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Peer Group Self-Identification as a Predictor of Relational and Physical Aggression Among High School Students

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Abstract

BACKGROUND—Adolescent peer group self-identification refers to adolescents' affiliation with reputation-based peer groups such as "Goths" or "Jocks." These groups tend to vary on normative characteristics, including the group members' attitudes and behaviors. This article examined whether adolescents' baseline peer group self-identification predicted their self-reported relational and physical aggression 1 year later.

METHODS—Self-report data were collected from 1614 students from 9 regular and 9 continuation (alternative) high schools in Southern California, at baseline and 1-year follow-up. Subjects' mean baseline age was 15.21 years (SD = 1.18) and 51.6% of the subjects were female.

RESULTS—Findings indicated that compared with self-identified "Regular" or "Normal" students, adolescents who identified with high-risk peer groups (eg, "Druggies," "Goths") tended to report higher relational and physical aggression 1 year later, controlling for baseline aggression and demographic variables. In addition, adolescents' self-identification with high-status peer groups (eg, "Jocks," "Populars") was predictive of higher relational aggression 1 year later. Gender and school type (ie, regular vs continuation) were not found to moderate these effects.

CONCLUSIONS—It appears that peer group self-identification is a salient predictor of physical and relational aggression across gender and school type. Adolescents who identify with high-risk peer groups tend to report higher levels of physical as well as relational aggression in the future. In addition, adolescents who affiliate with elite groups tend to become more relationally aggressive over time. School-based prevention programs targeting aggression may benefit from addressing the impacts of peer group self-identification on adolescents' aggressive behavior.

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Human Subjects Approval Statement

This study was approved by the University of Southern California institutional review board.

Keywords

adolescents; high school; peer group self-identification; physical aggression; relational aggression

According to the 2007 national Youth Risk Behavior Survey (YRBS), 35.5% high school students (9th to 12th graders) reported being in a physical fight 1 or more times in the past 12 months, a figure that represents a significant increase (at the $p < .05$ alpha) compared with the 33% in 2003.¹ This increase is of concern because physical fighting in this population had shown a steady decrease between 1991 and 2003. Furthermore, a 2007 National Center for Education Statistics report suggests that about 24% of high school students tend to report being bullied at school in the past 6 months.² Bullying may involve both physical and relational forms of aggression.^{2,3} Physical aggression involves causing or threatening to cause direct physical damage to someone.⁴ Relational aggression is an indirect form of aggression that involves inflicting harm on someone through hostile manipulation of relationships, such as intentionally excluding a peer from social plans, spreading rumors about a peer, and insulting or hurting a peer through words.⁵ Relational aggression can be either overt (eg, deriding someone to his or her face) or covert (eg, backbiting). The negative health consequences of peer-related physical and relational aggression in schools have primarily been studied in the context of bullying.

Cross-sectional as well as longitudinal and retrospective studies have consistently associated bullying with adverse physical and mental health consequences among bullies, victims, and those who are both bullies and victims (ie, bully-victims).⁶ The most common adverse psychological effects of peer victimization include general psychological disturbance, depression, anxiety, social dysfunction, and suicidal ideation.^{7–11} Clearly, peer victimization leads to increased emotional distress, loneliness, isolation, and decreased self-worth,¹² which make the victims prone to developing a range of mental health disorders, including delusional and hallucinatory symptoms,¹³ eating disorders,¹⁴ and other psychiatric symptoms. Moreover, during adolescence, chronic peer victimization can be considered a major social stressor which may adversely affect the victims' endocrine system.¹² Studies suggest that peer-victimized adolescents tend to fall ill¹⁵ more easily and are more likely to experience muscle and skeletal pains¹⁶ and other somatic symptoms (eg, headaches).^{12,17}

Peer Groups and Aggression

Peer groups have been known to play an important role in shaping adolescents' aggressive behavior, including bullying.^{18,19} A peer group usually consists of individuals who show similar behavior patterns and personality characteristics.²⁰ For example, adolescents belonging to the same peer group may follow similar lifestyle norms, including the participation in similar risk behaviors such as smoking, drinking, or delinquency.²⁰ Research shows that adolescents showing higher levels of aggression are more likely to affiliate with each other.²¹ In addition, a peer group comprised of aggressive adolescents is in turn likely to augment the adolescents' aggressive behavior over time, primarily through social modeling and facilitation.^{22,23} Among young adolescents, Espelage et al²⁴ have found peer group contexts to have significant prospective effects on adolescents' aggressive behavior, even after controlling baseline aggressive behavior.

