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Opposites Detract: Middle School Peer Group Antipathies

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Abstract

This study examines variability in patterns of peer group antipathy. Same-grade adolescent peer groups were identified from sociometric nominations of preferred affiliates in a community sample of 600 Finnish 9th grade middle school students ($M = 15.0$ years-old). Hierarchical linear modeling determined characteristics of youth in actor groups (nominators) that predicted antipathy for youth in target groups (nominatees) on the basis of target group characteristics. Most antipathies were based on dissimilarity between groups representing the mainstream culture and groups opposed to it. The higher a peer group's school burnout, the more its members disliked students in peer groups with higher school grades and students in peer groups with higher sports participation. Conversely, the higher a peer group's school grades, the more its members disliked students in peer groups with higher school burnout. Students in peer groups with less problem behavior disliked students in peer groups with more problem behavior. There was some evidence of rivalry within the mainstream culture: The higher a group's school grades, the more its members disliked those in groups whose members participated in sports.

Keywords

peer groups; antipathy; school grades; school burnout; sports participation; problem behavior

What motivates peer group antipathy? This question prompts images of violence perpetuated by gangs known (depending on your cohort) as *Jets* and *Sharks* or *Crips* and *Bloods*. The

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question is germane to every middle school, not just those with lethal gang rivalries. Early ethnographies described schools in bucolic settings beset with competitive and sometimes hostile adolescent subcultures (Hollingshead, 1949; Coleman, 1961). One classic study portrayed the climate in many schools as a product of tension between *burnouts*, who are alienated from mainstream middle school culture, and *jocks*, who are defined by their mastery of the mainstream and their opposition to those who rebel against it (Eckert, 1989). These observations have yet to be quantified, because of the logistical and statistical obstacles inherent in the study of naturally occurring peer groups. The present study describes a new strategy for surmounting these obstacles. Positive sociometric nominations were used to identify peer groups in a community sample of Finnish middle or comprehensive school students; negative sociometric nominations, aggregated across individuals within peer groups, described the extent to which group members dislike one another. Hierarchical linear modeling determined characteristics of youth in actor groups (nominators) that predicted antipathy for youth in target groups (nominatees) on the basis of the target group's problem behavior, school burnout, school grades, and sports participation.

We begin with a few definitions. *Crowds* describe reputation based categories of peers, aggregates of individuals with a common image; crowd members do not necessarily affiliate with or share an affinity for one another. *Affiliates* are groups of individuals, sometimes referred to as cliques, who hang around together or who represent collections of friends. Empirical studies of affiliates typically ask youth to identify members of groups of associates or to identify their own friends or associates from which affiliate groups are assembled. Although some believe that friendships and antipathies should be limited to those expressing liking or disliking, there is no empirical evidence that these relationships differ from those defined in terms of affiliation preferences (Abecassis, 2003; Bukowski & Hoza, 1989). Consistent with recent studies of friends and enemies (Laursen, Bukowski, Aunola, & Nurmi, 2007; Peets, Hodges, Kikas, & Salmivalli, 2007) we used self-report measures of preferred affiliates to identify peer groups. In contrast to ethnographies, which focus on crowds to describe the social climate of a school, quantitative research tends to focus on the processes whereby peer affiliates shape the school-related outcomes of group members.

Peer social structures impact academic motivation and achievement by influencing the ways in which students interact. Peer groups are central to the informal organizational structure of middle schools and individual identity during this age period is closely bound to that of the peer group (Brown & Larson, 2009). Unfortunately, what defines and animates many middle school peer groups is antipathy toward other peer groups. We know that dyadic antipathies interfere with school work habits and academic success (Witkow, Bellmore, Nishina, Juvonen, & Graham, 2005), that peer competition and hostility interfere with collaborative learning and reduce transactional and instructional exchanges (Wentzel, 2009), and that peer conflict has a corrosive effect on school grades (Adams & Laursen, 2007). It follows that educational outcomes suffer in schools dominated by peer group tensions.

In-group/out-group distinctions ground models of intergroup enmity. One set of theories focus on the role of resemblance and dissonance. The reactive distinctiveness hypothesis holds that similarity (or a lack of differentiation) provokes antipathy because the existence of comparable out-groups undermines claims about the uniqueness of the in-group (Tajfel & Turner, 1979). The reflective distinctiveness hypothesis holds that dissimilarity (or heightened differentiation) provokes antipathy because the unique properties of the in-group are best reinforced when set against an incompatible out-group (Spears, Jetten, & Scheepers, 2002). Attitudinal dissimilarity also elicits uncomfortable, inconsistent internal states in members of dissimilar groups, which may heighten antipathies (Rosenbaum, 1986). Another set of theories focus on enmity in response to perceived threats posed by out-groups (Stephan & Stephan, 2000). The threat may be realistic, such as a challenge to the existence of the in-group and the well-being

of its members. Thus, antipathies may arise when groups compete for the same resources. Or the threat may be symbolic, such as a challenge to the standards embodied by the in-group and the values held by its members. Thus, antipathies may arise between two groups with opposing core beliefs. These theories suggest that similarity or dissimilarity may not be sufficient to produce animosity unless they are paired with some form of threat.

Experimental evidence suggests that antipathies between groups feed on dissonance rather than on resemblance. Laboratory studies indicate that individuals perceive more trait differences between themselves and members of rival out-groups than between themselves and members of nonrival out-groups (Brewer, 2007). At Robbers Cave, hostility between randomly grouped boys increased when circumstances were manipulated to encourage competition and highlight group differences, and hostility decreased when conditions emphasized cooperation and group commonalities (Sherif, Harvey, White, Hood, & Sherif, 1961). Much the same occurred in classrooms where activities and status were linked to the color of the shirt children were assigned to wear (Bigler, Brown, & Markell, 2001). These studies are important because they illustrate processes that foster and exacerbate enmity, but they are silent on the specific attributes that form the basis of naturally occurring peer group antipathies.

The burgeoning literature on enemies is largely silent on the origins of antipathies. Abecassis (2003) speculates that dyadic antipathies arise out of similarities (enmity for similar others who possess the same disliked traits or rivalry with similar others who possess the same valued traits) as well as dissimilarities (envy for dissimilar others who possess a desired trait or enmity for dissimilar others who possess a disliked trait). Inverse correlations between children and the classmates they dislike on peer nomination scores for prosocial, withdrawn, and aggressive behaviors may be interpreted as evidence that dissimilarity drives disliking (Nangle, Erdley, Zeff, Stanchfield, & Gold, 2004), but they do not speak to the possibility that individuals involved in dyadic antipathies have dissonant attributes. Research examining similarity in reciprocated antipathies found that the parent attachment orientations and victimization scores of early adolescent enemies were negatively correlated (Card & Hodges, 2003; 2007).

To gain insight into the origins of antipathies we must rely on ethnographic studies that catalogue disliking within a school. These reports reinforce the view that antipathies spring from differences, not similarities, but the results must be interpreted with caution because informal observations tend to focus on the most salient and extreme individuals and because they tend to focus on reputation-based crowds rather than on specific groups of peer affiliates (Brown & Dietz, 2009). A common theme in these accounts is tension between crowds that embrace school (and the mainstream culture it represents) and crowds that reject school (and everything it stands for). Examples include delinquent and fun crowds (Clark, 1962), ear hole and lad crowds (Willis, 1977), and burnout and jock crowds (Eckert, 1989). It is possible to go further and identify subsets of mainstream crowds, such as brains and rahrahs, and subsets of alternative culture crowds, such as troublemakers and burnouts (Larkin, 1979). These distinctions help refine the identity of crowds and may form the basis for competition, but it is not known if they are a source of antipathy.

The present study represents the first quantitative examination of naturally occurring peer group antipathies. Peer group antipathy was operationalized as the sum of negative or like-least nominations made by members of each peer group (as actors) toward members of each other peer group (as targets). We employed a novel hierarchical linear modeling approach to examine whether an actor group's antipathy for a target group varied as a function of the attributes of each.

We hypothesized that some antipathies would be driven by dissimilarity that posed a symbolic threat to the peer group. Members of peer groups that reject mainstream school culture (as

reflected in their elevated school burnout scores) were expected to dislike members of peer groups who embrace mainstream school culture (as reflected by their participation in sports and their good school grades), because the identity of the former is predicated on opposition to the latter. Members of groups that embraced mainstream school culture were expected to dislike members of groups that rejected mainstream school culture, although some have suggested that the elite tend not to be overly concerned with the comings and goings of the marginalized, which may attenuate this effect (Eder, 1985). We also hypothesized that some antipathies would be driven by dissimilarity that posed a realistic threat to the peer group. Members of peer groups with few behavior problems were expected to dislike members of peer groups with many behavior problems because of the inconvenience and harm that troubled youth inflict on their companions. Youth from low problem behavior groups pose little threat to youth from high problem behavior groups, so reciprocated antipathy was not anticipated. We did not expect problem behavior to predict antipathy for (or by) peer groups with other salient features because youth in many different peer groups dabble in deviance during mid-adolescence (Farmer, Leung, Rodkin, Cadwallader, Pearl, & van Aker, 2002). Nor did we expect antipathy between those who were dissimilar on school grades, school burnout, or sports participation, because groups who differed on one of these dimensions posed little threat to each other. Finally, we considered the possibility that antipathies may be predicated on rivalries between different mainstream groups who compete for resources and prestige, but we refrained from offering a prediction on this score in the absence of empirical precedent.

