School-Based Interventions to Enhance the Resilience of Students

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Abstract

A scoping review of programs targeting middle school students suggests that resilience is seldom the result of interventions within schools alone, or any other single system that provides services to students. Instead, resilience is shown to be a multidimensional construct, involving both exposure to risk and access to multiple internal and external resources. Based on a scoping review of outcomes from 36 interventions, we highlight the elements of successful programs with vulnerable students and reasons for why some programs appear to be less effective or have a negative impact. Less successful programs tended to be those that did not include a cultural component or show sensitivity to contextual variations among students like the size of their community, access to other services and supports, or the economic status of the child’s family. The biases of funders, researchers and educators also influence the choice of resilience-promoting intervention made available in a school rather than the specific needs of the targeted student population. We conclude with several recommendations for more effective interventions with students and the implications of our findings to the evaluation of program outcomes.

Keywords: resilience, students, adolescents, successful interventions, culture

1. Introduction

Students face a wide array of barriers in their lives that not only jeopardize their performance in, and completion of, school but also jeopardize their physical health and psychological wellbeing in ways that can follow them into their adult lives (Mallin, Walker, & Levin, 2013). There is, fortunately, emerging evidence that schools have the potential to influence positively children’s biopsychosocial growth and development though much more work needs to be done to identify which protective factors are most likely to be affected by school-based interventions, the role schools can play in collaboration with children’s families, communities, and other service providers, and to what extent interventions need to focus on changing children’s school environments rather than changing children themselves (France, Bottrell, & Armstrong, 2012; Ungar & Liebenberg, 2013).

2. Method

To investigate the potential for school-based interventions to protect and promote children’s wellbeing, we conducted a purposeful search of the literature (a scoping review) using a number of search terms to sort published journal articles and books that had been indexed as well as identify nonacademic reports on programs that had been described online. Using the search capacity of WorldCat, we were able to conduct a simultaneous search of all major indices in the fields of Psychology, Sociology and Education. We also included searches of Google Scholar and Google to identify examples of programs that were not published in the formal literature (e.g., reports from government departments, school boards, and non-governmental organizations). Search terms included “resilience and schools”, “school resilience” and “student resilience”, among others. Articles, books, and reports were selected if they referred to a specific program or intervention that was intended to enhance the resilience of students while they attended school.

To narrow our focus and maintain some degree of homogeneity in our target population, we began by looking exclusively at reports on programs serving Canadian students ages 10-14. We found, however, that there was a limited number of interventions for this population and therefore expanded the scope of our search to include international program evaluations with students of different ages. Our intention was not to provide a
comprehensive survey of the literature, but to search for exemplars of best practices and programs that had an evidence base. When our search results showed repetition in the types of programs identified, or outcomes were consistently positive or negative (or indeterminate), we proceeded with a search for exemplars of another type of intervention to see if the same pattern in the results could be identified. In this way, our results provide a thematic analysis of the literature rather than an empirical review. This thematic approach allowed us to observe trends among programs with emerging practice-based evidence, as well as those that have been more formally evaluated. We would expect that replication of this scoping review would produce a different list of programs from those detailed in Table 1, but that the dominant themes we have found among these 36 programs would continue as a trustworthy description of program elements that contribute to the resilience of students at school.

3. Resilience in Schools

Our review approached the problem of resilience from a social ecological perspective (Ungar, 2011) as it relates to education (Ungar & Liebenberg, 2013). For decades, the concept of resilience has been providing a way of understanding children’s positive development under adversity and the factors and processes that help children avoid harmful, self-destructive, or antisocial behaviours, mental disorders, and threats to their physical wellbeing (Richman & Fraser, 2001). Understood in this way, resilience is the individual’s participation in processes that make positive developmental outcomes possible. For children facing significant adversity, engagement in protective and promotive processes that enhance wellbeing can be influenced by the provision of formal interventions. Resilience is, therefore, not just the personal qualities of the child, but how well the child’s social and physical environment (including the child’s school, family, and community) facilitates access to internal and external resources such as healthy relationships, a powerful identity, social justice, material needs like food and education, and a sense of belonging, life purpose and spirituality (Ungar et al., 2007). A child who is given the help he or she needs to navigate to such resources and negotiate for them to be provided in meaningful ways (e.g., culturally relevant) is more likely to do well (Ungar, Liebenberg, Armstrong, Dudding, & van de Vijver, 2012).

4. Academic Achievement or School Engagement?

To assess whether a school intervention bolsters resilience, the most common outcomes reported included academic achievement and school engagement. For children who attend school regularly and face less social disadvantage, academic achievement tends to be the more important predictor of resilience than school engagement. For example, studies by Martin and Marsh (2008; 2009) have shown that students who do not score high on contextual risk factors (their homes and communities are reasonably well functioning and financially stable) still experience normative challenges related to being in school during tumultuous periods of psychological and social development. All students, they explain, suffer stress related to writing tests, forming and ending of romantic relationships with other students, and transitioning between grade levels. Resilience at school (in particular academic success) is best understood as the outcome of interactions between both common and exceptional risk factors, contextual risk factors beyond the school, a quality educational environment, and the child’s individual strengths.