Most studies examining the relations between adolescent peer groups and aggression seem to have used social network or sociometric technique to assess peer group affiliations.^{21,24,25} The social network technique may involve first asking the participants to list the names of a number of friends (eg, 8) that they hang out with most often in their school and then identifying the various clusters of students based on reciprocated and unreciprocated

friendship patterns.²⁴ The sociometric status groups may be determined based on the number of peer nominations that a student might receive as being liked or disliked. Usually, the groups generated through this method are named “popular” (ie, highly liked by most), “controversial” (ie, highly liked by some and highly disliked by others), “neglected” (ie, neither liked nor disliked), and “rejected” (ie, highly disliked by most).²⁶

The sociometric popularity is sometimes compared with peer-perceived popularity, which is assessed by directly asking subjects to identify the popular students of their class.²⁷ The peer-perceived popularity tends to tap students who are considered to be most popular by their classmates, as opposed to the most liked ones tapped by the sociometric popularity. The research examining the relations between sociometric status groups and adolescent aggression suggests that among young adolescents, the controversial group and the peer-perceived popular group tend to be physically and relationally more aggressive.^{25,28} These findings tend to support the argument that controversial or peer-perceived popular adolescents use physical or relational aggression to maintain their high status among peers.^{19,29}

Compared with peer group studies based on social network or sociometric analysis, very few studies^{30,31} have examined the prospective relations between adolescents’ affiliation with reputation-based peer groups and aggression, particularly relational aggression. Adolescents’ self-association with reputation-based peer groups is known as peer group self-identification.²⁰ In the United States, reputation-based peer groups have been in existence in the adolescent social culture for over 40 years and are represented by names such as “Jocks,” “Hot-Shots,” “Stoners,” “Goths,” “Nerds,” and “Brains.”²⁰ These groups tend to represent certain subcultural norms that the group members exhibit in practice. For example, “Jocks” tend to participate more in school activities and wear expensive clothes, whereas “Nerds” tend to lack social skills and be careless about their appearance.^{32,33} In a sense, adolescents create a self-identity for themselves by associating with a reputation-based peer group, sometimes to the detriment of their health and well-being. For example, the norms associated with the Goth subculture are known to encourage depressed feelings, self-harm, suicide, and violence among adolescents.³⁴ Studies have repeatedly associated reputation-based peer groups with adolescent health risk behaviors such as drug use and delinquency.¹³

In their systematic review of peer group self-identification studies, Sussman et al²⁰ suggest that peer group names across studies tend to cluster into five general categories: Elites/Socials, Jocks/Athletes, Brains/Academics, High-Risk Youth/Deviant, and Others (ie, groups that are not classifiable into other 4). Adolescents belonging to the Elite/Social group tend to be highly popular among their peers, participate enthusiastically in extracurricular activities, and tend to show above-average academic motivation (eg, “Hot-Shots,” “Populars,” and “Preppies”). Jocks/Athletes include adolescents who are highly inclined toward physical activity and sports. Some studies, however, tend to recognize “Jocks” as Elites/Socials because of their reputation as a popular group.³⁵ Brains/Academics tend to focus highly on achieving academic excellence (eg, “Brains,” “Smart-Ones”), whereas High-Risk Youth/Deviant tend to report high levels of drug use and violence, noninvolvement in school, and preference for risk taking and sensation seeking (eg, “Druggies,” “Dirts,” “Burnouts,” “Goths”). Sussman et al²⁰ categorized adolescents who identified themselves as “Averages,” “Normals,” or “Regulars,” as Others, together with unclassifiable group names such as “Progressives,” “Alternatives,” and “Outsiders.”

The Present Study

The present study addresses the gap in the literature concerning the longitudinal relationships between adolescent peer group self-identification and the physical and relational aggression among regular high school (RHS) students and continuation high

school (CHS) students. (Before entering high school in California, students remain at the same elementary or junior high school. At the time of high school entrance, students considered unfit to remain in the comprehensive school system for functional reasons, including drug use, pregnancy, and delinquency, are transferred to a CHS.³⁶) Of the 44 studies reviewed by Sussman et al.,²⁰ only 7 dealt with violence-related behaviors, of which only 2^{30,31} were longitudinal in design. Moreover, all of the 7 studies focused on physical aggression alone.

