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Power Structure in the Peer Group: The Role of Classroom Cohesion and Hierarchy in Peer Acceptance and Rejection of Victimized and Aggressive Students

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Abstract

This study addresses the interacting effects of classroom cohesion and hierarchy on the relationships between victimization and aggression with peer acceptance and rejection. Classroom cohesion and hierarchy were constructed from friendship nominations. Multilevel analysis conducted in a sample of seventh- and eighth-grade students from the *Sociescuela* program in Spain (N = 6,600) showed that in cohesive and hierarchical classrooms, a higher level of victimization was found; peer rejection was more strongly associated with victimization. In contrast to previous research, for males, aggression was more strongly associated with peer acceptance in less hierarchized classrooms.

Keywords

cohesion, hierarchy, peer rejection, victimization, aggression

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Traditionally, research into the social status of victims and aggressors in their peer groups has been based on individuals' network positions. Studies of victimization emphasize isolation as a major risk factor (Putallaz et al., 2007); a lack of friends predicts the onset of victimization, whereas having friends and being liked by peers may protect against victimization (Hodges, Boivin, Vitaro, & Bukowski, 1999; Khatri & Kupersmidt, 2003). This protective aspect of friendship is not present if the other friends are also victims, because then they lack both the power to intervene and the daring to confront peers with higher social status. Most victims are disliked by their peers, but the social status of aggressive students is more controversial. Their position within the group is better than that of victims, and often, although they are disliked (Rubin, Bukowski, & Parker, 2006), a significant percentage may have high social status (Cillessen & Rose, 2005; LaFontana & Cillessen, 2002; Rodkin, Farmer, Pearl, & Van Acker, 2006).

Research from a peer ecology perspective has provided further insights into how the classroom context affects these status–aggression and status–victimization relationships. Aggressive students have higher status in more hierarchical classrooms (Ahn, Garandeau, & Rodkin, 2010; Garandeau, Ahn, & Rodkin, 2011) and in classrooms with a higher average level of aggression (Chang, 2004; Stormshak et al., 1999). In classrooms with a hierarchical power structure, victims have lower status and are perceived as less popular (Ahn et al., 2010) than in those with an egalitarian power structure. Goal-framing theory could provide an explanation for these results; from this approach, the perceptions, thoughts, and decisions of individuals are influenced by focal goals (Lindenberg, 2006, 2008). During adolescence, acceptance into the peer group becomes an important goal for the social development of individuals. Based on this perspective, in a peer group context, aggressive students divide their potential resources into two main goals: to obtain peer affection and to dominate specific students (Veenstra, Lindenberg, Munniksma, & Dijkstra, 2010; Zwaan, Dijkstra, & Veenstra, 2013). According to this theory, aggressors select victims preferably with low social status in order to minimize the risks of loss of affection in the peer group. A classroom group with a cohesive and hierarchized peer structure facilitates the targeting of victims. Under these circumstances, aggressive students have a clearer pathway to most vulnerable students and can avoid loss of social status. Drawing on this prior work, our study investigates the roles of cohesion and hierarchy derived from the friendship network, and shows their potential influence on relationships while taking into account aggression and victimization on the one hand, and peer acceptance and rejection on the other.

A growing body of scientific work has focused on classroom-level variables and their influence on aggression and victimization (Henry et al., 2000;

Rodkin et al., 2006). The level of aggression was found to vary depending on the classroom norm (DeRosier, Cillessen, Coie, & Dodge, 1994), and social acceptance of aggressors was higher where aggressive behaviors were the norm (Wright, Giammarino, & Parad, 1986).

Less work has been done from a social network perspective, analyzing the (sub)group structure of classrooms and its influence on variables at the level of the individual. From this viewpoint, students are actors embedded within a network of relationships (Espelage, Holt, & Henkel, 2003; Scott, 2000; Wellman & Berkowitz, 1988). As Ahn et al. (2010) have noted previously, combining peer relationship research with social network analysis has great potential, allowing a more complex analysis than a simple aggregation of individual-level characteristics. Several classroom-level structure variables have been analyzed, including cohesion (Ahn et al., 2010) and hierarchy (Ahn et al., 2010; Garandeau et al., 2011; Van der Oord & Van Rossem, 2002; Zwaan et al., 2013).

Hierarchy and Social Status

Classic research on the influence of hierarchy in groups has suggested that a democratic group structure favors cooperation and promotes positive peer relationships, in contrast to groups with an authoritarian structure (Lewin, Lippitt, & White, 1939; Sherif, 1956). More recent studies from a social network analysis approach have studied the role of hierarchy in educational contexts and specifically in classroom groups (Ahn et al., 2010; Garandeau et al., 2011; Zwaan et al., 2013). These studies have examined social status through two different measures: perceived popularity and sociometric popularity. These variables are only weakly correlated (Cillessen & Mayeux, 2004; Prinstein & Cillessen, 2003) and refer to different concepts. Popularity is related to visibility in the group or prestige (Cillessen & Rose, 2005), whereas sociometric popularity refers to being chosen as a friend, to "hang around with" or being liked enough to share activities with (Asher & McDonald, 2009). Sociometric popularity is typically measured as social preference (peer acceptance minus peer rejection). Perceived popularity correlates more highly with dominance than does sociometric popularity (Closson, 2009; Parkhurst & Hopmeyer, 1998). Perceived popularity is a measure of perception of context and is therefore much more influenced by it than the likability of the individual, as some authors have recognized (Ahn et al., 2010; Asher & McDonald, 2009).