Method

Participants

Participants included 309 boys and 291 girls enrolled in the 9th grade in 8 public schools in a small city in central Finland (population 88,000). The median age of participants was 15 (range 14 to 16 years old, $M = 15.0$, $SD = 0.3$). Of this total, 378 (63.0%) lived with both biological parents, 156 (26.0%) lived with one biological parent, 62 (10.3%) lived with a biological parent and a step-parent or significant other, and 4 (0.7%) had other living arrangements. Students were approximately equally distributed across homes with parents who held professional positions, other white collar positions, and blue collar positions. Over 98% of the participants were ethnic Finns who spoke Finnish at home.

Ninth grade is the final year of comprehensive middle school in Finland, after which students are tracked into senior secondary schools or vocational schools. The number of 9th grade students enrolled in these schools ranged from 55 to 186 ($M = 96.6$, $SD = 44.8$). Consistent with Finnish law and with the express approval of school officials, passive consent procedures were employed. All 9th grade students in 8 middle schools were invited to participate ($n = 773$). Student assent was required for participation; parents were notified of the study and could revoke consent. The overall participation rate was 78.1%; across schools, participation rates varied from 70% to 95%.

Instruments and Procedure

Students completed surveys in groups during regular school hours. Trained noninstructional school staff read the directions aloud and remained in the classroom to answer questions during data collection sessions. Students were informed that questionnaires would not be viewed by teachers or parents. To ensure confidentiality; students sealed their questionnaires in envelopes before returning them.

Problem behavior—Students completed a 4-item problem behavior scale (Kiuru, Aunola, Vuori, & Nurmi, 2007) adapted from the Finnish National School Health Survey (Koivusilta, Rimpelä, & Rimpelä, 1998). Items addressed the frequency with which participants smoked

cigarettes, drank alcohol, consumed illicit drugs, and committed illegal acts on scales ranging from 1 (*daily/weekly/several times*) to 5 (*never*). Item scores were reverse, standardized, and averaged. Internal reliability was adequate ($\alpha = .72$).

School burnout—Students completed the 9-item School Burnout Scale (Salmela-Aro, Kiuru, Leskinen, & Nurmi, 2009). Items were rated on a scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Items assess dissatisfaction with, disenfranchisement from, and exhaustion at school (e.g., I feel overwhelmed by my schoolwork). Item scores were averaged. Internal reliability was adequate ($\alpha = .86$).

School grades—Students reported their grade point average during the previous term on a scale ranging from 4 (*unacceptable*) to 10 (*highest passing grade*). Test-retest stability across a 3-year period was high ($r = .92$). Unpublished data from a large, nearby school district suggests that self-reported school grades are highly correlated ($r = .96$) with actual school grades. Correlations slightly smaller in magnitude have been reported in North American samples (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987).

Sports participation—Students completed a leisure time activities scale, adapted from the Finnish National School Health Survey (Koivusilta et al., 1998), which included a measure of participation in organized sports and other forms of regular physical exercise (How often do you participate in sports or exercise during your free time for at least 30 minutes?). The single-item scale ranged from 1 (*several times daily*) to 7 (*not at all*). Scores were reversed. Test-retest stability across a 2-year period was moderate ($r = .56$).

Sociometric nominations—Students completed a standard sociometric inventory (Coie, Dodge, & Coppotelli, 1982), nominating up to three same-grade schoolmates with whom they most liked to spend their time (positive nominations) and up to three same-grade schoolmates with whom they least liked to spend their time (negative nominations). Other sex nominations were permitted. Over 90% of positive nominations involved same-sex peers and 70% of negative nominations involved same-sex peers. *Antipathy* represents the number of negative nominations made; *rejection* represents the number of negative nominations received. T-tests indicated that girls ($M = 1.59, SD = 2.08$) and boys ($M = 1.44, SD = 2.71$) did not differ in terms of rejection scores, but girls ($M = 2.11, SD = 1.25$) had higher antipathy scores than boys ($M = 1.59, SD = 1.37$).

Peer Groups—Peer groups were identified from positive sociometric nominations. Students were classified into either an affiliate group or an isolate group. Affiliate groups were identified from sociograms drawn using reciprocal, unilateral, and indirect links between students attending the same school. A reciprocal link consisted of reciprocated positive nominations between two students. A unilateral link involved an unreciprocated positive nomination from one student to another. An indirect link described two students who did not nominate one another but who shared a reciprocal link with the same student. Affiliate groups were defined as follows (see Kiuru, Aunola, Nurmi, Leskinen, & Salmela-Aro, 2008; Kiuru, Burk, Laursen, Salmela-Aro, & Nurmi, in press): At least 50% of each member's reciprocal and unilateral links included other members of the group; every member of the group was connected to every other member of the group via a reciprocal, unilateral, or indirect link; and each participant in a group received at least one other nomination from another member of the group. Students in more than one affiliate group were assigned to the group in which they had the most links. The criteria used to identify affiliate groups with sociograms are consistent with the clustering algorithms in the NEGOPY (Richards, 1995) and UCINET (Borgatti, Everett, & Freeman, 1999) computer programs previously used to identify adolescent peer cliques (e.g., Ennett & Bauman, 1994; Ryan, 2001). In a separate validation sample, the sociogram approach used in the present study

and UCINET cluster analyses classified students into same affiliate groups almost 90% of the time (Kiuru, et al., 2007).

There were 147 affiliate groups (boys = 70, girls = 68, mixed = 9), which encompassed 83% of the sample (boys = 246, girls = 249). Affiliate groups ranged in size from 2 to 7 ($M = 3.51$, $SD = 1.30$). Female ($M = 3.37$, $SD = 1.24$), male ($M = 3.61$, $SD = 1.34$), and mixed ($M = 4.44$, $SD = 1.24$) affiliate groups were similar in size. Youth who were not in an affiliate group were classified as isolates. One isolate group was created for each school, ranging in size from 6 to 70 ($M = 30.88$, $SD = 23.72$). The ratio of girls to boys in isolate groups was 0.95 to 1.00. From one year to the next, approximately half of the affiliate groups stayed the same or added new members (Kiuru et al., 2008), a figure consistent with previous studies of peer group stability (e.g., Cairns & Cairns, 1994). The proportion of students classified as isolates was similar to that in previous studies (e.g., Ennett & Bauman, 1994; Ryan, 2001), although the average affiliate group size was somewhat smaller, a difference that can probably be traced to restrictions placed on the number of positive nominations allowed in the present study.

There is little consensus about how to classify dyads that are not a part of a larger peer group. Some exclude dyads from analyses or force them into larger groups (e.g., Chen, Chang, & He, 2003; Ellis & Zarbatany, 2007). Others classify dyads as a distinct type of group (e.g., Espelage, Holt, & Henkel, 2003; Kindermann, 2007). Still others classify dyads as affiliate groups only if they meet all of the qualifying criteria for an affiliate group (Ryan, 2001). We adopted the latter approach. Dyadic affiliate groups were somewhat more similar than larger peer groups in terms of school grades, but otherwise there were no mean level or intraclass correlation differences (Kiuru, Nurmi, Aunola, & Salmela-Aro, 2009).

Plan of Analyses

Analyses were conducted in which peer groups served as both actors (nominators) and targets (nominatees). Actors represented the group from which antipathy nominations originated and targets represented the group to which antipathy nominations were directed. Peer group scores for problem behavior, school burnout, school grades, and sports participation were created by averaging scores across individuals in the peer group. Hierarchical linear modeling with HLM 6 (Raudenbush & Bryk, 2002) was used to estimate the degree to which characteristics of an actor group predict the association between characteristics of the target group and the actor group's antipathy for a target group. The Level 1 file described characteristics of target groups and actor group antipathy for target groups. In the Level 1 file, each actor group was paired with each target group in the school on a separate line of data that described (a) characteristics of the target group (i.e., the within-group average on problem behavior, school burnout, school grades, sports participation, and rejection, as well as group size, group ratio of girls to boys, and affiliate/isolate status of group), and (b) the total number of negative nominations that youth in the actor group made for youth in the target group (i.e., the actor group's antipathy score for the target group). The Level 2 file described characteristics of actor groups (i.e., within-group average on problem behavior, school burnout, school grades, sports participation, and rejection, as well as group size, group ratio of girls to boys, and affiliate/isolate status of group) on a separate line of data for each group.