In the present study, we expect that adolescents' self-identification with High-Risk Youth/Deviants at baseline will predict higher levels of physical and relational aggression 1 year later, even after controlling the baseline aggression and demographic variables. In general, self-identified High-Risk Youths tend to show a higher level of baseline aggression to begin with.²⁰ Among the members of certain high-risk peer groups such as "Gangs," the very group norms may encourage aggressive or violent behavior. Furthermore, in relation to school-based aggressive behavior and victimization, one may assume that self-identified deviant or high-risk adolescents are similar to adolescents identified as "controversial" in sociometric studies,³⁷ and bullies, bully-victims (ie, adolescents who represent both bullies and victims), or "misbehaved" students in some of the studies on bullying.^{38,39} As with bully-victims, self-identified High-Risk Youths are more likely to perpetrate violence and be victimized.³¹ School-based studies on bullying have found bully-victims to be psychologically more troubled, lower on academic competence, and most likely to be victimized within schools.^{38–41} These characteristics match the risk profiles of the self-identified High-Risk Youths.²⁰ Furthermore, as suggested by studies on bullying,^{39,40} it is likely the victims of the self-identified high-risk adolescents' physical and relational aggression are members of their own groups or academically more competent adolescents who show better school connectedness. There could be at least 2 reasons why self-identified members of high-risk groups may become more aggressive over time. First, the High-Risk Youths who are popular among their group members, possibly because of their aggressive behavior, may show higher proactive aggression over time to maintain their popular status.¹⁹ Second, the High-Risk Youths who are uncertain about their within-group status may try to gain popularity by modeling themselves after the popular group members who are likely to be more aggressive.⁴² However, among older high-risk adolescents such as those represented by our sample, physical aggression may be instrumental only up to a certain extent in gaining a more favorable status within one's peer group. As the literature on dominance suggests, affiliative strategies such as forming stronger and selective within-group networks become increasingly important as these adolescents adapt to their peer groups.^{29,43} Thus, it is possible that covert or relational aggression plays an equally—if not more—prominent role in acquiring or maintaining one's favorable status within a high-risk peer group. Second, we expect that adolescents' self-identification with Elites/Socials at baseline will predict higher relational aggression 1 year later, controlling baseline relational aggression and demographic variables. We assume that the Elites/Socials would include adolescents who might be identified as peer-perceived popular or sociometric popular. Similar to Elites/Socials in the peer group self-identification literature, adolescents high in sociometric and perceived popularity are known to be prosocial and cooperative.⁴⁴ Research on younger adolescents suggests that adolescents with higher perceived popularity may learn to use relational aggression over time to maintain their high status among peers.^{25,44} Although some studies have found adolescents higher in perceived popularity to show higher levels of overt or physical aggression, such popular, aggressive youths are likely to be represented by high-risk peer groups in the present study.

Apart from examining relational aggression as an outcome, the present study extends the findings of the previous prospective studies^{30,31} in at least 2 important ways. First, the present study examines the omnibus main effects of the baseline peer group self-

identification on the aggression subtypes 1 year later (controlling baseline aggression) in addition to examining the main effects of the 3 peer group categories with reference to the Regulars (ie, High-Risk Youth/Deviants, Elites/Socials, and Others). Second, the present study tests gender and school type (CHS vs RHS) as potential moderators of the relations between the baseline peer group self-identification and later aggression. Because of the possible differences in levels of physical and relational aggression among boys and girls, we propose to test the possible effects of gender and peer group interaction on follow-up aggression outcomes. Among younger adolescents, research tends to support the traditional view that boys are more overtly aggressive than girls,⁴⁵ and girls are more relationally aggressive than boys.⁵ Compared with boys, girls tend to be generally more social and tend to invest more emotions and trust into social relationships.⁴⁶ Boys are more likely to be physically aggressive because within the same-gender peer group structure, boys tend to use overt aggression for instrumental support and physical dominance.⁴⁶ However, as peer groups become more mixed-gender with increasing age, physical and relational aggression may not differentiate across genders as markedly as in preadolescence.⁴⁷ While the majority of the studies still indicate girls to be more relationally aggressive than boys, some studies suggest that relational aggression may be as common among boys as among girls.³ In the present study, we expected male self-identified High-Risk Youth to show stronger effects on follow-up physical aggression 1 year later. In addition, we expected female self-identified Elites/Socials to show stronger effects on follow-up relational aggression 1 year later.

