

BRIEF REPORTS

Do Perceived Popular Adolescents Who Aggress Against Others Experience Emotional Adjustment Problems Themselves?

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Aggression is associated with a host of behavioral, social, and emotional adjustment difficulties. However, some aggressive youth are perceived as “popular” by peers. Although these perceived popular aggressive youth appear relatively well adjusted, especially in the social domain, the emotional well-being of these youth is understudied. The current findings indicate that perceived popularity buffers adolescents who hurt others through relational aggression from internalizing symptoms. In contrast, perceived popularity did not buffer adolescents who engaged in overt verbal and physical aggression from internalizing symptoms. The results suggest that relationally aggressive perceived popular adolescents may be especially resistant to intervention if their aggression helps them manipulate their social worlds but does not contribute to internalizing symptoms.

Keywords: peer relations, popularity, relational aggression, overt aggression, internalizing symptoms

For many years, developmentalists defined high peer status as being well liked (i.e., sociometrically popular). Sociometric popularity is related, almost exclusively, to indices of positive adjustment (e.g., behavioral styles, psychological well-being, academic success; Rubin, Bukowski, & Parker, 2006). More recently, youth whom peers perceive as “popular” have received increased attention (Cillessen & Rose, 2005). Understanding perceived popular youth is complex because their behavior includes positive aspects (e.g., prosocial behavior; LaFontana & Cillessen, 2002) and aggression, especially in adolescence (e.g., Cillessen & Mayeux, 2004). Notably, although aggression is generally related to maladjustment (Coie & Dodge, 1998), perceived popular aggressors seem relatively well adjusted. For example, they tend to be socially central and prominent, athletic, and involved in extracurricular activities (Farmer, Estell, Bishop, O’Neal, & Cairns, 2003; Rodkin, Farmer, Pearl, & Van Acker, 2000). However, the emotional well-being of perceived popular aggressors is understudied.

Externalizing and internalizing symptoms tend to co-occur (see Lilienfeld, 2003). Past work primarily focuses on overt verbal and physical aggression, but relational aggression (e.g., excluding, ignoring, spreading rumors) also is linked with emotional problems (e.g., Crick & Grotpeter, 1995). The co-occurrence could be explained by the presence of causal factors that underlie both internalizing and externalizing symptoms or by one set of symptoms preceding the other set (Lilienfeld, 2003). For example, aggression may lead to life events (e.g., social censure, parental punishment, school suspension) that increase risk for internalizing symptoms.

The current research tests whether perceived popularity buffers aggressors from internalizing symptoms. Knowing whether perceived popular aggressors experience emotional problems is important. Research indicates that adolescents experiencing greater distress (e.g., feeling unhappy or depressed, worthless, under strain) are more likely to seek help, including professional help (Rickwood & Braithwaite, 1994). Likewise, aggressors who experience internalizing symptoms may have greater motivation for behavioral change, given that improving their behavior may benefit their emotional well-being. Perceived popular aggressors who do not experience emotional problems may have little motivation to change.

Specifically, perceived popularity is expected to moderate the relation between relational aggression and internalizing symptoms. Relational aggression is closely tied to perceived popularity. Both overt aggression and relational aggression are correlated with perceived popularity, and, in some studies, the relations are similar in magnitude (e.g., LaFontana & Cillessen, 2002). However, significant associations with overt aggression disappear when relational aggression is controlled (see Rose, Swenson, & Waller, 2004, for previous analyses of the current data set). Moreover, although overt aggression does not predict increased perceived popularity over time when relational aggression is controlled (Cillessen & Mayeux, 2004; Prinstein & Cillessen, 2003; Rose et al., 2004), bidirectional relations between

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relational aggression and perceived popularity emerge over time when overt aggression is controlled (Cillessen & Mayeux, 2004; Rose et al., 2004). Perceived popular youth may increasingly manipulate their social worlds through relational aggression to maintain and enhance their already high status.