Research on hierarchy in the class group has shown relevant results concerning social preference and perceived popularity in relation to aggression and victimization. In hierarchical class groups, social preference has been

found to be positively associated with aggression (Garandeau et al., 2011); however, the link between popularity and aggression has shown inconsistent results, demonstrating a positive relationship in some studies (Ahn et al., 2010; Garandeau et al., 2011) and a negative association in others (Zwaan et al., 2013). Victimization has been found to be negatively related to popularity but has no relationship to social preference in hierarchical groups (Ahn et al., 2010). None of the previous studies has analyzed social preference by considering its components separately (peer acceptance and rejection). Both components can follow different mechanisms and present asymmetries (Dijkstra, Lindenberg, & Veenstra, 2007). Peer rejection could be positively associated with higher victimization; however, peer acceptance could not be negatively associated with victimization. Also, the presence of both types of nominations is quite different, with a much higher number of peer acceptance nominations compared with peer rejection nominations.

Hierarchy and Gender

Several research have analyzed the influence of hierarchy on the aggression–social status link from a gender perspective; however, their findings have been contradictory (Ahn & Rodkin, 2014; Pattiselanno, Dijkstra, Steglich, Vollebergh, & Veenstra, 2015; Zwaan et al., 2013). Ahn and Rodkin (2014) have found a stronger positive relationship between aggression and social status in boys within hierarchized class groups. Other research, however, has found the same relationship in hierarchized girls' peer groups but not in boys' peer groups (Pattiselanno et al., 2015). Ahn and Rodkin (2014) have proposed that this phenomenon would be more salient in boys' peer groups where dominance is more prominent than in girls' peer groups. This effect might be explained because boys form more cohesive and larger peer groups, whereas girls tend to present more dyadic interactions (Maccoby, 1998). Other research, however, has found a weaker association between aggression and social status in hierarchized boys' peer groups (Zwaan et al., 2013). These authors consider that it might be explained because a higher level of hierarchization would reduce the level of aggression within groups (Savin-Williams, 1979).

When hierarchy is calculated, an important methodological aspect should be raised. Some of those studies have taken into account the whole class group (Ahn & Rodkin, 2014), whereas others have considered same-gender nominations within classroom (Sijtsema, Lindenberg, & Veenstra, 2010; Zwaan et al., 2013) or specifically same-gender cliques (Pattiselanno et al., 2015). From the last two studies, it is considered that conflicts are more frequent between same-gender peers than between opposite-gender peers

(Pellegrini & Long, 2003). From this view, aggressors' significant others are same-gender classmates (Dijkstra et al., 2007; Maccoby, 1998) so, when they experience a loss of acceptance because of their aggressive behavior toward a victim, they do not care about opposite-gender classmates. In our study, we wanted to analyze the role of hierarchy on the aggressors' and victims' social status from a gender perspective. To our knowledge, there is no research which has analyzed the influence of the hierarchy at the classroom level on the victimization–social status link.

Moderation by Cohesion

Ahn and colleagues (2010) incorporated the influence of cohesion in an analysis of the effect of hierarchy on individuals' social status. A hierarchical structure may be stronger in a cohesive social network than in a loosely connected network. Social cohesion is defined by the positive interpersonal ties (Gross & Martin, 1952; Lott & Lott, 1965) or by the number of mutual dyadic ties within the group (Moreno & Jennings, 1937). A social network with high cohesion allows the sharing and transmission of group beliefs (Podolny & Baron, 1997), moral reasoning (Brass, Butterfield, & Skaggs, 1998; Hansen, 1999), and a common identity (Coleman, 1990), and facilitates information exchange (Ryan, 2000). Cohesion might serve as a transmitter of prosocial and antisocial values (Ahn et al., 2010). As a reflection of its capability to transmit antisocial values, it is important to consider the higher level of cohesion that delinquent groups present, compared with nondelinquent groups (Haynie, 2001).

Cohesion alone is not sufficient to account for all aspects of classroom social structure (Haynie, 2001); it has to be analyzed alongside other variables to provide a more complete account. A minimum level of connection between group members is necessary to create a solid group structure. Cohesion and hierarchy at the classroom level could present an interacting effect on individual-level variables, such as the social status of aggressors and victims (Ahn et al., 2010). Whereas cohesion describes the level of connectivity of the group members, hierarchy describes how that connectivity is distributed (see Figure 1). Cohesion might moderate the influence of hierarchy on victimization. A combination of high hierarchy and low cohesion might be negatively related to victimization because peer networks would be loosely connected. Under these circumstances, victimization would be lower. However, when high cohesion and high hierarchy are present in a classroom, hierarchization will have an effect over a more connected and extended peer network.

One of the main goals of preadolescence is to search for acceptance in a peer context according to the goal-framing theory (Lindenberg, 2006, 2008).

