Bigbee, 1998; Crick & Ladd, 1993; Parker & Asher, 1993). For the present sample, the questionnaire's internal reliability was also high (Chronbach's alpha = 0.93).

Friendship nominations. Perceptions about number of friendships were assessed using self-report nominations. Participants were provided a classroom roster and instructed to circle the names of their friends. An unlimited number of nominations were allowed. Children were considered to be mutual friends when each member of a dyad nominated the other as "friend."

Social Preference: Peer Liking. Peer group likeability was assessed using peer sociometric nominations. Children were given classroom rosters and told to circle the names of classmates they "like the most" and on another classroom roster were told to circle the names of children in their class they "like the least." An unlimited number of nominations were allowed. To control for different classroom size, the like most and like least nominations for each child were summed and standardized by classroom. Using procedures outlined by Coie, Dodge, and Coppotelli (1982), social preference scores were calculated as standardized classroom like most nominations minus standardized classroom like least nominations.

Social Preference: Peer Popularity. Peer group popularity was assessed using peer nominations. Children were given classroom rosters and told to circle the names of classmates they believed were "the most popular" and on another classroom roster were told to circle the names of children in their class they believed were "the least popular." An unlimited number of nominations were allowed. To control for different classroom size, the most popular and least popular nominations for each child were summed and

standardized by classroom. Following procedures outlined by Parkhurst and Hopmeyer (1998), perceived popularity social preference scores were calculated as the standardized most popular nominations minus the standardized least popular nominations.

Peer behavior nominations for aggression. Peer evaluations of classmates' aggression were assessed using the Revised Class Play procedure (Masten, Morison, & Pellegrini, 1985). Children were provided a classroom roster and instructed to circle the names of their classmates that best fit each of eight behavior descriptions. For the present study, there were four overt aggression items (*Someone who gets into fights for little or no reason; A person who fights when others wouldn't; A person who threatens people; A person who jokes around in a mean way*) from Dodge and Coie (1987), one overt item (*Somebody who teases other children too much*) from Masten et al. (1985), and three relational aggression items (*A person who ignores someone or stops talking to someone when mad at them; A person who gets even by keeping someone from being in their group of friends; A person who tries to keep certain kids from being in their group at school*) from Crick and Grotpeter (1995). The total nominations for each aggressive behavior the child received were summed and standardized by classroom.

Children's perceptions of their mutual friends' aggressive behaviors. Two scores were created to determine the average relational and overt aggressive behavior nominations children gave to their mutual friends. The score for perception of mutual friends' relationally aggressive behavior was calculated as the number of nominations for relationally aggressive behaviors given by the child across all the child's mutual friends divided by the number of mutual friends the child had in the class. For example, if Child A had 6 mutual friends and gave 3 nominations for relational aggression to his mutual

friends, Child A's mutual friends' relational aggression score would be 0.5 (3/6). Children's perceptions of their mutual friends' overtly aggressive behaviors were calculated in the same way.

Procedure

As part of a larger longitudinal project, all data were collected in group sessions during the fall in two 45-minute sessions per classroom. Graduate psychology students conducted the sessions and were unknown to the participants. Confidentiality was explained to the participants before the beginning of each session and respect of privacy for other participants in the study was stressed. Children were also informed that they did not have to participate and had the right to discontinue at any time. Graduate students monitored the participants during the study to ensure compliance with protocol. Any participants who experienced problems or difficulty were given extra assistance with the task.

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Results

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Preliminary Analyses

Data were screened following procedures outlined by Tabachnick and Fidell (2001). There were no unusual and significant deviations from normality, thus transformations of the variables were not deemed necessary. Multivariate outliers were assessed based on Mahalanobis Distance critical chi-square value (25.59) at $p < .001$. Five cases obtained a value above the critical Mahalanobis Distance value and were removed from the sample. Also, because the interest of this study was to examine children's perceptions of their mutual friends' aggression, those children without mutual friends ($n = 5$) were removed from the sample as well. The final sample consisted of 185

children (girls, $n = 96$; boys, $n = 89$; third grade, $n = 55$; fourth grade, $n = 48$; fifth grade, $n = 41$; sixth grade, $n = 41$).

