

Boise State University

ScholarWorks

Counselor Education Faculty Publications and
Presentations

Department of Counselor Education

1-2019

The Effects of Students' Perceptions of Teachers' Anti-Bullying Behavior on Bullying Vicimization: Is Sense of School Belonging a Mediator?

Diana M. Dumas
Boise State University

Aida Midgett
Boise State University

The Effects of Students' Perceptions of Teachers' Anti-Bullying Behavior on Bullying Vicimization: Is Sense of School Belonging a Mediator?

Diana M. Dumas*
Institute for the Study of Behavioral Health and Addiction
Boise State University
dianadoumas@boisestate.edu

Aida Midgett
Department of Counselor Education
Boise State University

Author Note: The authors wish to thank Sara Wright for assistance with participant recruitment and April Johnston and for assistance with data collection and management.

Abstract

This study evaluated the influence of students' perceptions of teachers' anti-bullying behavior and sense of school belonging on bullying victimization among elementary school students ($N = 110$). We used structural equation modeling (SEM) to test a mediational model in which we hypothesized sense of school belonging would mediate the relationship between students' perceptions of teacher behavior and bullying victimization. Results supported the mediational model, indicating students' perceptions of teachers' anti-bullying behavior was positively related to sense of school belonging, which in turn was related to lower levels of bullying victimization. Findings highlight the importance of teachers in fostering a positive school climate to reduce bullying behavior. Implications for school-based bullying prevention and intervention programs are discussed.

Keywords: bullying victimization, teacher behavior, elementary school, sense of school belonging

Bullying is defined as any unwanted aggressive behavior by youth or group of youths involving an observed or perceived power imbalance that is repeated or highly likely to be repeated (Center for Disease Control [CDC], 2018). National survey data indicate 20.8% of students report being a target of bullying, with bullying rates peaking in the sixth grade (31%) (U.S. Department of Education, 2017). Bullying behaviors, however, start as early as elementary school, with 22% of students in grades 3-5 report being bullied at school and 50% of students reporting being afraid of being bullied (Luxenberg, Limber, & Olweus, 2015).

Additionally, bullying victimization in elementary school is associated with multiple problems including being withdrawn, depressed, anxious, and avoidant (Cook, Williams, Guerra, Kim, & Sadek, 2010), stomachaches and headaches, attention deficit hyperactivity disorder, cognitive problems, conduct problems (Kim et al., 2015), and poor academic achievement (Glew, Fan, Katon, Rivara, & Kernic, 2005). Research also indicates students who are bullied in elementary school continue to experience victimization into middle school and are at greater risk for school disengagement (Buhs, Ladd, & Herald, 2006). Victimization is also related to increased suicide attempts and completions in adulthood (Klomek et al., 2009). Thus, identifying factors that reduce bullying in elementary school is important to reduce rates victimization and the negative associated consequences that occur during the school-aged years and may be sustained through adulthood.

The Context of the School

Schools serve as an important context for socio-emotional adjustment for youth as they begin to spend more time at school both in the classroom and in school-related activities (Eccles & Roeser, 2011). According to socio-ecological theory, behavior is influenced by the complex interaction of individual and environmental factors (Bronfenbrenner,

1979). Within the socio-ecological model, the school is viewed as one of the environmental factors (i.e., microsystems) that interact with the individual. This model suggests that bullying behavior is related to factors within the school system (e.g., teacher attitudes and behaviors, teacher-student relationships, school bullying norms, school climate). Thus, because schools shape students' social, emotional, and behavioral development, it is important to understand bullying within the context of the school setting (Nickerson, Singleton, Schnurr, & Collen, 2014).

School Climate

School climate has been described as the quality and character of school life that is based on the experience of school norms, goals, values, and structures of organization (Cohen, McCabe, Michelli, & Pickeral, 2009). Researchers have found that school climate is associated with bullying related behaviors (Eliot, Cornell, Gregory, & Fan, 2010; Gendron, Williams, & Guerra, 2011; Klein, Cornell, & Konold, 2012; Gregory et al., 2010; Low & VanRyzin, 2014). When students perceive school climate as positive and supportive, bullying related attitudes and bullying behaviors tend to decrease (Gregory et al., 2010; Low & VanRyzin, 2014). Further, when students perceive adults at school as supportive, students are more likely to ask for help with bullying and threats of violence (Eliot et al., 2010). On the other hand, when students perceive school climate as negative, they are more likely to engage in bullying and students are less willing to seek help when bullying occurs (Klein et al., 2012).

Sense of School Belonging

Of the many components that make up school climate, sense of school belonging has been extensively studied in regard to the need for relatedness (Deci & Ryan, 2012). According to Deci and Ryan (2012), the social context of the school is central to the fulfillment of the need for relatedness and positive school contexts support healthy development (Deci & Ryan, 2012). Sense of school belonging may be particularly important for students, as sense of school belonging is associated with both academic success (Wang & Eccles, 2012; Wang & Holcombe, 2010) and psychological adjustment (Lester, Waters, & Cross, 2013; Loukas, Cance, & Batanova, 2016). Research also indicates a strong sense of school belonging may buffer students against bullying and the negative associated consequences (Duggins, Kuperminc, Henrich, Smalls-Glover, & Perilla, 2016; Goldweber, Waasdorp, & Bradshaw, 2013; O'Brennan et al., 2010; Raskaukas, Gregory, Harvey, Rifshana, & Evans, et al., 2010). Specifically, a strong sense of school belonging is associated with lower levels of bullying victimization (Duggins et al., 2016; O'Brennan et al., 2010; Raskaukas et al., 2010), bullying perpetration (Goldweber et al., 2013; Raskaukas et al., 2010), and internalizing problems associated with being a target of bullying (Goldweber et al., 2013).

