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Do Actions Speak Louder Than Words? Classroom Attitudes and Behavior in Relation to Bullying in Early Adolescence

Ron Scholte, Miranda Sentse, and Isabela Granic
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The aim of the present study was to examine to what extent classroom factors (i.e., classroom antibullying attitudes and behavioral norms) contributed to individual bullying, after controlling for individual difference characteristics. Participants were 2,547 early adolescents (M = 13.4 years, SD = .63) from 109 middle school classes. Self- and peer reports were used to answer the research questions. It was found that adolescents in classrooms that held permissive attitudes toward bullying were more likely to bully themselves, even after controlling for individual attitude, gender, social preference, and number of reciprocal friends. However, the association of classroom attitudes with individual bullying decreased substantially when classroom bullying behavior was taken into account. Our study suggests that the effects of classroom antibullying attitudes might be partly mediated by classroom behaviors. It implies that research that has not included classroom behavior might have overestimated the effects of classroom attitudes on bullying.

Recent studies show that bullying is a serious and common problem, with many children and adolescents in both Western and non-Western countries (e.g., Due et al., 2005; Eslea et al., 2003; Nansel, Craig, Overpeck, Saluja, & Ruan, 2004). Bullying is usually defined as repeated, negative actions by one or more peers toward a person who cannot defend himself or herself (Olweus, 1993). To diminish the prevalence of bullying, numerous prevention and intervention programs have been developed and implemented. Despite some promising programs that have shown good outcomes (Olweus, 1994; Salmivalli, Kaukiainen, & Voeten, 2005), most of these initiatives have been modest at best in their success (see, e.g., Samara & Smith, 2008; Smith, Pepler, & Rigby, 2004) and have produced moderate to low effect sizes. Part of the reason for these small effects is that an adequately comprehensive model of the development and maintenance of bullying behavior is lacking and important factors may have been overlooked.

One promising theoretical model is the social ecological model of Swearer and Espelage (2004). According to this model, bullying does not occur in isolation, but rather is the result of interactions between individual factors, peers, family, classroom, and community factors. Until recently, most research on bullying focused on individual factors. The last decade, however, has witnessed an increase in studies examining the social context in which bullying episodes are embedded. The classroom context, both in terms of the collective students’ attitudes and bullying behaviors, may have strong influences on individual adolescents’ bullying propensities. To develop more effective and more comprehensive prevention programs, we might need a conceptual model of bullying behavior that takes into account individual difference characteristics as well as social factors, including both classroom attitudes and overt behavioral norms. The shift from investigating individual difference characteristics to classroom factors is relevant because the attitudes and behaviors of the class as a whole can be an explanation for why the same child (with stable individual characteristics) may be bullied in one class but not in another.

Previous research on bullying has usually focused on individual difference characteristics of bullies and has shown that boys are more likely to be bullies than girls (e.g., Boulton & Smith, 1994; Nansel et al., 2001;
Scholte, Engels, Overbeek, de Kemp, & Haselager, 2007) and that Machiavellianism (Andreou, 2004), empathy (Caravita, Di Blasio, & Salmivalli, 2009) and social skills (Sutton, Smith, & Swettenham, 1999) are related to bullying. Furthermore, bullying has been related to social acceptance and peer relations. In general bullyies are less liked and more disliked by peers and have fewer friends (Boulton & Smith, 1994; Pellegrini, 1998; Salmivalli, Huttunen, & Lagerspetz, 1997). Valuable as these studies have been, focusing solely on individual difference characteristics may not be adequate to fully understand bullying.

Research also suggests that bullying is a group phenomenon, taking place in social groups such as school classes (Ladd, 1983). The work on participant roles in bullying (Goossens, Ohlfor, & Dekker, 2006; Salmivalli, Lagerspetz, Björkqvist, Österman, & Kaukiainen, 1996; Schäfer, Korn, Brodbeck, Wolke, & Schultz, 2005; Sutton & Smith, 1999) has revealed that up to 85% of all class members may in one way or another be involved in bullying. It is clear that a comprehensive model of bullying should include the social context in which bullying takes place, in addition to individual factors. Because bullying predominantly takes place in school classes (but see, e.g., Coyne, Craig, & Chong, 2004; Smith, Singer, Hoel, & Cooper, 2003, for bullying in the workplace), in this study we focused on individual difference factors and on factors related to the classroom context.