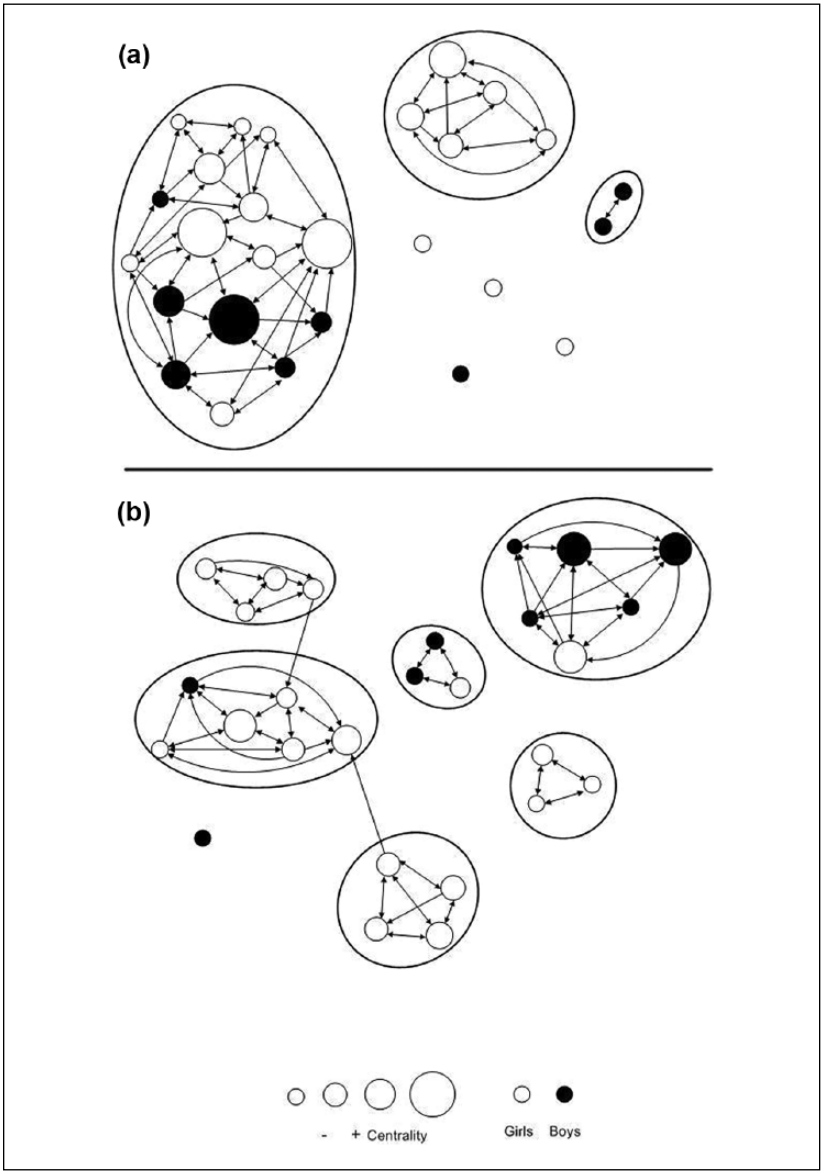

Figure 1. This figure shows two classes with same number of students and links: Both have a similar cohesion; however, they reflect a different hierarchy—(a) High level of hierarchy and (b) low level of hierarchy.

Aggressors will tend to optimize their social sources when they display their aggressive episodes. A highly cohesive and hierarchical group, in comparison with those with high levels of hierarchy and low levels of cohesion, would favor the visibility of victims, thereby making it easier for aggressive students to target them and avoiding or minimizing peer rejection or dislike as consequences of the aggressive episodes. In these classrooms of high cohesion and hierarchy, social structure is more asymmetrical, promoting power relationships and the emergence of a "polarization effect," such that rejected students would be more clearly differentiated from the peer group.

The Present Study

This study addresses the moderating effects of classroom cohesion and hierarchy on four associations at the individual level: (a) peer rejection and victimization, (b) peer acceptance and victimization, (c) peer rejection and aggression, and (d) peer acceptance and aggression. We hypothesized the following:

> **Hypothesis 1:** Highly cohesive and highly hierarchized groups, compared with those with high levels of hierarchy but low levels of cohesion, will show a higher victimization.

We propose that the strong association between peer rejection and victimization would also be modified as a function of the classroom context.

> **Hypothesis 2:** In a highly cohesive group with a high degree of hierarchical structuring, rejected students will be more vulnerable to victimization than in groups with high levels of hierarchy and low levels of cohesion.

We cannot propose a clear differentiation between boys and girls in this hypothesis. Based on gender, there is little research on the association between peer rejection with victimization and no research from a social network perspective. When addressing this hypothesis, we aim to analyze its influence in an exploratory manner. A hierarchical and cohesive group structure will provide aggressors with a larger and more connected audience to observe their behavior and to provide a clearer pathway to potential victims. This structure may also affect the social relationships of aggressors; however, while we hypothesized that a hierarchical group structure would have negative consequences for victims, we will explore its effects on peer rejection and peer acceptance of aggressors.

Method

Participants and Procedure

Participants comprised 6,600 students (3,350 boys, 3,250 girls; $\bar{X}$ age = 13.1 years, *SD* = 0.6 years) from 269 classes in 81 secondary schools (68% public; 17% of students in those schools participated) in two regions of central Spain (Castile-Leon and Madrid). This represents a subsample of a larger study, *Sociescuela* program (Martín-Babarro, 2014). All participating schools were invited and recruited through two sources; first, Educational Regional Government of Castile-Leon offered this program to all secondary schools of this region from which finally 62 schools participated voluntarily. A second group of 19 participant schools were recruited in the region of Madrid through the master's degree program "Psychological Intervention in Educational Contexts" of Complutense University of Madrid. Finally, 19% of those invited schools participated. In Spain, secondary schools cover six academic years from 12 to 18 years.

Participants were surveyed between October 2012 and May 2013 during regular school hours in one 50-minute session. The parents of the participants gave informed consent for their children's participation. Two researchers explained the procedure and emphasized that responses would remain confidential. Participants completed the survey using an Internet application, and all the variables were based on peer nominations. Nominations were made within each class. Students were shown a matrix with their classmates' names and photos in which they could nominate same or other classmates by selecting their photos. There were no missing data because all the participants even those who were absent the day of the assessment could be nominated by their classmates.

Measures

Gender. This was dummy coded as 0 (female) and 1 (male); 49.2% (3,250) of the participants were female and 50.8% (3,350) were male.