We tested the possible effects of school type and peer group interaction on the follow-up aggression outcomes because the RHS and CHS are known to vary drastically in deviancy-related characteristics. Compared with the RHS students, CHS students tend to represent adolescents who are at higher risks for substance use and delinquency.³⁰ Hence, one may expect that the self-identified High-Risk Youths in the higher risk school context of the CHS's become more aggressive over time, compared with the RHS youths. In addition, the self-identified Elites/Socials from RHS may be more likely to show higher relational aggression over time. Because extracurricular activities, including athletics, are likely to hold greater importance for RHS students than CHS students and as RHS students in general tend to be more connected to school than CHS students, Elites/Socials may enjoy greater social prominence in RHS's than CHS's. Thus, the within-group competition among Elites/Socials for higher status is likely to be tougher among RHS students.

METHODS

Settings

Nine school districts from 2 urban counties in Southern California were recruited to participate in the study. In order to be eligible to participate, the districts needed to contain at least 1 regular (mainstream) public high school (RHS) and 1 continuation high school (CHS), each with an enrollment between 50 and 2000 students. Archival data were used to match the schools within each school type on demographic characteristics to obtain baseline comparability. In the present study, a CHS and RHS pair was selected from each of the 9 school districts, thus resulting in a total convenience sample of 18 schools.

Subjects

In total, 2734 participants completed the pretest questionnaires. Of the 2734 students, only 2089 (RHS = 1515; CHS = 574) provided the peer group self-identification information. Of these students, 1614 (RHS = 1230; CHS = 384) completed the follow-up questionnaires. Hence, the total analysis sample of the present study equaled to 1614. Table 1 shows the baseline characteristics of the subjects across peer group categories.

To assess the potential sample bias due to follow-up attrition, a comparison was made between the analytic sample ($n = 1614$) and the full baseline sample ($n = 2089$) separately for each school type. The assessment was conducted separately for school types because, as mentioned earlier, CHS and RHS are different in terms of high-risk attributes. For example, the CHS students are more likely to drop out at follow-up than the RHS students.²⁹ In the present sample, the follow-up rate for CHS subjects was 66.8% compared with the 81.2% for RHS subjects.

A series of single sample t tests and chi-square tests for specified proportions were carried out comparing the follow-up samples with the baseline samples on the aggression and demographic variables (ie, age, percentage Hispanic, percentage female, and parents' education). No significant difference was found on any of the variables between the full and the retained samples among either CHS or RHS subjects. Hence, it may be concluded that the total sample size at follow-up was comparable with a random subsample of the baseline subjects.

Measures

Demographics—Subjects' ethnicity was determined based on the following item: "What is your ethnic background?" The 7 response options included "White (non-Hispanic)," "Hispanic/Latino," "African American," "Asian," "Native American," and the open-ended "Other" and "Mixed" options. Because the subjects were predominantly Hispanic (about 63%), for analysis purposes, we binary coded the ethnicity variable as Hispanic or non-Hispanic. Subjects' socioeconomic status (SES) was assessed in terms of their parents' education, which was determined based on the highest educational level reached across father/stepfather or mother/stepmother, using two 6-point scales (1 for each parent), ranging from not completed elementary school to completed graduate school⁴⁸ (coefficient alpha = .68). Other demographic indicators included age (in years), gender, and school type (ie, whether the subjects belonged to RHS or CHS).