The Role of Teachers

Within the elementary school environment, teachers have the ability to impact the school climate, including the culture of bullying within the school (Rodkin & Gest, 2011). Elementary school teachers who have high levels of attunement to their students' social world tend to foster positive climates, including high levels of sense of school belonging and a greater peer willingness to defend targets of bullying (Hamm, Farmer, Dadisman, Gravelle, & Murray, 2011; Norwalk, Hamm, Farmer & Barnes, 2016). Further, teacher confidence in managing bullying, empathy toward targets of bullying, and emotional expressiveness are associated with teacher beliefs about bullying victimization (Garner, 2017), which in turn are related to bullying victimization in the classroom (Oldenburg et al., 2015).

Teachers may respond to bullying behavior in a variety of ways including disciplining students who bully, enlisting other adults to help, working with perpetrators or targets, or ignoring the incident (Sairanen & Pfeffer, 2011). How teachers respond is important as a teacher's response to a bullying incident impacts the likelihood of future bullying by the student who perpetrated the bullying behavior (Hektner & Swenson, 2012). For example, research indicates elementary school teachers' bullying-specific behavior (i.e., disciplining the perpetrator) is related to lower levels of bullying in their classrooms (van der Zanden, Denessen, & Scholte, 2015), with less active intervention associated with higher rates of victimization (Hektner & Swenson, 2012). Higher levels of victimization in the classroom are also associated with teachers who attribute bullying to factors that are beyond their control (Oldenburg et al., 2015) or who have pro-bullying attitudes (Wang, Swearer, Lembeck, Collins, & Berry, 2015). Further, students' perceptions of teachers are also related to bullying. Specifically, elementary school students' beliefs that teachers will actively intervene in bullying (e.g., separating students or involving parents or principals) are related to a greater willingness to report bullying and lower rates of bullying victimization (Cortes & Kochenderfer-Ladd, 2014). Similarly, elementary school students' perceptions of teachers' efforts to decrease bullying and efficacy in intervening in bullying incidents are related to lower rates of bullying behavior (Veenstra, Lindenberg, Huitsing, Sainio, & Salmivalli, 2014).

The Current Study

Research suggests that students' perceptions of teachers' efforts to intervene in bullying situations are related to levels of school-related bullying (Cortes et al., 2014; Veenstra et al., 2014). How students' perceptions of teachers' anti-bullying behavior is related to bullying, however, is unclear. Given the relationship of sense of school belonging to both teacher attunement toward victimization (Hamm et al., 2011; Norwalk et al., 2016) and to bullying victimization (Duggins et al., 2016; O'Brennan et al., 2010; Raskaukas et al., 2010), it is possible that sense of school belonging may serve as the link between students' perception of a teacher's stance toward bullying and bullying victimization. Therefore, the purpose of this study is to extend the literature by investigating sense of school belonging as a mediator of the relationship between students' perceptions of teachers' anti-bullying behavior and the frequency of bullying victimization in elementary school (see Figure 1). Specifically, we hypothesized that elementary school students' perceptions of teachers' anti-bullying behavior would increase sense of school belonging which, in turn, would decrease bullying victimization.

Methods

Participants

The authors recruited elementary school students from an urban, public Northwestern school. All students in grades 3-6 were invited to participate in the study ($n = 144$) and were given an informed consent form to take home to their parents/guardians. The parental consent rate was 76% ($n = 110$) and the student assent rate was 100%. The final sample of 110 students (59.1% female; 40.9% male) included students in the third ($n = 28$), fourth ($n = 27$), fifth ($n = 27$), and sixth ($n = 28$) grades. Participants' ages ranged from 8-12 years old ($M = 9.76$ and $SD = 1.23$). The majority of students in the sample were Caucasian (62.7%), followed by 9.1% Hispanic, 9.1% African-American, 6.4% Asian, 0.9% Pacific Islander, and 11.8% Other.

Measures

Demographic Survey. Students completed a brief demographic questionnaire that included questions about grade, age, gender, and race/ethnicity.

Bullying Victimization. The Olweus Bullying Questionnaire (Olweus, 1996) is a 39 item self-report inventory that measure bullying victimization, perpetration, and students' perceptions of adult support. For indicators for bullying victimization we used the following item: "How often have you bullied at school in the past couple of months?" The item is rated on a 5-point Likert Scale ranging from 1 (*I haven't been bullied at school in the past couple of months*) to 5 (*Much*). We also used the bully victimization scale which included 9-items including: "I was called mean names, was made fun of, or teased in a hurtful way," "Other students left me out of things on purpose, excluded me from their group of friends, or completely ignored me," "I was hit, kicked, pushed, shoved around, or locked indoors," and "I was bullied with mean or hurtful messages, calls or pictures, or in other ways on my mobile phone or over the internet (computer)." Items are rated on a 5-point Likert Scale ranging from 0 (*It hasn't happened in the past couple of months*) to 4 (*Several times a week*). Scores for the bully victimization scale range from 0 to 36. The questionnaire has moderate to high internal reliability ranging from $\alpha = .74 - .98$ and satisfactory construct validity (Kyriakides, Kaloyirou, & Lindsay, 2006). For this sample, Chronbach's alpha was $\alpha = .83$ for the bully victimization scale.