For students exposed to higher levels of individual, family, school and community stress, school engagement is the more important factor associated with resilience rather than academic achievement. A child who engages at school experiences a passageway (Hobfoll, 2011) to a host of potentially supportive experiences. In contrast, the less stressed child is more likely to have access to internal and external resources at home and at school, making school relatively less important. Therefore, a child who shows a positive attitude towards school, is optimistic that schooling can change life trajectories, and demonstrates engagement through attendance has been shown to be much more likely to have better overall wellbeing regardless of the child’s academic achievement (Dotterer, McHale, & Crouter, 2009).

For our purposes here, we examined educational programming (beyond the basic pedagogical practices in classrooms) that focused on improving children’s mental and physical health, school engagement and academic achievement. Therefore, in addition to the school related outcomes of engagement and achievement, a program was seen as building resilience if it successfully addressed risks to a student’s wellbeing and facilitated the student in processes that helped him or her build capacities for successful adaptation under stress. These capacities include: improvement in the size and quality of a child’s relationships; the development of a more powerful and positive identity; experiences of efficacy and an internal locus of control; better and just treatment by others; improved access to material resources like quality food, clothing, shelter, and educational supports; social cohesion and a sense of belonging or spirituality; and cultural adherence and continuity in identification with others from the child’s ethnoracial group.
5. Case Example: Preventing Childhood Obesity by Increasing Psychological Resilience at School

To illustrate the impact schools can have on resilience we can look at a specific problem like childhood obesity and the related problems of peer victimization, poor body image, low self-esteem and long-term threats to physical health that co-occur. Here, the connection between a child-specific problem and the social ecological factors that both increase risk and contribute to resilience is clear. On the risk side, obesity can be related to social class and the ability of caregivers to provide children with proper nutrition, as well as lifestyle decisions that are under the control of children’s caregivers such as the frequency with which meals are eaten in front of a television (Gentile et al., 2009). Likewise, schools can influence the level of physical activity programmed into a child’s curriculum, provide healthy alternatives for lunch and education regarding a healthy lifestyle and good nutrition (Crosnoe & Muller, 2004). The challenge is to know which programs are likely to be the most effectively delivered by the child’s school and which are better left to parents and caregivers and others in the child’s community like health professionals.

Despite this gap in our knowledge, there is emerging evidence that schools can play a part in preventing obesity and, in the process, also prevent school disengagement and improve academic performance (Crooks, 1995; Mallick, 1983). Obesity and school engagement have long been understood as negatively related: obese youth are thought to underperform in school, be less engaged in school, be bullied by their classmates, form few meaningful relationships with other youth, and develop serious physical and mental health problems. Findings from contemporary studies that examine the relationship between obesity and school engagement have supported these beliefs (Crosnoe & Meuller, 2004; Taras & Potts-Datema, 2005). Florence, Asbridge, and Veugelers (2008), for example, have shown that youth with healthy diets are 30% less likely to receive failing grades in literacy assessments than youth with unhealthy diets. Likewise, a child’s mental health may also be at risk if obese. Sjöberg, Nilisson, and Leppert (2005) have shown a statistically significant association between obesity in youth and depression, itself another factor that predicts school disengagement. Youth in Sjöberg et al.’s study exhibited high levels of shame and had become socially isolated from family and friends. Similarly, Lumeng et al. (2010) have shown a statistically significant association between obese youth and experiences of bullying leading to children’s decisions to exclude themselves from dangerous school environments. Educators who have sought to implement obesity prevention programs in schools have shown moderate success helping obese children improve their physical health with the expectation that improvement in physical health will influence children’s levels of school engagement positively (Oetzel, Scott, & McGrath, 2009).

To illustrate, if we look at programs addressing obesity, resilience and school engagement, we see a pattern among educators who are leaning towards interventions that are multisystemic. School-based obesity prevention programs have shown a similar developmental pathway to that which has been shown previously in the literature on resilience. Obesity prevention programs have generally started out by implementing specialized curriculum in schools that focus on individual youth, teaching them about healthy eating and/or helping them to improve their self-esteem. Results from these programs have been mixed. As Smolak and Levine (2001) have shown, youth in their obesity prevention program exhibited higher levels of self-esteem and were less likely to engage in unhealthy weight loss strategies than youth in the control group. However, there were no significant differences in body weight between the two groups at follow-up. Similarly, results from Caballero et al.’s (2003) Pathways program did not show any variance in the obesity levels between youth in the intervention group and the control group. Pinhas-Hamiel, Singer, Pilpel, Fradkin, Modan and Reichman (2005) have argued that in order to provide more effective treatment to youth, obesity prevention programs have to expand outside the school to include involvement of the youth’s family.

School-based obesity prevention programs that include a family component, however, have shown mixed results with youth. Blom-Hoffman, Wilcox, Dunn, Leff, and Power (2008) reported that their Five A Day program resulted in youth eating more fruits and vegetables than they did before participating in the program. Gentile et al. (2009)’s SWITCH program also saw an increase in youths’ consumption of fruits and vegetables but no changes in body weight or physical activity. Participants in Story’s et al. (2003) GEMS program also did not report any changes in body weight and there were no differences between youth in the intervention group and the control group.