Victimization and aggression. These were measured by peer report. Nominations were unlimited and were made from a bystander's point of view. Students were asked three questions aimed at identifying students who were victimized: "Which classmate is isolated or ignored by others?" (relational victimization); "Which classmate has been insulted or humiliated by others?" (verbal victimization); and "Which classmate is hit or physically mistreated by others?" (physical victimization) ($\alpha = .79$). A score was obtained by dividing the number of nominations for each student by the number of classmates

who answered the questionnaire (Cillessen, 2009; Dijkstra, Lindenberg, & Veenstra, 2008; Garandeau et al., 2011); an average score for the three items was calculated (range = 0-1) and *z*-standardized.

Students were also asked three questions aimed at identifying aggressors: "Which classmate has isolated or ignored others?" (relational aggression); "Which classmate has insulted or humiliated others?" (verbal aggression); and "Which classmate hit or physically mistreated others?" (physical aggression) ($\alpha = .84$). An average aggression score (range = 0-1) was calculated and *z*-standardized using the same procedure as for victimization. In our sample, these three items correlated with self-report items on aggression ($r = .30$) and with self-report items on victimization ($r = .29$).

Peer acceptance and rejection. To obtain these measures, students were asked to nominate classmates. The peer nominations method produces reliable estimates for behavior (Coie, Dodge, & Kupersmidt, 1990). Two categories previously validated (Martín-Babarro, 2014) were used: "Who do you like to sit next to?" (peer acceptance) and "Who do you dislike sitting next to?" (peer rejection). Students nominated their classmates up to a maximum of nine nominations per participant. Average peer acceptance and peer rejection scores were calculated as before: The number of nominations received per student was divided by the total number of students who had answered in that class and *z*-standardized.

Grade level. The sample was made up of 148 seventh-grade class groups and 121 eighth-grade class groups. This variable was dummy coded as seventh grade = 0 and eighth grade = 1.

Cohesion. This index represents the level of connectivity in a group. It was calculated by using the average number of reciprocal nominations per child in each class based on responses to the question: "Which classmates are your friends?" After it was computed for each group, cohesion was found to vary across classes (range = 0.33-2.68; $\bar{X} = 1.37$, $SD = 0.35$). Finally, these scores were *z*-standardized.

Hierarchy. The level of hierarchy in a classroom context emphasizes the importance of some students who receive a large number of nominations from others. It was measured by using the variance of friendship nominations in each class group. A low variance indicates that students tend to have a similar number of friendship nominations (very close to the mean). A large variance indicates that students' friendship nominations are more dispersed (far from the mean), and a higher number of nominations could be

concentrated in a few students. This measure has been previously proposed by other research (Snijders, 1981; Van der Oord & Van Rossem, 2002). The number of nominations received per student in response to the question "Who are your friends?" was divided by the total number of students who answered the question. Finally, the variance of each class group was calculated. It was found to vary across classes (range = 0.01-0.09; $\bar{X}$ = 0.02, *SD* = 0.01). Finally, these scores were *z*-standardized.

Data Analysis

Because of the data's hierarchical structure with students nested within classrooms, multilevel modeling was used to test the hypotheses using HLM7 software (Raudenbush, Bryk, & Congdon, 2010). This analysis limits possible bias resulting from the dependency of the observations by dividing the variance of the dependent variable by the levels of the analysis (Bliese & Hanges, 2004). All predictor variables except gender and grade were centered using *z*-standardization ($\bar{X}$ = 0, *SD* = 1) to observe the size effect in the models and to interpret the results by obtaining similar standard errors (cf. Aiken & West, 1991). Intraclass correlation coefficient (ICC) was used to analyze between-school variance for the dependent variables, victimization and aggression (ICC = .04 and ICC = .02, respectively). These values indicated that average school victimization and aggression do not vary significantly across schools; consequently, we ignored this third level. We also calculated ICC to analyze between-classroom variance for victimization and aggression (ICC = .12 and ICC = .09, respectively). These values obtained were moderate but similar to other research on school violence (Mercer, McMillen, & DeRosier, 2009).

The results were organized as follows. First, girls and boys were compared on victimization, aggression, peer acceptance, and peer rejection using independent-samples *t* tests. Second, the Pearson correlations among the individual-level variables were calculated. Next, two multilevel models were calculated considering victimization and aggression as dependent variables. The independent variables, at the individual level, were male, peer acceptance, and peer rejection; meanwhile, at the classroom level, they were cohesion, hierarchy, and grade level. When a two- or three-way interaction was found in the model, we tested it by calculating the simple slopes and by plotting the graphs with the variables according to instructions provided by Aiken and West (1991). We tested 9 two-way interactions for each multilevel model. The same interactions presented below were explored considering aggression as a dependent variable instead of victimization. At the individual level, we examined the effect of gender on the relationship between peer acceptance

and peer rejection with victimization. For the cross-level interactions, we tested the moderating effect of cohesion on three links: peer rejection–victimization, peer acceptance–victimization, and gender–victimization. We also tested the effect of hierarchy on the same three links. Then, we tested 7 three-way interactions for each multilevel model. We examined the interacting effect of cohesion and hierarchy on three links: peer acceptance–victimization, peer rejection–victimization, and gender–victimization. We also tested the interacting effect of cohesion and gender on the relationship between peer rejection and peer acceptance with victimization. Finally, we examine the interacting effect of hierarchy and gender on the same two links: peer rejection–victimization and peer acceptance–victimization.

In our study, same-gender friendship nominations were predominant (76.76%) compared with cross-gender nominations (23.23%). Preadolescents preferred same-gender peers, and separating data by gender could be justified to carry out the analyses. We decided not to do this, however, for several reasons. In a preliminary set of analyses, we contrasted the hypotheses by calculating within gender all the variables and models, but we did not find any influence of cohesion and hierarchy on the individual variables studied. To explain this, it should be noted that in our data, the participants showed a pattern of answering friendship nominations with same-gender-oriented choices in first positions and other-gender-oriented choices in later positions. Close and same-gender friends were represented at the beginning of nominations; opposite-gender friends tended to be nominated later. By considering separately within gender, the analyses of the social structure of a classroom would result in approximately a quarter of the network being omitted. However, although aggressors consider the importance of same-gender groups, we propose they have also into consideration opposite-gender groups formed in the classroom to value their loss of acceptance when they target on victims. Another reason to avoid an analysis exclusively based on same-gender data is that most victimization was carried out by boys, and most girls were targeted by boys.