Students' Perceptions of Teachers' Anti-Bullying Behavior. We used the following two items from the Olweus Bullying Questionnaire as indicators of the construct students' perceptions of teachers' anti-bullying behavior: "Overall, how much do think your class (home room) teacher has done to counteract bullying in the past couple of months?" and "How often do the teachers at school try to put a stop to it when a student is being bullied at school?" Items are rated on a 5-point Likert Scale ranging from 1 (*little or nothing*) to 5 (*much*) and from 1 (*almost never*) to 5 (*almost always*), respectively. The questionnaire has moderate to high internal reliability ranging from $\alpha = .74 - .98$ and satisfactory construct validity (Kyriakides, Kaloyirou, & Lindsay, 2006).

Sense of School Belonging. The Psychological Sense of School Membership (PSSM; Goodenow, 1993) was used to measure sense of school belonging. The PSSM is an 18 item self-report inventory that measure students' perception of belonging to their school. The PSSM contains 3 subscales: Caring Relationships, Acceptance, and Rejection (You, Ritchey, Furlong, Shochet, & Boman, 2011). Example items for the Carings Relationships scale include: "Most teachers at this school are interested in me" and "The teachers here respect me." Example items for the Acceptance

scale include: “People notice when I’m good at something” and “Other students in this school take my opinions seriously.” Example items for the Rejection scale include: “It is hard for people like me to be accepted here” and “Sometimes I don’t feel as if I belong here.” Items are rated on a 5-point Likert Scale ranging from 1 (*not true at all*) to 5 (*completely true*), with five of the items reverse scored. Scores for the PSSM range from 18 to 90. Overall, the PSSM has well established concurrent and predictive validity, as well as supported factor structures (You et al., 2011). Researchers have also reported test-retest reliability for the PSSM over a 4-week period of .78 (Hagborg, 1994) and .56 - .60 over a 12-month period (Shochet, Dadds, Ham, & Montague, 2006). Reported coefficient alphas for the subscales Caring Relationships, Acceptance, and Rejection range from .71-.77, .73-.79, and .64-.72, respectively (Shochet, Smith, Furlong, & Homel, 2011). For this sample, Cronbach’s alphas for the subscales were as follows: Caring Relationships ($\alpha = .67$), Acceptance ($\alpha = .79$), and Rejection ($\alpha = .78$).

Procedure

All eligible students were invited to participate in the research. A research assistant collected assent from students with signed parental consent forms. Students who provided assent completed the survey in their classrooms during school counseling guidance lessons. The survey took approximately 30 minutes to complete. Students who did not have a signed parental consent form sat quietly with an alternative activity during the data collection process. No incentives were provided for completion of the surveys. The University’s Institutional Review Board and School District Research Board approved all study procedures.

Power Analysis

We reviewed guidelines for sample sizes for mediational design using SEM to determine the adequacy of our sample size. Although several guidelines have been proposed for SEM models, general rules-of-thumb (e.g., a minimum of 100 participants) may not be appropriate because they are not model-specific and may lead to overestimations or underestimations of sample size (Wolf, Harrington, Clark, & Miller, 2013). As suggested by Wolf et al. (2013), we used the Monte Carlo simulation model (Muthen & Muthen, 2002) to determine sample size estimates as this model provides estimates of power and bias for individual effects. Thoemmes, MacKinnon, and Reiser (2010) provide power estimation tables using the Monte Carlo method. According to tables provided by Thoemmes et al. (2010), the required sample size to detect a medium mediated effect for with power of .80 ($\square = .05$) for a single mediator model is $N = 92$. Thus, our sample size of 110 should be adequate to detect medium effect sizes with power ≥ 0.80 with an alpha level of .05.

Data Analysis

Prior to analysis, variables were examined for outliers and normality. We also conducted analyses to assess for multicollinearity using the VIF rule-of-thumb of $VIF < 10$ (Erford, 2015; Tabachnick & Fidell, 2007). We examined the data for missing values and imputed missing data using maximum likelihood (ML) estimation (Byrne, 2001). We then tested the mediational model through SEM using AMOS 25.0 with the maximum likelihood estimation method to evaluate model fit and to examine direct and indirect relationship between students’ perceptions of teacher anti-bullying behavior and bully victimization. We selected SEM as this method of analysis allows for the examination of direct and indirect paths between observed variables (Karadag, 2012). We used three goodness of fit indices to assess model fit: chi-square, the comparative fit index (CFI), and the root mean square error of approximation (RMSEA). Good model fit is demonstrated when the model chi-square is not significant, the CFI value is .95 or greater, and the RMSEA value is .06 or less (Hu & Bentler, 1999). We used an alpha level of $p < .05$ to determine statistical significance.

