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Improving the School Context of Early Adolescence through Teacher Attunement to Victimization: Effects on School Belonging

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Abstract

The present study examined the effects of teacher attunement to victimization on student perceptions of the bullying culture of their schools as a means of fostering a sense of belonging among early adolescents. Participants ($n = 1,264$) in sixth grade reported on the frequency that they had been bullied, and teachers were asked to report students who were “picked on.” Teacher attunement represented the correspondence between self-identified and teacher-identified victims. Attunement at the beginning of the school year was related to positive changes in student reports that their peers would intervene in bullying; in turn, sense of belonging was greater when students perceived that their peers would intervene in bullying. Teacher attunement was indirectly related to greater belonging through its impact on student perceptions of the bullying context.

Keywords

Belonging; Bullying; School Context; Teacher Attunement; Peer Cultures

Early adolescence is a period of developmental vulnerability marked by significant physical, psychological, and social changes. As youth spend an increasing amount of time in school or school-related activities, schools serve as important contexts for social-emotional, academic, and behavioral adjustment during this period (Eccles & Roeser, 2011). Of particular importance in early adolescence is a sense of belonging to school, which has far reaching implications for students' psychological and academic well-being (Osterman, 2000; Wang & Holcombe, 2010). A supportive and safe school environment is vital to the development of school belonging (Deci & Ryan, 2012); unfortunately, the school contexts of early

adolescence are often characterized by increases in aggression and bullying behaviors, leading to declines in belonging and subsequent risk for academic and psychological maladjustment and school dropout (Finn, 1993; Juvonen, 2006). Teacher accurate knowledge of students' peer affiliations, or attunement, represents a type of teacher responsiveness that has been linked to increases in school belonging for middle school students (Hamm, Farmer, Dadisman, Gravelle, & Murray, 2011); however, the mechanisms by which this occurs have not been examined. Using the conceptual model presented in Figure 1, we hypothesize that teacher awareness of the victims of bullying creates a school culture in which students are less supportive of bullying and more likely to intervene; in turn, more positive perceptions of the bullying culture of school lead to a greater sense of belonging among early adolescents in sixth grade.

The importance of a sense of belonging to school is grounded in self-determination theory, which posits that all individuals have fundamental psychological needs for autonomy, competence, and relatedness (Deci & Ryan, 1985; Ryan & Deci, 2000). Inherent in a sense of belonging is the fulfillment of the need for relatedness, or the “need to feel securely connected with others in the environment and to experience oneself as worthy of love and respect” (Osterman, 2000; p. 325). Empirical work supports these theoretical claims, citing higher levels of academic motivation and engagement, greater commitment to being successful in school, more positive and accepting views of self and others, and a lower likelihood of engaging in risky behaviors among youth who have a greater psychological connection to school (see Osterman, 2000; Wang & Holcombe, 2010). Social contexts such as schools play a crucial role in the extent to which the fundamental psychological need for relatedness is met; contexts that are supportive of this need help to support healthy development, whereas contexts that do not support this need are expected to hinder healthy development, growth, and well-being (Deci & Ryan, 2012).

The need for belonging may be of particular importance in early adolescence, as this developmental period is characterized by an increased desire for social status and acceptance, and the need for supportive relationships with both peers and non-parental adults. (Eccles & Roeser, 2011; LaFontana & Cillessen, 2010). At the same time, early adolescent school environments, particularly in middle schools, are often not conducive to the development of belonging. As youth jockey for social status, aggression and bullying behaviors increase, particularly as early adolescents prioritize popularity over other important domains of functioning such as academic achievement, prosocial behavior, and friendship (LaFontana & Cillessen, 2010). The result is a peer culture, or “stable set of activities or routines, artifacts, values, and concerns that children produce and share in interaction with peers” (Corsaro & Eder, 1990; p. 197), in which youth report feelings of social isolation, rather than belonging, and view their peers as being unfriendly, uncaring, and unaccepting (Juvonen, Le, Kaganoff, Augustine, & Constant, 2004). Peer cultures of aggression and bullying place all students at risk for social-emotional and behavioral maladjustment, declining academic engagement, and lower commitment to school (Brand, Felner, Shinn, Seitsinger, & Dumas, 2003; Mehta, Cornell, Fan, & Gregory, 2013).

Research within the past decade has increasingly highlighted the role of bystander behavior in incidents of aggression and bullying. Bystanders are youth who may assist, encourage,

ignore, or intervene in bullying (Salmivalli, Lagerspetz, Bjorkqvist, Osterman, & Kaukiainen, 1996). Higher levels of defending behavior and lower levels of support for bullying within classrooms and schools has been shown to help buffer victims against the negative consequences of bullying, including social anxiety and rejection (Karna, Voeten, Poskiparta, & Salmivalli, 2010). Likewise, bystander behavior can impact the overall bullying culture of schools by influencing other students' perceptions of victims and the sense of safety felt by all students in school, not just victims of bullying (Gini, Pozzoli, Borghi, & Franzoni, 2008).