Such disappointing results have moved obesity-prevention programs beyond the belief that youth alone can manage the barriers and challenges they face. As Alvaro et al. (2010) argue, obesity prevention programs must provide youth with quality service engagement and supports that are external to the youth. Currently, in schools across many western countries, health centres are being established with the intent of detecting, diagnosing and treating youths’ physical and mental health problems in school. It is believed that these school based health centres will grant youth access to clinical services that they would not have access to otherwise (Clayton, Chin,
Veugelers and Fitzgerald (2005) have shown the effectiveness of schools that promote comprehensive mental and physical health programs and initiatives. They found that grade 5 students in health promoting schools in Nova Scotia, Canada, were more physically active and had better diets than students from non-health-centric schools. While these school-based health centres are still in their nascent stages, early evaluations from Oetzel, Scott, and McGrath (2009) have shown that school health providers who are properly trained in psychosocial service delivery and shown how to engage with youth are more effective in treating youth obesity than before they received the specialized training. As the case example shows, addressing a complex problem like obesity and its threat to mental health, school engagement and academic performance can be done through the intentional application of principles rooted in an ecological understanding of resilience.

6. Resilience and Schools: An Overview of Interventions

As the examples above illustrate, there are many aspects of schooling that have the potential to enhance the resilience of children and youth in contextually and culturally meaningful ways (Hecht & Raup-Krieger, 2006; National Crime Prevention Centre, 2009; Tebes et al., 2007). However, as Johnson and Howard (2007) showed in their longitudinal qualitative research with 55 young people in Australia, pathways to resilience are complex and respond to contexts like school in which child development takes place. While the individual exercises some degree of personal agency, contextual factors influence which protective factors are the most important and when. Related threats to academic achievement are known to be bullying (Pottinger & Stair, 2009), the quality of relationships with teachers, principals, and staff (Morrison & Allen, 2007; Sharkey, You, & Schnoebelen, 2008), transitions between schools (McVey et al., 2003; Shortt, Hutchinson, Chapman, & Toumbouro, 2007), the student’s emotional and psychological wellbeing (Tebes et al., 2007; Wong et al., 2009), the child’s gender, race, and class (Ollis & Meldrum, 2008; National Crime Prevention Centre, 2009), and the availability of academic supports (Ager et al., 2011). Many of these factors have been addressed by school-based programs that remove threats to children’s wellbeing while building the capacity of children to experience resilience.

For example, numerous studies have shown that a caring school community not only overrides the negative impact of learning challenges, but also helps to compensate for the disadvantages of living in communities where there are high concentrations of poverty and social marginalization, racial discrimination, and violence (Cassen, Feinstein, & Graham, 2008; Minnard, 2002). Easy access to remedial education, universal curriculum that focuses on personal, social and health education (making schools one of the few places all children get the basic life skills they need to cope effectively with stress), personalised classroom learning and more equitable access to the funding schools need to offer a range of programs, make for schools that are effective with marginalized populations (Cassen et al., 2008). These programs, like others discussed in this review, show a pattern of intervention that focuses on changing the child’s context rather than adapting the child to function in poorly resourced environments.

In particular, the most oft-studied factor is the way students, especially at-risk students, interact with their teachers and how that relationship fosters resilience. Resilience-promoting teachers have been shown in studies to do the following:

- They make themselves available and accessible to students;
- They engage students by actively listening to their concerns and worries;
- They take responsibility for actively teaching their students the basic reading, writing and numeracy skills needed for independent learning, even if their students have struggled in the past to master these skills;
- They have empathy with, and understanding of, their students’ “tough” circumstances yet provide them with positive strategies to deal with adversity;
- They advocate for their students by mobilising existing support provisions that are available for “at risk” students’
- They actively use their power as adults and professionals to identify and oppose bullying and harassment at school; and finally,
- They remember the ‘human touches’ that promote pro-social bonding between teachers and students. (Johnson, 2008, p. 395)

7. Findings: Resilience-Promoting Programs in Educational Settings

Schools have become increasingly a place where educators and those concerned with prevention are
implementing programs to give children the resources they need to cope with adversity (Johnson & Howard, 2007). Among the interventions reviewed for this article, definitions of resilience vary. In some cases, resilience is understood as occurring when a child does not develop problem behaviours; in other instances resilience is realized through the development of a specific set of skills. As Minnard (2002) observed, there is not always a need for more resources to improve resilience; often the need is for resources to be used more effectively.