To test for mediation, we used the joint significance test of indirect paths from the predictor (i.e., perceived teacher anti-bullying behavior) to the mediator (i.e., sense of school belonging), and from the mediator to the outcome (i.e., victimization). MacKinnon and colleagues’ (2002) examination of multiple mediation techniques revealed that compared with other methods, the joint significance test was the most powerful and had the most conservative Type I error rates. We used AMOS 25 to test the direct and indirect paths. We used bias-corrected bootstrapping in which indirect effects are estimated from multiple resampling from the data set. During the bootstrapping process, each sample is adjusted to correct for potential bias in the estimates (MacKinnon, 2008). When there is evidence for mediation, confidence intervals can be calculated to provide a range of estimates for the mediated effect (Shrout & Bolger, 2002). Confidence intervals that do not include zero indicate significance of the indirect effect (Preacher &

Hayes, 2008). We derived confidence intervals using bootstrapping procedures, an approach that provides confidence interval estimates that do not depend upon assumptions of normality. In this study, we tested the indirect effect with 2,000 bootstrap samples and a 95% confidence interval (CI).

Results

Means, standard deviations, and correlations for the variables in the model are presented in Table 1. We did not identify any outliers and all variables were within the normal range for skew and kurtosis. Missing data for each measure was minimal, with 2.7% of items missing for the students' perceptions of teacher anti-bullying behavior items, 2.2% of items missing for the PSSM Scale, and 1.8% of items missing for victimization. Correlations between the variables ranged from -.04 to .69 and the variance inflation factor (VIF) for all variables in the model ranged from 1.3 – 2.2 with corresponding tolerance levels ranging from .46 - .76, suggesting low levels of multicollinearity.

We hypothesized that students' perceptions of teachers anti-bullying behavior would result in an increased sense of school belonging which would, in turn, result in less frequent bullying victimization. Table 2 and Figure 2 present the results of the mediational model tested. Evaluation of the global fit statistics indicated that the tested model was a good fit for the data. The overall chi-square test of the model was statistically nonsignificant, $\chi^2(11) = 8.50, p = .67$, the CFI was 1.00, and the RMSEA was 0.00. Examination of the path coefficients revealed that the students' perceptions of teachers' anti-bullying behavior significantly increased sense of school belonging, $\beta = .50, p = .003$, sense of school belonging was significantly related to less victimization, $\beta = -.84, p = .001$, and students' perceptions of teachers' anti-bullying behavior significantly reduced victimization through the mediated effect of increasing sense of school belonging, $\beta = -.42, p = .001, 95\% \text{ CI} [-1.03, -.15]$. These results offer evidence that sense of school belonging mediated the relationship between students' perceptions of teachers' anti-bullying behavior and bullying victimization.

Discussion

The purpose of this study was to test a model evaluating sense of school belonging as a mediator of the relationship between students' perceptions of teachers' anti-bullying behavior and bullying victimization. Although previous research indicates students' perceptions of teachers' bullying-related behavior is associated with rates of bullying victimization and perpetration (Cortes et al., 2014; Veenstra et al., 2014), to our knowledge, this is the first study to examine the process by which students' perceptions of teachers' behavior is related to bullying victimization. Because nearly a quarter of elementary school students in grades 3-6 report being bullied at school (Luxenberg et al., 2015), it is important to identify factors that impact bullying victimization among this age group. Overall, results supported the mediational model, revealing that sense of school belonging mediated the relationship between students' perceptions of teachers' anti-bullying behavior and the frequency of bullying victimization. These findings suggest that sense of school belonging is associated with students' perceptions of teacher behavior, providing important information for bullying prevention and intervention programs.

Results of this study are consistent with socio-ecological theory which posits that behavior is influenced by the complex interaction of individual and environmental factors (Bronfenbrenner, 1979). Specifically, we found that bullying victimization is lower when students believe their teachers will take action against bullying and when they feel connected to their school. This finding parallels prior research demonstrating that teachers impact students' sense of school belonging (Hamm et al., 2011; Norwalk et al., 2016) and that bullying victimization is related to students' beliefs that teachers will actively intervene (Cortes et al., 2014) and to students' sense of school belonging (Duggins et al., 2016; O'Brennan et al., 2010; Raskaukas et al., 2010). Findings of the current study, however, extend the literature by demonstrating that sense of school belonging mediates the relationship between students' perceptions of teachers' anti-bullying behavior and the frequency of bullying victimization. When students believe their teachers will intervene in bullying situations and try to stop bullying, they are more likely to feel a sense of belonging to their school, which in turn contributes to lower rates of bullying victimization.

Perception of Teachers and Frequency of Bullying Victimization

Findings from this study support the importance of the student-teacher relationship in the prevalence of school bullying (Wang et al., 2015). Our findings showed that students' beliefs about both how much they think their home room teacher has done to counteract bullying and how often teachers at their school try to intervene in bullying situations were related to frequency of bullying victimization. This finding is consistent with prior research demonstrating

teachers' self-reported attitudes (Oldenburg et al., 2015; Wang et al., 2015) and behaviors (Hektner & Swenson, 2012; van der Zanden et al., 2015) are related to bullying behavior. Additionally, the results of the current study support prior literature indicating that student-reported beliefs about teachers' responses to bullying are related to lower rates of school bullying (Cortes et al., 2014; Veenstra et al., 2014).