These results suggest that the relational aggression of high-status youth is tolerated, and perhaps rewarded, by peers. The findings fit with recent theory and research indicating that some youth aggress strategically and are not rejected by peers (Bukowski, 2003; Hawley, Little, & Rodkin, 2007). Perceived popular youth are generally socially skilled and may carry out some relationally aggressive acts with relative anonymity (e.g., starting a rumor) and deny the malicious intent of others (e.g., excluding others). Peers also may forgive negative behavior of high-status youth. As a result, perceived popular relational aggressors may not face negative repercussions for their behavior. In contrast, if lower-status youth relationally aggress in less strategic ways or if others are less willing to forgive their behavior, they may not escape consequences (e.g., social censure, punishment from adults) that could carry risk for internalizing symptoms. Moreover, relations with internalizing symptoms are likely reciprocal. Individuals with internalizing symptoms are seen as unattractive relationship partners (Rudolph, Hammen, & Daley, 2006), and relationally aggressive youth with internalizing symptoms may have especially low peer status.

In contrast, perceived popularity is not proposed to moderate the relation between overt aggression and internalizing symptoms. Findings indicating that overt aggression generally is not related to perceived popularity when relational aggression is controlled suggest that direct verbal and physical aggression may be less acceptable to peers. Even when the aggressor is high status, overt aggression may be met with social censure and punishment from adults, given the explicit nature of the behavior, thus increasing risk for internalizing symptoms.

Although it is increasingly accepted that some aggressors enjoy high status and are generally well adjusted (Hawley et al., 2007), past work has focused primarily on social adjustment, and surprisingly little is known about the emotional adjustment of perceived popular aggressors. This gap is notable given that emotional adjustment is a central aspect of well-being. In fact, only one study has addressed the issue. Rodkin and colleagues (2000) identified a subgroup of popular aggressive boys who did not report elevated internalizing symptoms. This important study stimulated much interest in perceived popular aggressors but did not focus on emotional adjustment. A nonstandard two-item measure of internalizing symptoms (*always sad; always worried*) was used. The study also excluded girls, used teacher reports of peer popularity, and did not use a pure assessment of popularity (i.e., an item assessing friendships was included). Also, only overt aggression was assessed.

By including both overt and relational aggression, we sought in the current study to test whether the buffering effect of perceived popularity is strongest for relational aggression. Also, because we examined the effects of each aggression form while controlling for the other, we ensured that results found for overt aggression were not due to statistical overlap with relational aggression and vice versa. Sociometric popularity also was controlled, ensuring that effects for perceived popularity were not due to overlap with sociometric popularity.

Method

Participants

Parents of all seventh-grade students in two middle schools and all ninth-grade students in two high schools were mailed consent forms. Research assistants also made initial school visits to describe the research to the students. Parents who gave consent indicated this and returned the forms to the school. Youth gave their own assent. Students in participating grades were given a small gift (e.g., a pencil) and snack regardless of whether they participated. The schools were in small communities near a large university in the Midwest.

Of 634 youth (257 seventh graders, 377 ninth graders) invited to participate, 501 were granted consent. Eight youth never participated (e.g., moved away), and sociometric data were not available for 6. The remaining 487 youth participated, but self-reported depression and anxiety data were not available for 48. The final sample was 439 students (195 seventh graders: 101 girls, 94 boys; 244 ninth graders: 126 girls, 118 boys). The sample was approximately 84% European American, 8% African American, > 3% Hispanic American, > 2% Native American, > 1% Asian American, and > 3.5% classified as "other" (e.g., biracial). No information regarding the education, occupation, or socioeconomic status of the participants' parents was collected.

The 439 youth in the final sample did not differ from the 48 excluded youth in terms of gender, grade, perceived popularity, social preference, or relational aggression. However, they did score lower on overt aggression ($M_s = -.04$ and $.32$, respectively), $t(485) = 3.03$, $p < .01$. Also, because parents of seventh-grade youth were more likely to grant consent, seventh graders were overrepresented in the final sample of 439 youth: 195 of 257 eligible seventh-grade students (75.9%) and 244 of 377 eligible ninth-grade students (64.7%), $\chi^2(1) = 8.93$, $p < .01$.

Given possible biases that could emerge because seventh graders and youth lower on overt aggression were overrepresented, we conducted analyses using population estimates. For grade, the inverse of the percentage of invited youth in each grade who were in the final sample was used as the population weight for that grade. This gave greater weight to underrepresented ninth-grade youth. Because overt aggression was continuous, youth were first categorized into one of five overt aggression groups (ranging from low to high). Then, the percentage of youth in each group that were included in the final sample was computed. The population weight for each group was the inverse of that percentage for the group. This gave greater weight to underrepresented youth lower on overt aggression. We then used these weights to perform the analyses described in the Results. The same pattern of results emerged with and without population weights. The findings presented are from analyses in which population weights were not included.