As leaders of their classrooms, teachers can indirectly shape the peer cultures of their schools to be more supportive of individual students and less supportive of bullying (Farmer, Lines, & Hamm, 2011; Rodkin & Gest, 2011), thereby improving the psychological outcomes of their students. One way in which teachers have been shown to create this environment is through accurate knowledge of, or attunement to, the social dynamics of their students, including bullying. Attunement has been conceptualized as a type of teacher involvement that involves knowledge and understanding of students (Hamm et al., 2011; Skinner & Belmont, 1993). Teachers who are attuned to the social dynamics of their students, such as which children affiliate together in peer groups, tend to have classrooms characterized by more positive social climates, with students that report a greater sense of school belonging and a greater willingness to defend victims of bullying (Hamm et al., 2011). Intervention efforts to improve teacher attunement have demonstrated positive effects on teachers' ability to identify the peer groups of students identified as bullies (Farmer, Hall, Petrin, Hamm, & Dadisman, 2010); in turn, when teachers and students agree which children in their classrooms are aggressive, the social status of aggressive children diminishes over time (Ahn & Rodkin, 2014). Unfortunately, teacher attunement to bully-victim dyads is generally low, particularly as the number of students in a classroom increases (Ahn, Rodkin, & Gest, 2013). Low levels of attunement to victims of bullying, combined with lower levels of responsive teaching (i.e., teacher sensitivity, quality of feedback, positive climate, and quality instructional formats), are related to declines in school bonding and motivation over time (Gest, Madill, Zadzora, Miller, & Rodkin, 2014).

By being attuned to the social dynamics of their students, teachers are in a better position to structure their classrooms in ways that reduce conflict among youth, promote engagement of all students, and create opportunities for victimized students to gain status among their peers (Farmer et al., 2011; Rodkin & Hodges, 2003). Attunement to victimization may help teachers anticipate and prevent or intervene in bullying situations; in turn, by modeling effective strategies for intervening in bullying, students may feel more confident that they themselves can effectively come to the aid of their victimized peers. Finally, creating a supportive environment through knowledge of their students' experiences with bullying can help bystanders of bullying realize their responsibilities to intervene, and increase their confidence that adults will appropriately respond to incidents of bullying (Pepler, 2006).

The Present Study

Research findings clearly suggest that a sense of belonging in school is an important contributor to adjustment in early adolescence, and that the social context of school is

critical for the development of belonging. Through attunement to victimization in their classrooms, teachers may help create a more positive school context in which students view their peers as more protective of bullying behaviors. The present study extends previous research on school belonging by examining student perceptions of the culture of bullying as a mechanism by which teacher attunement to victimization can help foster a sense of belonging among early adolescents.

Research Questions:

1. What effect does teacher attunement to victimization have on student perceptions of their school's bullying context? It was hypothesized that teacher attunement to victimization would lead to increased student perceptions that peers will intervene in the event that they are being personally bullied.
2. What is the effect of student perceptions of the bullying culture of school on students' sense of school belonging? It was hypothesized that student perceptions that their peers would intervene in bullying would be related to a greater sense of belonging to school.
3. Does teacher attunement to victimization increase feelings of student belonging through student perceptions of the bullying context of school? It was hypothesized that the relationship between teacher attunement to victimization and school belonging would be mediated, at least in part, by students perceptions that their peers would intervene in bullying situations.

Method

This study is part of a larger intervention research program, the Rural Early Adolescent Learning (REAL) study, which utilized a cluster randomized control trial design to test the efficacy of a professional development program. Schools were recruited in pairs for participation, with each pair matched on a series of characteristics such as size, rurality, and student achievement and poverty levels. Within each matched pair, schools were randomly assigned to receive either the professional development program or to a “business as usual” control condition. The intervention component of this project was implemented at the school level, such that all sixth-grade teachers in each intervention school took part in the professional development activities offered by the program. Both intervention and control schools, as well as teachers, were compensated financially for their involvement in the study. Full information about the Project REAL study is found in Hamm, Farmer, Lambert, & Gravelle (2014).