Sense of School Belonging as Mediator

Consistent with prior research, we also found that students' beliefs about teachers' anti-bullying behavior were related to sense of school belonging (Hamm et al., 2011; Norwalk et al., 2016). Our findings revealed that when students believe their home room teacher and other teachers at school are willing to work to intervene in bullying situations influenced their feelings of connection to the school. This finding again supports the importance of teachers in fostering a positive school climate in which students feel cared for by school personnel.

The finding that the process by which students' perceptions of teachers' anti-bullying behavior reduces bullying victimization is through an increase in sense of school belonging suggests that school climate is essential in bullying prevention. This finding parallels research revealing that when students perceive their school climate as positive and supportive, bullying behaviors decrease (Klein et al., 2012; Low & VanRyzin, 2014). One explanation for the links between perceptions of teachers' behavior, sense of school belonging, and bullying victimization is that when sense of school belonging is enhanced by the belief that teachers will take a stand against bullying, students may be more willing to report bullying incidents. Willingness to report bullying may, in turn, be related to a decrease in bullying victimization. This explanation is consistent with research that suggest that when students believe adults at their school are supportive, they are more willing to go to school staff to ask for help when faced with a bullying situation (Eliot et al., 2010; Klein et al., 2012).

Limitations and Directions for Future Research

While this study contributes to our understanding of how students' perceptions of teachers' anti-bullying behavior influences the frequency of school bullying victimization, certain limitations should be noted. First, our sample was recruited from one elementary school and was primarily Caucasian (> 60%), limiting the generalizability of results. Future research with more diverse samples from multiple schools is needed to replicate these findings. Next, information was obtained through student self-report, potentially leading to biased or distorted reporting, especially at the elementary school level. Research, however, suggests that children are able to provide useful information when asked questions using Likert-type scales (Christensen & James, 2008). Observational data and inclusion of teacher reports in addition to student reports should be used in future research to strengthen findings.

Implications for School-Based Bullying Prevention and Intervention

This study has important practical implications for bullying prevention and intervention programming in elementary schools. First, results from this study indicate that the school context, including teacher behavior, are instrumental in reducing the frequency of bullying victimization. Consistent with prior research identifying teacher support as a protective factor against bullying (Hamm et al., 2011; Norwalk et al., 2016), findings from this study indicate school-based programs that target teacher anti-bullying behaviors are essential for improving students' sense of belonging to the school, and in turn, reducing the prevalence of bullying. When teachers exhibit anti-bullying behavior, they establish norms that promote a positive school climate, fostering students' sense of connection and feelings of being cared for by important adults in the school system. Establishing pro-social norms is particularly important as they foster a school environment in which bullying behavior is viewed as unacceptable.

The current study suggests that school-based bullying prevention and intervention programs should include a teacher training component that focuses on teacher anti-bullying behavior. Additionally, to increase students' perceptions of teachers' anti-bullying behavior, teacher training should focus on ensuring that the anti-bullying behavior is overt. Although behaviors such as referring the matter to the school counselor or contacting parents may be appropriate anti-bullying behaviors, results of this study indicate behaviors such as openly telling the perpetrator to stop the bullying behavior, suggesting a more appropriate behavior, or separating the bully and target, may be more effective in impacting students' perceptions of teachers. Teachers should, however, be cautious about punitive behavior as reprimanding students for aggression may lead to higher levels of aggressive behavior (Troop-Gordon & Ladd, 2015).

Finally, the role of the school psychologist is instrumental in school-based bullying prevention and intervention efforts. The school psychologist can provide training for teachers through in-services that teach teachers appropriate ways to manage bullying in their classrooms or when they observe bullying in other school settings. Training should include ways to address bullying effectively and should include role-plays with performance feedback (Reinke et al., 2014). Post-training consultation and coaching may also be helpful as research indicates providing coaching is important to help teachers implement classroom management strategies (Reinke et al., 2014). Through in-service training activities and follow-up coaching led by the school psychologist, teachers can learn new information and skills so that they can behave in ways that demonstrate to students that they are actively engaged in stopping bullying victimization and creating a school environment that is free from bullying.

