

Contextual Factors Related to School Engagement and Resilience: A Study of Canadian Youth with Complex Needs

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Abstract: A study was conducted to assess risk, resilience and service use factors, including school engagement, among 497 13-21 year olds who were users of multiple services such as child welfare, mental health, youth corrections, outreach services for homeless youth, and, when in school, special educational services available outside the classroom. As hypothesized, factors associated with individual, relational and community aspects of resilience like cultural adherence and fair treatment in one's community were more strongly related to school engagement than individual or relational (family) factors. However, higher rates of service use among youth with complex needs did not result in higher levels of school engagement as was expected. A discussion is included of the role service providers play encouraging youth to engage at school as well as the possibility that service providers who coerce youth to attend school may inadvertently cause young people to resist school attendance and disengage.

Keywords: *service use, resilience, school engagement, delinquency, systemic factors, culture*

Studies of school engagement among youth have investigated individual, family and school level factors that influence how students behave (e.g., levels of truancy, academic performance), think (e.g., cognitions relating to school participation, motivation) and feel (e.g., sense of belonging, self-esteem at school) (Fredricks, Blumenfeld, & Paris, 2004; Jimerson, Campos, & Greif, 2003). The construct of school engagement, however, is controversial. Fredericks et al. (2004) suggest it should be viewed as a meta-construct that accounts for the complexity of student-school interactions. Studies focused only on one or two dimensions of school engagement may overlook the interaction between factors. Furthermore, owing to the relative newness of the concept, the range of factors that might impact engagement has not been fully explored, with more attention having been paid to

individual and school level variables than contextual factors that impact children beyond the classroom.

Nevertheless, large-scale studies have shown that a lack of school engagement is a problem across all student populations, regardless of their backgrounds, with nearly 11% of 8th graders and over 16% of 10th graders reporting truancy (a behavioural indicator of level of engagement) in the past month in one national US sample (Henry, 2007) and significant numbers of students reporting declining levels of emotional engagement with increasing age (Rumberger & Thomas, 2000). It is worth noting, however, that research that has investigated factors contributing to school engagement has tended to sample populations of children from within schools, expecting to capture in a classroom setting the reasons for young people's disengagement. The inherent limitations of sampling students at school to study factors that contribute to school disengagement was, in part, the motivation for the present study. In our discussion we address this issue with reference to our findings.

Data on school engagement was collected as part of the Pathways to Resilience (PTR) study that surveyed 13-21 year olds who were users of multiple services such as child welfare, mental health, youth corrections, outreach services for homeless youth, and, when in school, special educational services available outside the classroom (e.g., school counseling, speech language pathology, or an individualized education plan) (see www.resilienceresearch.org; Ungar, Liebenberg, Armstrong, Dudding, & van de Vijver, 2012). One quarter of the sample was not attending school regularly when sampled. Though all these services have as part of their mandate to encourage children to engage at school and complete high school, there are no studies that examine the association between the number and quality of services used by young people who face significant levels of risk and the likelihood of them attending and valuing school. Among the goals of the PTR study more broadly was to investigate how contextual factors influence young people with complex needs and the factors that predict prosocial behaviours like school engagement. Specifically, we investigated individual level risk (e.g., risk for depression and delinquency) and individual level resilience factors (e.g., problem-solving ability and persistence), relational risk (e.g., association with delinquent peers) and relational resilience factors (e.g., attachment to caregivers), and contextual risk (e.g., neighbourhood safety, experiences of marginalization) and contextual resilience factors (e.g., school engagement and volunteerism).

By studying contextual factors related to school engagement among a population of young people who use multiple services and show evidence of complex psychosocial needs, we could investigate two hypotheses: (1) Contextual protective factors will account for more variance in the prediction of school engagement among at-risk youth than individual protective factors; and (2) higher rates of service use among youth with complex needs will result in higher levels of school engagement. We reasoned that we could provide evidence that shows school disengagement is not the result of a flaw in the population (a cultural deficit) or individual challenge alone, but is instead greatly influenced by the structural and social resources available to young people. In the case of service providers, we reasoned that in contexts where families themselves may not emphasize educational goals or have the resources to support children to succeed at school, the service providers who interact with at-risk youth in their communities (and function as important contextual resources to many troubled youth in Canada) would be able to provide these supports.