Participants

Schools—Participants included in the present study came from 20 schools (10 matched pairs) in rural areas from eight U.S. states (four southeastern, two Midwestern, one southwestern, and one western). According to data from the National Center for Educational Statistics (NCES), the size of sixth grade across the middle schools ranged from 13 to 216 students ($M = 78.75$). On average, 61.18% of students within participating schools were

eligible for free or reduced lunch. Of the 20 participating schools, eight served a predominantly White student body, three were predominantly African American, two were predominantly Native American, and two were predominantly Latino. The remaining five schools were varied in terms of the racial and ethnic backgrounds of their student bodies. Across all schools, the percentage of students performing below grade level in reading varied widely, ranging from 18 to 96% ($M = 56.8\%$); similarly, student school-level math performance below grade level ranged from 2 to 96% ($M = 60.0\%$). Eight of the 20 middle schools did not make Adequate Yearly Progress (AYP) in the 2006–2007 school year. Of the 20 schools, 12 represented transitional middle schools serving students in grades 6-8, while the remaining eight served students in grades K-12.

Teachers—All sixth grade regular education teachers across intervention and control schools were invited to participate, and all (100%) consented. The majority of the participating teachers were White females. All were licensed, and the majority held licensure in the area they were teaching at the time of data collection. Approximately half of the teacher had a Master's degree, and more than half had 10 or more years of teaching experience. Additional details about the participating teachers in Project REAL can be found in Hamm et al. (2014).

Students—Across all participating schools, student consent rates ranged from 57.3% to 100% ($M = 81.48$, $SD = 8.14$). The original sample consisted of 2,241 students in 6th grade. however, 875 participants were excluded due to missing data on the outcome variable of interest (i.e., school belonging in the Spring), and an additional 102 were excluded due to missing data on the mediator variable of interest (i.e., perceptions of peer protection). The resulting sample consisted of 1,264 students in 6th grade. To ensure that the resulting sample did not differ significantly from the original sample. chi-square tests were run on all demographic variables and independent t-tests were conducted for the mediator and outcome variables. The only statistically significant difference between the two samples was for gender; the resulting sample had a higher proportion of girls than the original sample ($X^2 = 23.45$, $p = .000$). The majority of participants (85.4%) had transitioned into middle school from a K-5 elementary school, while the remaining 14.6% attended schools which included grades K-8 or K-12. The sample consisted of slightly more girls (52.7%) than boys. The majority of the sample was White (66.9%), followed by African American (18.5%), Hispanic (7.7%), and Native American (2.1%). The remaining 4.8% of the sample identified as Asian, Multi-racial, or “other.”

Measures

Victimization—Students were asked one question about their experience with victimization: “How often have you been bullied since school started?” Students responded to a 4-point scale (1 = never, 2 = one or more times a month, 3 = one or more times a week, 4 = one or more times a day). This item correlates moderately with peer reports of victimization ($r = .27$, $p < .01$), providing evidence of validity.

To assess teacher perceptions of student victimization, teachers were asked to rate each participating student on a scale from 1 (*Never*) to 7 (*Frequently*) on the prompt “Frequently

bullied by peers.” Each teacher was assigned a subset of participating students to rate, such that no student was rated by more than one teacher.

Perceptions of the bullying culture—Students' perceptions of peers' inclination to intervene in bullying were assessed by one subscale from the middle school version of the Protective Peer Ecology Scale (Song, 2005). The subscale, Peer Protection, contains 8 items that assess the extent to which students feel that peers would intervene if they were being bullied. In response to the prompt “If I'm being bullied...” students are asked to rate on a 5-point scale (ranging from *Never* to *Always*) the frequency with which their peers would come to their aid if being victimized (e.g., “My peers would tell others to stop the bullying,” and “My peers would talk to me to make me feel better”). Cronbach's alpha for the Peer Protection subscale has ranged from .92 to .93, (Song & Siegel, 2006; Hamm, Farmer, et al., 2011). For the current sample, the subscale score alpha value was .86.

School belonging was measured by Hagborg's (1998) Psychological Sense of School Membership-Brief (PSSM-B) scale. Designed as a short version of Goodenow's (1993) widely-used PSSM, the PSSM-B includes 11 items that focus on the affective tie students feel toward their schools. Students rate items on a 5-point response scale ranging from 1 (completely false) to 5 (completely true), their agreement with statements such as “I am treated with as much respect as other students.” Items on this scale include those that involve sense of belongingness in relation to school community in general (e.g., “I feel a real part of my school”), as well as perceived support from teachers (e.g., “Most teachers at my school are interested in me.”), and peers (e.g., “Other students like the way I am.”). Responses are averaged across items; higher scores indicate a greater sense of belonging. Cronbach's alpha for the scale has ranged from .71-.88 across diverse samples of early adolescents (e.g., Hagborg, 1998; Hamm, Farmer, et al., 2011). The Cronbach's alpha for these scale item scores in the current study was .83.