References

- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by design and nature*. Cambridge, MA: Harvard University Press.
- Buhs, E. S., Ladd, G. W., & Herald, S. L. (2006). Peer exclusion and victimization: Processes that mediate the relation between peer group rejection and children's classroom engagement and achievement? *Journal of Educational Psychology*, 98, 1-13. doi:10.1037/0022-0663.98.1.1
- Byrne, B. M. (2001). Structural equation modeling: Perspectives on the present and the future. *International Journal of Testing*, 1(3-4), 327-334. doi:10.1080/15305058.2001.9669479
- Center for Disease Control. (2018). Bullying research. Retrieved from <https://www.cdc.gov/violenceprevention/youthviolence/bullyingresearch/index.html>
- Christensen, P., & James, A. (Eds.). (2008). *Research with children: Perspectives and practices* (2nd ed.). New York, NY: Routledge.
- Cohen, J., McCabe, E. M., Michelli, N. M., & Pickeral, T. (2009). School climate: Research, policy, teacher education and practice. *Teachers College Record*, 111, 180-213.
- Cook, C. R., Williams, K. R., Guerra, N. G., Kim, T. E., & Sadek, S. (2010). Predictors of bullying and victimization in childhood and adolescence: A meta-analytic investigation. *School Psychology Quarterly*, 25, 65-83. doi:10.1037/a0020149
- Cortes, K. I., & Kochenderfer-Ladd, B. (2014). To tell or not to tell: What influences children's decisions to report bullying to their teachers? *School Psychology Quarterly*, 29, 336-348. doi:10.1037/spq0000078
- Deci, E. L., Ryan, R. M. (2012). Overview of self-determination theory. In Ryan, R. M. (Ed.), *The Oxford handbook of human motivation* (pp. 85-107). Oxford, UK: Oxford University Press.
- Duggins, S. D., Kuperminc, G. P., Henrich, C. C., Smalls-Glover, C., & Perilla, J. L. (2016). Aggression among adolescent victims of school bullying: Protective roles of family and school connectedness. *Psychology of Violence*, 6, 205-212. doi:10.1037/a0039439
- Eccles, J. S., & Roeser, R. W. (2011). Schools as developmental contexts during adolescence. *Journal of Research on Adolescence*, 21, 225-241. doi: 10.1111/j.1532-7795.2010.00725.x
- Eliot, M., Cornell, D., Gregory, A., & Fan, X. (2010). Supportive school climate and student willingness to seek help for bullying and threats of violence. *Journal of School Psychology*, 48, 533-553. doi:10.1016/j.jsp.2010.07.001
- Erford, B. T. (2015). *Research and evaluation in counseling*. Stamford, CT: Cengage Learning.
- Garner, P. W. (2017). The role of teachers' social-emotional competence in their beliefs about peer victimization. *Journal of Applied School Psychology*, 33(4), 288-308. doi:10.1080/15377903.2017.1292976
- Gendron, B. P., Williams, K. R., & Guerra, N. G. (2011). An analysis of bullying among students within schools: Estimating the effects of individual normative beliefs, self-esteem, and school climate. *Journal of School Violence*, 10, 150-164. doi:10.1080/15388220.2010.539166
- Glew, G. M., Fan, M. Y., Katon, W., Rivara, F. P., & Kernic, M. A. (2005). Bullying, psychosocial adjustment, and academic performance in elementary school. *Archives of Pediatrics & Adolescent Medicine*, 159, 1026-1031. doi:10.1001/archpedi.159.11.1026
- Goldweber, A., Waasdorp, T. E., & Bradshaw, C. P. (2013). Examining the link between forms of bullying behaviors and perceptions of safety and belonging among secondary school students. *Journal of School Psychology*, 51, 469-485. doi:10.1016/j.jsp.2013.04.004
- Goodenow, C. (1993). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools*, 30, 79-90. doi:10.1002/1520-6807(199301)30:1<79::AID-PITS2310300113>3.0.CO;2-X