Two classroom factors may be especially relevant with respect to bullying. First, classroom attitudes toward bullying can be expected to predict individual involvement in bullying. Existing research on attitudes has been restricted to students’ individual attitudes. In general, children and adolescents report a negative attitude toward bullying (Andreou, Vlachou, & Didaskalou, 2005; Boulton, Bucci, & Hawker, 1999; Menesini et al., 1997; Rigby & Slees, 1991). Given the assumed association between individual attitudes and bullying, various intervention programs aim at changing bullying attitudes in classrooms. For example, the program developed by Olweus (1994), which has been implemented in more or less adapted versions in various countries including Belgium (Stevens, de Bourdeaudhuij, & Oost, 2000) Canada (Pepler, Craig, Ziegler, & Charach, 1994), Germany (Hanewinkel & Eichler, 1999), Great Britain (Smith & Sharp, 1994), and the United States (Bauer, Lozano, & Rivara, 2007; Olweus & Limber, 1999) explicitly focuses on developing antibullying or pro-victim attitudes in order to reduce individual bullying in classrooms (see also Smith & Ananiadou, 2003). Other programs similarly target students’ bullying attitudes (e.g., Salmivalli et al., 2005).

Still, the extent to which individual attitudes predict actual bullying behavior is not yet clear. Whereas some studies report a significant association (Andreou et al., 2005; Boulton et al., 1999; Eslea & Smith, 2000), others suggest that individual bullying attitudes are only minor to moderate predictors of bullying (e.g., Boulton, Trueman, & Flemington, 2002; Rigby, 2004; Salmivalli & Voeten, 2004).

Of interest, whereas many of the children and adolescents hold a negative attitude toward bullying, they are nevertheless directly or indirectly involved in bullying (Salmivalli & Voeten, 2004). One explanation for this paradox is that children and adolescents’ behavior not only is guided by their individual attitudes but may be substantially affected by the social context (i.e., the classroom) in which they are embedded. Attitudes at the classroom level may be important and may partly predict whether individuals are more likely to become involved in bullying. That is, when a class as a whole holds a permissive attitude toward bullying, a student may be more inclined to become involved in bullying compared to a student within a class that is characterized by a nonpermissive attitude.

We examined bullying in a sample of early adolescents just after their transition to secondary school. This is a crucial period to investigate because the transition from primary school to secondary school is a time of abrupt changes. Children enter a new social environment and have to (re)establish social relationships with classmates (Eslea et al., 2003). A commonly used strategy to establish dominance status with peers, especially for boys, is the use of aggression and bullying (Pellegrini & Long, 2002). Attitudes toward bullying change over the period of early to middle adolescence. Specifically, attitudes become less negative about bullying until the age of 14 or 15, after which these attitudes shift once again and become less permissive (Olweus & Endresen, 1998). Studies on attitudes on bullying and aggression at a classroom level have revealed that classmates’ attitudes appeared to predict changes in children’s individual behavior (Henry et al., 2000; Salmivalli & Voeten, 2004). Other studies, however, have failed to find any significant long-term associations (e.g., Stevens, Oost, & De Bourdeaudhuij, 2000).

One reason why classroom attitudes may not always be strongly related to individual bullying behavior is that not only the classroom attitudes but also the general level of bullying inside a class (i.e., descriptive norm; cf. Cialdini, Kallgren, & Reno, 1991; Henry et al., 2000) may influence an individual’s behavior. Studying classroom behavioral norms could be an important extension of previous studies on classroom attitudes. It is possible that even in classrooms characterized by a nonpermissive attitude toward bullying, some class members will bully. In line with social-learning theory, adolescents may observe that classmates who bully, despite the dominant antibullying
attitudes in class, are rewarded for that behavior, such as by an increase in social status or dominance (Pellegrini & Long, 2002; Sentse, Scholte, Salmivalli, & Voeten, 2007). Observing these rewards may serve as a reinforcer for other adolescents to also engage in this behavior. In this respect, the classroom behavior can mediate the link between classroom attitudes and individual bullying. Studies on the broader area of aggression, as well as on bullying, reveal that group norms are related to individuals’ intentions to aggress or bully (Nesdale, Durkin, Maass, Kiesner, & Griffiths, 2008; but see also Nesdale, Milliner, Duffy, & Griffiths, 2009) and to actual aggression and bullying (Duffy & Nesdale, 2009; Espelage, Holt, & Henkel, 2003; Henry, 2001; Kuppens, Grietens, Onghena, Michiels, & Subramanian, 2008). Other studies show that group norms influence the extent to which children or adolescents find bullying or aggression acceptable (Ojala & Nesdale, 2004; Sentse et al., 2007; Stormshak, Bierman, Bruschi, Dodge, & Coie, 1999). Although both norms and attitudes are important factors in relation to individual bullying or aggression, studies that examined bullying attitudes at the classroom level have usually not accounted for classroom behavioral norms. Thus, it is not yet clear to what extent classroom attitudes are related to individual levels of bullying, when controlling for classroom behavior.