Teacher attunement to victimization—Because the focus of the study is on the effects of attunement on the broader social context of schools, attunement scores were calculated at the school-level (i.e., for sixth-grade) rather than at the teacher-level. Attunement scores were calculated in such a way as to capture teacher awareness of students who reported being frequently victimized. First, cutoff scores were chosen for student responses to the question “How often have you been bullied since school started” to represent the top 15% of ratings, which coincides with students who would be eligible for Tier 2 and Tier 3 intervention or prevention efforts. Scores were dichotomized so that responses of being bullied *Weekly* or *Daily* (22.7%) were coded as 1 (i.e., High Frequency), and responses of *Monthly* or *Never* were coded as 0 (i.e., Low Frequency). Similarly, cutoff scores were chosen for teacher nominations to represent the upper 15% of ratings, and were dichotomized such that students who received ratings from 4 (*Sometimes*) to 7 (*Frequently*) on the prompt *frequently bullied by peers* received a code of 1 (26.7%), while students receiving ratings less than 4 received a code of 0. Second, dichotomized scores were summed within each school to represent (1) the total number of students who reported a high frequency of bullying (i.e., *weekly* or *daily*), and (2) the total number of students who received a teacher nomination for *frequently bullied by peers* of 4 or higher on a 7-point scale. Third, the

number of agreements of a high frequency of bullying between student and teacher report were aggregated and summed for each school. For example, if a student reported being bullied *weekly* or *monthly* (coded as 1), and received a rating of 4 or higher on a 7-point teacher rating scale (also coded as 1), then this was counted as an agreement. Finally, Jaccard similarity coefficients were calculated between the summed scores within each school using the following formula:

$$\frac{A}{A+B+C}$$

where:

A = number of agreements of high frequency of bullying between teachers and students

B = number of students reporting high frequency of bullying, but rated as low frequency by teacher

C = number of students reporting low frequency of bullying, but rated by teacher as high frequency

This calculation accounts for both errors of commission and omission, and has been used in prior research to quantify teacher attunement (Gest et al., 2014). Scores ranged from 0 (no agreement) to 1 (perfect agreement). Because coefficients were calculated at the school-level, scores reflected the extent to which teachers were aware of the victimization occurring within each school.¹

Procedures

All data were collected from consented participants at two time points (Fall and Spring) during the sixth grade school year by trained project staff. For student surveys, all participants were gathered in the school cafeteria and assured of their confidentiality, and reminded that their participation was completely voluntary and that they could withdraw from the study at any time. Students were assigned alternating seats for privacy in responding. Project staff monitored students throughout the administration and were available to answer any questions students may have had. All participating students were given school supplies for their participation. Teachers completed survey packets, which included questions about their own individual experiences, as well as items pertaining to the participating students. Teachers were compensated financially for their participation.

Analytic Plan

To test the proposed hypotheses, we examined a mediation path model. In order to more fully utilize the longitudinal data, pathways from Time 1 scores (Fall) to Time 2 scores (Spring) for the mediator and outcome variables were included in the model. Thus, the

¹Given that the predictor variable (i.e., teacher attunement) was calculated at the school-level, whereas the mediator (i.e., perceptions of bystander intervention) and outcome (i.e., school belonging) variables were measured at the individual student-level, direct pathways from teacher attunement could only be estimated for between-school differences in the mediator variable.

model tested whether teacher attunement in the Fall predicted changes in school belonging across the school year, as mediated by changes in perceptions of bystander intervention. Given that the predictor variable (i.e., teacher attunement) was calculated at the school-level, whereas the mediator (i.e., perceptions of bystander intervention) and outcome (i.e., school belonging) variables were measured at the individual student-level, direct pathways from teacher attunement could only be estimated for between-school differences in the mediator variable. Scores from the mediating variable were thus disaggregated into between- and within-level components to separate the between-school effects from the within-school effects at the student level, following methods outlined in Hektner and Swenson (2012). Although the within-level component of the mediating variable was included in the model, a direct pathway from teacher attunement was only estimated for the between-level component.

Figure 2 presents the mediation model with all hypothesized pathways. This mediation model simultaneously tested the following pathways: (1) Path A, the direct effect of Fall attunement to between-school changes in the peer protector scores; (2) Path B-between, the direct effect of between-school changes in the peer protector scores to change in school belonging; and (3) Path B-within, the direct effect of within-school changes in peer protector scores on changes in school belonging. The direct effect of Fall attunement on change in belonging (Path C') and the total effect (Path C), were also estimated. Finally, an indirect effect (the product of the coefficients for paths A and B-between) was also estimated for fall attunement on change in belonging, as mediated by change in peer protector scores, to represent the amount of mediation present in the model, if any.