Zero-order correlations among variables are presented in Table 1. Loneliness, peer liking, peer popularity, and number of mutual friends were significantly related in the expected directions (loneliness negatively related to the other three; the other three positively associated with each other). These correlations are consistent with the extant literature (Asher et al., 1984; Asher et al., 1990; Cassidy & Asher, 1992; Ladd, 1990). Peer nominations for overt and relational aggression behaviors were not significantly related to children's' feelings of loneliness, but were negatively related to peer liking and number of mutual friends. Peer nominations for overt but not relational aggression were negatively related to peer popularity. Perceptions of mutual friends' relational aggression, but not perceptions of overt behavior, were significantly and positively related to feelings of loneliness.

In order to determine overall gender or grade effects on children's perceptions of friends' aggression, a 2(Gender) x 4(Grade) x 2(Mutual Friend Aggression Type: relational, overt) repeated measure MANOVA was preformed, with mutual friend aggression type as the repeated measure. Gender and grade served as between subject variables. There was a significant main effect for Mutual Friend Aggression Type, F (1, 177) = 6.33, $p < .05$. This main effect was subsumed by a significant Mutual Friend Aggression Type by Gender interaction, F (1,177) = 5.36, $p < .05$, discussed below.

Post hoc analyses revealed that boys ($M = 0.25$) and girls ($M = 0.25$) did not differ on the average number of nominations for relational aggression they gave their mutual friends. However, there was a significant difference in the number of nominations for

overt aggression nominations. Boys gave a significantly higher number of overt aggression nominations ($M = 0.38$) to their mutual friends than girls did ($M = 0.27$). In terms of differences within gender categories, the post hoc analyses revealed that girls did not differ in the number of nominations for relational ($M = 0.25$) versus overt aggressive behaviors ($M = 0.26$) they gave to their mutual friends. Boys gave significantly more nominations for overt aggression ($M = 0.38$) to their mutual friends than they gave nominations for relationally aggressive behaviors ($M = 0.25$).

Primary Analyses

A hierarchical regression analysis was performed to assess the relation of children's perceptions of their mutual friends' aggressive behaviors to their feelings of loneliness after controlling for social conditions known to contribute to loneliness. No violation of the assumptions of normality, linearity, multicolinearity, and homoscedasticity had been made. In order to control for known social conditions associated with children's reports of loneliness gender, peer liking, peer popularity, number of mutual friends, and the child's peer group nominated overt and relational aggressive behaviors were entered in step 1. In step 2, children's perceptions of their mutual friends' overt aggression and their mutual friends' relational aggression behaviors were entered. In step 3, because the preliminary analyses described previously indicated significant gender differences in regard to the type of nominations of aggression given to mutual friends, gender by attributions of mutual friends' overt aggression interaction and gender by mutual friends' relational aggression interaction were entered.

Results of the regression analysis are provided in Table 2. After controlling for the known peer social conditions that are related to loneliness in step 1, which explained

20 % of the total variance in loneliness scores, $F (6,182) = 7.295$, $p < .001$, the second model, which included children's perceptions of their mutual friends' relational and overt aggressive behaviors, explained an additional 4.0% of the variance in children's loneliness scores. The variance added from step 2 was statistically significant (F change $(2, 174) = 4.46$, $p < .05$). In this model, children's perceptions of their mutual friends' relational aggression was significantly and positively associated with children's reports of loneliness ($\beta = .230$, $p < .01$) but perceptions of mutual friends' overt aggression was not ($\beta = -.12$, $p > .05$). In the final model, which included the gender by attributions of mutual friends' relational aggression interaction and gender by mutual friends' overt aggression interaction explained an additional .04% of the variance in loneliness scores but was not statistically significant (F change $(2, 172) = .416$, $p > .05$). In addition neither interaction was statistically significant in predicting loneliness scores in the final model. In sum, after controlling for the child's liking, popularity, and level of peer reported aggression, the more relationally aggressive children believed their mutual friends to be, the more loneliness they reported and these findings were not qualified by gender.