Results

Individual Level

Descriptive scores and correlations were calculated for gender (Table 1). Boys showed more victimization, $t(6598) = 10.81$, $p < .001$, and aggression, $t(6598) = 18.52$, $p < .001$, than girls. There were no significant gender differences in peer acceptance or rejection. Victimization correlated positively with peer rejection ($r = .39$) and negatively with peer acceptance ($r = -.34$).

Table 1. Descriptive Scores and Correlations Between Individual Characteristics.

	Boys (n = 3,350)	Girls (n = 3,250)	Correlations			
Variables	$\overline{X}$ (SD)	$\overline{X}$ (SD)	1	2	3	4
1. Victimization	0.06 (0.12)	0.03 (0.08)				
2. Aggression	0.10 (0.19)	0.03 (0.10)	.02			
3. Peer acceptance	0.39 (0.21)	0.39 (0.20)	−.34**	−.16**		
4. Peer rejection	0.27 (0.20)	0.21 (0.18)	.39**	.38**	−.68**	

**$p < .001$.

Aggression correlated positively with peer rejection ($r = .38$) and negatively with peer acceptance ($r = -.16$). At the individual level, peer rejection was positively associated with victimization ($\gamma = .165$, $t = 6.34$, $p < .001$) and aggression ($\gamma = .171$, $t = 8.26$, $p < .001$). Peer acceptance was negatively associated with being victimized ($\gamma = -.224$, $t = -8.38$, $p < .001$) and with aggression ($\gamma = .110$, $t = 6.54$, $p < .001$). Gender showed a moderation effect on four links: peer rejection–victimization ($\gamma = -.276$, $t = 8.53$, $p < .001$), peer acceptance–victimization ($\gamma = -.164$, $t = 5.19$, $p < .001$), peer rejection–aggression ($\gamma = .304$, $t = 12.02$, $p < .001$), and peer acceptance–aggression ($\gamma = .110$, $t = 6.54$, $p < .001$). We calculated the simple slopes for a further analysis of these interactions. Peer acceptance was more inversely associated to victimization for girls, $b = -.011$, $t(6598) = -16.53$, $p < .01$, than for boys, $b = -.015$, $t(6598) = -8.82$, $p < .001$. Gender did not moderate the association between peer rejection and victimization. Peer acceptance was more inversely related to aggression for boys, $b = -.016$, $t(6598) = -18.37$, $p < .001$, than for girls, $b = -.005$, $t(6598) = -4.88$, $p < .001$. Finally peer-rejected boys showed a higher aggression, $b = .031$, $t(6598) = 39.84$, $p < .001$, than girls, $b = .012$, $t(6598) = 11.96$, $p < .001$.

Classroom Level

We hypothesized that cohesion and hierarchy would have main effects on individual victimization (see Table 2). Cohesion and hierarchy showed an interacting positive effect on victimization ($\gamma = .033$, $t = 2.19$, $p < .05$). In order to analyze the interactions, we created a plot (Aiken & West, 1991), and 1 *SD* above and below the mean values on peer rejection was taken and used to calculate the simple slopes (see Figure 2). Cohesion moderated the relationship between hierarchy and victimization in such a way that when

Table 2. Multilevel Regression Analysis Predicting Peer Victimization and Aggression From PA and Rejection and Classroom Cohesion and Hierarchy.

	Victimization			Aggression		
	γ	*SD*	*t*	γ	*SD*	*t*
Intercept	.031	0.021	1.48	.026	0.021	1.24
Level 1 (individual)						
Male (= 1)	.023	0.031	0.75	.171	0.020	8.26***
PR	.165	0.026	6.34***	.304	0.025	12.02***
PA	−.224	0.026	−8.38***	.110	0.016	6.54***
PR × Male	−.276	0.032	−8.53***	.327	0.043	7.48***
PA × Male	−.164	0.031	−5.19***	.110	0.032	3.38***
Level 2 (class)						
Grade level	−.026	0.032	−0.81	.081	0.031	2.55**
Cohesion	−.018	0.024	−0.73	−.009	0.011	−0.83
Hierarchy	.005	0.028	0.20	.021	0.014	1.47
Hierarchy × Cohesion	.033	0.015	2.19*	.004	0.012	0.35
Cross-level interactions						
Cohesion × Male	−.014	0.027	−0.52	−.012	−0.021	−0.55
Cohesion × PR	−.061	0.042	−1.43	.029	0.023	1.22
Cohesion × PA	−.020	0.021	−0.93	−.006	0.017	−0.35
Cohesion × Male × PR	.027	0.021	1.28	.002	0.042	0.06
Cohesion × Male × PA	.045	0.031	1.47	.063	0.035	1.80
Hierarchy × Male	.004	0.031	0.12	.068	0.023	2.70**
Hierarchy × PR	−.088	0.027	−3.22***	.015	0.026	0.58
Hierarchy × PA	−.019	0.029	−0.66	.018	0.019	0.96
Hierarchy × Male × PR	.079	0.058	1.35	−.023	0.058	−0.40
Hierarchy × Male × PA	.021	0.038	0.54	−.121	0.043	−2.77**
Cohesion × Hierarchy × Male	.024	0.030	0.79	−.018	0.019	−0.94
Cohesion × Hierarchy × PR	.050	0.020	2.38*	.014	0.026	0.55
Cohesion × Hierarchy × PA	.024	0.017	1.44	.014	0.023	0.64