Combined, a thematic analysis of the design of the interventions and their evaluations show:

- There is support for the principle of differential impact, with children who are exposed to higher levels of adversity benefiting much more than lower risk children who participate in the same school-based programs. In some cases, a program only has a positive impact on children whose needs are high (Vazsonyi, Belliston, & Flannery, 2004).
- Many of the programs that target higher risk-exposed children emphasize both non-academic and academic goals. The non-academic goals are considered helpful to engaging youth at school and increasing individual qualities that predict greater success in learning. These programs promote cultural activities, community-based initiatives that bolster self-esteem, connections with adults, prosocial behavior, lower drug use, decreased conduct disorder, and the prevention of delinquent behavior.
- When academic achievement is the explicit goal, it is usually achieved as a consequence of children’s better engagement at school. For the more marginalized and disadvantaged children, attending school regularly has a positive influence on their ability to meet academic performance expectations.
- Programs with pre-school children, and those with children transitioning to middle school or high school, focus on improving school readiness, or remediation of learning problems such as poor literacy and numeracy skills. In these cases, program goals include enhancing academic performance and, as a consequence of school attendance and the learning that occurs in the classroom, giving children the resources they need to cope well with challenges that occur beyond their classrooms.
- Many programs emphasize the building of children’s social capital, at home with supportive adults, at school with educators and with peers who behave in socially acceptable ways.
- International programs emphasize human rights education.
- Programs in Canada and the United States emphasize interpersonal skills, suppression of bullying, adapting the school and home environments to make it more likely children engage at school, and improve their academic performance.
- Gender issues are frequently considered when both national and international programs are implemented, with girls provided specialized help to access educational programs and participate fully in non-traditional areas of study. Boys are often treated differently with regard to engagement strategies or programs that target problem behaviors like gang involvement.
- Almost all of the programs used school-based samples, though many focused on factors that affect children outside of their schools such as the promotion of culture, better child-parent interaction, and the child’s contribution to his or her community.
- While programs showed the potential to influence school engagement, academic performance, individual qualities like self-esteem, and improve children’s interactions with their families and communities, programs were generally less effective addressing psychological problems like depression. It is unclear whether programs are ineffective because of their design or because problems like depression are complex and require interventions that are beyond a school’s scope of practice. School-based programs did, however, prove effective at decreasing the risk factors for depression such as exposure to bullying, improving school climate and decreasing school disengagement.
- When the focus of school programming is on changing children’s learning environments, programs tend to emphasize improved parent-teacher interactions, instigating non-punitive discipline strategies, and increasing expectations for academic performance of children who are socially or racially marginalized.
- Many interventions include changes to school-wide curricula, integrating learning modules that focus on the skills that make children resilient.

The list of programs and the factors they address is long. Across disciplines, there are, however, many similarities in their approaches. Significantly, service scans like that by Santor, Short and Ferguson (2009) of mental health and addictions programs for students in Canadian schools have shown that while there are many promising programs being implemented to address students’ needs at school they tend to lack systematic and
effective strategies or demonstrate sufficient fidelity to the models upon which they are based to guarantee their success. More well-considered programs, and efforts to build an evidence base for local initiatives that respond to local issues are needed.

8. Discussion

The 36 interventions identified for this review showed mixed results in terms of their effectiveness. Most did not include a cultural or contextual component. It is therefore difficult to say whether a program that was offered was actually the best one for the population being studied, or whether the selection of a particular intervention reflects the bias of educators, researchers and the program’s funders. It is also unclear whether there may have been other more effective programs that were not considered, or whether cultural differences could have been better accounted for by a program developed locally.

There were multiple programs that were aimed at helping students adopt “positive” behaviours and attitudes (see Farrell, Meyer, & White, 2001; Hallam, 2009; Nelson, Martella, & Marchand-Martella, 2002; Shek & Ma, 2012; Vazsonyi, Belliston, & Flannery, 2004). Such an approach to building resilience can be controversial. By predefining what is a prosocial behaviour, educators are at risk of imposing their values onto the children who participate in programming. Research suggests that in contexts of greater adversity, perceived negative behaviours may help children and youth maintain a sense of wellbeing (Ungar, 2006). Furthermore, differences in mental health, socio-economic status, parental and familial support, and so forth, create barriers to school engagement that are too complex to be resolved by a single intervention. As Shortt, Hutchinson, Chapman, and Toumbouro (2007) showed in their work on alcohol abuse prevention, it is important to be sensitive to the meaning a particular behaviour has in different contexts and cultures. Their school-based resilience program was supposed to prevent young people from abusing alcohol but was ineffective in part because the youth’s parents held liberal views on alcohol use and would allow their children to consume alcohol in their homes. In failing to take into consideration the context in which underage drinking occurs, researchers may overlook possible solutions (for example, addressing alcohol abuse among teens through interventions with their parents). Our review highlights similar patterns. The best school-based interventions appear to be collaborative, multisystemic and culturally and contextually relevant, responding to what children themselves say they need.

8.1 A Note about Research and Program Evaluation

We note that many programs did show some positive impact on resilience-related factors for students. However, the scope of their assessment measures tended to be narrow. Most of these school-based outcome evaluations of programs predefined acceptable behaviour as school engagement and academic performance, even though much of the research suggests that schools serve many other psychological and social functions for their students. This lack of a contextually sensitive approach to research and programming has meant that outcomes associated with resilience may not be measured, and socially unacceptable behaviours like truancy that children use to protect themselves in threatening, resource poor environments may be overlooked as potentially useful (though maladaptive) coping strategies. While we would not, of course, design a program that promotes truancy, we understand that in challenging contexts students who perceive few prosocial options to achieve psychological wellbeing avoid academic failure and maintain physical safety by disengaging from school (Dei, Massuca, McIsaac, & Zine, 1997).