A two-level hierarchical linear model was fit to the data. First, an unconditional model provided estimates of the between- and within-group variance in antipathy scores. The dependent variable in the unconditional analyses was the actor group's antipathy for target groups. Second, a Level 1 random effects model determined the association between each of the Level 1 predictor variables (i.e., the within-group average of target group problem behavior, school burnout, school grades, and sports participation) and the actor group's antipathy for the target group. This analysis examined whether characteristics of a target group predict the actor group's antipathy for the target group. This analysis also examined whether Level 1 effects were fixed

or random. The predictor variables in the Level 1 analyses were characteristics of the target group; the dependent variable was the actor group's antipathy for the target group. In this analysis, the coefficient of the slope of association between the predictor variable and the outcome variable describes the extent to which variations in target group characteristics (i.e., the within-group average of problem behavior, school burnout, school grades, and sports participation) account for variations in actor group disliking for target groups (i.e., the number of negative nominations made by an actor group for participants in the target group). Third, a Level 2 model determined the variability in Level 1 slopes across Level 2 groups. This analysis examined whether characteristics of an actor group predict the association between the target group's characteristics and the actor group's antipathy for a target group. The predictor variables in the Level 2 analyses were characteristics of the actor group; the dependent variables were the associations between characteristics of the target group and the actor groups' antipathy for the target group. In these models, characteristics of actor groups (i.e., the within-group average of actor group problem behavior, school burnout, school grades, and sports participation scores) predicted the degree to which target group characteristics (i.e., the within-group average of target group problem behavior, school burnout, school grades, and sports participation scores) were linked to the number of negative nominations made by an actor group for participants in the target group. Each model included a random intercept. Group characteristics were centered around their grand mean. Models are specified in the Appendix.

Four control variables were included in the Level 1 and Level 2 models. First, we controlled for the number of participants in a target group because larger groups make and receive more nominations than smaller groups. Second, we controlled for the ratio of girls to boys in the target group because some affiliate groups and all isolate groups included both. Third, we controlled for target group rejection to rule out the possibility that the results are due to the presence of unpopular children. Finally, we controlled for the affiliate/isolate status of the target group to ensure that the findings were not being driven by unique characteristics of isolates. The Level 1 residuals for each of these variables were set to zero. The same statistically significant results emerged when these control variables were omitted.

The Level 2 model tested hypotheses about group antipathies. We expected group antipathies on the basis of dissimilarity and threat. Hypotheses concerning antipathy between groups characterized by high levels of school burnout and groups characterized by good grades in school or engagement in sports were operationalized as follows: School burnout at Level 2 should positively predict associations between (a) Level 1 school grades and actor group antipathy for target groups, and (b) Level 1 sports participation and actor group antipathy for target groups. Conversely, school grades at Level 2 should positively predict associations between Level 1 school burnout and actor group antipathy for target groups, and sports participation at Level 2 should positively predict associations between Level 1 school burnout and actor group antipathy for target groups. Hypotheses concerning antipathy between groups characterized by high levels of problem behavior and groups characterized by low levels of problem behavior were operationalized as follows: Problem behavior at Level 2 should inversely predict associations between Level 1 problem behavior and actor group antipathy for target groups.

Concerns that individuals in isolate groups may receive negative nominations for reasons that differ from those for individuals in affiliate groups prompted us to rerun analyses omitting isolates. Concerns that two-person groups differ from larger groups prompted us to rerun the analyses omitting all two-person groups. Additional analyses included parent occupation as a control variable for the subsample of youth for whom this information was available. With few exceptions (noted below), the same pattern of statistically significant results emerged. Analyses were rerun so that the Level 2 model included all possible combinations of problem behavior, school burnout, school grades, and sports participation as Level 1 predictors and Level 2

outcomes (instead of only using the variable combinations with hypothesized associations). The findings indicated that the hypothesized model captured all statistically significant associations.

Moderator analyses were conducted. Separate models included 2-way interactions between problem behavior, school burnout, school grades, and sports participation at both Level 1 and Level 2. Additional analyses examined 2-way interactions at Level 1 and Level 2 between each of these variables and (a) the proportion of girls to boys in the group and (b) friendship/isolate group status. There were no statistically significant interactions.

Mutual antipathies (i.e., dyads with reciprocal negative nominations) were identified ($n = 36$ dyads). Table 1 describes intraclass correlations between participants in mutual antipathies. Inverse correlations emerged such that participants in mutual antipathies tended to be dissimilar on problem behavior and on school grades. In addition, higher school grades in one partner were associated with more problem behavior and more school burnout in the other partner. Concerns that reciprocated dyadic antipathies may be responsible for group antipathies prompted us to rerun the analyses omitting one member of these dyads from the Level 1 and Level 2 files. With one exception (noted below), the same pattern of statistically significant results emerged.

Results

Preliminary Analyses

Separate 3 (sex of group: boys, girls, mixed) by 2 (peer group: affiliates, isolates) ANOVAs revealed sex differences on school burnout, $F(2, 151) = 10.39, p < .001$, and sports participation, $F(2, 151) = 8.08, p < .001$. Boys' groups had lower levels of school burnout and higher levels of sports participation than girls' groups and mixed groups.

Correlations were conducted between individuals and the average scores of others in the group. These child-group correlations were significant for each variable (see Table 2). In addition, there were modest but statistically significant ($p < .05$) correlations between variables at the individual level. Positive associations emerged between problem behavior and school burnout ($r = .21$) and between school grades and sports participation ($r = .18$). Problem behavior and school burnout were inversely associated with sports participation ($r = -.09$ to $-.14$) and school grades ($r = -.15$ to $-.29$).

Predicting Antipathy of Target Groups from Actor Group Characteristics

Unconditional model—An unconditional model determined whether levels of antipathy differed across actor groups. The intercept was statistically significant (coefficient effect = 0.3197, $SE = 0.0208, t = 15.34, p < .001$) and the test of randomness indicated group differences in actor group antipathy for target groups ($T = 0.0249, E^2 = 0.8554, \chi^2 = 270.69, p < .001$).

Level 1 model—The Level 1 random effects model determined whether target group characteristics predicted actor group antipathy for the target group. Statistically significant findings emerged for two of the fixed effect control variables (group rejection: coefficient effect = 0.0532, $SE = 0.0046, t = 11.47, p < .001$; and group size: coefficient effect = -0.0188, $SE = 0.0056, t = -3.33, p = .001$). The findings indicate that groups that received more negative nominations made more negative nominations and larger groups received fewer negative nominations. (Here and in the Level 2 model below, group size was not statistically significant when isolate groups were omitted.) There were no statistically significant effects for problem behavior, school burnout, school grades, sports participation, affiliate/isolate status of group, or the ratio of girls to boys in the group.

Level 2 model—The Level 2 model determined whether actor group characteristics predicted the association between target group characteristics and actor group antipathy for the target group. Table 3 summarizes the results. All of the control variables were associated with actor group antipathy for the target group, except for the proportion of girls to boys in the target group.

Actor group school grades predicted an association between target group school burnout and actor group antipathy for the target group; the higher the actor group's school grades the stronger the link between target group school burnout and actor group antipathy for the target group. (This finding dropped to borderline significance when one member of each mutual antipathy dyad and when isolates were omitted from the analyses.) As illustrated in Figure 1, there was a positive association between target group school burnout and actor group antipathy for target groups among youth in actor groups with above average school grades (+1 *SD*), and a negative association among youth in actor groups with below average school grades (-1 *SD*).

Actor group problem behavior predicted an association between target group problem behavior and actor group antipathy for the target group; the lower the actor group's problem behavior the stronger the link between target group problem behavior and actor group antipathy for the target group. As illustrated in Figure 2, there was a positive association between target group problem behavior and actor group antipathy for target groups among youth in actor groups with below average problem behavior (-1 *SD*), and a negative association among youth in actor groups with above average problem behavior (+1 *SD*).

Actor group school grades predicted an association between target group sports participation and actor group antipathy for the target group; the higher the actor group's school grades the stronger the link between target group sports participation and actor group antipathy for the target group. As illustrated in Figure 3, there was a stronger association between target group sports participation and actor group antipathy for target groups among youth in actor groups with above average school grades (+1 *SD*) than in youth in actor groups with below average school grades (-1 *SD*). (This finding dropped to borderline significance when two-person groups and isolate groups were omitted from analyses.) Actor group school burnout predicted an association between target group sports participation and actor group antipathy for the target group; the higher the actor group's school burnout the stronger the link between target group sports participation and actor group antipathy for the target group. As illustrated in Figure 4, there was a positive association between target group sports participation and actor group antipathy for target groups among youth in groups with above average burnout (+1 *SD*), and a negative association among youth in groups with below average burnout (-1 *SD*).

Actor group school burnout predicted an association between target group school grades and actor group antipathy for the target group; the higher the actor group's school burnout the stronger the link between target group school grades and actor group antipathy for the target group. As illustrated in Figure 5, there was a stronger association between target group school grades and actor group antipathy for target groups among youth in actor groups with above average burnout (+1 *SD*) than among youth in actor groups with below average burnout (-1 *SD*).