Procedures and Measures

For part of a larger study on peer relationships, we administered questionnaires to groups in two 1-hr sessions in the classroom. The depression and anxiety measures were administered in the first session, and the measure assessing popularity and aggression was administered in the second.

Status and aggression. For each item assessing peer status and aggression, youth circled the names of three peers who best fit the

item description. For perceived popularity, youth nominated popular classmates (Parkhurst & Hopmeyer, 1998). For sociometric status, youth nominated classmates they liked most and least (Coie, Dodge, & Copottelli, 1982). Five items assessed overt physical and verbal aggression (e.g., hitting, calling mean names). Relational aggression also was assessed with five items (e.g., spreading rumors, ignoring; Crick, 1997). Because youth switched classes and could interact with any of their 150–200 grade mates, it was not possible to provide them with a roster of 20–30 classmates as is done with elementary students. As in some studies with adolescents (e.g., Parkhurst & Asher, 1992), youth were presented with a different random list of 30 grade mates for each item. Similar to procedures in prior studies (e.g., Rodkin et al., 2000), for each item, the proportion of nominations a youth received was computed, log transformed, and standardized within grade. The standardized popularity item was the perceived popularity score. For social preference (sociometric popularity), the difference between the standardized liked-most and liked-least scores was computed and restandardized. Overt and relational aggression scores were the means of the relevant standardized items.

Internalizing symptoms. Youth rated 26 items of the Children's Depression Inventory on a 3-point scale (Kovacs, 1992). The suicidal ideation item was not administered. Also, as in past research (e.g., Gazelle & Rudolph, 2004), responses to three items that overlapped with aggression (e.g., starts fights) were dropped. The remaining items were reliable ($\alpha = .88$). Youth also rated the 28 items of the Children's Manifest Anxiety Scale–Revised on a 5-point scale (Reynolds & Richmond, 1978; $\alpha = .95$). Depression and anxiety were correlated ($r = .70, p < .0001$). Also, conducting the analyses separately for depression and anxiety produced the same pattern of results. Therefore, depression and anxiety were combined into a single internalizing symptoms score. The mean of the depression and anxiety scores was computed and standardized to aid interpretation.

Results

Relations among aggression, perceived popularity, and internalizing symptoms were examined with regression analyses. Multilevel modeling was not used because although participants were youth in schools, they attended secondary schools and switched classes during the day and so were not nested in self-contained classrooms. Youth within each grade were nested in two schools; however, multilevel modeling is not appropriate when the nesting variable has only two levels.

Two types of preliminary analyses first tested whether the data could be pooled across gender and grade. The regressions (described later) were fit separately for the gender and grade groups, and Chow tests were used to determine whether the models differed for these groups. Also, the regressions were computed with gender and grade interaction terms. Because no significant gender or grade effects emerged, the data were collapsed across gender and grade.

Primary analyses indicated that both overt aggression and relational aggression were correlated with internalizing symptoms (Table 1). Given that overt aggression and relational aggression also were correlated (Table 1), a regression was conducted in which internalizing symptoms were simultaneously predicted from

Table 1

Correlations Among Social Preference, Perceived Popularity, Overt and Relational Aggression, and Internalizing Symptoms

Variable	1	2	3	4	5
1. Social preference	—				
2. Perceived popularity	.36****	—			
3. Overt aggression	-.25****	.15**	—		
4. Relational aggression	-.16***	.33****	.65****	—	
5. Internalizing symptoms	-.10*	-.14**	.16***	.15**	—

Note. * $p < .05$. ** $p < .01$. *** $p < .001$. **** $p < .0001$.

overt and relational aggression (Table 2). Only the effect for overt aggression reached significance.

An additional regression tested whether aggression and perceived popularity interacted to predict increased symptoms (Table 2). On Step 1, social preference was entered as a control. Social preference predicted fewer symptoms. On Step 2, main effects of overt aggression, relational aggression, and perceived popularity were entered. Overt aggression and relational aggression predicted increased symptoms, but only relational aggression was significant. Perceived popularity predicted fewer symptoms. On Step 3, the interactions between overt aggression and perceived popularity and between relational aggression and perceived popularity were entered. The interaction with relational aggression was significant. The interaction with overt aggression was not.