- Gregory, A., Cornell, D., Fan, X., Sheras, P., Shih, T. H., & Huang, F. (2010). Authoritative school discipline: High school practices associated with lower bullying and victimization. *Journal of Educational Psychology, 102*(2), 483-496. doi:10.1037/a0018562
- Hagborg, W. J. (1994). An exploration of school membership among middle- and high-school students. *Journal of Psychoeducational Assessment, 12*, 312-323.
- Hamm, J.V., Farmer, T.W., Dadisman, K., Gravelle, M., & Murray, A.R. (2011). Teachers' attunement to students' peer group affiliations as a source of improved student experiences of the school social-affective context following the middle school transition. *Journal of Applied Developmental Psychology, 32*, 267-277. doi:10.1016/j.appdev.2010.06.003
- Hektner, J. M., & Swenson, C. A. (2012). Links from teacher beliefs to peer victimization and bystander intervention: Tests of mediating processes. *The Journal of Early Adolescence, 32*, 516-536. doi:10.1177/0272431611402502
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*, 1-55.
- Karadag, E. (2012). Basic features of structural equation modeling and path analysis with its place and importance in educational research methodology. *Bulgarian Journal of Science and Education Policy, 6*, 194-212.
- Kim, J. W., Lee, K., Lee, Y. S., Han, D. H., Min, K. J., Song, S. H., ... & Kim, J. O. (2015). Factors associated with group bullying and psychopathology in elementary school students using child-welfare facilities. *Neuropsychiatric Disease and Treatment, 11*, 991-998. doi:10.2147/NDT.S76105
- Klein, J., Cornell, D., & Konold, T. (2012). Relationships between bullying, school climate, and student risk behaviors. *School Psychology Quarterly, 27*, 154-169. doi:10.1037/a0029350
- Klomek, A. B., Sourander, A., Niemelä, S., Kumpulainen, K., Piha, J., Tamminen, T., ... & Gould, M. S. (2009). Childhood bullying behaviors as a risk for suicide attempts and completed suicides: a population-based birth cohort study. *Journal of the American Academy of Child & Adolescent Psychiatry, 48*, 254-261. doi:10.1097/chi.0b013e318196b91f
- Kyriakides, L., Kaloyirou, C., & Lindsay, G. (2006). An analysis of the Revised Olweus Bully/Victim Questionnaire using the Rasch measurement model. *British Journal of Educational Psychology, 76*(4), 781-801. doi:10.1348/000709905X5349
- Lester, L., Waters, S., & Cross, D. (2013). The relationship between school connectedness and mental health during the transition to secondary school: A path analysis. *Journal of Psychologists and Counsellors in Schools, 23*, 157-171. doi:10.1017/jgc.2013.20
- Loukas, A., Cance, J. D., & Batanova, M. (2016). Trajectories of school connectedness across the middle school years: examining the Roles of adolescents' internalizing and externalizing problems. *Youth & Society, 48*, 557-576. doi:10.1177/0044118X13504419
- Low, S., & VanRyzin, M. (2014). The moderating effects of school climate on bullying prevention efforts. *School Psychology Quarterly, 29*, 306-319. doi:10.1037/spq0000073
- Luxenberg, H., Limber, S. P., & Olweus, D. (2015). *Bullying in US schools: 2014 status report*. Center City, MN: Hazelden Publishing. Retrieved from www.violencepreventionworks.org/public/document/bullying_2015_statusreport.pdf
- MacKinnon, D. P. (2008). *Introduction to statistical mediation analysis*. New York, NY: Routledge.
- MacKinnon, D. P., Lockwood, C. M., Hoffiman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods, 7*, 83.
- Muthén, L.K., Muthén, B.O. (2002). How to use a Monte Carlo study to decide on sample size and determine power. *Structural Equation Modeling, 4*, 599-620. doi:10.1207/S15328007SEM0904_8
- Nickerson, A. B., Singleton, D., Schnurr, B., & Collen, M. H. (2014). Perceptions of school climate as a function of bullying involvement. *Journal of Applied School Psychology, 30*, 157-181. doi:10.1080/15377903.2014.888530
- Norwalk, K. E., Hamm, J. V., Farmer, T. W., & Barnes, K. L. (2016). Improving the school context of early adolescence through teacher attunement to victimization: effects on school belonging. *The Journal of Early Adolescence, 36*, 989-1009. doi:10.1177/0272431615590230
- O'Brennan, L. M., & Furlong, M. J. (2010). Relations between students' perceptions of school connectedness and peer victimization. *Journal of School Violence, 9*, 375-391. doi:10.1080/15388220.2010.509009
- Oldenburg, B., van Duijn, M., Sentse, M., Huitsing, G., van der Ploeg, R., Salmivalli, C., & Veenstra, R. (2015). Teacher characteristics and peer victimization in elementary schools: A classroom-level perspective. *Journal of Abnormal Child Psychology, 43*, 33-44. doi:10.1007/s10802-013-9847-4

- Olweus, D. (1996). *The Revised Olweus Bully/Victim Questionnaire*. Bergen, Norway: University of Bergen, Research Center for Health Promotion (HEMIL Center).
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*(3), 879-891. doi:10.3758/BRM.40.3.879
- Raskauskas, J. L., Gregory, J., Harvey, S. T., Rifshana, F., & Evans, I. M. (2010). Bullying among primary school children in New Zealand: Relationships with prosocial behaviour and classroom climate. *Educational Research, 52*, 1-13. doi:10.1080/00131881003588097
- Reinke, W. M., Stormont, M., Herman, K. C., Wang, Z., Newcomer, L., & King, K. (2014). Use of coaching and behavior support planning for students with disruptive behavior within a universal classroom management program. *Journal of Emotional and Behavioral Disorders, 22*(2), 74-82. doi:10.1177/1063426613519820
- Rodkin, P.C. & Gest, S.D. (2011). Teaching practices, classroom peer ecologies, and bullying behaviors among schoolchildren. In D. L. Espelage & S. Swearer (Eds.), *Bullying in North American schools* (2nd ed; pp. 75-90). New York, NY: Routledge.
- Sairanen, L., & Pfeffer, K. (2011). Self-reported handling of bullying among junior high school teachers in Finland. *School Psychology International, 32*, 330-344. doi:10.1177/0143034311401795
- Shochet, I. M., Smith, C. L., Furlong, M. J., & Homel, R. (2011). A prospective study investigating the impact of school belonging factors on negative affect in adolescents. *Journal of Clinical Child & Adolescent Psychology, 40*, 586-595.
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods, 7*, 422-445. doi:10.1037//1082-989X.7.4.422
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston: Allyn and Bacon.
- Thoemmes, F., MacKinnon, D. P., & Reiser, M. R. (2010). Power analysis for complex mediational designs using Monte Carlo methods. *Structural Equation Modeling, 17*(3), 510-534. doi:10.1080/10705511.2010.489379
- Troop-Gordon, W., & Ladd, G. W. (2015). Teachers' victimization-related beliefs and strategies: Associations with students' aggressive behavior and peer victimization. *Journal of Abnormal Child Psychology, 43*, 45-60. doi:10.1007/s10802-013-9840-y
- U.S. Department of Education: National Center for Educational Statistics. (2017). *Indicators of school crime and safety: 2016* (NCES 2017-064). Retrieved from <https://nces.ed.gov/fastfacts/display.asp?id=719>
- van der Zanden, P. J., Denessen, E. J., & Scholte, R. H. (2015). The effects of general interpersonal and bullying-specific teacher behaviors on pupils' bullying behaviors at school. *School Psychology International, 36*, 467-481. doi:10.1177/0143034315592754
- Veenstra, R., Lindenberg, S., Huising, G., Sainio, M., & Salmivalli, C. (2014). The role of teachers in bullying: The relation between antibullying attitudes, efficacy, and efforts to reduce bullying. *Journal of Educational Psychology, 106*(4), 1135. doi:10.1037/a0036110
- Waasdorp, T. E., Pas, E. T., O'Brennan, L. M., & Bradshaw, C. P. (2011). A multilevel perspective on the climate of bullying: Discrepancies among students, school staff, and parents. *Journal of School Violence, 10*, 115-132. doi:10.1080/15388220.2010.539164
- Wang, M. T., & Eccles, J. S. (2012). Adolescent behavioral, emotional, and cognitive engagement trajectories in school and their differential relations to educational success. *Journal of Research on Adolescence, 22*, 31-39. doi:10.1111/j.1532-7795.2011.00753.x
- Wang, M. T., & Holcombe, R. (2010). Adolescents' perceptions of school environment, engagement, and academic achievement in middle school. *American Educational Research Journal, 47*, 633-662. doi:10.3102/0002831209361209
- Wang, C., Swearer, S. M., Lembeck, P., Collins, A., & Berry, B. (2015). Teachers matter: an examination of student-teacher relationships, attitudes toward bullying, and bullying behavior. *Journal of Applied School Psychology, 31*, 219-238. doi:10.1080/15377903.2015.1056923
- Wolf, E. J., Harrington, K. M., Clark, S. L., & Miller, M. W. (2013). Sample size requirements for structural equation models: An evaluation of power, bias, and solution propriety. *Educational and Psychological Measurement, 73*(6), 913-934. doi:10.1177/0013164413495237
- Wolke, D., Lereya, S. T., Fisher, H. L., Lewis, G., & Zammit, S. (2014). Bullying in elementary school and psychotic experiences at 18 years: a longitudinal, population-based cohort study. *Psychological Medicine, 44*(10), 2199-2211. doi:10.1017/S0033291713002912
- You, S., Ritchey, K. M., Furlong, M. J., Shochet, I., & Boman, P. (2011). Examination of the latent structure of the psychological sense of school membership scale. *Journal of Psychoeducational Assessment, 29*, 225-237. doi:10.1177/0734282910379968