Discussion

Antipathies between middle school peer groups tended to center on antithetical attributes. Members of peer groups that rejected the mainstream school culture disliked those who embraced it. Thus, groups of youth burned out on school disliked groups whose members excelled in school and groups whose members participated in sports. Returning the sentiment, academically successful peer groups disliked members of burned-out groups. Problem

behavior was also a source of group antipathy. Groups whose members reported few problem behaviors disliked groups whose members reported many problem behaviors. These findings are consistent with the hypothesis that student peer groups vary in the extent to which they fit into the mainstream school culture and that there is animosity between those who embrace conventional norms and those who do not.

Popular images of contemporary schools depict tension between mainstream groups vying for influence and approval. We found some evidence of this rivalry: Groups whose members did well in school disliked those who participated in sports. Our findings suggest that the academically inclined may resent (or envy) those whose status derives from participation in athletics. These findings should be interpreted with caution, however, because they were attenuated when isolate groups and two-member groups were removed from analyses and because our single-item measure of sports participation included those who exercised daily.

Most group antipathies were grounded in dissimilarity, not similarity. These results are consistent with claims derived from the reflective distinctiveness hypothesis (Spears et al., 2002) and run counter to claims derived from the reactive distinctiveness hypothesis (Tajfel & Turner, 1979). There were no instances of antipathy between groups high on the same traits. Instead, antipathies arose between groups who were high on dissimilar traits and between groups who were high or low on the same trait. Not all dissimilarities fostered enmity. Instead, antipathies seemed to be reserved for out-groups that posed a threat to the in-group. In most cases, the threat was symbolic, such as when burnout youth rejected the academic values espoused by those in the mainstream school culture. But in at least one instance, the out-group may have also posed a real threat to the in-group, assuming that those with few behavior problems shunned those with many because of the antisocial tendencies of the latter. Taken together, the findings suggest that peer group antipathies thrive on differences and misgivings about different others.

Eckert's (1989) ethnographic research led us to predict that antipathies between mainstream and oppositional school groups would be reciprocated. This prediction held when mainstream groups were defined in terms of school grades, but sports participation groups did not return the antipathy directed toward them by school burnout groups. Some may see this as evidence that antipathies vary as a function of subgroup identity. Youth who participate in sports may identify less with mainstream culture than youth with good grades and participation in some sports activities may be more closely aligned with mainstream culture than others. Some may see the results as evidence that sports participation groups neither define themselves with reference to burnout groups nor perceive youth in burnout groups as a threat. This may be related to the fact that clubs, not schools, are the primary context for team sports in Finland; North American youth who participate in school-based sports may be more inclined to dislike youth in burnout groups. Others may see the results as an anomaly arising from our incomplete measure of sports participation. A more comprehensive assessment should reduce measurement error and, with it, the chances of Type II error. Still others may see the results as a product of a specific methodology. Ethnographic studies may tap group norms that guide intergroup interactions. In contrast, sociometric techniques may capture the private feelings of individuals, which may in some instances be at odds with publicly proclaimed group attitudes.

Unique to the present study is the intuitive finding that youth from low problem behavior groups disliked youth from high problem behavior groups. Ethnographic studies have not reported this phenomenon, probably because it is not as salient as other rivalries. There are plenty of reasons to dislike groups characterized by high levels of problem behavior, starting with the fact that exchanges with troubled children are more coercive and less rewarding than exchanges with well-adjusted peers (Vitaro, Tremblay, Kerr, Pagani, & Bukowski, 1997). Troubled children have no similar incentive to avoid their better behaved peers and, in fact, they may

experience pressure from teachers and parents to do the opposite. These findings might also reflect antipathies tied to differences in peer acceptance. Ethnographic studies suggest that although popular youth go to great lengths to exclude members of lower status youth from their friendship cliques, the latter welcome participation by the former (Adler & Adler, 1998); sociometric studies, however, find no evidence that low accepted children have an affinity for high accepted children (Nangle, Erdley, & Gold, 1996). Consistent with other studies of group composition and membership (e.g., Kindermann & Skinner, 2009), we could not disentangle acceptance and rejection from peer groups and their antipathies. In the present study, groups were constructed from the same nominations required to gauge acceptance, and antipathies were assessed using the same nominations required to gauge rejection.

The findings have important implications for our understanding of the origins of middle school peer group antipathy. Some ethnographers describing peer group rivalries in the United States (e.g., Eckert, 1989) and the United Kingdom (e.g., Willis, 1977) interpret their findings as evidence of a class struggle, with mainstream youth representing the middle class and oppositional youth representing the lower or working class. This explanation is not well suited to Finland, which is widely regarded as an egalitarian society that minimizes class distinctions. Furthermore, such claims are not consistent with the empirical evidence: The same pattern of results emerged when we controlled for parent occupation. We do not mean to suggest that social class is irrelevant to peer group tensions; social class pervades all manner of relationships and social interactions (Hoff, Laursen, & Tardif, 2002). But our findings suggest that other factors are at work. One promising alternative is the institutional structure and culture of the school itself, where status is allocated according to a code that makes distinctions among students in terms of their capacity to secure the approval of adults who represent the mainstream culture (Elmore, 2009). Academic performance is strongly emphasized during middle school, as is compliance with the demands of teachers; students who learn these skills are rewarded with privileges and esteem. Adolescent friendships and peer groups form on the basis of reputation salience, which promotes affiliation with similar peers (Hartup, 1993). This increases the homogeneity of peer groups on key school related variables, reinforcing the oppositional or mainstream identities of participants, and amplifying animosity between those who seeking to preserve their privileged status and those who think status distinctions are unfair and unwarranted.

We note several limitations. Our results aggregated individual antipathy nominations received by the group; we did not measure antipathy directed toward the group as a collective. Peer groups were derived from nominations of preferred affiliates and not nominations of friends, *per se*. Affiliation preferences may be an overly inclusive means of identifying peer groups, which may increase the heterogeneity of the group and undercut the magnitude of effects. Affiliation preferences may also overstate actual affiliation practices. This problem may be offset by the fact that students were limited to three positive nominations, which narrowed affiliate groups to closest friends, decreased group size, and increased within-group homogeneity. Students were also limited to three negative nominations. Most students did not use their full allotment, but nevertheless, constraints on the number of nominations limited the variance in antipathy scores. The negative nominations did not specifically index disliking, but rather least preferred affiliates. As a consequence, some of the sentiments expressed may not rise to the level of antipathy. Interests and activities were described in self-reports; peer perceptions were unavailable. Differences between self and other reports often signal troubled friendships (Burk & Laursen, 2005), and they may do the same for antipathies. School grades and sports participation were single-item variables. Elevated error variance for these variables may have attenuated results, suggesting effects larger than those reported here. The same is true for the use of nonpreferred affiliate nominations to measure antipathy. Finally, Finish students enter into academic and vocational tracks starting in the 10th grade. Anticipation of this transition may have contributed to the sense of burnout experienced by some students.

Care should be taken when generalizing our findings to samples that do not similarly track students.

Hierarchical linear modeling brings several strengths to the study of peer group antipathies. Variables were included to control for factors that might be confounded with characteristics linked to antipathy. For instance, we controlled for the overall number of negative nominations a group received, a conservative but necessary approach to disentangling antipathy from rejection. In so doing we were able to overcome one of the prime obstacles to this line of research, namely that antipathies are both unusual (reciprocated enmity between groups is not common) and unique (antipathies have multiple origins). But the approach is not without limitations. Using the same groups at Level 1 and at Level 2 raises the possibility of nesting interdependencies, which could potentially inflate or deflate the overall level of antipathy, although it is not clear that it would alter specific patterns of antipathy associated with different group characteristics. Despite the fact that they do not represent affiliate groups in the conventional sense of the term, we included isolates and two-person peer groups in the analyses because the systematic loss of a sizable proportion of classmates compromises sociometric findings and limits the generalizability of the results (Hymel, Vaillancourt, McDougall, & Renshaw, 2002). Controls for group size and isolate group status represent an effective (and conservative) strategy for protecting against their potential confound with group antipathy. For this reason, we interpret the change in findings from statistically significant when group size and isolate group status were controlled to borderline statistical significance when isolates and dyads were omitted in terms of diminished power arising from the elimination of up to 17% of the sample. We found no evidence of statistical moderation, but null findings should be interpreted with caution because power to detect higher order interactions was limited.

A central tenet of this study is that group antipathies emerge in a manner similar to that of dyadic antipathies. Correlations confirmed that members of dyads with reciprocated negative nominations were dissimilar in many respects. As was the case for groups, differences, rather than similarities, drive antipathies. Most of the findings concerned school grades; results suggest that antipathies involved one partner who was high or low on academic achievement and another who was similarly high or low on school burnout and problem behavior. Antipathies also appeared to include dyads in which one partner was high one school grades and the other was low, and dyads in which one partner was high on problem behavior and the other was low. Analyses removing one member of each dyad involved in a reciprocated antipathy indicate that group level antipathies are not a product of dyadic antipathies, although it is clear that more focused analyses are needed to disentangle group-level processes from individual-level processes. In a related vein, we could not address network centrality or the relative contributions of each member of a peer group, but it may well be the case that antipathy directed toward a group is driven by characteristics of core or high status group members, an observation that points to the importance of assessing factors that distinguish between members of groups as well as those that distinguish between groups.