The hypothesized model was estimated using Mplus (Muthen & Muthen, 2007). A bootstrapping procedure was used to test the statistical significance of the indirect effect in the model. This type of analysis uses the observed data to generate multiple random samples in order to repeatedly test a specific statistic, thus increasing statistical power without assuming multivariate normality (Preacher & Hayes, 2008). This method also produces confidence intervals for the parameter estimates of each indirect effect. If the 95% confidence interval for a parameter estimate did not contain zero, then the indirect (i.e., mediated) effect was considered statistically significant.

Results

Descriptive statistics

Table 1 presents correlations, means and standard deviations for all analytic variables. On average, students across all schools reported a low incidence of victimization ($M = 1.69$ for Fall, $M = 1.73$ for Spring). The majority of students at each time point reported that they had never experienced bullying (67.1% in the Fall, 62.2% in the Spring) since the start of school. Of those who reported being bullied, the majority reported experiencing bullying multiple times in a day or week. Teacher attunement to students' experience of victimization was low across all schools, ranging from 0 to .36 in the Fall ($M = .16$); however, higher attunement in the Fall was related to greater reports of school belonging and reports of peer protection against bullying in the Spring. Overall, students' sense of school belonging and perceptions of their schools' peer ecologies as protective decreased from Fall to Spring. Self-reported

victimization was related to a lower sense of school belonging and decreased perceptions of peer protection in bullying situations, both concurrently and across the school year. Finally, more positive perceptions of peer protection against bullying were related to a greater sense of school belonging within and across time points.

There were some relationships between gender (female = 0, male = 1) and minority status (Ethnic Minority = 0, Caucasian = 1) and the mediator and outcome variables. Girls tended to report greater feelings of belonging to school and more positive perceptions of peer intervention in bullying than boys. Ethnic minority students reported being victimized more frequently than their Caucasian peers, and were also less likely to report perceptions of peer intervention in bullying. Schools in the control condition tended to have greater levels of teacher attunement in the Fall; however, since there were no relations between intervention condition and the mediator or outcome variables, this was not included as a covariate in the model. Given differences across gender and ethnic minority status, these variables were included in the analyses as covariates.

Effects of Attunement on School Belonging

Figure 3 and Table 2 present regression coefficients and standard error estimates for all effects in the model. School belonging in the Fall was statistically significantly predictive of belonging in the Spring ($t = 20.55, p = .000$). Likewise, between-school ($t = 21.59, p = .000$) and within-school ($t = 18.17, p = .000$) levels of peer protection in the Fall were highly predictive of peer protection in the Spring. Teacher attunement had a positive and statistically significant direct effect (Path A) on between-school changes in peer protection scores ($t = 7.44, p = .000$). In other words, schools in which teachers were more attuned to the victims of bullying in the Fall tended to have positive changes over the school year in student perceptions that peers would come to their aid in bullying situations. In turn, between-school changes in peer protection scores (Path B-between) had a statistically significant effect on between-school changes in school belonging ($t = 2.99, p = .003$), suggesting that school-level increases in peer protection perceptions were related to increases in school belonging. Individual student changes in peer protection perceptions within schools were also related to individual increases in a belonging (Path B-within; $t = 12.99, p = .000$). Finally, there was an indirect effect from teacher attunement in the Fall to change in school belonging from Fall to Spring through changes in peer protection perceptions, 95% CI = [13, .54]. Neither the direct effect from attunement to belonging (Path C') nor the total effect (Path C) was statistically significant.

Discussion

The current study examined teacher attunement to victimization as a mechanism by which teachers can create a more positive and supportive social-affective school context for early adolescents. Although positive peer relations are a critical factor in a developing sense of school belonging, relatively little research has been devoted to ways in which teachers can create a more positive peer culture for students. We present a model that highlights the positive effects that teacher attunement to victimization can have on school belonging, through its effect on student perceptions of the bullying context of school. Schools

characterized by teachers who were more attuned to self-identified victims of bullying at the beginning of the school year had students who were more likely to report that their peers would intervene in bullying situations. Moreover, through its effects on student perceptions of peer intervention, teacher attunement to victimization also created a context in which students reported a greater sense of belonging to school. Research rooted in self-determination theory (Deci & Ryan, 1985; Ryan & Deci, 2000) highlights the importance of relatedness, or belonging, to healthy development and overall well-being.

