What is this research about?

The relationship between academic performance and school safety has recently become a more popular topic for educators and researchers, especially because school safety (bullying and violence etc.) seems to be an increasing concern. Research conducted in Ontario schools has shown that large numbers of students experience violence and bullying in schools. Bullying has been found to have a negative impact on school performance and student development in general. Among the information available regarding school climate and academic performance it has been found that students perform better academically if they have positive relationships with their teachers. However, there is no research available about the relationship between school climate, as reflected in reported bullying and student-teacher relationships, and individual academic achievement; this study is intended to fill that gap in the research. This study looked at whether student’s academic performance is related to rates of bullying at school level, whether student-teacher connectedness has an impact on the bullying-achievement relationship and whether students who feel they have a positive relationship with their teachers perform well academically even if bullying happens at their school.

What you need to know:

Higher rates of bullying are associated with lower test scores. Positive relationships with teachers can act as a buffer for the negative effects of bullying on test scores for boys.

What did the researchers do?

Konishi, Hymel, Zumbo, and Li (2010), used data from the 2003 Programme for International Assessment (PISA), whose surveys are conducted every three years all over the world. Through PISA, the
researchers were able to gather data regarding math and reading achievement and perceptions of students’ connectedness with teachers for 27,217 fifteen-year-old students in Canada, and data about rates of bullying from 1,087 principals of the students included in the study. Reading and math achievement re-gathered through standardized large scale testing.

Data for student perceptions of connectedness with teachers were gathered through answers to a series of questions that were answered using a four point scale (0=strongly disagree to 3=strongly agree). To gather data about school-level bullying, school principals answered questions about rates of bullying in their school using a four point scale (0=not at all to 3=a lot). The data were analyzed using multilevel statistical modeling, which allowed the researchers to look at variables at several levels at the same time. Researchers used their analysis techniques to answer their research questions:

Is students’ academic performance related to the school climate of bullying?

Is student-teacher connectedness related to the relationship between bullying and academic performance?

The researchers looked for differences in results for boys and girls, as well as general results from the entire sample of all students.

What did the researchers find?

Researchers found that if principals reported higher levels of bullying at their school, students (both boys and girls) would be likely to have lower math and reading scores than students in schools where principals reported lower levels of bullying. Students who perceived positive connectedness with teachers were found to be more likely to have higher math and reading scores than students who did not perceive positive school connectedness with their teachers. Student-teachers connectedness was found to act as a buffer for the effects of bullying on their academic achievement for boys only, meaning that in schools with higher rates of bullying, boys with positive relationships with their teachers are less likely than those without positive relationships with their teachers to have lower math and reading scores. This means that in the absence of positive relationships between students, positive relationships between boys and teachers...
can have a positive influence on math and reading scores.

How can you use this research?
This research further highlights the importance of positive relationships in schools; in particular it shows how positive relationships with teachers can counteract the negative effects of other aspects of school climate on academic performance (such as bullying). This information is useful for parents, teachers, principals and researchers for understanding how and why to create and maintain positive relationships and environments in schools.

About the researchers

Chiaki Konishi is a postdoctoral research fellow in the Faculty of Applied Science at the University of British Columbia. Her research interests include understanding of the roles of connectedness (including attachment, peer and student-teacher relationships) and cultural contexts on social-emotional development among children and adolescents. Currently, her focus has been on marginalized populations of youth, including racial and sexual minorities. She was a school teacher and has been a counsellor.

Shelley Hymel is a professor in the Faculty of Education at the University of British Columbia, teaching in the areas of human development in education and school psychology. Her research addresses the interface of social and academic functioning, with the goal of understanding the process involved in social development to support high-risk youth in educational and community settings. She has published extensively in the area of social development and peer relations both nationally and internationally.

Bruno D. Zumbo is a professor of measurement and evaluation as well as statistics at the University of British Columbia. His fundamental research has been in both theoretical and applied psychometrics and statistical science – mathematical and statistical methods. His current research interests include procedures for evaluating variable importance in statistical models, performance characteristics of standard procedures under non-standard conditions, measurement theory, educational measurement, and the foundations of statistics.

Zhen Li is a psychometrician and Statistician at the Ministry of Education, Newfoundland and Labrador.
References:

**Keywords:** Bullying, student-teacher relationships, academic achievement, multilevel analysis, school climate

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**About this summary**

The Ontario Education Research Exchange (OERE) is a project of the Knowledge Network for Applied Education Research, an Ontario network promoting the use of research in education. The OERE’s clear language summaries of academic research aim to support this mandate.

This summary reflects findings from this study only and is not necessarily representative of the broader body of literature on this subject.

This summary has been adapted from the *ResearchSnapshot* series developed by York University and ResearchImpact and has been developed according to writing and design principles unique to OERE. For more information about this summary or the OERE network please contact oere.knaer.oise@utoronto.ca.