Note. PR = peer rejection; PA = peer acceptance.
*$p < .05$. **$p < .01$. ***$p < .001$.

cohesion was high, the association between hierarchy and victimization was stronger, $b = .003$, $t(6598) = 3.14$, $p < .01$, compared with those classrooms with low levels of cohesion, $b = -.001$, $t(6598) = -0.67$, *ns*. Those results showed a higher victimization associated with highly hierarchized and highly

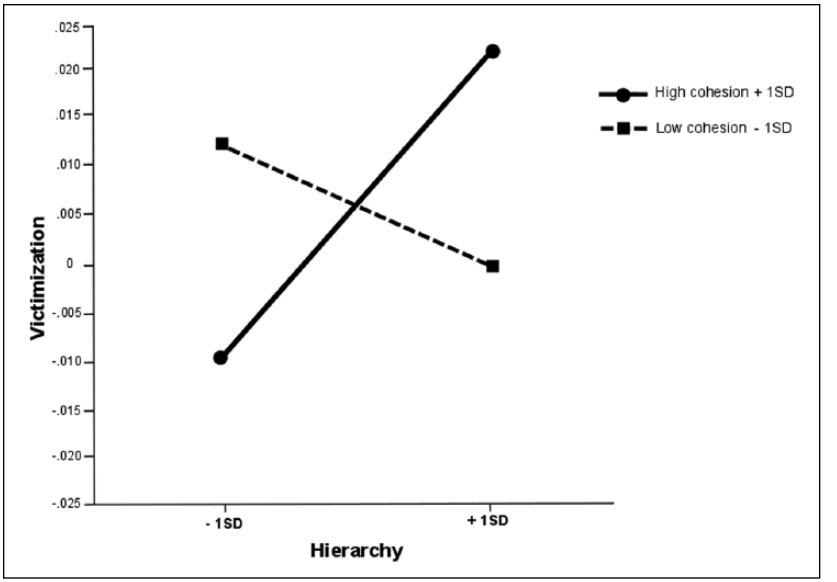

Figure 2. Interactions of hierarchy and cohesion in predicting victimization.

cohesive classrooms compared with class groups with high hierarchy but loosely connected. Grade showed a positive association with aggression (γ = .081, t = 0.031, $p < .01$), in such a way that eighth graders showed higher level of aggressiveness compared with seventh graders.

Cross-Level Interactions

Our hypotheses were specifically focused on the interacting effect between the classroom-level variables, hierarchy and cohesion, on peer rejection and peer acceptance associations with victimization and aggression. Hierarchy moderated the association between peer rejection and victimization (γ = −.088, t = −3.22, $p < .001$). Peer rejection was positively associated with victimization in all class groups; however, this association was weaker in classrooms with high hierarchy, b = .014, $t(6598)$ = 10.27, $p < .001$, than in classrooms with low hierarchy, b = .018, $t(6598)$ = 15.20, $p < .001$ (see Figure 3). This result suggests that students with high peer rejection experienced more victimization in less hierarchized classrooms than in those with high hierarchy. Finally, cohesion showed an interacting effect with hierarchy on the relationship between peer rejection and victimization (γ = .050,

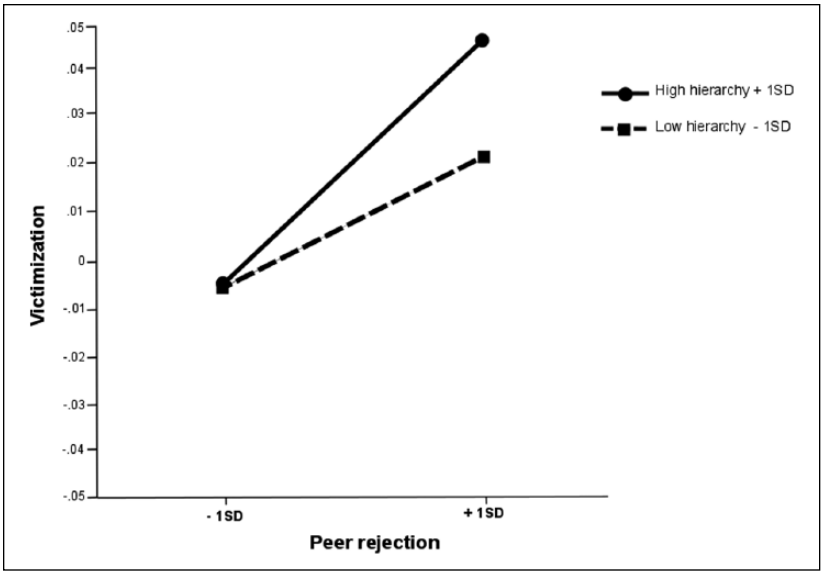

Figure 3. Interactions of peer rejection and hierarchy in predicting victimization.

$t = 2.38$, $p < .05$). The peer rejection–victimization slope in classrooms with high hierarchy varied according to the different levels for cohesion. As shown in Figure 4, peer rejection was a positive predictor of victimization, but this association was stronger in highly hierarchized and highly cohesive class groups, $b = .021$, $t(6598) = 7.06$, $p < .001$, than in class groups with high hierarchy and low cohesion, $b = .009$, $t(6598) = 2.41$, $p < .05$ (see Figure 4). This finding suggests that students with high peer rejection scores were victimized more in classes with higher levels of hierarchy and cohesion than in those with high hierarchy and low cohesion. No significant effects were found for cohesion and hierarchy on the association between victimization and peer acceptance.