The interaction with overt aggression was dropped from the model because it was not significant (Aiken & West, 1991). The final model was as follows (standardized betas are in parentheses, with significant effects marked with asterisks; the standardized beta for the intercept was 0):

$$\begin{aligned} \text{Internalizing Symptoms} = & (.04) \text{ Social Preference} \\ & + (.10) \text{ Overt Aggression} + (.16^*) \text{ Relational Aggression} + \\ & (-.22^*) \text{ Perceived Popularity} \\ & + (-.12^*) \text{ Relational Aggression} \times \text{Perceived Popularity} \end{aligned}$$

This model was used to graph the interaction (Figure 1) and to compute simple slopes (Aiken & West, 1991). Relational aggression predicted greater internalizing symptoms for youth low (-1 SD) on perceived popularity, $\beta = .28, t(433) = 3.45, p < .001$, and at the mean of perceived popularity, $\beta = .16, t(433) = 2.39, p < .05$. Relational aggression was unrelated to internalizing symptoms for youth high ($+1$ SD) on perceived popularity, $\beta = .04, t(433) = .45$.

Additional person-centered analyses were conducted for descriptive purposes. We divided the sample into groups using cutoffs of .75 SD. Internalizing symptoms scores for the groups were as follows: low perceived popularity/low relational aggression ($n = 64, M = -.15, SD = 0.87$), low perceived popularity/high relational aggression ($n = 30, M = .60, SD = 1.14$), high perceived popularity/low relational aggression ($n = 14, M = -.59, SD = .65$), and high perceived popularity/high relational aggression ($n = 59, M = -.17, SD = .96$). The scores were near or below the mean for each group except the low perceived popularity/high relational aggression group who scored above the mean. Consistent with prior analyses, low perceived popularity/high relational aggression youth reported more symptoms than low perceived popularity/low relational aggression youth, $t(92) = 3.47, p < .001$. However, high

Table 2
Regression Analyses Examining Associations of Aggression With Internalizing Symptoms

Variable	β	F	R^2	F	ΔR^2	F
Model 1						
Step 1						
Overt aggression	.12	3.72*	.03	6.60**		
Relational aggression	.07	1.14				
Model 2						
Step 1: Social preference	-.10	4.45*	.01	4.45*		
Step 2						
Social preference	.03	.28	.07	7.72****	.06	8.74****
Overt aggression	.10	2.66				
Relational aggression	.15	5.62*				
Perceived popularity	-.22	15.52****				
Step 3						
Social preference	.04	.46	.08	6.31****	.01	3.31*
Overt aggression	.10	2.37				
Relational aggression	.16	5.76*				
Perceived popularity	-.21	15.44****				
Overt Aggression \times Perceived Popularity	.01	.01				
Relational Aggression \times Perceived Popularity	-.12	4.20*				

Note. Dependent variable in both models was internalizing symptoms.

* $p \leq .05$. ** $p < .01$. **** $p < .0001$.

perceived popularity/high relational aggression youth did not report more symptoms than high perceived popularity/low relational aggression youth, $t(71) = 1.53$, $p = .13$, again suggesting that perceived popularity buffers relationally aggressive youth from internalizing symptoms.

Discussion

This brief report posed the question, Do perceived popular adolescents who aggress against others experience emotional adjustment problems themselves? For perceived popular adolescents who hurt others by spreading rumors, ignoring, and excluding, the answer is no. However, relational aggression was linked with elevated internalizing symptoms for youth who were less popular. Perceived popular rela-

tional aggressors may face few repercussions that could create risk for elevated internalizing symptoms. Peers may be hesitant to sanction them because of their social power. Perceived popular adolescents also may be savvy enough to relationally aggress in subtle ways that escape notice from adults.