Peer Group Self-Identification—Participants were asked: "People often hang out in different groups. Circle the letter of the 1 group that you best fit in with" and a list of 16 group names was provided, followed by "Other, please describe" (participants were asked: "If you do not see the name of the group that you best fit in with please write the name below where it says 'other.'") The response categories were collapsed, on the basis of Sussman et al's previous work,^{20,36} into 4 group categories: High-Risk Youth ($n = 297$), Elites/Socials ($n = 246$), Regulars ($n = 864$), and Others ($n = 207$). We categorized Brains/Academics as Others because Brains/Academics were numbered very small in the present sample ($n = 22$). Also differing from Sussman et al's²⁰ categorization scheme, Jocks were subsumed under Elites/Socials, as has been done in some studies;²⁰ this permitted the sample size of Elites/Socials to be comparable with the sample sizes of High-Risk Youth and Others. Some of the specific High-Risk Youth group names included Gang Members, Stoners, Burnouts, Druggies, and Rappers; Elites/Social group names included Populars, Preppies, and Jocks; Regular group names included Skaters, Surfers, Regulars, Normals, and Averages; and Other group names included, Progressives, Brains, Aggies, and Actors.

Relational Aggression—Five items adapted from Crick and Grotpeter⁵ were used to elicit the acts of relational aggression committed in the last 12 months: "Did you not tell someone about a recreational activity your group was doing because you didn't want them around?"; "Did you try to arrange things (quietly) that would result in totally excluding someone from your group because you didn't like them?"; "Did you tell lies about someone behind their back so that others would not like that person anymore?"; "Did you tell someone from your group that you wanted them to end their relationship with someone if

that person did not do what you wanted?"; and "Did you say nasty things about someone behind their back so others would not like that person anymore?" Response options included "Never" to "5 times or more" (Cronbach's alpha = 0.70 at both time points).

Physical Aggression—Four items adapted from the 1981 Monitoring the Future Survey Form 2⁴⁹ were used to elicit the acts of physical aggression committed in the past 12 months: "Have you slapped, punched, kicked, or beaten-up someone?"; "Have you used a weapon (like a knife, gun, or club) to threaten a person?"; "Have you used a weapon (like a knife, gun, or club) to injure someone?"; and "Have you damaged or stolen someone else's property on purpose (your clothing, radio, etc.)?" Response options included "Never" to "5 times or more" (Cronbach's alpha = 0.73 at both time points).

Procedures

Data were collected between 2002 and 2004. Preceding the pretest, informed consent was collected from students over 18 years of age and parents of the minor subjects. Subjects 18 years of age and older read and signed the letters of informed consent in the classroom. Signed letters of informed consent were collected from the parents of the minor students either in school or via telephone. All subjects who participated in the study also provided assent to participate in writing. The informed consent procedure was conducted per the guidelines approved by the university's institutional review board (IRB). All pretest data were collected in the classroom during the regular school day. Paper-and-pencil questionnaires were administered to the participants by experienced research staff. The same research staff conducted follow-up surveys an average of 16.5 months later in the classroom or by telephone. The target interval between the pretest and the follow-up was 1 year.

Data Analysis

Analyses were conducted using the SAS 9.1 statistical software.⁵⁰ The Tukey test was used to examine the differences in descriptive statistics of the continuous variables across the peer group categories (Table 1). Differences in descriptive statistics of discrete variables were examined using PROC LOGISTIC.

Two regression models were run on the prospective data for each aggression outcome (ie, physical and relational aggression at follow-up), using PROC MIXED for multiple linear regression with random effects. Because our subjects were nested within schools, regression models were iterated using PROC MIXED to account for the influence of random effects. The first model (model 1) tested for the main effects of peer group self-identification on each follow-up aggression variable separately, controlling for corresponding baseline aggression, age, gender, ethnicity, school type (ie, RHS or CHS), and parents' education. Regulars were assigned as the reference category for the peer self-identification variable. Age, gender, ethnicity, parents' education, and school type were controlled for their possible confounding effects. As with gender, ethnicity, SES, and school type have been associated with both peer group self-identification and aggression.^{32,39,40,51,52} The second model (model 2) tested for the interaction effects of peer group self-identification and gender, and peer group self-identification and school type, on each follow-up aggression variable separately, with the corresponding baseline aggression and other independent variables present in model 1 included in the model. The interaction terms "Peer Group $\times$ Gender" and "Peer Group $\times$ School Type" were tested together in the same model. For the ease of interpretation, all continuous independent variables were centered on their means in both the main effect and the interaction models.⁵³

RESULTS

Table 1 shows the mean levels of baseline physical and relational aggression across peer group categories. High-Risk Youth, Elites/Socials, and Others reported higher baseline relational aggression than Regulars. However, the 3 peer group categories did not differ significantly from each other in baseline relational aggression. Expectedly, High-Risk Youth reported the highest level of baseline physical aggression. Elites/Socials reported significantly higher baseline physical aggression than Regulars but significantly lower than High-Risk Youth.