THE PRESENT STUDY

The overall aim of the present study was to examine to what extent classroom factors (i.e., class-level antibullying attitudes and behavioral norms) would contribute to individual bullying, after controlling for social characteristics of the individual. These characteristics included individual antibullying attitudes and also gender, social preference, and the number of friends, as these factors have been shown to be associated with bullying in previous research (e.g., Hodges & Perry, 1999; Pellegrini, Bartini, & Brooks, 1999; Scholte et al., 2009; Sentse et al., 2007). From a social perspective, having friends and being liked by peers can be regarded as social factors. From a statistical point of view, however, they are treated as individual-level factors in multilevel analyses because each child attains an individual score on these variables, which can differ from the scores of other children. We also expected that classroom behavioral norms (i.e., the mean behavior of all classmates in a classroom) would be associated with individual bullying involvement over and beyond classroom attitudes. Finding significant associations between classroom factors and individual bullying would have important implications, both for building a more adequate conceptual model of bullying and for refining prevention and intervention programs.

Two main hypotheses were investigated: First, classroom antibullying attitudes were expected to be related to adolescents’ bullying behavior, even after controlling for individual antibullying attitudes and important individual difference characteristics such as gender, social preference, and number of reciprocal friends. Second, classroom bullying behavior was hypothesized to mediate, or partially mediate, the association between classroom attitudes and individual bullying behavior.

METHOD

Participants

Participants were 2,547 early adolescents (M = 13.4 years, SD = .63) from 109 classes from 43 schools in the Netherlands. The adolescents were all in the first grade of secondary school. Of our total sample of adolescents, 51% were boys and 49% were girls. Ethnic background was recorded, showing that 2,051 of the participants were of Dutch origin. The other participants were ethnic minorities, originating from Surinam and the Dutch Antilles (17), Turkey and Morocco (141), or elsewhere (338).

Procedure

Forty-seven secondary schools were sent a letter, directed to the headmaster of the school, in which we explained our study on bullying and in which we stressed the importance of examining young adolescents just after their transition to secondary school. Of the 47 schools we contacted, only 4 schools (9%) did not want to participate in our study because of a busy educational program (n = 1), because of their participation in other current studies (n = 2), or because they did not think the present study was a useful one, as bullying would not be taking place in their school (n = 1). We thus were able to collect data in 43 secondary schools with 109 classes. Passive assent and consent was obtained from the parents and adolescents, respectively. Schools were sent letters that all adolescents took home to inform their parents about the study. In these letters, parents were asked to contact the research team when they did not want their child to participate. None of the parents refused to consent. The study was approved by the Institutional Review Board.

The participants were asked to fill out questionnaires during classroom sessions of 50 min, for each school class separately. The questionnaires were administered by trained master-students, in the presence of the teacher of the class. Before handing out the questionnaires,
the examiner gave an introduction and class instructions. The participants were told that the study was on well-being and social interactions. They were guaranteed confidentiality and were reminded that their participation was not obligatory, but no one refused to participate. After the classroom assessment, the participants were thanked for participation. After the whole data collection was finished, schools received a short research report.

Measures

**Self-reports of involvement in bullying.** Involvement in bullying was measured using a Dutch adaptation of the Olweus Bully/victim Questionnaire (Olweus, 1989). This measure has been frequently used in previous studies and has been correlated with social factors such as preference and number of friends, and to personal factors including personality, self-esteem, and loneliness in large-scale adolescent samples (e.g., Scholte et al., 2009; Sentse et al., 2007). The Bullying Others subscale consisted of five items—(a) How often did you bully others this term; (b) How often did you bully others in the last five days; (c) How often do you say mean things to other kids; (d) How often do you bully others in the last five days; (e) How often do you hit, kick, or threaten others; (f) How often did you bully others last term—and had a reliability of \( \alpha = .70 \). Answers were made on a 5-point scale ranging 1 (never), 2 (sometimes), 3 (regularly), 4 (once a week), and 5 (more times a week). For the second question, the answers were never, once, two times, three or four times, and five times or more. For each participant, the scores on the five items were averaged to create a score on bullying. In the questionnaire we defined the concept of “bullying” as follows:

We can speak of bullying when a child or a group of peers say mean or hurtful things to another child. The same is true when a child is being hit, kicked, threatened, or is being excluded from the group. These things can be classified as bullying when they happen frequently or regularly, and when it’s difficult for the child being bullied to defend him- or herself. It’s NOT bullying when two or more children who are equally strong tease each other or fight with each other.