Discussion

Loneliness in middle-childhood may serve as an important indicator of concurrent and subsequent internalizing and externalizing difficulties (Asher et al., 1984; Asher & Parquette, 2003; Heinrich & Gullone, 2006). During middle childhood, loneliness is often associated with peer rejection (Asher et al., 1984), aggressive behaviors (Crick & Grotpeter, 1995), and the absence of friends (Parker & Asher, 1993). Particularly relevant to this investigation is literature documenting the developmental significance and protective function of mutual friendships against loneliness (Asher et al., 1990;

Zhongkui, Tingting, Xiaojun, & Juijun, 2006). Having mutual friends often serves as an important condition to ward off negative consequences of difficult group relations. But how do the children's evaluations of those friendships relate to loneliness? Specifically, the current research evaluated the association of children's perceptions of their mutual friends' aggressive behaviors (both overt and relational) to their feelings of loneliness.

It was found here that just having mutual friendships did not always buffer (used here colloquially as a mediation model was not tested) against feelings of loneliness. The more children considered their mutual friends to engage in aggressive behaviors, the greater the feelings of loneliness they reported.   Importantly, this occurred even after controlling for peer social conditions (peer liking, popularity, number of mutual friends, and the child's own peer nominated aggression) that have been linked to experiences of loneliness in previous research. The findings in the present research were qualified by type of aggression, overt verses relational.

Both boys and girls were equally likely to attribute relationally aggressive behaviors to their mutual friends and the more relationally aggressive children perceived their mutual friends to be, the lonelier they reported feeling. A possible mechanism under which attributions of relational aggression relate to loneliness is through social isolation. Researchers have posited that relational aggression is primarily used to isolate individuals from the social group. According to Kochenderfer-Ladd and Ladd (2001) relational aggression is an attack against one's feelings of belongingness within the peer group, which is a hallmark of loneliness. Thus, in the present study, children who attributed relationally aggressive behaviors to their mutual friends may have felt more socially isolated and felt a lack of belongingness within the peer group than children who

were less likely to attribute relationally aggressive behaviors to their mutual friends. As a result, these children felt lonelier.

Although the current study did not directly consider whether relational aggression was occurring *within* the friendship dyad, prior research suggests that relational aggression is associated with friendship quality features. Specifically, relational aggression within the friendship has been shown to increase as intimate exchange increases within the friendships (Murry-Close, Ostrov, Crick, 2007; Schmidt & Bagwell, 2007), suggesting that the closer friends become and the more intimate details they share, the more likely they are to relationally aggress against each other. Thus, despite the fact that these relationships were associated with negative psychosocial outcomes (e.g., loneliness), children were nonetheless willing to describe these problematic relationships as friendships because they possess positive friendship quality features (e.g., intimate exchange).

Differential patterns emerged with respect to gender and children's perceptions of their mutual friends' overt aggression. Boys were more likely than girls to report that their mutual friends engaged in overt aggression, however, again, these attributions did not make boys more susceptible to feelings of loneliness. Children's attributions of their mutual friends' overt aggression were unrelated to their reports of loneliness. Two explanations can be offered to explain why attributions of mutual friends' overt aggression may be unrelated to children's feelings of loneliness.

One possible explanation is that children who believed their friends engaged in overt aggression had the same quality relationship with their friends as children who were less likely to attribute overt aggression behaviors to their mutual friends. Grotpeter and

Crick (1996) found that friendships made up of children who engaged in overt aggression liked to spend time with each other, enjoyed companionship with each other, and unlike relational aggression, overt aggression was primarily used towards others outside the friendship. This suggests that children within these dyads used overt aggression towards others as a means of "bonding." It is reasonable to assume, that like the previous study, children in the present research did not experience the overt aggression from their friends. Consequently, loneliness was not related to friends' overt aggression.

A second related explanation is that children with overt aggressive friends were less likely to be victimized by the peer group (Schwartz, Gorman, Dodge, Pettit, & Bates, 2008). Victimization within the peer group is intimately tied to feelings of loneliness (Boivin, Hymel, Bukowski, 1995) As a consequence, children in this study who believed their mutual friends behaved in a particularly overt aggressive way may report less loneliness because they were less likely to be victimized by their peers.

Taken together, the two explanations above suggest that having friends who engage in overt aggressive behaviors may reduce the likelihood of experiencing internalizing difficulties such as loneliness. These results are in stark contrast to the findings of beliefs about mutual friends' relational aggression, which was associated with increased loneliness.

