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Does School Connectedness Impact Academic Performance?

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Konishi, C., Hymel, S., Zumbo, B., & Li, Z. (2010) Do school bullying and student-teacher relationships matter for academic achievement? Multilevel analysis. Canadian Journal of School Psychology, 25, 19-29. doi: 10.1177/0829573509357550

Introduction

Few empirical studies have closely examined the link between students' feelings of safety and academic achievement scores. Konishi, Hymel, Zumbo and Li contribute to the field by examining how academic performance is affected both by student relationships with peers and also with teachers. Previous studies have explored certain aspects of school connectedness, but did not provide conclusive information on the influence of school connectedness on standardized measures of academic achievement. Other related studies have examined how certain factors that improve students' sense of belonging, such as caring relationships with teachers, impact school performance (Ma, 2003; Osterman, 2000; Birch & Ladd, 1998). Some research indicates that strong bonds between students and school staff can be especially protective for students from marginalized and low SES backgrounds (Darwich, Hymel, Pedrini, Sippel, & Waterhouse, 2008; Meehan, Hughes, & Cavell, 2003; Schlosser, 1992). Another arm of relevant research involves the impact of peer relationships on school engagement and performance. Specifically, previously conducted studies demonstrate that bullying compromises the safety of the school community (Luiselli et al., 2005) and can negatively impact physical, emotional, and mental health (Kaltiala-Heino, Rimpelä, Marttunen, Rimpelä, & Rantanen, 1999; Kaltiala-Heino, Rimpelä, Rantanen, & Rimpelä, 2000; Rigby, 2000).

The current study is based on data drawn from a large sample of Canadian high schools, and includes survey responses from principals and 15-year-old students. "Within Canadian schools, bullying has been increasingly recognized as a significant and pervasive problem…" (Konishi, Hymel, Zumbo, & Li, 2010). Results of the World Health Organization Cross-National Collaborative Study (Craig & Harel, 2004) of 11-, 13-, and 15-year-olds in countries around the globe indicate that about one-third or more of Canadian students reported being bullied at least once over a school term, and a third or more reported bullying others at least once over the term" (p.21).

Increasingly high rates of bullying result in several threats to school safety, including implications for students' mental health and academic achievement. Multiple studies have suggested that students who are engaged in bullying, as victims and/or perpetrators, are more likely to experience negative effects on academic performance (Buhs et al., 2006; Juvonen et al., 2000; Konishi & Li, 2006; Nishina, Juvonen, & Witkow, 2005; Schwartz et al., 2002; Pereira, Mendonça, Neto, Valente, & Smith, 2004; Schwartz, Gorman, Nakamoto, & Toblin, 2005). Research by Beran (2008), which analyzed a large sample of students' self-reports on bullying as well as teacher, student, and parent ratings of achievement, is particularly foundational to the current study. Beran explains that "adolescents who are harassed do not

necessarily obtain low marks at school. However, if they are harassed their achievement may be negatively impacted if they have few friends, exhibit few pro-social skills, and experience behavior problems such as hyperactivity and misconduct" (p. 55). Konishi, Hymel, Zumbo, and Li purport that despite numerous studies on the connections between bullying and poor academic performance, the results do not entirely explicate the relationship between bullying and academic achievement.

Existing research assesses bullying and academic performance on the *individual or student level*, rather than at the *school-level* clustering of students. According to Konishi, Hymel, Zumbo and Li, no research has examined the relationship between school-level bullying and academic performance. These authors suggest that "at the school level, both bullying and teacher–student relationships are, in essence, aspects of school climate that reflect an overall level of tolerance for negative interpersonal interactions. As such, both represent school-level factors that can affect academic performance" (p. 22).

Konishi, Hymel, Zumbo and Li build on existing research by exploring the possible correlations between school connectedness and academic achievement. The researchers examine (a) school-level variables; (b) student-teacher relationships and school bullying; and (c) reading and math achievement, based on standardized test scores from the PISA 2003 assessments. This study provides useful information on the impact of school connectedness on standardized test performance, the results of which can be used to justify and inform interventions to be implemented by school counselors and educators.

Methods

The researchers posed two questions in this study: 1) Is students' academic performance related to the school's bullying climate and, 2) Does student-teacher connectedness influence the relationship between bullying and academic achievement? (p.23)

Participants. Konishi, Hymel, Zumbo, and Li examined information about Canadian students' and principals' perceptions of school climate as well as student test scores in math and reading. Student data for this study were gathered from 27,244 15-year-old respondents and 1,087 high school principals on the Program for International Student Assessment (PISA). Gender and race were represented appropriately in the sample. The authors excluded schools on Native Canadian reservations and schools specifically designated for students with special needs.