**Social preference.** Adolescents were handed out a roster containing the names and numbers of their classmates. Each participant was asked to nominate up to five classmates in response to the questions “Which classmates do you like most?” and “Which classmates do you like least?” Adolescents could nominate each classmate as well as classmates who were not present at the time of the data collection. Self-nominations were not allowed. For each participant the number of nominations received on the “like most” were subtracted from the “like least” questions to obtain the social preference score (Coie & Dodge, 1983). These values were then standardized within the classroom to account for differences in class size, a well-established methodology for assessing social preferences (Newcomb & Bukowski, 1983).

**Reciprocal friends.** Reciprocal friends are friends who mutually nominate one another as friends (Hartup, 1996). In line with this conceptualization, the number of reciprocal friends an adolescent had was measured with a sociometric question: “Which classmates are your best friends?” Friendships were labeled reciprocal if both an adolescent and a classmate reciprocally nominated each other, consistent with past research (e.g., Scholte et al., 2009; Swenson & Rose, 2009). The concept “friends” was defined as follows: “Friends are classmates who you see and meet with on a regular basis and who would nominate you as a friend as well.” Adolescents could nominate up to five classmates. For each participant the number of reciprocal friend nominations was calculated, which could vary from zero to five.

**Antibullying attitudes.** To measure antibullying attitudes we adapted the measure developed by Salmivalli and Voeten (2004). The validity of that measure was supported by findings showing that the attitudes assessed by this scale significantly predicted bullying behavior. In our study, participants were asked to evaluate the extent to which they agreed or disagreed with 10 statements about bullying. Items with (r) were reverse coded.

1. One should try to help the bullied victims.
2. Bullying may be fun sometimes (r).
3. It is the victims’ own fault that they are bullied (r).
4. Bullying is stupid.
5. Joining in bullying is a wrong thing to do.
6. It is not that bad when you laugh with others when someone is being bullied (r).
7. One should report bullying to the teacher.
8. Making friends with the bullied victim is the right thing to do.
9. It is funny, when someone ridicules a classmate over and over again (r).
10. Bullying makes the victim feel bad.

Answers were made on a 5-point scale, ranging from 0 (strongly disagree) to 4 (strongly agree). As in Salmivalli and Voeten’s study, factor analyses revealed one attitude factor. Reliability of the scale in our study was \( \alpha = .68 \). After recoding and averaging the students’
scores on this scale, a high score on this scale indicated a negative attitude toward bullying.

**Classroom antibullying attitudes (attitudinal norm).** The self-reported antibullying attitude scores were aggregated to the classroom level by averaging adolescents’ scores within each classroom, following the same procedure for creating group-level variables as was done in previous research (Bellmore, Witkow, Graham, & Juvonen, 2004; Espelage et al., 2003; Sentse et al., 2007). We left out the target child score in calculating classroom averages. Classroom antibullying attitudes in this study are thus referring to an attitudinal norm, conceptualized as the average antibullying attitude in class, which can be seen as normative and from which individual attitudes can deviate.

**Classroom bullying behavior (descriptive, behavioral norm).** We computed a classroom-level (aggregated) score of bullying based on the self-reports of the variables on the Olweus Bully/victim Questionnaire (Olweus, 1989; see the Self-Reports of Involvement in Bullying section). We averaged the adolescents’ scores within each classroom to create a classroom level of bullying. The target child’s score was left out of the classroom average. This procedure has been shown to be valid in prior studies that revealed that classroom bullying behavioral norms moderated the association between bullying involvement and social preference (e.g., Sentse et al., 2007).

**Data Analyses**
First, descriptive statistics are presented for bullying, the number of reciprocal friends, social status, and antibullying attitude (individual-level effects), and for classroom levels of antibullying attitudes and classroom bullying behavior (classroom-level effects). Second, multilevel models, which are equivalent to hierarchical linear models, are presented. First, we modeled the variance on both the individual level and the classroom level in adolescents’ bullying scores (the empty model). Second, the individual-level factors were included in the model (the individual-level model). Finally, the classroom-level effects were entered into the equation (the full model).

**RESULTS**

**Descriptive Statistics**
Means and standard deviations of the individual and classroom level variables are given in Table 1 for the total sample, as well as for girls and boys separately. Bullying scores were higher for boys, \( t(2,545) = -10.70, p < .01 \), whereas girls had higher scores on the number of reciprocal friends, \( t(2,545) = 6.22, p < .01 \); social preference, \( t(2,545) = 3.32, p < .01 \); and a more negative attitude toward bullying, \( t(2,545) = 10.95, p < .01 \). We subsequently tested gender differences by including gender and interactions with gender as predictors in our multilevel models.

Table 2 shows the correlations between the variables under study. These correlations regard the total sample and do no account for possible classroom differences. Bullying was strongly but not perfectly correlated with antibullying attitudes, both at the individual and group level. Social preference was negatively related to bullying at the individual level but was unrelated to either bullying or antibullying attitudes at the group level. The opposite pattern can be observed for number of reciprocal friends, which was unrelated to bullying at the individual level whereas it was negatively related to bullying and permissive attitudes at the group level.

