



Academic Resilience: Students Beating the Odds

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Background and Rationale for the Study

Many students from disadvantaged socio-economic backgrounds can find it tougher to succeed academically. So why do some students beat the odds?

Studies have revealed varying achievement levels between TDSB students from different demographic groups and family backgrounds. Traditionally, educators and researchers have focused, understandably, on classifying and describing “at-risk” students and the factors leading to lower academic achievement. Yet many students who would seem to be at-risk do, in fact, have academic success. It’s just as instructive to examine what allows these individuals to achieve in the face of adversity.

This study looked at “academic resilience”. What are some factors – individual, social and educational – that contribute to academic success for students who appear to be at-risk for academic failure?

Identifying Academically Resilient Students

The study started with 5,788 Grade 6 students, looking at their EQAO junior assessment from 2007-2008 and their primary assessment from Grade 3 in 2004-2005. Other data from the EQAO, the TDSB Parent Census, and the elementary report card was also used.

To start, the analysis identified how students performed on their sixth grade EQAO assessment (an average of reading, writing and mathematics raw scores combined) compared to their third grade EQAO composite score, and also looked at their family socio-economic status (SES). SES (i.e. family income) and previous achievement are both strong predictors of future achievement. Students who performed better than expected in EQAO Grade 6 – considering low SES and low previous achievement in Grade 3 – were defined as “academically resilient”.

Factors Associated with Academic Resilience

Many variables affect academic performance, from school lateness, to classroom participation, to parental presence at home. We looked at the relationship between several of these factors – both negative (risk factors) and positive (protective factors) – and the level of resiliency of the students. That led to a statistical model, from which we developed odds ratios. These ratios tell us something about how particular factors affect student performance. The results are in Table 1.

An odds ratio of 1.0 on, for instance absenteeism, would be a neutral number. In other words, that student, based on their absenteeism level, would perform as expected (in light of their past achievement and family SES), no better and no worse. A ratio of 0.5, however, would mean the student has a 50% *less* chance of surpassing expectations; a ratio of 1.5, means a 50% *greater* chance of surpassing expectations. The higher the number, the better, as far as predicting resiliency.



For example, as seen in Table 1, some risk factors clearly hamper the odds of a student being resilient:

- Students absent 6% or more of school days within the year had an odds ratio of roughly 0.77. So compared to another student facing adversity who had lower absenteeism, they were 23% less likely to experience academic success.
- Students who were suspended one or more times, or who were late more than five times in a term, are even less likely to show academic resiliency – in each case, more than 40% less likely.

In contrast, students' learning skills, involvement in activities outside school, positive family demographic factors, and/or parents' perceptions about school climate all support student resiliency.

Some of these protective factors include:

- Higher levels of homework completion, problem solving, and use of information skills: roughly 1.4 to 1.5 times more likely to experience academic resiliency.
- Higher levels of class participation and involvement in outside activities, especially arts, sports and recreation: about 1.2 and 1.1 times more likely, respectively, to experience academic resiliency.
- Both parents at home and higher level of parental education: more than 1.2 more times likely to be resilient.
- Higher level of parental expectations regarding students' post-secondary education: 1.66 times more resilient.
- Higher levels of enjoyment and safety at the school and treated with respect: 1.16 to 1.35 more resilient.



Table 1: Factors Associated with Academic Resilience

Risk Factors	Odds Ratio	Family Characteristics	Odds Ratio
Absenteeism	0.767**	Parental education	1.234*
Lateness	0.643**	Parental presence at home	1.277*
Suspensions	0.613*	Parental expectation (post-secondary plans)	1.657**
Student Characteristics		School Climate	
Homework completion	1.542**	Enjoy school	1.351**
Class participation	1.195*	Feel safe	1.220*
Problem solving	1.493**	Treated with respect	1.156*
Use of information	1.395**		
Involvement in outside activities	1.139*		

* Significant at the 0.05 level (i.e. 95% confidence in significance of relationship)

** Significant at the 0.01 level (i.e. 99% confidence in significance of relationship)

Policy Implications and Recommendations to Educators

For students at-risk because of low SES and low previous achievement, we can see that a number of factors – related to the interaction of family, school, peer and community influences – predict resilience and academic achievement. What are some implications of these findings? Educators could consider:

- Incorporating resilience skill-building into the school curriculum and teaching strategies. Students tend to experience academic resilience when they have opportunities to develop learning skills in problem solving and use of information; complete homework; participate in class; and pursue opportunities in the arts, sports and recreational activities outside school.
- Increasing awareness – for parents, students, teachers and the community – of the magnitude of the effect that positive family and school climate characteristics bring to every student.
- Assessing student needs and determining the appropriate supports that have an impact on resilience and academic achievement. Teachers require a solid understanding of resilience to help students build it. Research that will link teachers' theoretical knowledge of resilience to practical applications will help identify training needs.

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