The findings indicate that teacher attunement to victimization tends to be low across schools. This finding is consistent with prior research suggesting that teachers are often unaware of bullying within their schools, particularly when incidents do not involve overt physical or verbal aggression (Mishna, Scarello, Pepler, & Wiener, 2005). The overall prevalence of self-reported victimization in the present study was low, as most students reported that they had not been bullied since school started. This may have made it more difficult for teachers to identify victimization when it occurred. Nonetheless, students who did self-report being bullied typically experienced victimization multiple times in a day or week, suggesting that bullying was a prevalent and on-going issue for a subset of students. Another possible explanation for this lack of correspondence is that teachers and students often have differing perceptions as to which behaviors constitute bullying (Naylor, Cowie, Cossin, de Bettencourt, & Lemme, 2006). While students express concerns about psychological bullying, teachers are less likely to identify covert forms of aggression, such as social exclusion and spreading rumors, as bullying (Hazler, Miller, Carney, & Green, 2001).

Although teacher attunement was low in the present study, the extent to which teachers were attuned to bullying at the beginning of the school year was directly related to a greater likelihood that students would view their peers as protective against bullying. As leaders of their classrooms, teachers have influence over the attitudes and behaviors of their students through their own practices, and students take cues from teachers about how to act appropriately in social situations (e.g., McAuliffe, Hubbard, & Romano, 2009). Knowledge of bullying may increase the likelihood that teachers will actively intervene, thus conveying to students that bullying is not acceptable and that students can feel safe to come to the aid of their peers (Doll, Song, & Siemers, 2006). Conversely, when teachers are unaware of bullying or feel that it is the victims' responsibility to defend themselves, students are less likely to intervene (Hektner and Swenson, 2012). Bystander behavior is also influenced by peer norms, such that students are more likely to intervene if they feel peer pressure to do so. By being aware of and intervening in bullying, teachers have the potential to help shape peer norms in a way that do not support bullying (Rodkin & Hodges, 2003).

Perhaps the most important finding in the present study was the effect of attunement on students' sense of school belonging. Although teacher attunement at the beginning of the school year did not have a direct effect on school belonging, attunement was indirectly related to greater belonging through its impact on student perceptions of the bullying context. This is an important finding, given the decreases in school belonging and subsequent maladjustment that is commonly observed among early adolescents (Finn, 1993; Juvonen, 2006). Teacher attunement to students' peer relations has been linked to increases in school belonging and likelihood of coming to the aid of victims among early adolescents

(Hamm et al., 2011). The present study extends these findings by identifying a mechanism by which this occurs. Attunement may represent a type of teacher responsiveness that creates a more positive social climate for early adolescents. By being attuned to bullying, teachers can make more informed decisions about certain practices such as seating and grouping students, thus creating a less disruptive and more supportive and safe school environment. Moreover, attunement may enable teachers to better anticipate when and where bullying occurs, thus allowing them to increase supervision and more quickly and effectively intervene when bullying does occur.

As with any study, the results of the present study should be interpreted in light of some limitations. First, teachers and students were not given explicit definitions or descriptions as to what constitutes bullying. Although a common definition of bullying includes aggressive behavior, repetition, and a power differential between the bully and the victim (Olweus, 1978), teachers and students may have attached their own meaning to the bullying prompt, which may have, at least in part, accounted for differences across teacher and student reports. Second, the majority of students in the present study were in traditional middle school settings in which students typically rotate among classes and teachers; although schools tended to be small, it is still likely the case that teachers saw many students throughout the school day, which may have also made it more difficult for teachers to identify victims. Third, given that the majority of the sample attended middle schools in which teachers interacted with multiple students throughout the day, attunement could not be calculated for each teacher. There may have been important differences between teachers within schools that were not detected by pooling across all teachers within a school. Future research could further examine characteristics of teachers and schools that contribute to, or hinder, attunement. Finally, the present sample was drawn from a study of schools in rural areas, and thus the results may not be generalizable to youth in other settings. Although the transition to sixth grade is commonly associated with increases in aggression and bullying (e.g., Juvonen, 2004), the opposite has been shown to occur in rural school settings. For instance, Farmer et al. (2011) found that rural schools with a transition had a lower frequency of bullying and were viewed as more protective against bullying by students than rural schools without a transition (Farmer, Hamm, Leung, Lambert, & Gravelle, 2011). There may thus be important differences between the peer ecologies of rural settings and those in metropolitan and urban school environments.

In conclusion, the findings from the current study suggest that improving teachers' awareness of bullying in their schools can help create a more positive social-affective school context characterized by a greater willingness to protect peers against bullying, which in turn helps students feel a greater sense of belonging to school. These findings highlight the importance of teachers in developing a supportive environment for students and in shaping the behaviors of youth in bullying situations.