To explore the connections between context and positive behavioural outcomes such as school engagement, we based our study on recent advances to the theory of resilience, most notably descriptions of resilience as a social ecological construct (Ungar, 2011; Bottrell, 2009; Obrist, Pfeiffer & Henley, 2010). When defined ecologically, the construct of resilience directs attention to the processes whereby individuals who face significant challenges interact with their environments to optimize personal success [Ungar&Liebenberg, 2011]. More specifically:

In the context of exposure to significant adversity, resilience is both the capacity of individuals to navigate their way to the psychological, social, cultural, and physical resources that sustain their wellbeing, and their capacity individually and collectively to negotiate for these resources to be provided and experienced in culturally meaningful ways. (Ungar, 2008, p.225)

Informed by this definition of resilience, we will review research on school engagement that has included examination of the ecological factors that protect children from disengaging from educational institutions.

Literature Review

Among both privileged and non-privileged populations, individual characteristics like self-esteem, locus of control and level of participation in school activities are predictive of higher school engagement (Finn & Rock, 1997). Research on school engagement that includes measures of distal social factors like class or ethnic identification challenges the assumption that school disengagement is primarily a product of individual deficits. Some, but not all, of the studies that include distal social factors demonstrate that more of the variance in scores on school engagement can be attributed to factors beyond the control of individuals or a population as a whole (Morrison, Brown, D'Incau, O'Farrell, & Furlong, 2006; Rumberger & Thomas, 2000) than those which are personal in nature such as motivation or the student's capacity to cope with stress (Martin & Marsh, 2008; Reschly, Huebner, Appleton & Antaramian, 2008). To make it more likely that students will engage in school, contextual aspects of education that can be changed include school climate (Christle, Jolivette, & Nelson, 2007), efforts by the school to collaborate with parents (and vice-versa), and the way students co-construct positive or negative identities as learners through contact with their teachers (Marx, 2008). Research by Ravet (2007), for example, shows that students in primary school (typically ages 4 to 11) in the United Kingdom perceive their behaviour very differently from their teachers. To cope with the structure and formality, children may develop coping strategies like "making bogus trips to the wastepaper basket" (p. 341), but teachers simply perceive these actions as indicative of children being easily distracted or disinterested in learning.

Most of this research, however, remains focused on factors that are specific to the school environment. There is a small body of research that examines more distal factors beyond the school that impact levels of school engagement. Research, both qualitative and quantitative, has shown that socio-cultural factors influence children's school engagement, with discrimination, family stress, and even neighbourhood incivility posing a risk to the behaviours, thoughts, and feelings of students while in school (Brown & Rodriguez, 2009; McKendrick, Scott, & Sinclair, 2007; Rodriguez & Conchas, 2009). Yet, despite a growing interest in the distal factors that influence school engagement, we still know very little about the contextual factors associated with resilience that influence school engagement.

Studies that have examined systemic factors associated with school engagement have tended to focus narrowly on a single set of risk and protective factors that are specific to the school environment. For example, in their study of relatedness, Furrer and Skinner (2003) showed that the relation between the teacher and the student predicted engagement and performance, but they did not examine other significant relationships. Studies that have done so, like one conducted by Cheung and Pomerantz (2012), have shown that students' relationships with their parents influenced their motivation to do well in school. As this last study demonstrates, there is a growing, albeit under-developed, direction for research on school engagement: the contextual factors that impact school engagement and are beyond the control of the school itself.