9. Conclusion

To the extent that we shape school, community, and family environments, the more likely we are to engage young people in learning and enhance overall resilience. Programs with an empirical evidence base and those that report practice-based evidence both show common design elements. Good programs interrupt patterns of behaviour that are likely to lead to academic failure and disengagement from school by changing a student’s social ecology. With respect to efforts to nurture and sustain resilience, our scoping review of programs suggests that earlier is always better, but it is never too late to begin to make a difference.

References


**Appendix**

Table 1. Selected sample of school programs that enhance factors associated with resilience

<table>
<thead>
<tr>
<th>Authors</th>
<th>Name of Program</th>
<th>Goal</th>
<th>Key Components</th>
<th>Sample</th>
<th>Key Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aboriginal Affairs and Northern Development, 2012</td>
<td>Catalyst Mentor Program</td>
<td>To raise reading levels of Aboriginal youth by having training teachers to meet the specific needs of each of their students.</td>
<td>Educational experts are brought into a classroom to identify the specific needs of children and to develop a specialized treatment plan for children with the greatest needs. Teachers are provided with training to be better able to meet their students’ needs.</td>
<td>Elementary school Aboriginal youth in grades 2 and 3 in Saskatchewan.</td>
<td>The reading levels of second grade students rose by 2.7 grade levels, the reading levels of grade 3 students rose by 3.3 grade levels.</td>
</tr>
<tr>
<td>Aboriginal Affairs and Northern Development, 2012</td>
<td>Community Reading Tutors</td>
<td>To help First Nation’s youth to improve their reading levels.</td>
<td>Students who demonstrated difficulties reading were paired with a trained volunteers from their community who acted as tutors.</td>
<td>First Nations students from prekindergarten to grade 3 who demonstrated difficulties with reading.</td>
<td>Students demonstrated improved reading scores that were 20% higher than their pre-test scores.</td>
</tr>
<tr>
<td>Aboriginal Affairs and Northern Development, 2012</td>
<td>PRIME (Professional Resources and Instruction for Mathematics)</td>
<td>To increase Aboriginal youth’s mathematics scores through a teacher development program.</td>
<td>The Mi’kmaw Kina’matnewey schools partnered with Saint Francis Xavier University to provide a course that was aimed at training teachers on mathematics and different</td>
<td>Aboriginal elementary students who attended Mi’kmaw Kina’matnewey schools in Nova Scotia.</td>
<td>Student’s math scores increased by 6.7%. Students in Early Elementary Mathematics demonstrated an increase of 1.4</td>
</tr>
</tbody>
</table>
A specialized curriculum that focuses on promoting resilience through drama, music, and art was administered to children in their classrooms. The PSSA also sought to encourage the involvement of parents and community members.

Elementary school students from 27 schools in northern Uganda (N=403). Students were randomly assigned to either the intervention group (n= 203) or the control group (n= 200).

A 4-part intervention was delivered through the Head Start program that would provide teachers with advanced skills to facilitate the development of language skills, literacy skills, social-behavior skills, and school engagement, while also reducing aggressive behaviors in youth enrolled in the Head Start program.

4-year-olds who were enrolled in a Head Start program in Pennsylvania. Children were randomly assigned to either the intervention group or the control group (N= 356).

Teachers provided students with books that the researchers wrote to encourage children to engage in healthy eating habits.

Parents of Kindergarten and first grade students from two elementary schools in the United States. (N=297).

Data indicated only one variable changed: observational data showed that students were eating less fatty foods.

Students from the intervention group demonstrated higher scores on interpersonal relationships, recognition of rights (others and self), and participation in school. The findings also indicate that there were no significant differences in academic achievement between the intervention and control group.

Curriculum is provided to teachers that inform students of their rights to education. It is believed that being aware of these rights would allow children to see that “the purpose of their rights is to maximize their developmental potential and to ensure that they are well cared for” (p. 41).

Students who enrolled in the REDI program had significantly higher scores on vocabulary, scores, literacy scores, emotional understanding scores, problem solving scores, behavioural scores, and school engagement scores.

Participants included 3rd to 5th grade Aboriginal students who attended elementary schools in Arizona, New Mexico, or South Dakota. (N= 1784).

Data also indicated that children in the intervention group ate more fruits and vegetables than children in the control group.

Students from the intervention group demonstrated higher scores on interpersonal relationships, recognition of rights (others and self), and participation in school. The findings also indicate that there were no significant differences in academic achievement between the intervention and control group.

Assessments of the program found that students in the intervention program, when compared to students in the...
the accuracy of their self-talk; develop alternative solutions or attributions; and prevent harmful and destructive thinking.

D’Angelo and Zemanick, 2009

Twilight Academy

To help youth (typically defined as at-risk or high-risk youth) who had trouble adapting to traditional classroom settings graduate from high school.

The program offered at-risk and high-risk youth smaller class sizes, more one-on-one attention from teachers, supportive teachers, and the integration of real life problems into teaching materials.

High school students who had low attendance records, disruptive behaviours, and/or were in jeopardy of not graduating from high school were nominated to the program by teachers and school staff. Participants were in Grades 9-12 from a school in Southeastern Pennsylvania. (N= 60).