Table 2 shows the results of the main effects model for each aggression outcome in terms of unstandardized regression coefficients. Peer group self-identification at baseline had significant effects on follow-up relational and physical aggression, even after controlling baseline aggression and demographic variables. In particular, self-identification with high-risk reputation-based peer groups at baseline predicted higher levels of physical and relational aggression 1 year later, compared with self-identification with Regulars and adjusting for baseline aggression, age, gender, ethnicity, and parents' education. In addition, adjusting for baseline relational aggression and demographic variables, self-identification with Elites/Socials at baseline predicted higher levels of relational aggression 1 year later. Female gender predicted lower levels of physical aggression 1 year later. Subjects who were younger at baseline were more likely to be physically aggressive 1 year later. In addition, compared with RHS students, CHS students were more likely to be physically aggressive 1 year later. None of the baseline demographic variables, however, was found to predict later relational aggression. Table 3 reports the results of the interaction effects of peer group self-identification and gender, and peer group self-identification and school type, for each aggression type in terms of unstandardized regression coefficients. Neither gender nor school type was found to moderate the effects of baseline peer group self-identification on later aggression outcomes.

DISCUSSION

The present study is 1 of the first few studies to indicate that affiliation with reputation-based peer groups has significant effects on adolescents' future aggressive behaviors, independent of gender or high-/low-risk school contexts. As hypothesized, adolescents who self-identified with High-Risk Youth/Devianters tended to report significantly higher levels of physical and relational aggression 1 year later, even after controlling for baseline aggression and potential demographic confounders. Similarly, adolescents who self-identified with Elites/Socials tended to become significantly more relationally aggressive 1 year later, controlling for baseline relational aggression and demographic covariates. Interpreted in terms of bullying and victimization at schools, these findings suggest that affiliation with certain reputation-based peer groups may increase adolescents' involvement in bullying behavior. The social norms associated with high-risk or elite peer groups are likely to encourage the members to become more physically violent or socially manipulative toward their peers. Adolescents affiliated with such groups may not only view aggression toward peers as something socially condonable but also find aggressive behavior to be instrumental in gaining social acceptance and popularity, either within one's own peer group or in the overall peer hierarchy.

Our findings seem to support our initial assumptions regarding the relationship between peer group status and adolescent aggression. Physical aggression appears to be normative to deviant peer groups. Persistent display of physical aggression or violent behavior is likely to be instrumental in winning the respect of one's deviant peers. The High-Risk Youth who are already popular among their peers may show increasingly violent behavior to maintain or

enhance their popularity, whereas the High-Risk Youth who aspire to be popular may become more proactively aggressive to gain popularity. As expected, we did not find adolescents' self-identification with Elites/Socials or Others to be predictive of their later physical aggression, which further validates the uniqueness of self-identification with high-risk peer groups as a predictor of later violent behavior.

The finding that self-identification with Elites/Socials predicted higher relational aggression 1 year later was consistent with our assumption that the self-identified Elites/Socials are likely to represent adolescents who are perceived to be popular by their peers.²⁸ As with Elites/Socials in our sample, studies have found adolescents higher in peer-perceived popularity to become more relationally aggressive over time, most likely to maintain their high social status.⁴⁴ Clearly, gaining membership in Elite/Popular groups is likely to be competitive. The very essence of the high-status groups would depend on their higher member selectivity. Hence, the members of these groups are more likely to exercise social manipulation against each other members so as to maintain the group selectivity.⁴⁴

Unlike the Elites/Socials, the status of High-Risk Youth in the overall peer group hierarchy seems to be ambiguous such as that of the adolescents who are classified as controversial in sociometric analysis. Their high-status members may become relationally more aggressive over time to protect their within-group status. Moreover, in certain high-risk peer groups such as Gangs, social manipulation may be practiced to promote cohesiveness among group members and member conformity to group norms.⁵⁴