**Multilevel Analysis**
To test the hypothesized effects we constructed multilevel models for bullying, using MLwiN 2.02 (Rasbash

**TABLE 1**
Distribution of Main Study Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Girlsa</th>
<th>Boysb</th>
<th>Totalc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bullying</td>
<td>1.33</td>
<td>1.53</td>
<td>1.43</td>
</tr>
<tr>
<td>N of Reciprocal Friends</td>
<td>2.35</td>
<td>1.99</td>
<td>2.17</td>
</tr>
<tr>
<td>Social Preference</td>
<td>.09</td>
<td>.04</td>
<td>.02</td>
</tr>
<tr>
<td>Individual Antibullying Attitudes</td>
<td>4.28</td>
<td>4.03</td>
<td>4.15</td>
</tr>
<tr>
<td>Classroom Antibullying Attitude</td>
<td>3.97</td>
<td>3.97</td>
<td>3.97</td>
</tr>
<tr>
<td>Classroom Bullying Behavior</td>
<td>1.37</td>
<td>1.37</td>
<td>1.37</td>
</tr>
</tbody>
</table>

*Note. Social Preference is z standardized.

a\( n = 1,237 \).
b\( n = 1,310 \).
c\( n = 2,547 \).

**TABLE 2**
Zero-Order Correlations Among Main Study Variables (Uncorrected for Classroom-Level Differences)

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Bullying</td>
<td>—</td>
<td>.04a</td>
<td>—</td>
<td>.41a</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>2. N of Reciprocal Friends</td>
<td>.01</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>3. Social Preference</td>
<td>- .04a</td>
<td>—</td>
<td>.41a</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4. Individual Antibullying Attitudes</td>
<td>- .52</td>
<td>-.03</td>
<td>.01</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>5. Classroom Antibullying Attitude</td>
<td>- .22</td>
<td>- .05</td>
<td>-.01</td>
<td>.21</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>6. Classroom Bullying Behavior</td>
<td>.23</td>
<td>- .06</td>
<td>-.00</td>
<td>- .20</td>
<td>- .76</td>
<td>—</td>
</tr>
</tbody>
</table>

*p < .05.
et al., 2000). The reason for using multilevel analysis in the present study was our nested data (students within classrooms) and variables measured on different levels. We defined two levels in our data: an individual level (student level) and a classroom level (Lee, 2000). The reason that we did not use the school as a third level is that we did not have specific theoretical hypotheses about school-level factors. Another reason for not examining school-level factors was that the 109 classroom came from 43 different schools and, in a number of schools, we had data from only one classroom. A school-level factor would in those cases represent the same information and variability as the classroom-level factor.

In our multilevel models, individual bullying was the dependent variable. The independent variables at the individual level were gender, social preference, number of reciprocal friends, and antibullying attitudes. The independent variables at the classroom level were classroom levels of bullying and antibullying attitudes. We centered our independent classroom-level variables around their grand mean before they were entered in the multilevel prediction (i.e., for every participant the grand mean was subtracted from the raw scores). Gender was entered in the multilevel prediction as a dummy variable, with code 0 referring to girls and code 1 referring to boys.

**Empty model.** The empty model contains no explanatory variables and gives an estimation of the variances to be explained at the individual and at the classroom level. For bullying, the variance between adolescents within classrooms was estimated to be .20 and the variance between classrooms was .02. There was a statistically significant variability between classrooms, as indicated by the variance coefficient and its standard error ($p < .05$). The intraclass correlation was .09, meaning that 9% of the variance in adolescents’ bullying scores consisted of variance between classrooms.

**Individual-level model.** Next, we tested the individual-level predictors of bullying. These variables were gender, number of reciprocal friends, social preference, and antibullying attitudes and were entered in the prediction simultaneously. Regression coefficients and standard errors are reported in Table 3. For exploratory reasons, interactions with gender were tested but failed to reach statistical significance. We also tested for random slopes, that is, differences between classrooms in the effect of a predictor on individual bullying. For all predictors, the random slopes were not significant and are therefore not reported here.

All individual predictors were statistically significant ($p < .05$), as indicated by the $t$ test. As expected, boys bullied more than girls. Moreover, having reciprocal friends was associated positively with bullying, whereas social preference was negatively related to bullying, indicating that socially preferred adolescents bullied less than adolescents who were disliked by their classmates. It should be noted that the effects of number of reciprocal friends and social preference were small. In addition, antibullying attitudes were associated with less bullying behavior. The variability between adolescents within classes for bullying was reduced from .20 to .15, indicating that the individual-level variables explained 25% of the initial variability in bullying between adolescents within classrooms (i.e., 5 of 20, thus 5/20 × 100% = 25%). In addition, a chi-square test revealed a significant drop in deviance of the model after the individual-level variables were entered in the prediction of bullying (see Table 3), indicating that the individual-level model significantly fitted the data.