Findings show that of the 12 students who were eligible to graduate, 11 did so on time while the other students graduated after completing summer school.

Elias, Gara, Schuyler, Branden-Muller, & Sayette, 1991

Social Decision Making and Social Problem Solving (SDS-SPS)

To build protective factors within children who are transitioning into Junior High school, making them less susceptible to risk factors.

Introduced curriculum that taught youth decision-making and problem-solving skills that will help them avoid engaging in anti-social activities.

Students from elementary schools who are transitioning into junior high school. Students were randomly assigned to a control group and an intervention group.

Findings from the 2-year follow-up evaluation showed youth in the intervention group had improved coping skills and had less disruptive behavioural outbursts. Findings at the 6-year follow up showed that students in the intervention group behaved better than the control group. Boys in the control group had higher rates of alcohol use, violence, and psychological problems than intervention group. Similarly, girls in the control group showed higher rates of vandalism and cigarette use.

Farrell, Meyer, & White, 2001

Responding in Peaceful and Positive Ways (RIPP)

To reduce youths’ violent behaviour.

Program introduced a specialized curriculum that was taught by prevention specialists, that teaches youth to utilize nonviolent behaviours, positive communication, achievement of pro-social goals, and healthy problem-solving technique.

Grade 6 students who are not receiving educational assistance services. Students were from 3 junior high schools in Richmond, Virginia. Students were randomly assigned to either the intervention group (N= 305) or the control group (N= 321).

Program assessments found that youth in the RIPP program demonstrated less violent behaviour and received fewer suspensions from school than youth in the control group.

Post-tests demonstrated that RIPP participants engaged in less violent behaviour and used peer mediation more frequently than control group youth when trying to resolve disagreements.

Boys enrolled in RIPP maintained low suspension rates at the 12-month follow-up. Girls
in the RIPP program did not demonstrate the same outcome.

Findings demonstrate that the program had more of an impact on high-risk youth than any other group.

Results from the evaluation found students in the control group demonstrated a reduction in aggressive behaviour and cooperated more than youth from the control group.

Students in the intervention group required less adult supervision than students in the control group.

Students in the intervention group identified more pro-social goals and actively pursued them.

Students in the intervention group recognized the rights of others more than students in the control group.

Students in the PRP group did not exhibit any significant variance in depression scores when compared to the other two groups.

Students from both intervention groups scored lower than students in the control group on both tests.

87% of teachers and 96% of non-teaching staff said that the program had a positive impact on children’s emotional wellbeing.

82% of teachers reported that students were better able to
manage their emotions

48% of teachers and 74% of non-teaching staff said the program reduced bullying.

There were no significant differences in depression scores between students in the intervention group and the control group.

There was significantly less drug and alcohol use by students in the culture-based curricula than the control group. The multicultural curriculum was the most effective.

Findings show that girls and underprivileged children showed increases in effective coping strategies. Boys who were enrolled in the program appeared to be less affected by mental health problems.

Students in the intervention group demonstrated a higher incidence of eating disorders than the control group. No other significant findings were found.

Harnett & Dadds, 2004

Resourceful Adolescent Program (RAP)

To reduce depressive symptoms in youth.

Teachers were trained and provided with a specialized curriculum that was aimed at reducing the depressive symptoms in their students.

Grade 9 and 10 students. Youth were randomly assigned to an intervention group or a control group.

Hecht & Raup-Krieger, 2006

Keepin’ it REAL (Refuse, Explain, Avoid, Leave)

To prevent adolescent drug and alcohol use.

A culture-based curriculum was designed to provide youth with different ways to decline invitations from others to use drugs and alcohol. The curriculum is also based on youths’ perceptions and experiences of pressure to use drugs and alcohol, helping youth to develop effective strategies to decline offers to use substances.

Grade Seven students from 35 of 45 junior high schools in Phoenix, Arizona. Students were randomly assigned into 4 groups that provided the following curricula: control group (no curriculum); Mexican-American-based curriculum; Black/White-based curriculum; and multicultural curriculum.

Holen, Waaktaar, Lervåg, & Ystgaard, 2012

Zippy’s Friends

To strengthen the coping skills of children and to reduce the impact of various psychological stressors.

Teachers were provided with a specialized curriculum that is designed to help strengthen children’s coping strategies.

Grade 2 students from 35 schools in Norway. (N=1483). Students were randomly assigned to either the intervention group or the control group.

McVey, Lieberman, Voorberg, Wardope, Blackmore, & Tweed, 2003

Girl Talk

To improve adolescent girls’ self-esteem, body esteem, and to reduce unhealthy dieting behaviours. Researchers thought that enrolment in the group would help the transition from elementary school to junior high school where researchers expected to see an increase in bullying and depressive symptoms in group members.

The program implemented a peer support program where students provided support to their fellow program members regarding their body image, self-esteem, and to prevent unhealthy dieting activities.

Adolescent girls in Grades 7 and 8 from 16 elementary schools in a Canadian suburb (N=282). 196 girls were in the control group and 86 were in the intervention group.

