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Abstract

Although there are good theoretical reasons to believe that youth who are high in *alienation* (i.e., estranged from society, significant others, and themselves) are prone to behave aggressively, empirical evidence is lacking. The present experiment tested whether alienation moderates the effects of acute peer rejection on aggression in youth. Participants ($N = 121$; mean age = 11.5 years) completed a personal profile (e.g., “How do you describe yourself?”) that was allegedly evaluated online by a panel of peer judges. After randomly receiving negative or positive feedback from peer judges, participants were given the opportunity to aggress against them (i.e., by reducing their monetary reward and by posting negative comments about them online). As predicted, alienation increased participants’ aggression against peers who had rejected them, but not against peers who had praised them, even after controlling for peer-nominated chronic rejection and peer-nominated aggression. Thus, alienated youth are more aggressive than others when they experience acute peer rejection.

Keywords

aggression, alienation, peer rejection, youth, experimental

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If no one turned round when we entered, answered when we spoke, or minded what we did, a kind of rage and impotent despair would ere long well up in us.

—William James, 1890, p. 281

Like adults, youth are social animals. When rejected, ostracized, or excluded by their peers, they often lash out aggressively (e.g., Dodge, Coie, & Lynam, 2006). There are theoretical and empirical reasons to believe that aggressive responses to peer rejection are especially strong for youth who feel outcast or alienated (the “outcast-lash-out effect”—Warburton, Williams, & Cairns, 2006). The trait of alienation is a sense of separation or estrangement from society, significant others, and the self (e.g., Calabrese & Adams, 1990), and it is common for youth to be described as alienated. Anecdotal evidence suggests that alienated youth are especially prone to aggress following peer rejection. For example, case studies of 15 individuals responsible for shootings at schools in the United States found that nearly all felt alienated and had been exposed to acute or chronic rejection from their peers prior to the shootings (Leary, Kowalski, Smith, & Phillips, 2003).

Several theories have been put forth to account for the presumed link between alienation and aggression. One theory proposes that perceptions of exclusion by mainstream society lead people to reject societal norms that inhibit aggressive behavior, thereby releasing the more instinctual and impulsive tendency to aggress (Twenge, Baumeister, Tice, & Stucke, 2001). Another theory proposes that perceptions of exclusion and weak ties with prosocial institutions (e.g., school, family, peers) impose a severe threat to basic human needs, including needs for belonging, self-esteem, self-control, and meaningful existence (Williams, 2001). Such thwarted needs likely yield significant feelings of frustration, which, in turn, increase the likelihood of aggression (e.g., Berkowitz, 1989).

Surprisingly, the hypothesized alienation-aggression link has never been put to an experimental test. Considerable research has shown that chronic peer rejection and peer exclusion are

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associated with aggression (e.g., Kupersmidt, Burchinal, & Patterson, 1995; Prinstein & La Greca, 2004). However, although alienated youth are typically deficient in meaningful, intimate relationships with peers, the alienation construct is more inclusive than are indices of problematic peer relationships such as peer rejection, exclusion, or victimization (e.g., O'Donnell, Schwab-Stone, & Ruchkin, 2006; Seeman, 1959). Alienated youth not only lack strong social ties with peers, they also experience feelings of *powerlessness* (perceived inability to control the outcomes of one's behavior), *meaninglessness* (inability to see purpose in one's life), *self-estrangement* (being out of touch with one's self), and *normlessness* (refusal to accept social norms). Hence, there is ample reason to believe that alienation should be associated with increased aggression above and beyond the effects of chronic peer rejection.

Here, we report an experiment that tested whether alienation moderates the effect of acute peer rejection on aggression. To increase the specificity of our findings for alienation, we controlled for the effects of peer-nominated chronic peer rejection and peer-nominated aggression. Young adolescents were randomly assigned to receive either positive or negative peer feedback. A peer-rejection stressor was used because peer rejection is instrumental in the outcast-lash-out effect. We contend that alienated youth are prone to react aggressively to acute peer rejection, because for them it matches a core preexisting domain of vulnerability (i.e., weak social ties).

We studied young adolescents for three reasons. First, meaningful individual differences in alienation emerge during this age period. Although most young adolescents cope successfully with the many life changes and developmental tasks they face (e.g., the need to form and maintain intimate social bonds while also developing an autonomous identity; Harter, 2006), a substantial minority displays a more alienated pattern of adjustment (Calabrese, 1988). We wanted to examine the effects of alienation when it is still relatively malleable, and in older adolescents alienation is likely more deeply ingrained and more resistant to change. Second, young adolescents attach great importance to the opinions and appraisals of peers, much more than do younger children (Damon & Hart, 1988; Harter, 2006). Third, severe aggressive and violent behaviors increase steeply in frequency in early adolescence (Dodge et al., 2006).