Table 1

Means, Standard Deviations, and Bivariate Correlations for Variables in the Model

Measure	1	2	3	4	5	6	7
1. Teachers' Efforts to Stop Bullying	—						
2. Home Room Teacher Behavior	.48**	—					
3. Caring Relationships	.31**	.31**	—				
4. Acceptance	.27**	.24*	.52**	—			
5. Rejection	.29**	.26**	.44**	.69**	—		
6. Bully Victimization Scale	-.13	-.08	-.34**	-.50**	-.39**	—	
7. Bully Victimization Item	-.13	-.04	-.43**	-.54**	-.46**	.66**	—
<i>M</i>	3.07	3.38	15.48	17.95	15.04	15.05	1.22
<i>SD</i>	1.53	1.59	3.30	4.26	3.80	5.84	1.30

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

Table 2

Results of Mediation Analyses

Effect	E	SE	Lower 95% CI	Upper 95% CI	p-value
Perceived Teacher Anti-Bullying Behavior Effect on Sense of School Belonging	.98	.50	.25	.71	.003
Sense of School Belonging Effect on Bullying Victimization	-2.11	-.84	-1.18	-.62	.001
Perceived Teacher Anti-Bullying Behavior Effect on Bullying Victimization	1.25	.25	-.03	.64	.14
Indirect Effect	-2.07	-.42	-1.03	-.15	.001

Note. E = Unstandardized Coefficient; SE = Standardized Coefficient; CI = Confidence Interval.

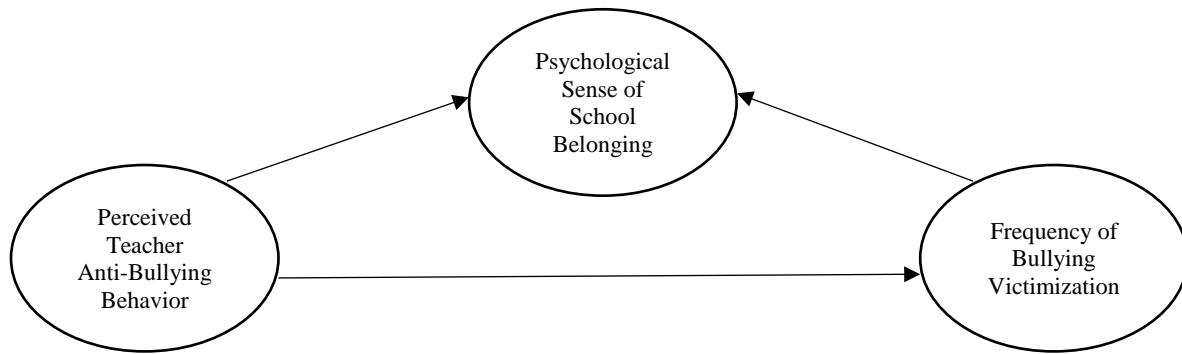


Figure 1. *Conceptual Mediation Model*