Students in the intervention group demonstrated a higher incidence of eating disorders than the control group. No other significant findings were found.

National Crime Prevention Centre of Canada, 2009

EMPATHETIC Program (Emotional Maturity Problem-Solving & A specialized curriculum was implemented in Eskasoni’s elementary and junior high schools. The curriculum was age-appropriate and culturally specific. In addition, a program representative went

Elementary and junior high school students in Eskasoni, Nova Scotia.

Students and teachers reported that students were better able to cope with their feelings and developed better problem-solving skills.
Awareness Targeting Higher Impulse Control) Nova Scotia. By improving the emotional awareness and impulse control of youth it was hoped that the intervention would prevent youth from engaging in future criminal activities.

Public Safety Gwich’in Outdoor Classroom Canada, 2011 To prevent Aboriginal youth in the Northwest Territories of Canada from engaging in future criminal activities. The program engaged in an outdoor camp that taught youth regular school curriculum, as well as life and communication skills. Community elders taught culture-based lessons. The program also included a morning breakfast component once youth returned to their regular school setting.

Nelson, Martella, & Marchand-Martella, 2002 School-wide positive behavioural intervention and support (SWPBIS) To prevent disruptive behaviours in youth. The program had four key components: 1) school-wide behavioural guidelines, policies, and punishments for improper behaviour; 2) a uniform management system that all teachers implemented in their classes to manage disruptive behaviour; 3) individualized case plans to help each child with their own set of risks; and 4) a centralized leadership team that guided the program.

Ollis & Meldrum, 2008 Be Yourself and Have a Ball To use a health and physical activity Engage females students with non-traditional activities (belly-dancing, yoga, self-defence) while Female students in Grades 9 and 10 from a remote and isolated abilities.

Teachers observed an increase in empathetic behaviours among students.

Parents commented that their children exhibited an increase in self-esteem.

The program was more effective for boys than for girls.

The program showed a successful intervention for boys 6-9 years old who exhibited more pro-social behaviours than the comparison group.

Boys and girls in the intervention group demonstrated significantly higher scores in math, reading, and spelling than youth in the comparison group.

Youth in the intervention group attended school 20% more than youth in the comparison group.

75% of youth in the intervention group achieved high marks, a significantly better result than students from regular classrooms in the same school.

Findings demonstrate that students in intervention schools scored lower in formal disciplinary actions and higher in academic achievement than schools in the non-intervention group.

Target students also demonstrated increased scores in positive behavioural engagement and academic achievement.

Findings from the study indicated that
<table>
<thead>
<tr>
<th>Pathways to Education, 2011</th>
<th>Pathways to Education</th>
<th>To help youth from low income communities graduate high school and enrol in post secondary education programs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pattison &amp; Stevenson, 2001</td>
<td>Penn Prevention Program (PPP)</td>
<td>A specialized curriculum was delivered to students.</td>
</tr>
<tr>
<td>Sheffield, Spence, Raee, Kowalenko, Wignall … McLoone, 2006</td>
<td>Problem-Solving for Life</td>
<td>To reduce depressive symptoms and increase problem-solving skills in youth.</td>
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<tr>
<td>Shortt, Hutchison, Chapman, &amp; Resilient Families</td>
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<td>To prevent alcohol use and abuse in adolescents</td>
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</tbody>
</table>

The Pathways to Education Program provides students with after school tutoring, financial assistance for school related costs, and the development of social skills.

High school students from 12 low income communities across Canada who are at risk of dropping out of school.

Students enrolled in the program have doubled their graduation rates from before the intervention. There was a 70% reduction in dropouts, 85% increase in participation, and a 300% increase in enrolment in postsecondary institutions.

There were no significant differences found between the three groups.

There were no significant findings between the control group and the intervention group.

Findings from the longitudinal data indicate a significant difference in positive youth development between the experimental group and the control group. Youth in the experimental group demonstrated better development than the youth in the control group. These findings were most noticeable in behavioural, moral, and cognitive behavioural competencies.

Youth who perceived the program as being beneficial also did significantly better than youth who did not perceive there to be any benefits to the program.