Measures. The researchers analyzed four variables from the PISA 2003 surveys: students' math test scores, students' reading test scores, students' beliefs about their relationships with teachers, and principals' reports of the incidence of school-level bullying. The variables were analyzed using multilevel modelling to assess correlations and relationships between variables.

To evaluate academic performance, math and reading test scores were drawn from the results of the PISA standardized paper-and-pencil achievement tests. Specifically, the math portion of the evaluation pertained to applied mathematics and the reading section involved questions that asked the students to read, reflect on, and apply a given text. High scores on these tests were used as indicators of high achievement.

Student-Teacher (S-T) connectedness was evaluated based on a single composite score for student perceptions of their relationships with teachers, which was derived using student responses on

five items from the PISA student survey. These questions were assessed on a 4-point scale (0=*strongly disagree* to 3=*strongly agree*), with positive values corresponding to more positive relationships between students and teachers.

The five items were:

"Students get along well with most teachers"

"Most teachers are interested in students' well-being"

"Most of my teachers really listen to what I have to say"

"If I need extra help, I will receive it from my teachers"

"Most of my teachers treat me fairly."

School-level bullying was evaluated on the basis of responses principals offered on an item from the school-level PISA survey, inquiring about the frequency with which students intimidated or bullied other students. This question has a 4-point scale (0= *not at all* to 3= *a lot*) with high scores demonstrating high frequency. This score was used to provide an index of principals' perceptions of the amount of bullying in the school.

Results

The first research question explored possible connections between school-level bullying and academic achievement. The findings demonstrate that school-level bullying was significantly and negatively related to students' math and reading achievement. Students from schools in which principals reported higher levels of bullying were likely to have lower math and reading scores than students from schools in which principals reported lower levels of bullying. Math and reading achievement were negatively related to school-level bullying for both boys and girls.

The second research question explored a possible buffering effect of student-teacher connectedness on academic achievement. The authors conclude that students' relationships with teachers were positively related to math and reading achievement, indicating that students who reported strong connections with teachers performed better on math and reading assessments. A second level of analysis of students from schools with greater levels of bullying and lower math and reading achievement indicated that S-T connectedness reduced, but did not eliminate the negative association between bullying climate and test scores. However, when both math and reading were analyzed by gender, a significant interaction between S-T connectedness and the school climate of bullying in relationship to achievement was only found for boys.

The multilevel analysis supports the notion that interpersonal relationships at school influence academic achievement. Higher levels of school bullying corresponded with lower math and reading achievement scores and students who reported positive relationships with teachers demonstrated higher academic achievement. These findings also indicate that S-T connectedness moderates the likelihood that a school climate of bullying would result in low academic achievement, although this buffering effect was found only for boys.

Implications and Critical Perspective

Konishi, Hymel, Zumbo, and Li conducted this study to evaluate possible correlations between school connectedness variables, school-wide bullying and student-teacher relationships, and academic achievement. The sample size was extremely large (N=27,244) and was representative of the population. The authors discovered that a low prevalence of bullying and strong S-T relationships were related to higher scores on standardized assessments in math and reading. The results offer valuable insight into the benefit of strong school connectedness and anti-bullying efforts as a means of improving academic achievement for high school students.

Despite the encouraging findings, the authors note one considerable limitation in their data analysis. The measure of school-wide bullying based on principals' reporting may not provide an accurate picture of the school climate, as principals may not be aware of covert bullying or may not want to acknowledge what is occurring in the school. One approach to improve this measure of school-wide bullying is to include a student report instrument that allows for the creation of a composite score based on student and principal perspectives on bullying.

A second limitation of this analysis is that while the researchers examined different effects between boys and girls, they did not evaluate variables of race or socio-economic status on academic achievement and/or school connectedness. Additionally, because the analysis was performed using Canadian data from the PISA (2003) survey, there are some limitations to the external validity. Certain differences may exist between countries, both in terms of the structures of the educational systems, as well as cultural factors, such as the nature of S-T relationships and reporting of bullying. For example, one of the items analyzed for S-T relationships is: "Most of my teachers really listen to what I have to say." In some countries it might not be culturally appropriate for students to express themselves in that way and, therefore, this item might not be a valid measure of connectedness. This sample, while large in size and likely representative of the Canadian population, cannot be fully generalized to students and schools outside of that country.

The study clearly demonstrates that the school climate factors of S-T relationships and bullying are inextricably related to students' academic achievement. The authors report that school-wide bullying impacts academic achievement on standardized measures of math and reading. A promising discovery by Konishi and colleagues was that, especially for males, S-T connectedness moderated the potential negative effect of school bullying on academic performance. In other words, S-T connectedness served as a protective factor for students who reported bullying and were at risk of academic problems.