Group antipathies loom large during the middle school years. Some adults dismiss them as a passing phase of little consequence. But their significance should not be underestimated. Group antipathies may be the impetus for hostilities that result in physical or emotional harm. Group antipathies may play an important role in adolescent identity formation, enforcing group boundaries that prevent affiliation with peers who think and act differently. As such, antipathies help to define who adolescents are by demarcating who and what they are not. Finally, group antipathies may help define the climate of learning in a school. Dissent between those who embrace the school culture and those who do not undermines the attitudes and discourages the efforts of students and teachers alike.

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Appendix

Unconditional Model

$$\text{Actor Group Antipathy for Target Groups} = \beta_0 (\text{intercept}) + r$$

Level 1 Model

Association Between Target Group Characteristics and Actor Group Antipathy for Target Group = β_0 (intercept) + β_1 (rejection score of target group) + β_2 (size of target group) + β_3 (ratio of girls to boys in target group) + β_4 (affiliate/isolate status of target group) + β_5 (school burnout of target group) + β_6 (problem behavior of target group) + β_7 (sports participation of target group) + β_8 (school grades of target group) + r

Level 2 model

Level 1

Association Between Target Group Characteristics and Actor Group Antipathy for Target Group = β_0 (intercept) + β_1 (rejection score of target group) + β_2 (size of target group) + β_3 (ratio of girls to boys in target group) + β_4 (affiliate/isolate status of target group) + β_5 (school burnout of target group) + β_6 (problem behavior of target group) + β_7 (sports participation of target group) + β_8 (school grades of target group) + r

Level 2

$$\beta_0 = \gamma_{00} + \mu_0$$

$$\beta_1 = \gamma_{10} (\text{rejection score of target group}) + \mu_1$$

$$\beta_2 = \gamma_{20} (\text{size of target group}) + \mu_2$$

$$\beta_3 = \gamma_{30} (\text{ratio of girls to boys in target group}) + \mu_3$$

$$\beta_4 = \gamma_{40} (\text{affiliate/isolate status of target group}) + \mu_4$$

$$\beta_5 = \gamma_{50} (\text{school burnout of target group}) + \gamma_{51} (\text{school grades of actor group}) + \gamma_{52} (\text{sports participation of actor group}) + \mu_5$$

$$\beta_6 = \gamma_{60} (\text{problem behavior of target group}) + \gamma_{61} (\text{problem behavior of actor group}) + \mu_6$$

$$\beta_7 = \gamma_{70} (\text{sports participation of target group}) + \gamma_{71} (\text{school grades of actor group}) + \gamma_{72} (\text{school burnout of actor group}) + \mu_7$$

$$\beta_8 = \gamma_{80} (\text{school grades of target group}) + \gamma_{81} (\text{school burnout of actor group}) + \gamma_{82} (\text{sports participation of actor group}) + \mu_8$$

References

- Abecassis, M. I hate you just the way you are: Exploring the formation, maintenance, and need for enemies. In: Hodges, EVE.; Card, N., editors. *Enemies and the darker side of peer relations* New Directions for Child and Adolescent Development. San Francisco: Jossey-Bass; 2003. p. 5-22.
- Adams RE, Laursen B. The correlates of conflict: Disagreement is not necessarily detrimental. *Journal of Family Psychology* 2007;21:445–458. [PubMed: 17874930]
- Adler, PA.; Adler, P. *Peer power: Preadolescent culture and identity*. New Brunswick, NJ: Rutgers University Press; 1998.
- Bigler RS, Brown CS, Markell M. When groups are not created equal: Effects of group status on the formation of intergroup attitudes in children. *Child Development* 2001;72:1151–1162. [PubMed: 11480939]
- Borgatti, SM.; Everett, G.; Freeman, LC. *UCINET V for Windows: Software for social network analysis, Version 5.2.01*. Natick, MA: Analytic Technologies; 1999.
- Brewer MB. The importance of being we: Human nature and intergroup relations. *American Psychologist* 2007;62:728–738.
- Brown, BB.; Dietz, EL. Informal peer groups in middle childhood and adolescence. In: Rubin, KH.; Bukowski, WM.; Laursen, B., editors. *Handbook of peer interactions, relationships, and groups*. New York: Guilford; 2009. p. 361-376.
- Brown, BB.; Larson, J. Peer relationships in adolescence. In: Lerner, RM.; Steinberg, L., editors. *Handbook of adolescent psychology: Vol 2 Contextual influences on adolescent development*. 3rd. New York: Wiley; 2009. p. 74-103.
- Bukowski, WM.; Hoza, B. Popularity and friendship: Issues in theory, measurement, and outcomes. In: Berndt, TJ.; Ladd, GW., editors. *Peer relations in child development*. New York: Wiley; 1989. p. 15-45.
- Burk WJ, Laursen B. Adolescent perceptions of friendship and their associations with individual adjustment. *International Journal of Behavioral Development* 2005;29:156–164. [PubMed: 18509518]
- Cairns, RB.; Cairns, BD. *Lifelines and risks: Pathways of youth in our time*. New York: Cambridge University Press; 1994.
- Card, NA.; Hodges, EVE. Parent-child relationships and enmity with peers: The role of avoidant and preoccupied attachment. In: Hodges, EVE.; Card, NA., editors. *Enemies and the darker side of peer relations* New Directions for Child and Adolescent Development. San Francisco: Jossey-Bass; 2003. p. 23-37.
- Card NA, Hodges EVE. Victimization within mutually antipathetic peer relationships. *Social Development* 2007;16:479–496.
- Chen X, Chang L, He Y. The peer group as a context: Mediating and moderating effects on relations between academic achievement and social functioning in Chinese children. *Child Development* 2003;74:710–727. [PubMed: 12795386]
- Clark, B. *Educating the expert society*. San Francisco: Chandler; 1962.
- Coie JD, Dodge KA, Coppotelli H. Dimensions and types of social status: A cross-age perspective. *Developmental Psychology* 1982;18:557–570.
- Coleman, JS. *The adolescent society*. New York: Glencoe; 1961.
- Dornbusch SM, Ritter PL, Leiderman PH, Roberts DF, Fraleigh MJ. The relation of parenting style to adolescent school performance. *Child Development* 1987;58:1244–1257. [PubMed: 3665643]
- Eckert, P. *Jocks and burnouts: Social categories and identity in the high school*. New York: Teachers College Press; 1989.
- Eder D. The cycle of popularity: Interpersonal relations among female adolescents. *Sociology of Education* 1985;58:154–165.
- Ellis WE, Zarbatany L. Peer group status as a moderator of group influence on children's deviant, aggressive, and prosocial behavior. *Child Development* 2007;78:1240–1254. [PubMed: 17650136]
- Elmore, RF. Schooling adolescents. In: Lerner, RM.; Steinberg, L., editors. *Handbook of adolescent psychology: Vol 2 Contextual influences on adolescent development*. 3rd. New York: Wiley; 2009. p. 193-227.