The current findings highlight the unique impact of children's perceptions of whom they choose to affiliate with in their peer group even after taking into account the child's peer liking, social status, aggression, and number of mutual friends on feelings of loneliness. A few limitations of this research should be noted. Similar to many peer relation studies, this study used classroom nominations of behaviors to determine if

children believed their friends engaged in either relationally or overt aggression behaviors. It is unclear if the evaluator actually considered that the person nominated was truly an aggressor and intending harm. Classroom nominations only provide the behavioral acts and do not completely assess the nominator's attributions of the circumstances/context of the behavior, the intent of the actor, or hostility of the actor. Second, prior research has indicated the importance of friendship quality and its impact on maladjustment, including loneliness (Parker & Asher, 1993; Parker & Seal 1996). This study did not examine friendship quality which may be an important filter through which children perceive their friends' behavior within the larger peer group. This may be an important avenue to explore in future studies. Third, the design of this study did not allow for directionality to be assessed. Consequently, it is unclear if children were lonelier because they believed they had relationally aggressive friends or if because children were lonely they were more willing to engage in friendships with peers they considered to be relationally aggressive.

In conclusion, although the relations among loneliness, friendship quality, and victimization within friendships have been documented, children's perceptions of their friends' behaviors within the larger peer group have been largely unexplored. There are numerous factors within the context of the peer group, including group factors, individual behaviors, and dyadic relations, that are associated with children's reports of loneliness. Even after accounting for these variables, children's perceptions of their mutual friends' relational aggressive behaviors were significantly associated with their feelings of loneliness. Although the literature has clearly and consistently documented the developmental importance of having a mutual friend in terms of adjustment, the results of

the present research suggest that just having mutual friends does not always guarantee

protection from loneliness.

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Appendix A

Table 1

Correlations, Means, and Standard Deviations

Variables	1	2	3	4	5	6	7	8	M Boys	M Girls	SD Boys	SD Girls
1. Lone	-	-.36***	-.40***	-.40***	.30**	.23*	-.10	.14	1.94	1.94	0.77	0.77
2. SP(Like)	-.39***	-	.79***	.46***	-.49***	-.29**	.02	-.01	-0.13	0.36	1.72	1.69
3. SP (Pop)	-.36***	.72***	-	.41***	-.17	.02	.07	.01	-0.21	0.29	1.68	1.84
4. MF	-.29**	.41***	.36***	-	-.21*	-.16	.14	-.06	5.17	5.81	2.90	3.05
5. Ch-OvA.	.05	-.45***	-.07	-.16	-	.77***	.16	-.06	11.60	5.58	10.52	6.02
6. Ch-RelA	.05	-.46***	-.08	-.23*	.77***	-	.21*	-.02	5.67	5.23	3.98	3.82
7. MF-OvA	.02	.12	.10	.02	.02	.03	-	.47***	0.38	0.26	0.50	0.41
8. MF-RelA	.20*	.00	-.03	.03	-.08	.01	.51***	-	0.25	0.25	0.35	0.27

Note.*p<.05, **p<.01, ***p<.001; correlations for girls (n=96)are reported above the diagonal, boys (n=89) below the diagonal;
1. Lone= loneliness; 2. Sp(Like)= sociometric social preference; 3. SP (Pop)= popularity social preference; 4. MF=number of mutual friends; 5. Ch-OvA= child's peer nominated overt aggression; 6. Ch-RelA= child's peer nominated relational aggression; 7. MF-OvA= average number of nominations for overt aggression given to mutual friends; 8. MF-RelA= average number of nominations for relational aggression given to mutual friends

Table 2

Results of Hierarchical Regression Analyses

	Loneliness			
	Boys		Girls	
	ß	ΔR^2	ß	ΔR^2
Step 1		.18***		.23***
SP (Like)	-.25		-.00	
SP (Pop)	-.12		-.29	
MF	-.14		-.28**	
Step 2		.02		.06*
Ch-OvA	-.07		.21	
Ch-RelA	-.12		.11	
Step 3		.05		.07*
MF-OvA	.04		-.25*	
MF-RelA	.24*		.28**	