**Full model.** The full model reveals whether differences in classroom context are related to individual bullying. The classroom context was defined by classroom levels of antibullying attitudes and classroom levels of bullying, both consisting of the averaged scores on these variables of all adolescents in a classroom with the target adolescent score left out. These variables were entered in the prediction in a grand-mean centered form, so that a score of zero referred to the overall average level of these variables.

When classroom antibullying attitudes were entered in the prediction, the model for bullying improved significantly, as indicated by the significant regression

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Individual Level</th>
<th>Final Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>2.88*</td>
<td>2.84*</td>
</tr>
<tr>
<td>Gender (Boys)</td>
<td>.10**</td>
<td>.11**</td>
</tr>
<tr>
<td>N of Reciprocal Friends</td>
<td>.02</td>
<td>.02</td>
</tr>
<tr>
<td>Social Preference</td>
<td>-.03*</td>
<td>-.03*</td>
</tr>
<tr>
<td>Individual Antibullying Attitudes</td>
<td>-.37**</td>
<td>-.36*</td>
</tr>
<tr>
<td>Deviance Drop (df = 4)</td>
<td>776.99**</td>
<td></td>
</tr>
<tr>
<td>Classroom Antibullying Attitude</td>
<td>-.12*</td>
<td>-.06</td>
</tr>
<tr>
<td>Classroom Bullying Behavior</td>
<td>.30*</td>
<td>.08</td>
</tr>
<tr>
<td>Deviance Drop (df = 3)</td>
<td>31.66*</td>
<td></td>
</tr>
</tbody>
</table>

*Difference in deviance between empty model and individual-level model has a Chi-squared distribution and serves as an indication for model fit.

*Difference in deviance between individual-level model and full model has a Chi-squared distribution and serves as an indication for model fit.

$p < .05$. **$p < .01$. 

![Table 3: Multilevel Model for Bullying](attachment:image.png)
coefficients for classroom attitudes ($b = -.31$). Because we controlled for individual attitudes, the regression coefficient for classroom antibullying attitudes refers to the effect of classroom attitude over and above the effect of individual attitudes. The model shows that adolescents in classrooms in which a negative attitude toward bullying was dominant were less likely to bully than adolescents in classrooms with a more positive attitude toward bullying. Of importance, after classroom behavior (i.e., bullying) was entered in the prediction of adolescents’ bullying scores, the association between classroom antibullying attitudes and individual bullying reduced substantively, from $b = -.31$ to $b = -.12$ (see right column of Table 3 for this final model). This suggested that classroom bullying behavior partially mediated the association between classroom antibullying attitudes and individual bullying behavior, reducing the initial regression coefficient of classroom attitudes by 61%. Classroom bullying behavior was positively associated to individual bullying (see Table 3). To test whether classroom bullying behavior significantly mediated the effect of classroom antibullying attitudes, we performed the Sobel test using a bootstrap approach (cf. Preacher & Hayes, 2004). This test confirmed our initial interpretation of the multilevel analysis, with the suggested mediation being highly significant ($z = -4.58$, $p < .001$).

In this final model, the variability between classrooms was not significant anymore. We explained all the initial between-classroom variance, which was 7% of the initial total variance in bullying. The deviance of the full model compared to the individual-level model showed a significant drop as indicated by the chi-square test (see Table 3), indicating that this model fit the data significantly better than the individual-level model.

**DISCUSSION**

The main aim of the present study was to examine to what extent classroom attitudes and behavior were associated with individual bullying behavior, after controlling for individual difference characteristics. Finding significant associations could have important implications for theorizing about bullying, as it would mean that conceptual models that only include individual difference characteristics would be restricted because they neglect the effects of contextual influences. Our study is among the first to examine behavior and attitudes at the classroom level simultaneously in relation to individual bullying.

In the present study, we demonstrated that both individual-level factors and the classroom context are significantly related to adolescents’ bullying. As expected, individual antibullying attitudes were related to bullying, which is in line with previous studies (Andreou et al., 2005; Boulton et al., 1999; Eslea & Smith, 2000). Furthermore, boys were more likely to be bullies than girls (e.g., Bauer et al., 2007; Nansel et al., 2001; Scholte et al., 2007). In addition, the number of friends and social preference were both weakly yet significantly related to bullying. The fact that adolescents who had more reciprocal friends were more likely to bully suggest that these friends may somehow reinforce bullies in their behavior, for example, by attributing a higher social status to these bullies (cf. Pellegreni & Long, 2002; Salmivalli et al., 1997). Nevertheless, given the small effects, replication of these findings in other studies is warranted.