- Ennett ST, Bauman KW. The contribution of influence and selection to adolescent peer group homogeneity: The case of adolescent cigarette smoking. *Journal of Personality and Social Psychology* 1994;67:653–663. [PubMed: 7965611]
- Espelage DL, Holt MK, Henkel RR. Examination of peer-group contextual effects on aggression during early adolescence. *Child Development* 2003;74:205–220. [PubMed: 12625446]
- Farmer TL, Leung M, Rodkin PC, Cadwallader TW, Pearl R, van Aker R. Deviant or diverse peer groups? The peer affiliations of aggressive elementary students. *Journal of Educational Psychology* 2002;94:611–620.
- Hartup, WW. Adolescents and their friends. In: Laursen, B., editor. *Close friendships in Adolescence New Directions for Child Development*. San Francisco: Jossey-Bass; 1993. p. 3-22.
- Hoff, E.; Laursen, B.; Tardif, T. Socioeconomic status and parenting. In: Bornstein, MH., editor. *Handbook of parenting: Vol 2: Biology and ecology of parenting*. 2nd. Mahwah, NJ: Erlbaum; 2002. p. 231-252.
- Hollingshead, AB. *Elmtown's youth*. New York: Wiley; 1949.
- Hymel, S.; Vaillancourt, T.; McDougall, P.; Renshaw, PD. Peer acceptance and rejection in childhood. In: Smith, PK.; Hart, CH., editors. *Blackwell handbook of childhood social development*. Malden, MA: Blackwell; 2002. p. 265-284.
- Kindermann TA. Effects of naturally existing peer groups on changes in academic engagement in a cohort of sixth graders. *Child Development* 2007;78:1186–1203. [PubMed: 17650133]
- Kindermann T, Skinner E. How do naturally existing peer groups shape children's academic development during sixth grade? *European Journal of Developmental Science* 2009;3:27–38.
- Kiuru N, Aunola K, Nurmi JE, Leskinen E, Salmela-Aro K. Peer group influence and selection in adolescents' school burnout: A longitudinal study. *Merrill-Palmer Quarterly* 2008;54:23–55.
- Kiuru N, Aunola K, Vuori J, Nurmi JE. The role of peer groups in adolescents' educational expectations and adjustment. *Journal of Youth and Adolescence* 2007;36:995–1009.
- Kiuru N, Burk WJ, Laursen B, Salmela-Aro K, Nurmi JE. Pressure to drink but not to smoke: Disentangling selection and socialization in adolescent peer networks and peer groups. *Journal of Adolescence*. in press.
- Kiuru N, Nurmi JE, Aunola K, Salmela-Aro K. Peer group homogeneity in adolescents' school adjustment varies according to peer group type and gender. *International Journal of Behavioral Development* 2009;33:65–76.
- Koivusilta L, Rimpelä A, Rimpelä M. Health related lifestyle in adolescence predicts adult educational level: A longitudinal study from Finland. *Journal of Epidemiology and Community Health* 1998;52:794–801. [PubMed: 10396520]
- Larkin, RW. *Suburban youth in cultural crisis*. New York: Oxford University Press; 1979.
- Laursen B, Bukowski WM, Aunola K, Nurmi JE. Friendship moderates prospective associations between social isolation and adjustment problems in young children. *Child Development* 2007;78:1395–1404. [PubMed: 17650145]
- Nangle DW, Erdley CA, Gold JA. A reflection on the popularity construct: The importance of who likes or dislikes a child. *Behavior Therapy* 1996;27:337–352.
- Nangle DW, Erdley CA, Zeff KR, Stanchfield LL, Gold JA. Opposites do not attract: Social status and behavioral-style concordances and discordances among children and the peers who like or dislike them. *Journal of Abnormal Child Psychology* 2004;32:425–434. [PubMed: 15305547]
- Peets K, Hodges EVE, Kikas E, Salmivalli C. Hostile attributions and behavioral strategies in children: Does relationship type matter? *Developmental Psychology* 2007;43:889–900. [PubMed: 17605522]
- Raudenbush, SW.; Bryk, AS. *Hierarchical linear models Applications and data analysis methods*. New York: Sage; 2002.
- Richards, WR. NEGOPY 4.30. Simon Fraser University; Brunaby, BC, Canada: 1995.
- Rosenbaum ME. The repulsion hypothesis: On the nondevelopment of relationships. *Journal of Personality and Social Psychology* 1986;51:1156–1166.
- Ryan AM. The peer group as a context for the development of young adolescent motivation and achievement. *Child Development* 2001;72:1135–1150. [PubMed: 11480938]

- Salmela-Aro K, Kiuru N, Leskinen E, Nurmi JE. School-Burnout Inventory (SBI): Reliability and validity. *European Journal of Psychological Assessment* 2009;25:48–57.
- Sherif, M.; Harvey, OJ.; White, BJ.; Hood, WR.; Sherif, CW. *Intergroup conflict and cooperation: The Robbers Cave experiment*. Norman, OK: University of Oklahoma; 1961.
- Spears, R.; Jetten, J.; Scheepers, D. Distinctiveness and the definition of collective self. In: Tesser, A.; Stapel, A.; Wood, J., editors. *Self and motivation: Emerging psychological perspective*. Washington, DC: American Psychological Association; 2002. p. 147-171.
- Stephan, WG.; Stephan, CW. An integrated threat theory of prejudice. In: Oskamp, S., editor. *Reducing prejudice and discrimination*. Mahwah, NJ: Erlbaum; 2000. p. 23-45.
- Tajfel, H.; Turner, JC. An integrative theory of intergroup conflict. In: Austin, W.; Wrochel, S., editors. *Social psychology of intergroup relations*. Chicago: Nelson; 1979. p. 33-47.
- Vitaro F, Tremblay RE, Kerr M, Pagani L, Bukowski WM. Disruptiveness, friends' characteristics, and delinquency in early adolescence: A test of two competing models of development. *Child Development* 1997;68:676–689. [PubMed: 9306646]
- Wentzel, KR. Peers and academic functioning at school. In: Rubin, KH.; Bukowski, WM.; Laursen, B., editors. *Handbook of peer interactions, relationships, and groups*. New York: Guilford; 2009. p. 531-547.
- Willis, PE. *Learning to labour*. Farnborough, England: Saxon House; 1977.
- Witkow MR, Bellmore AD, Nishina A, Juvonen J, Graham S. Mutual antipathies during early adolescence: More than just rejection. *International Journal of Behavioral Development* 2005;29:209–218.

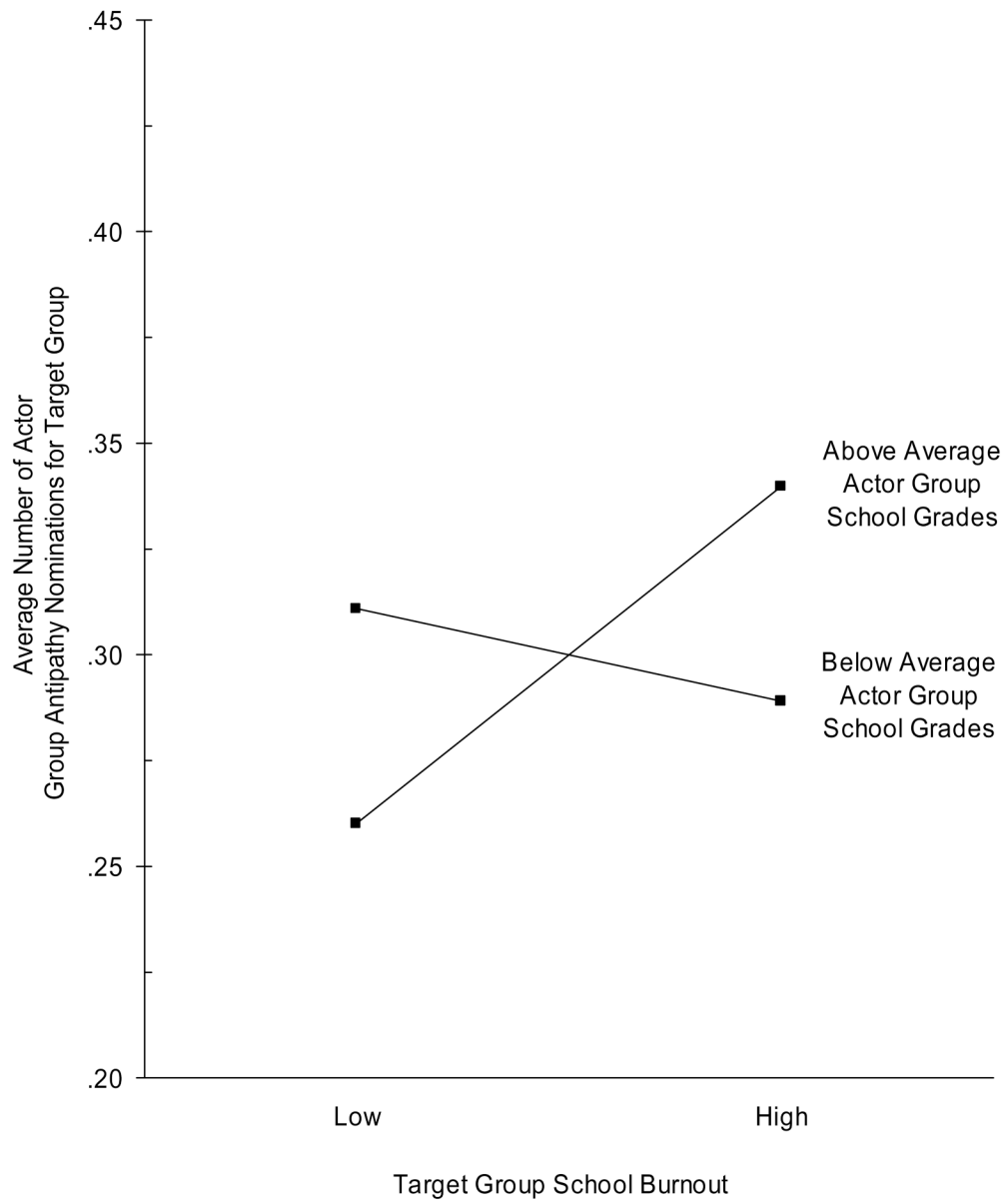


Figure 1. Slope of Association Between Target Group School Burnout and Actor Group Antipathy for Target Group as a Function of Actor Group School Grades