In contrast to relational aggression, perceived popular overt aggressors were not protected from elevated internalizing symptoms. It is interesting, though, that the nature of the relation between overt aggression and internalizing symptoms depended on which variables were controlled. Overt aggression predicted internalizing symptoms when relational aggression was controlled. However, when social preference and perceived popularity also were controlled, overt aggression did not predict internalizing symptoms (suggesting peer

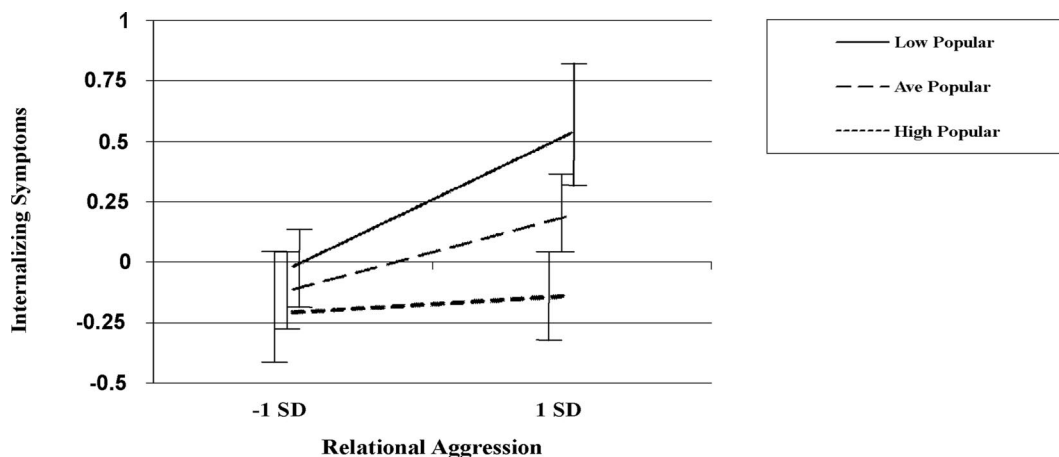


Figure 1. Perceived popularity moderating the association of relational aggression and internalizing symptoms. The bars presented indicate confidence intervals. Confidence intervals were equal to the predicted value \pm (1.96) (the standard error of the predicted value). Confidence intervals are staggered in the figure for clarity of presentation.

problems mediated the link between overt aggression and internalizing symptoms). Although the results cannot speak to the direction of effect, they fit with the research indicating that overt aggression contributes to peer problems, which lead to broader adjustment difficulties (Coie & Dodge, 1998).

Although this brief report used a relatively large sample, a solid peer-report method, and well-validated measures of depression and anxiety to address theoretically and practically important questions, there are limitations. The most significant is that the research cannot speak to the causation. The research was motivated by the idea that perceived popular relational aggressors are buffered from elevated internalizing symptoms, perhaps because there are few negative repercussions for their behavior. However, the study cannot address the temporal ordering of relations or third-variable explanations. For example, the possibility that relations among peer adjustment and externalizing and internalizing symptoms are due to broader demographic (e.g., socioeconomic status [SES]), social (e.g., parenting), and biologically based (e.g., temperament) influences cannot be ruled out.

Future research testing the temporal ordering of the relations and third-variable explanations is needed to better understand the implications of the findings. Results suggested that youth most at risk for internalizing symptoms were youth with low perceived popularity who relationally aggressed and youth who overtly aggressed (regardless of popularity). If future research suggests that their aggression leads to negative repercussions, which predicts increased internalizing symptoms, then targeting their aggression should be especially helpful. However, it could be that emotional problems lead some youth to aggress (and to have lower peer status). Moreover, the link between aggression and internalizing symptoms could be best explained by third variables (e.g., few family resources due to low SES), suggesting those variables should be targeted for intervention. Likewise, although perceived popularity was proposed to buffer relational aggressors from internalizing symptoms by sparing them negative repercussions, other explanations are possible. For instance, these youth may experience negative repercussions but think about them in ways that reduce their impact, or these relational aggressors may have other protective factors (e.g., positive parenting) that protect them against internalizing symptoms and contribute to high perceived popularity.

Regardless of why perceived popular relational aggressors are buffered from internalizing symptoms, targeting them for intervention is important given their impact on others. However, because perceived popular relational aggressors do not experience elevated internalizing symptoms (e.g., as shown in this brief report) but do enjoy social centrality and prominence (e.g., Rodkin et al., 2000; Farmer et al., 2003), they may be quite resistant to change. Interventions likely will need to target these adolescents' motivations before there is hope of eliciting behavioral change.

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