In support of our first hypothesis, we found that the classroom context in terms of classroom antibullying attitudes was indeed significantly related to bullying at the individual level, even after controlling for individual antibullying attitudes and other important individual difference characteristics such as gender, social preference, and number of reciprocal friends. This finding corroborates earlier findings on the importance of classroom attitudes in relation to bullying (Salmivalli & Voeten, 2004) or aggressive behavior in general (Henry et al., 2000). We found that adolescents in classrooms that held permissive attitudes toward bullying were more likely to bully themselves. It seems that the way classmates in the classroom think about bullying in general affects how adolescents themselves are involved. This may provide empirical support for the possible effectiveness of targeting classroom attitudes in antibullying intervention programs to decrease bullying in schools (e.g., see Smith & Ananiadou, 2003, for an overview of programs).

The second major finding was that in addition to classroom attitudes, the general level of bullying in the classroom was significantly related to individual bullying. Two points are essential here as they highlight the importance of classroom behavior relative to classroom attitudes. First, the results provide a first indication that the general level of behavior in the classroom might be as important, if not more important, than classroom attitudes to drive individual bullying involvement. In general, studies on explicit attitudes toward bullying report that school classes generally hold a negative attitude toward bullying (e.g., Eslea & Smith, 2000). There are, however, bullies in almost every school class despite the presence of a dominating negative classroom attitude. When bullies get away with their behavior without
being punished or are even rewarded by an increase in social status or dominance (cf. Pellegrini & Long, 2002; Sentse et al., 2007), this might be a strong signal toward classmates counteracting the possible effects of generally held negative attitudes.

Second, when classroom behavior was entered into the prediction of individual bullying, there was a substantial drop in the association between classroom attitudes and individual-level bullying. In other words, the effects of classroom bullying attitudes might be partly mediated by classroom behaviors. Indirect proof comes from the 61% drop in the effect of classroom attitudes after the inclusion of classroom behavior. An additional formal test of mediation confirmed this finding. Even though attitudes seem to be important predictors of what adolescents do or experience at the individual level, once it is taken into account what actually happens in the class in terms of behavior, attitudes seem to be less relevant. In this respect, it seems as if actions (i.e., what classmates do) speak louder than words (i.e., what they think about bullying). However, because our study was cross-sectional, we cannot make conclusions about causality due to the correlational design of the study. Although our findings seem to suggest that classroom bullying behavior levels mediate classroom attitudes, longitudinal studies on bullying are needed to test actual mediation and to describe any causal links.

The positive association between classroom bullying behavior and adolescents’ bullying is consistent with the results from studies on peer group behavior and involvement in bullying (Espelage et al., 2003). The finding that higher levels of bullying on a classroom level are related to higher levels of individual bullying suggests that adolescents reinforce bullying behaviors in their classmates. This would be in line with research showing that peers are important socializing agents on a number of behaviors. For example, an increasing number of studies on aggression have revealed that peer contagion (i.e., peer influence affecting deviant behavior of an individual) exists in early childhood (e.g., Goldstein, Arnold, Rosenberg, Stowe, & Ortiz, 2001; Hanish, Martin, Fabes, Leonard, & Herzog, 2005), middle childhood (Boxer, Guerra, Huesmann, & Morales, 2005; Warren, Schoppelrey, Moberg, & McDonald, 2005), and adolescence (e.g., Cohen & Prinstein, 2006; Espelage et al., 2003).

There are several mechanisms whereby classroom norms could influence an individual’s behaviors. Through observation, individuals may learn that aggression or bullying others is rewarding as it may lead to increased social status or dominance within the class (Cohen & Prinstein, 2006; Pellegrini & Long, 2002). Furthermore, adolescents may desire to befriend a valued peer and could take over beliefs and behaviors of that peer to increase the likelihood of actually becoming friends (Hanish et al., 2005; Mrug, Hoza, & Bukowski, 2004). In addition, according to the social identity theory (Tajfel & Turner, 1979) adolescents could imitate the behavior and beliefs from peers that exemplify the identity they want to hold (Duffy & Nesdale, 2009; Olaja & Nesdale, 2004). It has also been suggested that behavioral norms foster compliance and conformity from group members (Juvonen & Galván, 2009). As a result, adolescents may bully to avoid exclusion from a peer group. Moreover, the mere fact that individuals are victimized, or even witness victimization, may predict their levels of aggression (Boxer, Edwards-Leeper, Goldstein, Musher-Eizenman, & Dubow, 2003). Finally, Boxer et al. (2005) described the principle of discrepancy-proportional peer influence, showing that in intervention groups, the level of aggression of individual children changed in the peer group’s average.