Note. *p<.05, **p<.01, ***p<.001; correlations for girls (n=96) are reported above the diagonal, boys (n=89) below the diagonal; 1. Lone= loneliness; 2. Sp(Like)= sociometric social preference; 3. SP (Pop)= popularity social preference; 4. MF=number of mutual friends; 5. Ch-OvA= child's peer nominated overt aggression; 6. Ch-RelA= child's peer nominated relational aggression; 7. MF-OvA= average number of nominations for overt aggression given to mutual friends; 8. MF-RelA= average number of nominations for relational aggression given to mutual friends

Appendix B

Directions: The sentences below describe how children do things and feel about things. For each sentence, please think about how true that sentence is for you and fill in the circle to show your answer. Please fill in one, and only one, circle for each of the sentences. There are no right or wrong answers.

	Always true	True most of the time	Sometimes true	Hardly ever true	Not true at all
1. I play sports a lot.	O	O	O	O	O
2. There's no other kids I can go to when I need help in school	O	O	O	O	O
3. I like playing board games a lot.	O	O	O	O	O
4. It's hard for me to make friends at school.	O	O	O	O	O
5. I'm lonely at school.	O	O	O	O	O
6. I feel left out of things at school.	O	O	O	O	O
7. I watch TV a lot.	O	O	O	O	O
8. I like to paint and draw.	O	O	O	O	O
9. I am well liked by the kids in my class.	O	O	O	O	O
10. I get along with my classmates.	O	O	O	O	O
11. I like to read.	O	O	O	O	O
12. It's easy for me to make new friends at school.	O	O	O	O	O
13. I like school.	O	O	O	O	O
14. I don't have any friends in class.	O	O	O	O	O
15. It's hard to get kids in school to like me.	O	O	O	O	O

	Always true	True most of the time	Sometimes true	Hardly ever true	Not true at all
16. I have nobody to talk to in class.	Always true O	True most of the time O	Sometimes true O	Hardly ever true O	Not true at all O
17. I have lots of friends in my class.	Always true O	True most of the time O	Sometimes true O	Hardly ever true O	Not true at all O
18. I don't have anyone to play with at school.	Always true O	True most of the time O	Sometimes true O	Hardly ever true O	Not true at all O
19. I don't get along with other children in school.	Always true O	True most of the time O	Sometimes true O	Hardly ever true O	Not true at all O
20. I can find a friend in my class when I need one.	Always true O	True most of the time O	Sometimes true O	Hardly ever true O	Not true at all O
21. I'm good at working with other children in my class.	Always true O	True most of the time O	Sometimes true O	Hardly ever true O	Not true at all O
22. I like music.	Always true O	True most of the time O	Sometimes true O	Hardly ever true O	Not true at all O
23. I like science.	Always true O	True most of the time O	Sometimes true O	Hardly ever true O	Not true at all O
24. I feel alone at school.	Always true O	True most of the time O	Sometimes true O	Hardly ever true O	Not true at all O

Circle the names of your friends.

Child 1 Name

Child 2 Name

Child 3 Name

Child 4 Name

Child 5 Name

Child 6 Name

Child 7 Name

Child 8 Name

Child 9 Name

Child 10 Name

Child 11 Name

Child 12 Name

Child 13 Name

Child 14 Name

Child 15 Name

Circle the names of the people you like the most.

Child 1 Name

Child 2 Name

Child 3 Name

Child 4 Name

Child 5 Name

Child 6 Name

Child 7 Name

Child 8 Name

Child 9 Name

Child 10 Name

Child 11 Name

Child 12 Name

Child 13 Name

Child 14 Name

Child 15 Name

Circle the names of the people you like the least.

Child 1 Name

Child 2 Name

Child 3 Name

Child 4 Name

Child 5 Name

Child 6 Name

Child 7 Name

Child 8 Name

Child 9 Name

Child 10 Name

Child 11 Name

Child 12 Name

Child 13 Name

Child 14 Name

Child 15 Name

Circle the names of the people you think are the most popular.

Child 1 Name

Child 2 Name

Child 3 Name

Child 4 Name

Child 5 Name

Child 6 Name

Child 7 Name

Child 8 Name

Child 9 Name

Child 10 Name

Child 11 Name

Child 12 Name

Child 13 Name

Child 14 Name

Child 15 Name

Circle the names of the people you think are the least popular.