We predicted that alienation would moderate the effects of negative peer feedback on subsequent aggressive behavior, even after controlling for the effects of peer-nominated chronic peer rejection and peer-nominated aggression. Specifically, we expected to observe the highest levels of aggression in alienated youth who experienced negative peer feedback.

Method

Participants

Participants were 121 Dutch youth (10–13 years, $M = 11.5$ years, $SD = 0.8$ years; 47% boys, 53% girls; 93% Caucasian), predominantly from a middle-class background. We obtained

institutional review board approval, consent from parents (consent rate = 78%), and assent from children (assent rate = 94%). Children received a small gift (e.g., mechanical pens) in exchange for their voluntary participation.

Procedure

About 2 weeks before the experiment proper, children completed measures of alienation, peer-nominated chronic peer rejection, and peer-nominated aggression. Following previous work (e.g., O'Donnell et al., 2006), we assessed alienation using the 15-item Jessor and Jessor Alienation Scale (Jessor & Jessor, 1977). This scale was designed to tap several dimensions of alienation, including powerlessness, meaninglessness, self-estrangement, and social isolation. Sample items include "Hardly anyone I know is interested in how I really feel inside" and "I often feel left out of things that others are doing." Items are rated on a 5-point Likert scale (1 = *strongly agree*, 5 = *strongly disagree*), and ratings are summed to yield a total score, with higher scores indicating higher levels of alienation ($M = 25.8$, $SD = 7.7$; Cronbach's $\alpha = .87$). This scale has demonstrated good internal consistency, test-retest reliability, and construct validity (Jessor & Jessor, 1977; Williamson & Cullingford, 1998). Prior work indicates that the scale is negatively related to trait self-esteem, parental support, and value attached to academic achievement, and positively related to social criticism, external locus of control (Jessor & Jessor, 1977), and another alienation measure (Mau's Alienation Inventory—Mau, 1992; Williamson & Cullingford, 1998).

Peer-nominated chronic peer rejection was measured by having children identify the classmates they liked least (Newcomb, Bukowski, & Pattee, 1993). Each participant's score was calculated by dividing the total number of nominations he or she received for "liked least" by the number of participating classmates ($M = .14$, $SD = .17$).

As in our previous research (Thomaes, Bushman, Orobio de Castro, Cohen, & Denissen, 2009), peer-nominated aggression was measured using three items that assess physical aggression ("Who kicks, pushes, or hits other students at school?"), direct verbal aggression ("Who calls other students names, or says mean things to other students at school?"), and relational aggression ("Who spreads rumors or lies about other students, or excludes other students from the group at school?"). Given the significant intercorrelations of these three items (mean $r = .56$, $ps < .001$) and a meta-analysis convincingly showing that different measures of aggression tap the same underlying construct (Carlson, Marcus-Newhall, & Miller, 1989), we calculated each participant's total aggression score by summing the number of nominations he or she received across items and dividing this figure by the number of classmates ($M = .39$, $SD = .65$, Cronbach's $\alpha = .80$).

In the experiment proper, which lasted about 1 hr, children were tested individually in a quiet room at their school. Participants were told that they would compete in an Internet contest called "Survivor," in which players are allegedly evaluated

by a panel of peer judges from different schools (Reijntjes, Dekovic, & Telch, 2007). First, a photo was taken of each participant using a camera connected to a laptop computer. These photos would allegedly be uploaded to the (bogus) Survivor Internet site for the peer judges to see. Next, participants completed a personal profile, so that the peer judges could ostensibly learn more about them. Questions pertained to their hobbies, occupational goals, things they liked and disliked about themselves, and how well they got along with other children; participants also rated themselves on several personal traits (e.g., sense of humor, agreeableness).

Subsequently, participants were told they would have 5 min to look over the judges' feedback. Participants saw photos of eight judges, four boys and four girls. By clicking on a judge's photo, participants could see that judge's profile (i.e., name, age, residence) and the feedback from that judge. This feedback always consisted of four evaluative statements. In the rejection condition, three statements were negative (e.g., "I would not like to be friends with this person," "This person does not seem fun to hang out with"), and one was neutral (e.g., "I think this person likes reading a lot"). In the approval condition, three statements were positive, and one was neutral.