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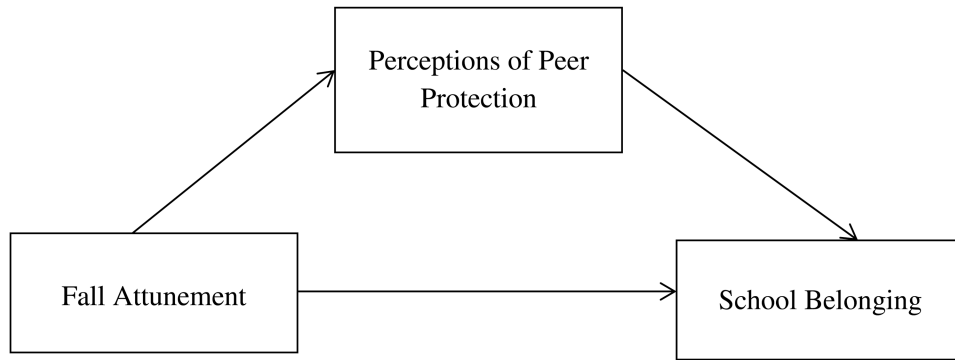


Figure 1.
Conceptual model guiding the present study.

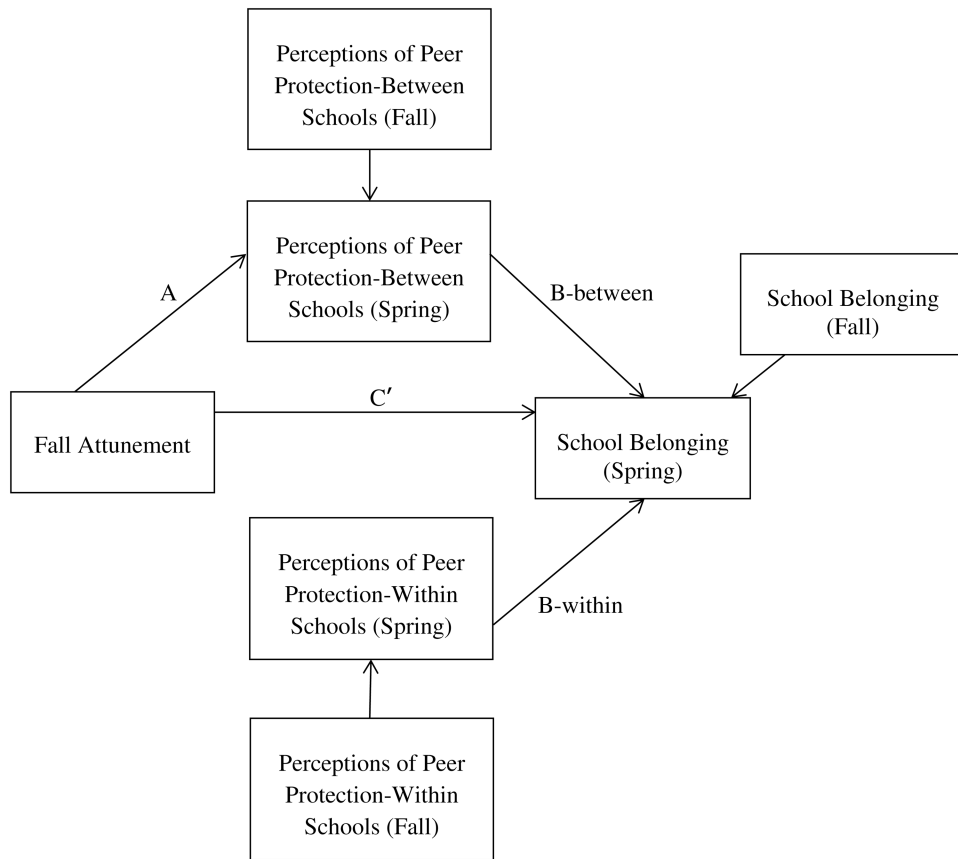


Figure 2.
Hypothesized mediation model.