As expected, we found female gender to have inverse effects on physical aggression 1 year later, even after controlling for baseline physical aggression. Interestingly, however, we did not find female gender to be significantly associated with later relational aggression after controlling for baseline relational aggression and other demographic covariates. This finding tends to support the argument that among older adolescents as peer groups become more mixed-gender, gender is less likely to determine future relational aggression.³ Furthermore, we did not find gender to moderate the effects of peer group self-identification on aggression. We did not find male High-Risk Youth to be more violent 1 year later; nor did we find female Elites/Socials to be more relationally aggressive 1 year later. Hence, on the basis of our data, the effects of self-identification with High-Risk Youth or Elites/Socials on later aggression may not vary across males and females. It appears that the norms associated with these groups impact both boys and girls similarly. However, more research in this direction is needed to better understand the roles of gender in the relation between peer group self-identification and adolescent aggressive behavior.

Although being a CHS student at baseline had a significant positive effect on later physical aggression, we did not find school type to moderate the effects of peer group self-identification on physical or relational aggression 1 year later. The CHS High-Risk Youths were not found to be more likely to show higher later physical aggression than the RHS High-Risk Youth. Moreover, the RHS Elites/Socials were not found to be more relationally aggressive 1 year later than the CHS Elites/Socials. Thus, it appears that the prospective effects of peer group self-identification on aggression are similar across high- and low-risk school contexts.

Limitations

The present study has several limitations. Because of logistic difficulties, we were not able to measure physical and relational victimization at either time point. Hence, we were not able to examine the relations between peer group self-identification and victimization. Assessing victimization would have enabled us to better understand the relations among peer groups with respect to aggression and victimization. In addition, because of our failure

to measure peer group self-identification at 1 year follow-up, we could not examine the possible prediction of later peer group self-identification from earlier aggressive behavior. Although we tested all the relevant variables for indications of a bias due to attrition, we did not test several others that were not measured in the study. For example, indicators of SES other than parental education, such as parental income and number of persons living in a house, were not measured in the present study. Moreover, our data may not generalize to all Los Angeles area RHS and CHS. Although students were randomly selected at the classroom level, some selection bias might have been introduced to the data at the level of school, which was based on convenience sampling.

IMPLICATIONS FOR SCHOOLS

The present study has some important implications for school-based interventions dealing with adolescent aggressive behavior, including bullying. That school-based bullying prevention programs might benefit from combining the strategies of promoting school safety, psychoeducation, and interpersonal skills training has long been recognized.^{55,56} In fact, the majority of current school-based programs targeting aggressive behavior and victimization seem to involve either 1 or more of the following behavioral and psychosocial components: social skills training (eg, social competence), cognitive-behavioral skills training (eg, self-control), and in-school therapy or counseling services.⁵⁶ However, few such programs seem to consider the effects of peer group norms in exacerbating adolescents' aggressive behavior. Our findings, as well as findings from some previous research,^{24,57} suggest that the peer group context deserves close attention while developing school-based programs to counter escalation of adolescent aggressive behavior.

One of the recommended school safety strategies regarding bullying prevention involves training school staff to identify and approach bullies and victims for serious talks.⁵⁵ Along similar lines, school staff may be trained to identify high-risk peer group types based on the lifestyle characteristics of the group members. School staff may be trained to supervise High-Risk Youth more closely and involve High-Risk Youth in classroom discussions concerning rules against bullying and the negative consequences of aggression. In addition, school counselors may be trained to tailor treatments according to the students' peer group affiliation.

It is important that the research guiding the development of cognitive-behavioral interventions with aggressive behavior carry out a careful functional assessment of aggression within the peer group context.^{55,58} In addition to incorporating trainings on anger management and social problem-solving skills, such interventions may need to include components of cognitive restructuring. Correcting adolescents' misperceptions regarding the aggression-related positive outcome expectations seems to be important.⁵⁵ Acquiring higher status within one's peer group or among all peers may represent 1 of the social goals associated with adolescents' proactive aggression against peers.⁵⁹ Proactively aggressive adolescents appear to value selfish social goals over relation-enhancing goals.⁵⁹ Hence, psychoeducational interventions based on social-cognitive models (eg, the social-information processing model)⁵⁹ that stress goal clarification and prosocial peer bonding may prove effective.