Future research could build on this study in a few ways. First, these researchers measured school-wide bullying from the principals' perspective, though it may have been more effective to investigate this variable using student reports as well. Second, because the PISA survey is administered worldwide, a subsequent study might consider evaluating the same student and school survey variables from another country(ies). Third, this study only examined different effects based on gender, while future research could assess differences based on additional demographic variables.

Although several studies have explored the benefits of prosocial skills curricula and anti-bullying approaches on mental health, this study supports a direct association to academic achievement. The

results of this study are particularly powerful for school counselors, who are faced with increasing pressure to demonstrate how their efforts contribute to improved academic achievement. Understanding the connection between a positive school climate and academic achievement is important for educators to use in advocacy for social-emotional programming that targets social skill development and school safety. Specifically, this research makes the case for the implementation of interventions that focus on encouraging positive relationships between students and their peers as well as their teachers.

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References

Beran, T. N. (2008). Consequences of being bullied at school. In D. Pepler & W. Craig (Eds.), *Understanding and addressing bullying: An international perspective* (pp. 44-66). Bloomington, IN: Author House.

Birch, S., & Ladd, G. W. (1998). Children's interpersonal behaviors and the teacher–child relationship. *Developmental Psychology, 34*, 934-946.

Buhs, E. S., Ladd, G. W., & Herald, S. (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.

Craig, W. M., & Harel, Y. (2004). Bullying, physical fighting and victimization. In Currie, C., Roberts, C., Morgan, A., Smith R., Settertobulte, W., Samdal, O, & Rasmussen, V.B., (Eds.) *Young People's Health in Context: Health Behavior in School-aged Children (HBSC) Study: International Report from the 2001/2002 Survey* (p. 133-144).

Darwich, L., Hymel, S., Pedrini, L., Sippel, J., & Waterhouse, T. (2008, March). *Lesbian, gay, bisexual and questioning adolescents: Their social experiences and the role of supportive adults in high school*. Paper presented at the biennial meeting of the Society for Research in Adolescence, Chicago.

Juvonen, J., Nishina, A., & Graham, S. (2000). Peer harassment, psychological adjustment, and school functioning in early adolescence. *Journal of Educational Psychology, 92*, 349-359.

Kaltiala-Heino, R., Rimpelä, M., Marttunen, M., Rimpelä, A., & Rantanen, P. (1999). Bullying, depression, and suicidal ideation in Finish adolescents: School survey. *British Medical Journal, 319*, 348-351.

Kaltiala-Heino, R., Rimpelä, M., Rantanen, P., & Rimpelä, A. (2000). Bullying at school: An indicator of adolescents at risk for mental disorders. *Journal of Adolescence, 23*, 661-674.

Konishi, C., & Li, Z. (2006, April). *Victimization and academic functioning among elementary school children*. Poster presented at the annual meeting of the American Education Research Association, San Francisco.

Luiselli, J., Putnam, R., Handler, M., & Feinberg, A. (2005). Whole-school positive behavior support: Effects on student discipline problems and academic performance. *Educational Psychology, 25*, 183-198.

Ma, X. (2003). Sense of belonging to school: Can schools make a difference? *Journal of Educational Research, 96*, 340-349.

Meehan, B., Hughes, J., & Cavell, T. (2003). Teacher–student relationships as compensatory resources for aggressive children. *Child Development, 74*, 1145-1157.

Nishina, A., Juvonen, J., & Witkow, M. (2005). Sticks and stones may break my bones, but names will make feel sick: The psychosocial, somatic, and scholastic consequences of peer harassment. *Journal of Clinical Child and Adolescent Psychology, 34*, 37-48.

Osterman, K. (2000). Students' need for belonging in the school community. *Review of Educational Research, 70*, 323-367.

Pereira, B., Mendonça, D., Neto, C., Valente, L., & Smith, P. K. (2004). Bullying in Portuguese schools. *School Psychology International, 25*, 241-254

Rigby, K. (2000). Effects of peer victimization in schools and perceived social support on adolescent well-being. *Journal of Adolescence, 23*, 57-68.

Schlosser, L. (1992). Teacher distance and student disengagement: School lives on the margin. *Journal of Teacher Education, 43*(2), 128-140.

Schwartz, D., Farver, J., Chang, L., & Lee-Shin, Y. (2002). Victimization in South Korean children's peer groups. *Journal of Abnormal Child Psychology, 30*(2), 113-125.

Schwartz, D., Gorman, A., Nakamoto, J., & Toblin, R. (2005). Victimization in the peer group and children's academic functioning. *Journal of Educational Psychology, 97*, 425-435.