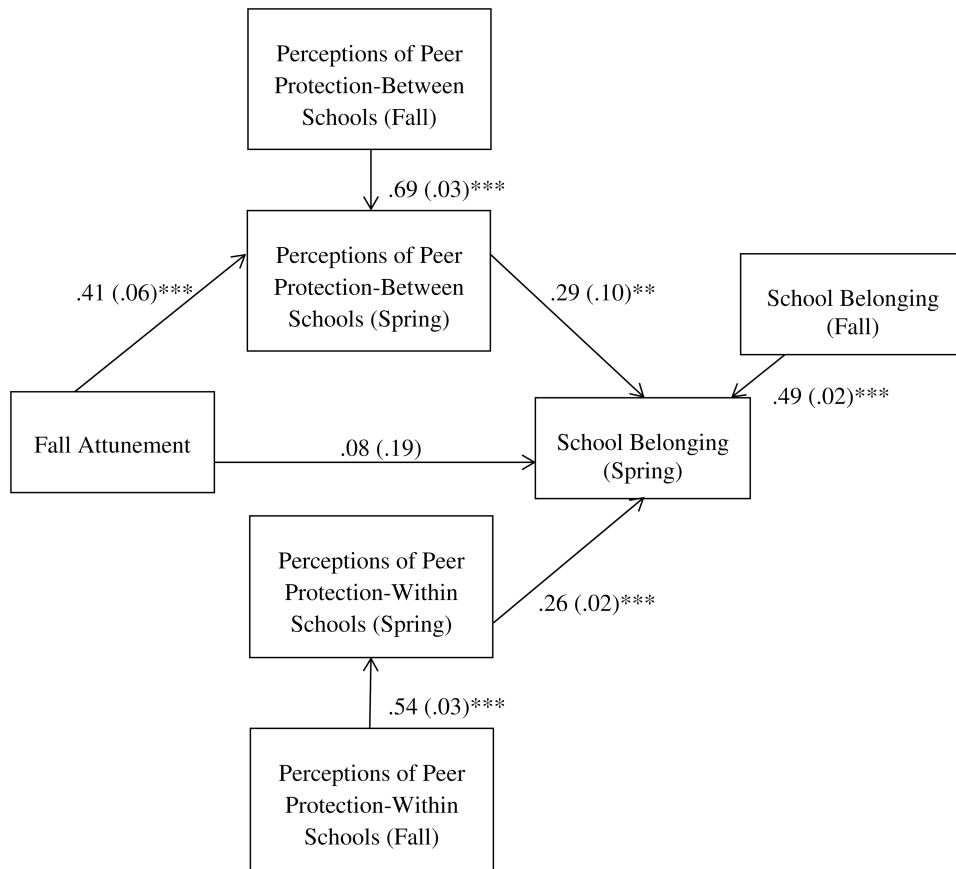


Figure 3. Regression coefficients and standard errors for a mediation model of school belonging. Note. Standard errors are in parentheses. Gender and ethnic minority status were included as covariates, but are not shown. ** $p < .01$, *** $p < .001$

Table 1
 Bivariate Correlations, Means, and Standard Deviations for Demographic and Analytic Variables.

	1	2	3	4	5	6	7	8	9	\bar{X}	<i>SD</i>
Fall											
1. Gender	—									—	—
2. Ethnic Minority	-.01	—								—	—
3. Intervention condition	-.02	.02	—							—	—
4. Self-report of victimization	.04	-.08**	.02	—						1.69	1.09
5. School belonging	-.11**	.02	-.02	-.17**	—					3.71	0.76
6. Peer protection	-.25**	-.08**	.01	-.17**	.52**	—				3.76	1.03
7. Teacher attunement	-.03	-.22**	-.10*	.04	.05	.07**	—			0.16	0.08
Spring											
8. Self-report of victimization	.02	-.04	.01	.34**	-.18**	-.13**	.02	—		1.73	1.06
9. School belonging	-.12**	.02	-.002	-.15**	.61**	.37**	.06**	-.26**	—	3.63	0.78
10. Peer protection	-.27**	-.05*	.02	-.12**	.39**	.54**	.09**	.22**	.52**	3.66	1.06

Note. $n = 1,264$. For gender, *male* = 1; for ethnic minority, *Caucasian* = 1; for treatment, *intervention condition* = 1.

* $p < .05$.

** $p < .01$.

Table 2

Regression Coefficients and Standard Error Estimates for Estimated Pathways in Hypothesized Mediation Model.

Path	Estimate	SE
Peer protection between schools (Spring)		
Peer protection between schools (Fall)	.69***	.03
Peer protection within schools (Spring)		
Peer protection within schools (Fall)	.54***	.03
School belonging (Spring)		
School belonging (Fall)	.49***	.02
Path A	.41***	.06
Path B-between	.29**	.10
Path B-within	.26***	.02
Path C'	.08	.19
Path C	.03	.02

Note. $n = 1,264$. Path A represents the path from teacher attunement in the Fall to between-level peer protector scores in the Spring; Path B-between represents the path from between-level peer protector scores in the Spring to school belonging scores in the Spring; Path B-within represents the path from within-level peer protector scores in the Spring to school belonging scores in the Spring; Path C' represents the direct effect from Fall attunement to Spring belonging; Path C represents the total effect.

**
p < .01.

p < .001.