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Table 1

Subjects' Baseline Demographic Characteristics

	High-Risk Youth (n = 297)	Elites (n = 246)	Regulars (n = 864)	Others (n = 207)
Mean age (SD)	15.6 (1.2) ^a	15.3 (1.2) ^b	15.2 (1.2) ^b	15.5 (1.3) ^a
%Female	34.8 ^a	48.6 ^c	59.1 ^b	47.3 ^c
%Non-Hispanic	34.8 ^a	43.5 ^b	33.9 ^a	47.6 ^b
%Hispanic	65.2 ^a	56.5 ^b	66.1 ^a	52.4 ^b
%Full college or more	20.5 ^a	26.4 ^b	24.0 ^b	28.0 ^b
%Some college or less	79.5 ^a	73.6 ^b	76.0 ^b	72.0 ^b
School type				
%RHS	66.6 ^a	80.1 ^b	80.0 ^b	76.8 ^c
%CHS	38.4 ^a	19.9 ^b	20.0 ^b	23.2 ^c
Mean relational aggression (SD)	1.66 (0.74) ^a	1.63 (0.72) ^a	1.44 (0.58) ^b	1.63 (0.76) ^a
Mean physical aggression (SD)	1.05 (1.14) ^a	0.63 (0.83) ^b	0.47 (0.71) ^c	0.50 (0.85) ^{bc}

SD, standard deviation; RHS, regular high school; CHS, continuation high school.

Same letter subscripts across row indicate no significant differences between means or percentages at $p = 0.05$ (two-tailed).

Table 2

Peer Group Self-Identification at Baseline as a Predictor of Relational and Physical Aggression 1 Year Later, Controlling for Baseline Aggression, Age, Gender, Ethnicity, and School Type (Model 1)

	Main Effects	
	Relational Aggression	Physical Aggression
Baseline aggression b (SE_b)	0.27 (0.02) ***	0.28 (0.03) ***
Peer group	F (3, 1562) = 4.63 **	F (3, 1588) = 4.28 **
High-Risk Youth [†] b (SE_b)	0.12 (0.04) **	0.20 (0.07) **
Elites b (SE_b)	0.10 (0.04) *	0.11 (0.08)
Others b (SE_b)	-0.01 (0.04)	0.06 (0.07)
Age b (SE_b)	-0.02 (0.02)	-0.15 (0.04) **
Female gender (male = 0; female = 1) b (SE_b)	-0.01 (0.03)	-0.25 (0.06) ***
Hispanic ethnicity (non-Hispanic = 0; Hispanic = 1) b (SE_b)	0.005 (0.03)	0.04 (0.05)
School type (RHS = 0; CHS = 1) b (SE_b)	0.015 (0.05)	0.38 (0.14) **
Parental education (1 = full college or more; 0 = some college or less) b (SE_b)	-0.001 (0.98)	0.09 (0.06)

* $p < 0.05$;

** $p < 0.01$;

*** $p < 0.001$. (two-tailed). SE= Standard Error.

RHS, regular high school; CHS, continuation high school.

[†]“Regulars” is used as the reference category.

Table 3

Gender and School Type as Moderators of the Effects of Peer Group Self-Identification on Physical and Relational Aggression 1 Year Later (Model 2)

	Interaction Effects	
	Relational Aggression	Physical Aggression
Peer Group $\times$ Gender	$F(3,1558) = 0.78, p = 0.50$	$F(3,1588) = 0.55, p = 0.48$
HRY $\times$ Gender b (SE_b)	0.08 (0.08)	-0.09 (0.13)
Elites $\times$ Gender b (SE_b)	0.09 (0.08)	-0.05 (0.14)
Others $\times$ Gender b (SE_b)	-0.04 (0.09)	0.08 (0.19)
Peer Group $\times$ School Type	$F(3,1558) = 0.42, p = 0.74$	$F(3,1588) = 1.76, p = 0.19$
HRY $\times$ School Type b (SE_b)	-0.06 (0.08)	0.11 (0.14)
Elites $\times$ School Type b (SE_b)	-0.10 (0.10)	0.26 (0.19)
Others $\times$ School Type b (SE_b)	-0.06 (0.10)	0.002 (0.23)

SE = Standard Error.

HRY, High-Risk Youth.

The interaction terms were added to the main effect model presented in Table 2.