Study Limitations

A limitation of our study concerns the definition of the social context. We defined the context as the classroom, since bullying takes place mainly in school classes (Smith & Brain, 2000). For statistical reasons (i.e., many schools in our study consisted of only one class, and thus the class and school level were overlapping) we could not include the larger school context as a possible correlate of bullying. Furthermore, other levels of the social context than just individual and classroom factors are involved in bullying (cf. social-ecological model; Swearer & Espelage, 2004). For example, it has been suggested that the school climate is substantially related to bullying and victimization (see Orpinas & Horne, 2006). Frequently implemented intervention programs such as Olweus’s antibullying program (Olweus, 1994; see Smith & Ananiadou, 2003) and the program conducted by Salmivalli et al. (2005) apply a multilevel approach, focusing on the individual, classroom and school level. Our study focused on the norms and attitudes on the classroom level. Although classrooms norms may be important, many of the mechanisms that explain the link between these norms and individual behavior pertain to smaller peer groups rather than the larger class. As recent research indicates, norms and attitudes of smaller peer groups inside a class, in addition to classroom level norms, affect individual behavior (Duffy & Nesdale, 2009).

Implications for Research, Policy, and Practice

Our study had a number of strengths such as a large sample, multi-informant data (i.e., self-report and peer report data) and a multilevel approach to account for our nested data. It provided new insights into factors
that are related to bullying. It also has practical implications for further research. The majority of studies on bullying have described individual difference characteristics of children and adolescents as potential predictors of bullying involvement. Our study reveals that these characteristics may be important and remain significant but that the larger social context in which bullying takes place should be included as well in order to obtain a more complete understanding of this social problem. Previous studies that have taken the class context into account have usually focused on classroom attitudes (Henry et al., 2000; Salmivalli & Voeten, 2004). As our study showed that the magnitude of the association of attitudes with individual bullying decreased substantially when controlling for classroom behavior, it is likely that these studies may have overestimated the effects of classroom attitudes.

Studies on the association between bullying attitudes and bullying have exclusively focused on explicit attitudes, assessed in survey studies. Given that many schools advocate an antibullying climate and employ strategies to establish nonpermissive attitudes among adolescents toward bullying in school, assessing explicit attitudes through survey studies might evoke socially desirable answers. Recent research suggests that individuals’ implicit attitudes may be important predictors of behavior as well (e.g., Greenwald & Banaji, 1995). This has been shown to be the case with aggression (Gollwitzer, Banse, Eisenbach, & Naumann, 2007) and discrimination (Fazio & Olson, 2003). An important next step in bullying research would be to examine to what extent implicit attitudes, in addition to explicit attitudes, are related to individual bullying. It may well be that implicit attitudes interact with explicit attitudes, which would provide a further explanation for why some adolescents who report to hold negative attitudes toward bullying nevertheless encourage bullying behaviors of others or even bully themselves (Goethem, Scholte, & Wiers, in press).

To more fully understand bullying and the role of behavioral norms and attitudes, future research might also include the role of teachers and parents, as well as smaller peer groups. Empirical studies that simultaneously examine all these levels are lacking. It would be highly relevant to examine to what extent the school climate and family factors predict individual bullying or victimization, in addition to significant individual and classroom factors that have been identified in the present and previous studies. Finally, future research should compare the effects of attitudes and behavior across different age groups to be conclusive on the importance of the classroom context for children before, during, and after the transition from elementary to secondary school.

Our study also has important implications for bullying interventions. Many bullying interventions focus on changing students’ attitudes toward bullying. Although this focus seems justified by the fact that attitudes are related to bullying (Salmivalli & Voeten, 2004), our findings imply that this focus may be too narrow. Given that our study suggests that the effects of attitudes are mediated by what is actually happening in class in terms of bullying (i.e., classroom bullying behavior), intervention programs should also direct their focus on diminishing the actual bullying behavior. Moreover, because classroom attitudes and bullying behavior were significantly related to bullying after controlling for individual-level attitudes, our study also implies that focusing on individual students (e.g., bullies) may not be appropriate. Rather, antibullying interventions should target classrooms as a whole, with all class members included. This may be especially important just after the transition from primary to secondary schools, when entering a new social group, adolescents will try to adjust to their new group and might be inclined to display behaviors that are socially rewarded in terms of increased dominance (cf. Pellgrini & Long, 2002).

REFERENCES


Smith, P. K., Pepler, D., & Rigby, K. (Eds.). *Bullying in schools: How successful can interventions be?* New York: Cambridge University Press.