Next, participants were given the opportunity to aggress against peer judges in two different ways. First, they could allegedly influence the amount of money each judge would receive. The default fee was €2. Participants could leave this amount unchanged, subtract €1 or €2, or add €1 or €2. Second, participants could post comments about the judges (next to their photos) on the alleged Survivor Internet site, which was said to receive much traffic. Two independent coders rated whether or not comments were exclusively aggressive (e.g., "this person is fat and mean"; $\kappa = .87$). Scores were summed across judges to yield separate total scores for financial and verbal aggression.

Finally, participants were thoroughly debriefed. They were told that the judges and the feedback they received were fictitious, and they were informed about the true purpose of the study and the need for deception. Research has shown that these debriefing

procedures are effective for young adolescents (Hurley & Underwood, 2002). During the debriefing, no participant expressed suspicion about the study, guessed what the study was about when explicitly asked, or expressed anger at being deceived.

Results

Preliminary analyses

Univariate analyses of variance revealed that alienation, peer-nominated chronic peer rejection, peer-nominated aggression, and age did not differ between the rejection and approval conditions. Thus, random assignment to conditions was effective (see Table 1).

Alienation was positively related to peer-nominated aggression ($r = .21, p < .05, p_{rep} > .88$) and peer-nominated chronic peer rejection ($r = .39, p < .001, p_{rep} > .99$). The latter finding indicates that the constructs of alienation and chronic peer rejection are related, but not the same. Peer nominations of aggression and chronic peer rejection were positively related ($r = .51, p < .001, p_{rep} > .99$), which is consistent with previous research showing that aggressive children generally are not well liked by their peers (e.g., Cairns, Cairns, Neckerman, Gest, & Gariepy, 1988).

Preliminary analyses of the two aggression indices (financial and verbal) were consistent with meta-analytic findings showing that different measures of aggression tap the same underlying construct (Carlson et al., 1989), as the two indices were significantly positively correlated ($r = .48, p < .001, p_{rep} > .99$) and showed similar patterns of results. The two indices were therefore standardized and summed to form a composite aggression measure (see Table 1).

Primary analyses

To examine our main research question, we performed a hierarchical multiple regression analysis on the composite

Table 1. Alienation, Peer-Nominated Chronic Peer Rejection, Peer-Nominated Aggression, Age, and Aggressive Reactions by Condition

Measure	Feedback condition					
	Approval (n = 59)		Rejection (n = 62)		Total (N = 121)	
	M	SD	M	SD	M	SD
Alienation	26.34	8.75	25.24	6.55	25.78	7.76
Peer-nominated chronic peer rejection	.15	.17	.13	.18	.14	.17
Peer-nominated aggression	.50	.78	.30	.49	.39	.65
Age (months)	137.6	7.4	137.2	8.3	137.4	7.9
Verbal aggression	0.03	0.18	0.90	1.18	0.48	0.98
Financial aggression	0.35	0.73	2.47	1.78	1.44	1.74
Composite aggression measure	-1.05	0.51	1.12	1.89	0.00	1.00

Note: The composite aggression measure is the summed standardized scores of financial and verbal aggression. For all three aggression measures, higher scores indicate more aggression.

aggression measure. Because no main or interactive effects for gender emerged, data for boys and girls were combined. In Step 1, condition (1 = rejection, 0 = approval) was entered. In Step 2, alienation, peer-nominated chronic peer rejection, and peer-nominated aggression (all centered) were entered. In Step 3, the two-way interactions between (a) alienation and condition, (b) peer-nominated chronic peer rejection and condition, and (c) peer-nominated aggression and condition were entered.

Results revealed a significant condition effect, indicating that rejected children were more aggressive than accepted children, $\beta = 0.62$, $\Delta R^2 = .38$, $\Delta F(1, 119) = 71.45$, $p < .001$, $p_{\text{rep}} > .99$, $d = 1.81$ (see Table 1). More important, the predicted interaction between alienation and condition was significant, $\beta = 0.22$, $\Delta R^2 = .03$, $\Delta F(1, 116) = 6.60$, $p < .05$, $p_{\text{rep}} > .88$ (see Fig. 1). This interaction was analyzed using simple slopes (Aiken & West, 1991). Relative to approval feedback, rejection feedback exerted the strongest effect on aggression for children with high levels (1 *SD* above the mean) of alienation, $\beta = 0.78$, $t(117) = 8.83$, $p < .001$, $p_{\text{rep}} > .99$; the effect was intermediate for children with intermediate levels of alienation, $\beta = 0.64$, $t(117) = 7.59$, $p < .001$, $p_{\text{rep}} > .99$, and weakest for children with low (1 *SD* below the mean) levels of alienation, $\beta = 0.48$, $t(117) = 4.79$, $p < .001$, $p_{\text{rep}} > .99$. As noted, separate analyses for the two aggression measures yielded identical results. No other main or interactive effects were found.