Hierarchy showed a moderating effect on the relationship between gender and aggression ($\gamma = .068$, $t = 2.70$, $p < .01$). Being male was positively associated with aggression in all classrooms; however, this relationship was stronger in hierarchical classrooms, $b = .02$, $t(6598) = 7.80$, $p < .001$, than in those with low hierarchy, $b = .01$, $t(6598) = 3.15$, $p < .01$ (see Figure 5). Also hierarchy and gender showed an interacting effect on the relationship between peer acceptance and aggression. Peer acceptance was a negative predictor of aggression in males; however, this relationship was stronger in

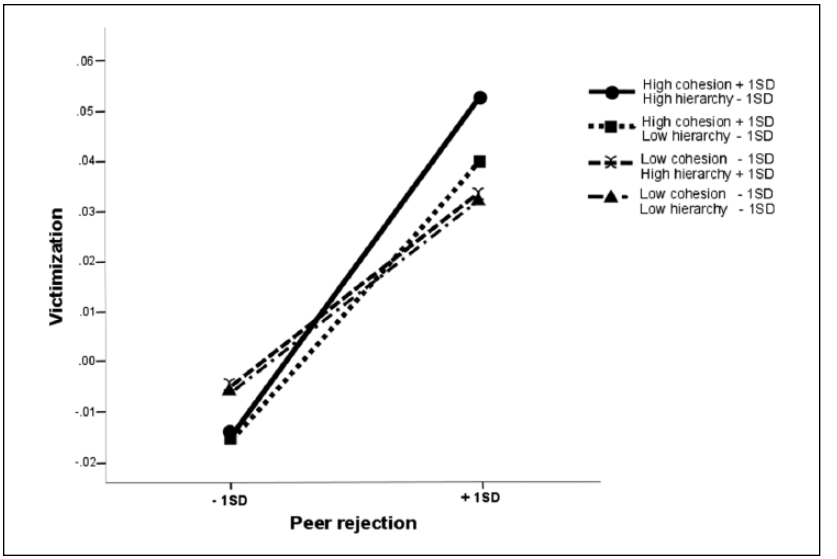

Figure 4. Interactions of peer rejection with hierarchy and cohesion in predicting victimization.

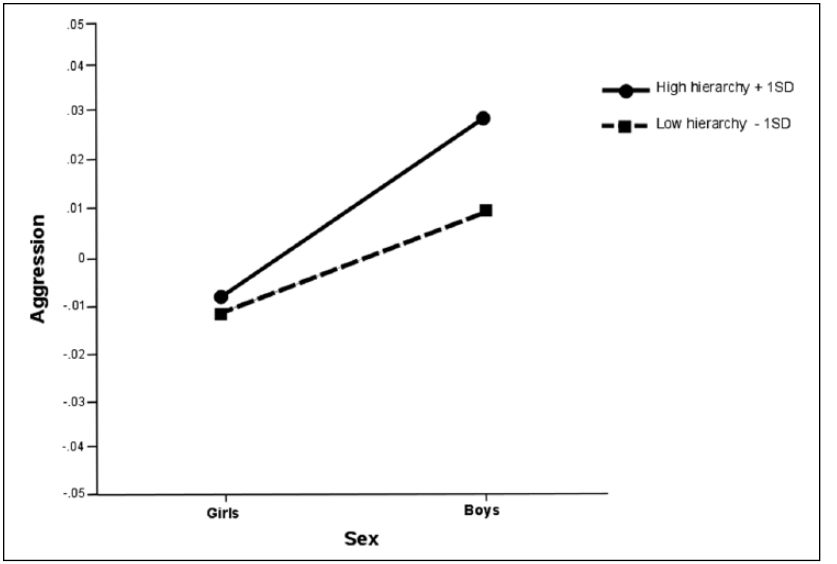

Figure 5. Interactions of sex and hierarchy in predicting aggression.

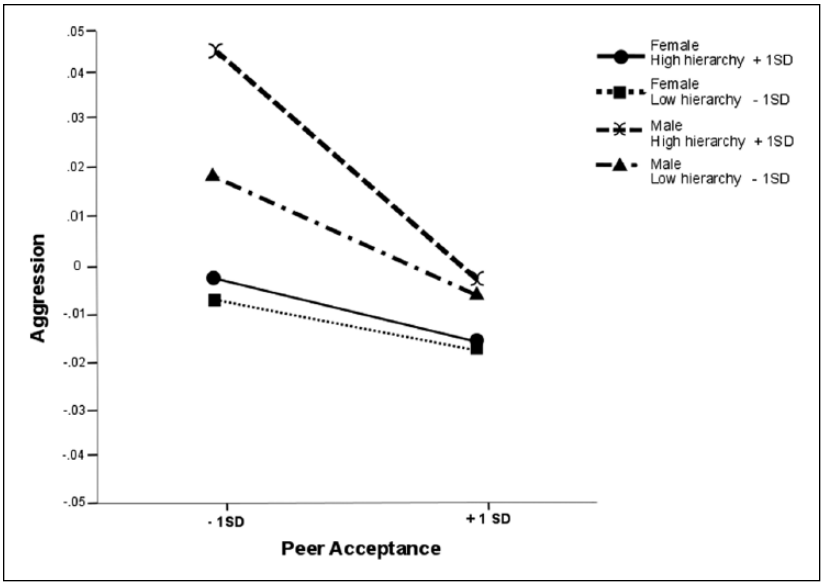

Figure 6. Interactions of peer rejection with sex and hierarchy in predicting aggression.

highly hierarchized classrooms, $b = -.032$, $t(6598) = -12.65$, $p < .001$, than in classrooms with low hierarchy, $b = -.014$, $t(6598) = -5.76$, $p < .001$ (see Figure 6). No significant effects were found for cohesion and hierarchy on the aggression–peer rejection link.