Findings did not demonstrate a difference in rates of alcohol use.
<table>
<thead>
<tr>
<th>Authors</th>
<th>Year</th>
<th>Program Description</th>
<th>Population and Setting</th>
<th>Findings</th>
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<tr>
<td>Toumbouro, 2007</td>
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<td>Transitioning from elementary school to junior high school. The goal of which is to: increasing knowledge and skills such as emotional awareness, peer resistance skills, and problem solving skills to help youth avoid early alcohol use/abuse; present parents with knowledge and specialized training to help their children avoid using/abusing alcohol; and forge a more involved relationship between parents and their child(ren)'s school.</td>
<td>Australia. (N=2128). Students were randomly assigned to either the intervention or control group. There was no indication as to how many of the students were assigned to either groups.</td>
<td>Students in the intervention group achieved more in school than youth in the control group.</td>
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<tr>
<td>Smoluk &amp; Levine, 2001</td>
<td>Eating Smart, Eating for Me</td>
<td>To improve students’ nutrition, increase exercise and body esteem, and to discourage unhealthy dieting strategies.</td>
<td>Students were randomly assigned to either the intervention or control group. There was no indication as to how many of the students were assigned to either groups.</td>
<td>The data showed that alcohol use went from 33% in Grade 7 to 47% in Grade 8. The data also showed that students in the intervention program avoided alcohol use/abuse more often than youth in the control group. Students in the intervention group were shown to be more knowledgeable about nutrition, had higher body esteem, and were less likely to engage in unhealthy dieting strategies.</td>
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<tr>
<td>Story, Sherwood, Himes, Davis, Jacobs, … &amp; Rochon, 2003</td>
<td>Girls health Enrichment Multi-site Studies (GEMS)</td>
<td>To prevent female African American youth from becoming obese. Students took part in an after school program that focused on increasing physical activity and promoting healthy eating practices.</td>
<td>Students were originally 9-11 when the program was first implemented, the 2 year follow up was conducted with 11-13 year olds. (N=509). Students were randomly assigned to either the intervention or control group.</td>
<td>Findings showed no significant differences between the control and intervention groups. One year follow-up interviews found that youth in the intervention group demonstrated significantly lower increases in alcohol and drug use than youth in the control group.</td>
</tr>
<tr>
<td>Tebes, Feinn, Vanderploeg, Chinman, Shepard &amp; Connell, 2007</td>
<td>Positive Youth Development Collaborative (PYDC)</td>
<td>To prevent adolescent substance abuse and to promote feelings of well-being. The program introduced an after-school curriculum that sought to instil healthy coping techniques, prevention skills, problem solving methods, and a sense of cultural heritage and civic responsibility in youth. Curriculum included information sessions, cultural and heritage sessions, and field trips to surrounding community institutions and services.</td>
<td>Junior and high school students from two cities in North-eastern United States. Students were placed in either the intervention group (N=149) or the control group (N=155).</td>
<td>Assessments at the end of the program found a significant difference in how youth in the control group and youth in the intervention group viewed substance use. Youth in the intervention group viewed substance abuse as being dangerous more often than youth in the control group.</td>
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<tr>
<td>Vazsonyi, Belliston, &amp; Flannery, 2004</td>
<td>Peacebuilders</td>
<td>School-based violence prevention program aimed at low, medium, and high-risk youth who are at risk of engaging in violent behaviour. The program implemented a specialized curriculum that rewarded positive social behaviour, encouraged youth to avoid encouraging anti-social behaviour, and to help youth better manage their violent behaviours. The curriculum was implemented by school staff.</td>
<td>Elementary students between grades primary and 5 from 9 schools in Tucson, AZ. Youth were selected because they lived in neighbourhoods with high rates of crime, violence, and juvenile arrests. (N= 2,380).</td>
<td>Results from the study show: There were decreases in aggressive behaviours for both high-risk boys and girls. High-risk boys and girls both demonstrated increases in social competence in school. No changes were found for medium-risk children.</td>
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<tr>
<td>Author(s)</td>
<td>Intervention Program</td>
<td>Target Group</td>
<td>Findings</td>
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<td>Walker, Kavanaugh, Stiller, Golly, Severson, &amp; Feil, 1998</td>
<td>First Step to Success To increase future school engagement of kindergarten students who have been identified as at-risk of developing anti-social behaviours. Use intervention programs both at school and at home to improve youth’s adjustment to, and performance in school. Kindergarten students who have been identified as developing aggressive and/or oppositional behaviours. Students were randomly assigned to either an intervention group or a control group (N=46).</td>
<td>Low-risk children saw slight increases in violent behaviours. Findings showed slight reductions in antisocial behaviour and a slight increase in school engagement.</td>
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<td>Webster-Stratton, Reid, &amp; Stoolmiller, 2008</td>
<td>Incredible Years To prevent conduct problems and to increase school readiness in youth who are living in poverty. Teachers are trained in a specialized curriculum (the Dinosaur School Curriculum) that aims to: improve teachers’ classroom management strategies in relation to needs of children with conduct disorders; prevent or reduce youth from developing conduct problems/disorders; and increasing parental involvement in education and behavioural management. Kindergarten and Grade One students who were enrolled in a Head Start program in the Seattle, Washington area. Students were randomly assigned to either the intervention group or the control group (N=1,768).</td>
<td>Findings show that youth in the intervention group had less conduct problems, had more social competencies and self-regulation, and more parental involvement than youth in the control group.</td>
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<tr>
<td>Wong, Sun, Lee, Stewart, Cheng, Kan, &amp; Ho, 2009</td>
<td>Hong Kong Healthy School Award (HKHSA) To strengthen students' psychological wellbeing and resilience. Parents and teachers were provided with specialized training to help promote resilience and psychological wellbeing in students. 4918 parents and 602 teachers who taught youth between the ages of 8 and 12 years old. Participants were selected from a low socio-economic region in China. Parents and teachers were randomly assigned to either the intervention group or the control group.</td>
<td>There were no significant differences found among youth while enrolled in the intervention and control elementary schools. Students in the intervention group who attended junior high showed a significantly higher score in psychological wellbeing and resilience than students in the control group.</td>
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