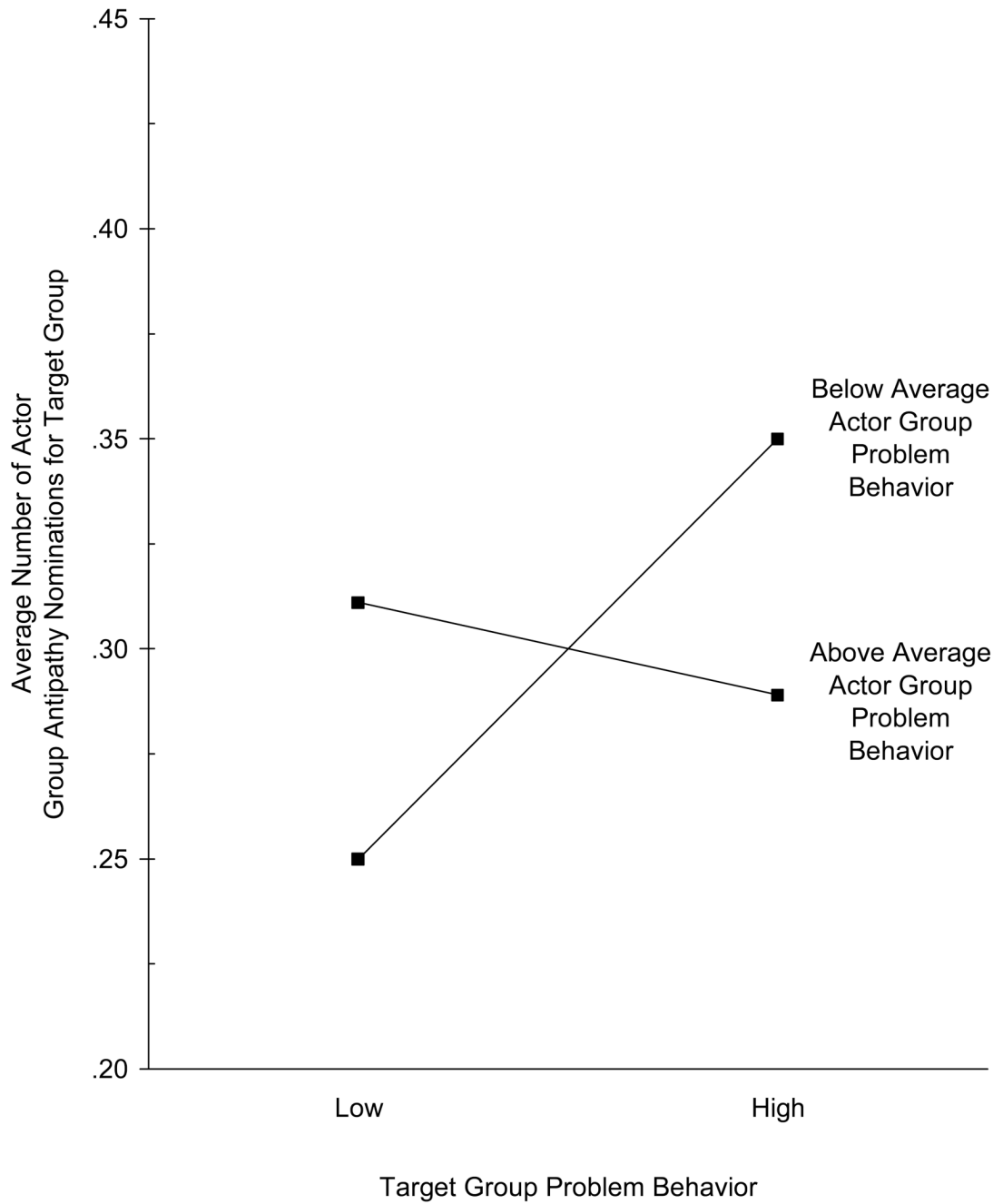


Figure 2. Slope of Association Between Target Group Problem Behavior and Actor Group Antipathy for Target Group as a Function of Actor Group Problem Behavior

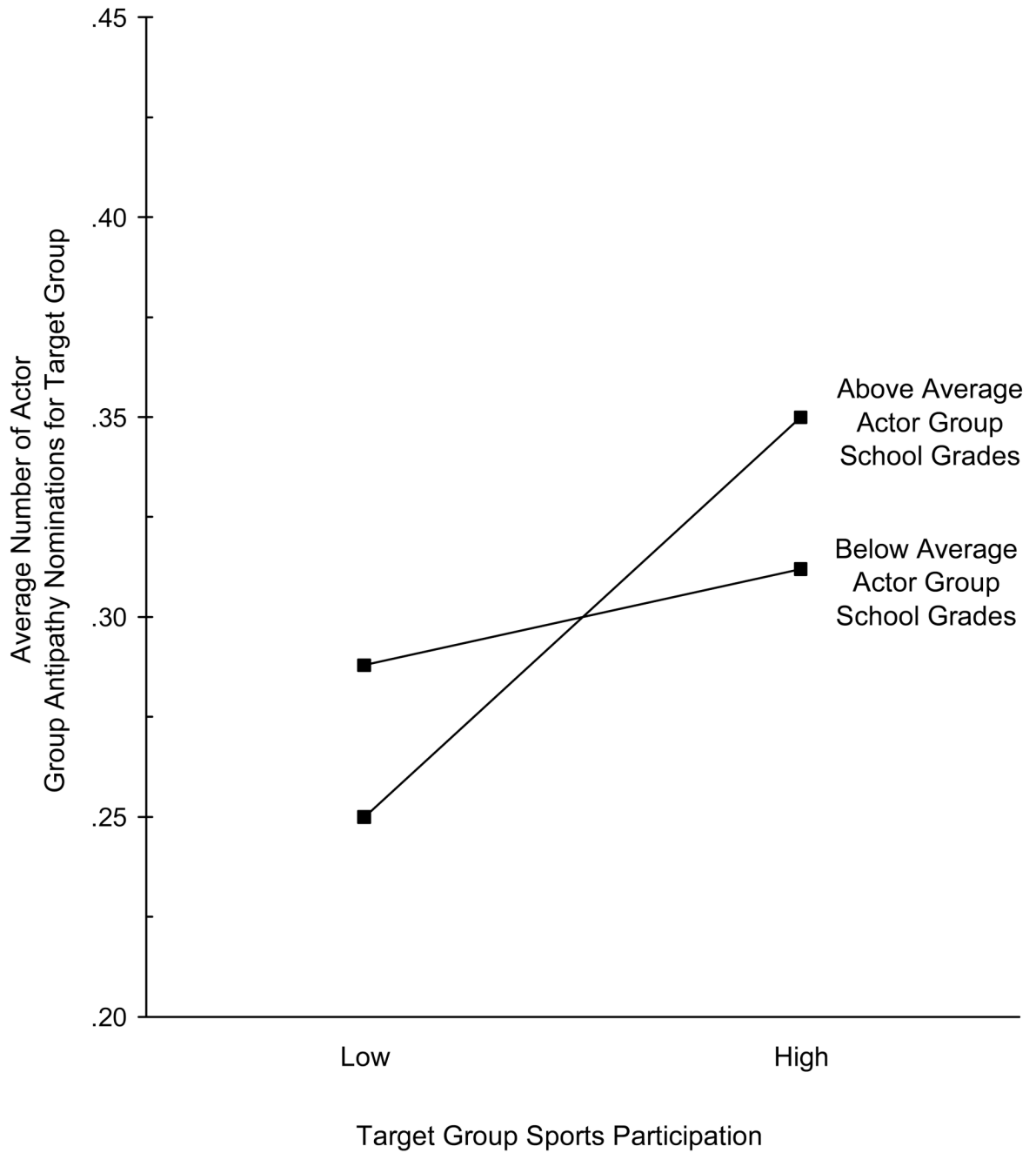


Figure 3. Slope of Association Between Target Group Sports Participation and Actor Group Antipathy for Target Group as a Function of Actor Group School Grades