Discussion

The main aim of this study was to determine whether the level of cohesion and hierarchy in classrooms might moderate on four links: peer rejection–victimization, peer rejection–aggression, peer acceptance–victimization, and peer acceptance–aggression. The goal-framing approach might explain how the structure of the peer networks influences aggressors' strategies in the class and how it affects victimization. We proposed that, in a hierarchized and cohesive class group, the targeting of victimization should be more centralized and clearly defined, compared to classrooms with high levels of hierarchy but low levels of cohesion where the targeting should be more dispersed. The results supported this hypothesis. By focusing on targeted classmates with low social status, aggressors tend to minimize the risk of gaining the dislike of other peers as a consequence of their aggressive behaviors.

We recorded less victimization in hierarchized classrooms with low cohesion; nevertheless, more victimization was found in hierarchized class groups with high cohesion. As we noted earlier, the effect of a hierarchical structure might be stronger in a highly cohesive than in a loosely connected social network. At this point, the methods used to measure hierarchy in each study on school violence from a social network perspective are worth particular comment. Ahn et al. (2010) analyzed the level of hierarchy and incorporated the level of cohesion as a moderator, as we did in our study. This approach follows research from the field of sociology (Moody & White, 2003). However, other studies have used hierarchy exclusively (Garandeau et al., 2011; Zwaan et al., 2013). Further analysis might provide a deeper understanding of the moderating role of cohesion on the association between hierarchy and social status.

We also hypothesized that the relationship between being rejected by one's peers and being victimized in highly cohesive and hierarchical groups would be stronger than in groups with lower levels of cohesion and hierarchy. Findings confirmed this hypothesis: Peer-rejected students were more vulnerable and subjected to greater victimization in highly cohesive and hierarchical classrooms, compared with those with high hierarchy and low cohesion. However, in relation to the peer acceptance–victimization link, we found that this association was not influenced by cohesion and hierarchy as noted with the peer rejection–victimization link. Ahn et al. (2010) also analyzed the influence of cohesion and hierarchy on the victimization–sociometric popularity link; however, they did not found any significant result. A possible explanation for this difference in comparison with our study might be that we divided the analysis of sociometric popularity by considering separately peer acceptance and rejection, whereas Ahn et al. (2010) calculated sociometric popularity as social preference (peer acceptance minus peer rejection). There has been little research to elucidate whether peer rejection and acceptance follow different behavioral processes (Rubin, Bukowski, & Laursen, 2009). Traditionally, peer rejection and acceptance have been regarded as symmetrical components of the same process, for example, when social preference is calculated by subtracting peer rejection from peer acceptance scores. From this perspective, studies from a social network approach have used social preference in relation to victimization (Ahn et al., 2010) and aggression (Garandeau et al., 2011) with no relevant findings. However, some authors have noted that peer acceptance and rejection follow different and asymmetric mechanisms, for example, peer acceptance presents a much higher frequency compared with peer rejection, and both show different levels of explained variance, higher for peer acceptance than for peer rejection (Dijkstra et al., 2007). Considering that both explain different processes, separate analysis could provide a more accurate measure of individuals'

likability in research from a social network approach, specifically for peer rejection.

Findings in our study showed that aggression positively correlated with peer rejection and negatively with peer acceptance, in parallel with previous research (LaFontana & Cillessen, 2002). Considering the peer networks at classroom level, we found that males with a high sociometric status might show a lower level of aggression in hierarchized classrooms compared with those more egalitarian. This contradicts prior research (Ahn & Rodkin, 2014), which showed a positive relationship between aggression and males' sociometric popularity in classrooms with high hierarchy. Our result might parallel other research that has found a negative association between popularity and aggression in hierarchized classrooms with a stronger effect in males compared with females (Zwaan et al., 2013). However, there are two important differences with our study. First, Zwaan and colleagues (2013) used perceived popularity instead of sociometric popularity to measure the social status. A second important difference is that the variables they calculated were based on nominations among same-gender peers, whereas we integrated nominations among same- and other-gender peers. According to those authors, peer hierarchies might stabilize the peer group and reduce the levels of aggression.

Limitations

Three limitations of this research should be pointed out. A first limitation was the use of cross-sectional data. Longitudinal research is needed to observe the development of social networks and their associations with individual variables across time. Second, the data used in this study were obtained exclusively by peer-reported surveys. This procedure shows good validity and reliability when social relationships and behaviors are compared (Bukowski & Hoza, 1989), but it could present difficulties with common-method variance. By using other procedures, such as self-reported measures on victimization and aggression, this limitation could be corrected. A further limitation relates to the decision not to consider separately the different types of aggression and victimization (physical, verbal, social, etc.) and the influence of gender considering separately same-gender nominations, as it has been done by other research (Pattiselanno et al., 2015; Zwaan et al., 2013).

Conclusion

In summary, peer group structure showed a moderating role on the peer rejection–victimization link on one hand and on the peer acceptance–aggression

relationship on the other. Highly cohesive and hierarchized classrooms might be associated with an increase in the level of victimization and the targeting of rejected students, thus subjecting them to more victimization. This peer network would allow aggressors to focus on isolated and rejected students because it would be socially more profitable than targeting integrated classmates. While attacking an isolated or rejected student would not have a negative effect on peers' acceptance of the aggressor, distressing a classmate who is part of a clique would be socially more expensive because it might be viewed negatively by subgroup members and hence have a detrimental effect on peers' acceptance of the aggressor.

Peer networks of the class group might be also influencing the peer acceptance–aggression link in males. Boys with higher sociometric popularity might show lower levels of aggression in highly hierarchized classrooms. As it has been previously noted, hierarchy might be stabilizing the peer group and it might also reduce the level of aggression (Savin-Williams, 1979; Zwaan et al., 2013).

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