Discussion

This experiment tested the hypothesis that when faced with acute peer rejection, alienated youth are especially likely to lash out aggressively. Replicating previous findings, the results showed that rejected youth were markedly more aggressive than were accepted youth. More important, this is the first study to demonstrate that alienation moderates the effects of acute peer rejection on subsequent aggression. As

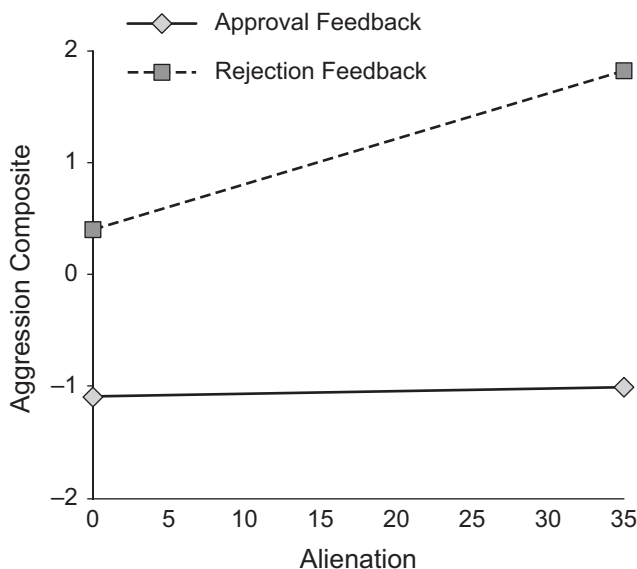


Fig. 1. Composite aggression score as a function of alienation in the approval and rejection conditions.

expected, the most aggressive participants were rejected children high in alienation. However, alienation was not associated with increased aggression following positive peer feedback. It thus appears that the aggression of alienated youth is interpersonally meaningful, specifically directed against people who reject them (not against other people in general).

The magnifying effect of alienation on aggression induced by acute peer rejection was significant even after controlling for the effects of two variables that often covary with aggression and might have constituted an alternative explanation for our findings (i.e., peer nominations of chronic peer rejection and aggression). Alienation is a key dispositional variable influencing aggressive behavior that is woefully understudied and deserves to be incorporated in contemporary aggression research. At the very least, the observed effects support the view that alienation and chronic peer rejection are distinct constructs that are differentially linked to aggression.

Our results point to the potential significance of incorporating strategies that specifically target elevated alienation into aggression-prevention and -intervention programs for youth. Previous work with at-risk and alienated youth has shown that stimulating *empowerment* (i.e., a subjective feeling of control over one's life—Bracht, Kingsbury, & Rissel, 1999) may yield positive effects on several relevant indices, including the strength of bonds with peers and school (e.g., Moody, Childs, & Sepples, 2003).

Limitations and future research

Our study, like all studies, has limitations. First, our findings are based on a sample of young adolescents consisting of primarily middle-class Caucasians. Because research has shown that minorities and youth of lower socioeconomic status tend to display higher levels of alienation (e.g., Calabrese & Poe, 1990), we predict even stronger effects for these youth. Second, with regard to external validity, we acknowledge that laboratory aggression measures share few surface features with real-world physical aggression. However, these aggression measures do share the core conceptual features of delivering a noxious stimulus to a victim with the intent and expectation of harming the victim. Moreover, it has been demonstrated that laboratory and real-world aggression measures are influenced in similar ways by situational variables (e.g., provocation) and individual difference variables (e.g., trait aggressiveness; Anderson & Bushman, 1997). Finally, an interesting question for future research is what factors govern the link between alienation and aggression induced by acute peer rejection. Given recent work showing that hostile cognitions may link acute rejection to aggression (DeWall, Twenge, Gitter, & Baumeister, 2009), it may be that for alienated youth, rejection is especially likely to activate a hostile mind-set.

Conclusions

Peer rejection is an important cause of youth aggression. The present research sheds light on what types of youth are most

likely to respond aggressively when faced with acute peer rejection. Somewhat ironically, those who are most likely to lash out against peers who reject them are alienated youth who are likely to become even further alienated for their high levels of aggression. We fear that unless at-risk youth participate in effective intervention programs, these mutually reinforcing reciprocal effects of alienation and aggression over time may increase the likelihood of severe manifestations of the outcast-lash-out effect.

Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

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