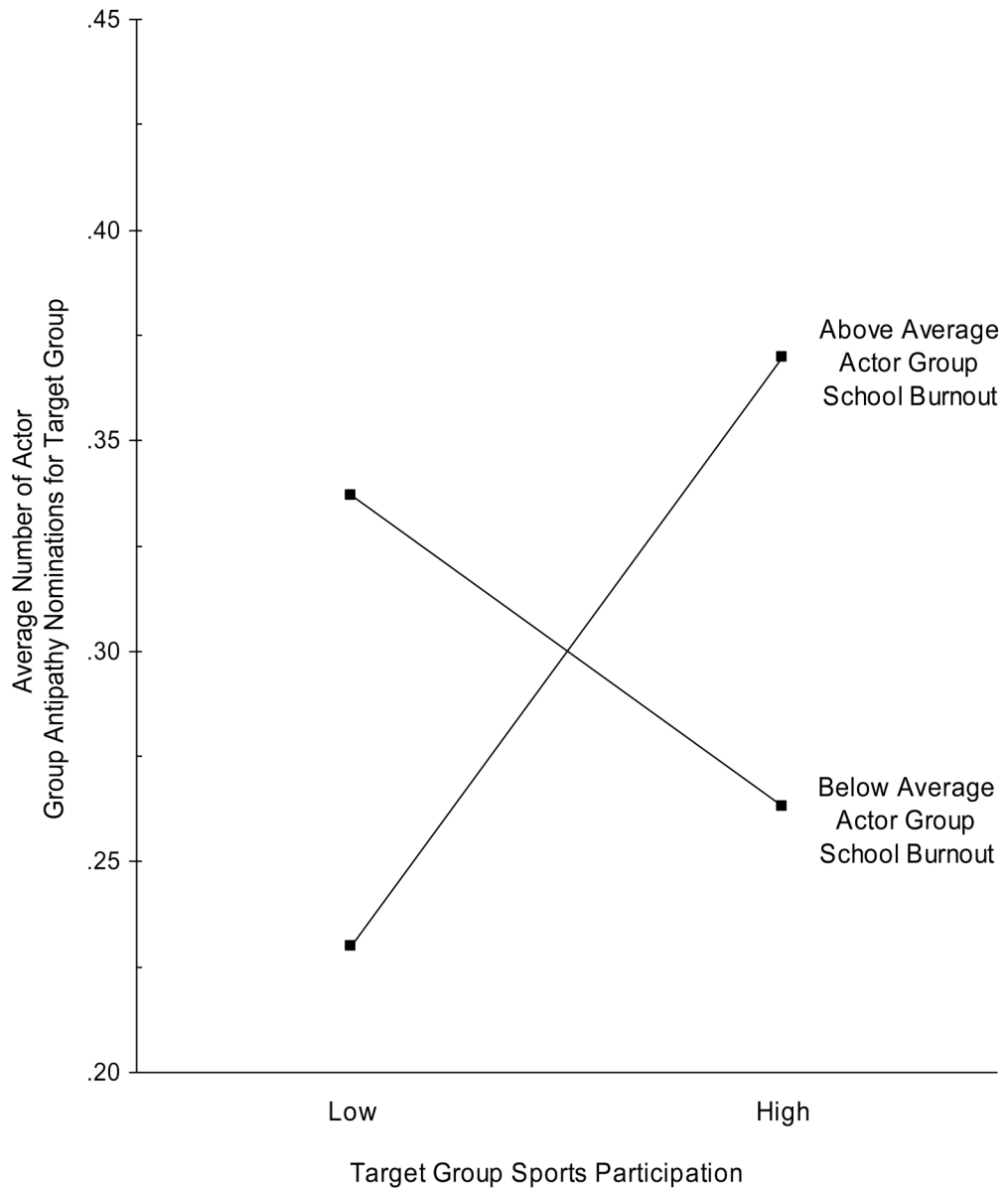


Figure 4. Slope of Association Between Target Group Sports Participation and Actor Group Antipathy for Target Group as a Function of Actor Group School Burnout

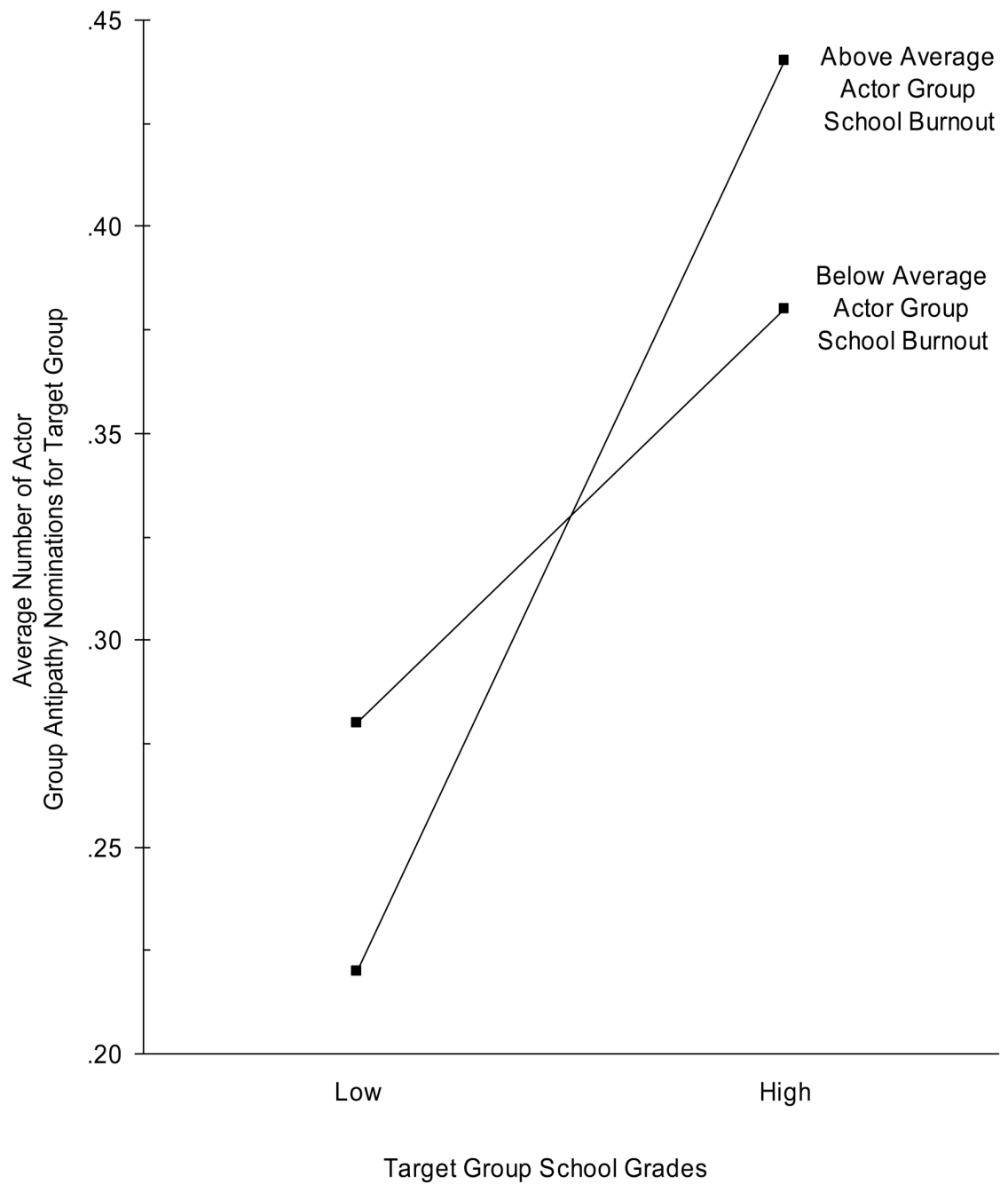


Figure 5. Slope of Association Between Target Group School Grades and Actor Group Antipathy for Target Group as a Function of Actor Group School Burnout

Table 1

Intraclass Correlations Between Participants in Mutual Antipathies

Variable	1	2	3	4
1. Problem Behavior	-.31*			
2. School Burnout	-.20	-.05		
3. School Grades	.31*	.25*	-.39*	
4. Sports Participation	.01	-.03	-.09	-.05

Notes. $N = 36$ dyads.

* $p < .05$.

Table 2
 Variance Components, Child-Peer Correlations, Group Means, Standard Deviations, and Ranges

Variable	Variance Component		Child-Peer Correlation	Group Mean (SD)	Group Minimum	Group Maximum
	Between	Within				
Problem Behavior	0.1371	0.3294	.42**	-0.05 (0.52)	-0.62	2.17
School Burnout	0.0436	0.6767	.12**	2.46 (0.53)	1.33	4.56
School Grades	0.2488	0.4415	.49**	8.01 (0.64)	6.05	9.25
Sports Participation	0.2190	2.0850	.18**	4.54 (0.97)	1.50	6.60

Note. $N = 600$ participants in 155 groups.

* $p < .05$.

** $p < .01$.

Table 3

Hierarchical Linear Model Predicting Actor Group Antipathy for Target Groups

Variable	Effect	SE	t test
Intercept	-0.0974	0.1939	-0.50
Slope of Target Group Rejection	0.0453	0.0049	9.27**
Slope of Target Group <i>n</i>	-0.0339	0.0073	-4.67**
Slope of Target Group Girl/Boy Ratio	-0.0135	0.0287	-0.47
Slope of Target Group Affiliate/Isolate Status	0.9182	0.3565	2.58**
Slope of Target Group School Burnout	0.0209	0.0293	0.71
Actor Group School Grades	0.0647	0.0285	2.27*
Actor Group Sports Participation	0.0195	0.0191	1.02
Slope of Target Group Problem Behavior	0.0308	0.0266	1.16
Actor Group Problem Behavior	-0.1011	0.0420	-2.41*
Slope of Target Group Sports Participation	0.0299	0.0168	1.78
Actor Group School Grades	0.0259	0.0127	2.04*
Actor Group School Burnout	0.0717	0.0290	2.47*
Slope of Target Group School Grades	0.0426	0.0243	1.75
Actor Group School Burnout	0.0433	0.0179	2.43*
Actor Group Sport Participation	-0.0041	0.0055	-0.74

Note.

* $p < .05$.

** $p < .01$.

$N = 600$ participants in 155 groups.