Child 1 Name

Child 2 Name

Child 3 Name

Child 4 Name

Child 5 Name

Child 6 Name

Child 7 Name

Child 8 Name

Child 9 Name

Child 10 Name

Child 11 Name

Child 12 Name

Child 13 Name

Child 14 Name

Child 15 Name

Someone who could play the part of:

A person who fights when others wouldn't.	A person who jokes around in a mean way.	Somebody who teases other children too much.
Child 1 Name	Child 1 Name	Child 1 Name
Child 2 Name	Child 2 Name	Child 2 Name
Child 3 Name	Child 3 Name	Child 3 Name
Child 4 Name	Child 4 Name	Child 4 Name
Child 5 Name	Child 5 Name	Child 5 Name
Child 6 Name	Child 6 Name	Child 6 Name
Child 7 Name	Child 7 Name	Child 7 Name
Child 8 Name	Child 8 Name	Child 8 Name
Child 9 Name	Child 9 Name	Child 9 Name
Child 10 Name	Child 10 Name	Child 10 Name
Child 11 Name	Child 11 Name	Child 11 Name
Child 12 Name	Child 12 Name	Child 12 Name
Child 13 Name	Child 13 Name	Child 13 Name
Child 14 Name	Child 14 Name	Child 14 Name
Child 15 Name	Child 15 Name	Child 15 Name

Someone who could play the part of:

A person who threatens people.	Someone who gets into fights for little or no reason.	A person who ignores someone or stops talking to someone when mad at them
Child 1 Name	Child 1 Name	Child 1 Name
Child 2 Name	Child 2 Name	Child 2 Name
Child 3 Name	Child 3 Name	Child 3 Name
Child 4 Name	Child 4 Name	Child 4 Name
Child 5 Name	Child 5 Name	Child 5 Name
Child 6 Name	Child 6 Name	Child 6 Name
Child 7 Name	Child 7 Name	Child 7 Name
Child 8 Name	Child 8 Name	Child 8 Name
Child 9 Name	Child 9 Name	Child 9 Name
Child 10 Name	Child 10 Name	Child 10 Name
Child 11 Name	Child 11 Name	Child 11 Name
Child 12 Name	Child 12 Name	Child 12 Name
Child 13 Name	Child 13 Name	Child 13 Name
Child 14 Name	Child 14 Name	Child 14 Name
Child 15 Name	Child 15 Name	Child 15 Name

Someone who could play the part of:

A person who tries to keep certain kids from being in their group at school.	A person who gets even by keeping someone from being in their group of friends.
Child 1 Name	Child 1 Name
Child 2 Name	Child 2 Name
Child 3 Name	Child 3 Name
Child 4 Name	Child 4 Name
Child 5 Name	Child 5 Name
Child 6 Name	Child 6 Name
Child 7 Name	Child 7 Name
Child 8 Name	Child 8 Name
Child 9 Name	Child 9 Name
Child 10 Name	Child 10 Name
Child 11 Name	Child 11 Name
Child 12 Name	Child 12 Name
Child 13 Name	Child 13 Name
Child 14 Name	Child 14 Name
Child 15 Name	Child 15 Name

THE UNIVERSITY OF MEMPHIS

Institutional Review Board

To: Robert Cohen
                Psychology

From: Chair, Institutional Review Board
                for the Protection of Human Subjects

Subject: A Comprehensive Analysis of Children's Peer Relations (H0150-08)

Approval Date: August 14, 2008

This is to notify you of the board approval of the above referenced protocol. This project was reviewed in accordance with all applicable statutes and regulations as well as ethical principles.

Approval of this project is given with the following obligations:
1. At the end of one year from the approval date an approved renewal must be in effect to continue the project. If approval is not obtained, the human consent form is no longer valid and accrual of new subjects must stop.
2. When the project is finished or terminated, the attached form must be completed and sent to the board.
3. No change may be made in the approved protocol without board approval, except where necessary to eliminate apparent immediate hazards or threats to subjects. Such changes must be reported promptly to the board to obtain approval.
4. The stamped, approved human subjects consent form must be used. Photocopies of the form may be made.

This approval expires one year from the date above, and must be renewed prior to that date if the study is ongoing.