When contextual factors are studied, they tend to be at the relational level, with studies of school engagement including the family as the most amenable non-school factor for inclusion in research. Benner, Graham, and Mistry (2008) based their research on Bronfenbrenner's (1979) ecological model, examining different meso-systems that influence children's positive educational outcomes. An ethnically diverse urban sample of 1120 ninth graders was interviewed about their family and school characteristics, school engagement and academic performance. Structural characteristics of both schools (youth perceptions of school belonging, school climate) and families (parent-youth interactions) were found to influence educational engagement and school performance for all students, regardless of level of risk. Other research has shown these same patterns. For example, meso-systemic interactions between student peer groups, between school staff and students, and between school staff and parents, have all been shown to affect engagement (Christle et al., 2007; Sharkey, You & Schnoebelen, 2008). Though helpful, studies like these do not tell us if the promotive school and family interactions found across an entire school population are protective for students who face higher levels of adversity. A more contextually sensitive examination of engagement is needed to account for factors that are most likely to mitigate the risks marginalized young people experience.

Other distal factors relating to school engagement, beyond meso-systemic levels, like quality of neighbourhood and economic disadvantage, have received limited study. Daly and colleagues (2009) studied 123 culturally diverse urban adolescents "of color" in grades 7 and 8, identifying risk and protective factors specific to neighbourhood crime, delinquency, and incivility. They found that perceived neighbourhood incivility was uniquely predictive of

school engagement and that economic disadvantage may also affect school engagement. In what is one of the few school engagement studies not relying on a school sample, 489 children ages 11-15 were surveyed from high and low SES families in Philadelphia in the early 1990s. When examining the relationship between economic disadvantage, parental involvement in the education of children and children's academic orientation, high parental involvement was shown to be a protective factor and increased a child's academic orientation, but only for economically disadvantaged children (Cooper & Crosnoe, 2007). Arguably, these findings suggest that greater attention is needed to the risk profile of the population being studied and the need for non-school based samples.

Studies of engagement that have sought to capture racial and gender differences have shown that while the concept of engagement is relevant to all populations, levels of engagement differ by subgroup. Girls tend to engage more behaviourally and emotionally while boys score higher on cognitive engagement (Van de gaer, Pustjens, Damme & De Munter, 2009; Wang, Willett & Eccles, 2011). Programs that seek to improve school engagement and academic performance show different results depending on the gender of the child, with boys more likely to be influenced by interventions that change problem behaviours (Farrell, Meyer, & White, 2001). Likewise, minority youth (African American youth in this case) score higher than majority culture youth on emotional engagement but lower on behavioural engagement (Wang et al., 2011) suggesting that, like gender, racial factors play a role in school engagement. The current study focuses on the complex systemic factors that cause these differences to exist.

Method

Sample

Participants were drawn from mental health service providers, child welfare, special school based education support services, juvenile justice, and community street youth outreach organizations. Sampling took place, in both urban and rural communities in Atlantic Canada, between January 2008 and December 2009. In order to increase homogeneity, youth who were active users of their primary service were selected and referred by frontline staff if they

were also known to use (or had used within the previous six months) at least one other service listed above.

Frontline staff invited youth to participate in the study and also gained permission from a legal guardian (where required) before sharing any of the youth's contact information with the research team. To ensure youth anonymity, all meetings took place in private rooms. To minimize literacy challenges, regardless of youth reading skills, a one-on-one setting was used where researchers were able to read all questions out loud to participants. Youth were reimbursed for their time (\$10) and any expenses that they encountered during their participation.

This study included 497 youth, 57% (281) of which were boys and, at the time of the study, the participant mean age was 17 (SD=1.87). Only 40% (198) of all participants lived with both of their parents, 16% (80) lived with a single parent and the remaining 44% (219) were in alternative living arrangements. Of the youth, 75% (368) were currently attending school and 12% (55) had already graduated from high school.

Due to the diversity of living arrangements, services used, and communities that the study took place in, consent requirements were often substantially different between service using populations. To add to the requirements set by the author's host institution Research Ethics Board, an additional 15 separate ethics applications were required to complete the study because of the vulnerability of the population. Different service providers and communities insisted that the study be reviewed to ensure the protection of ethnoracial minorities (as was the case in Canadian Aboriginal communities) and to protect clients who were under provincial mandates (as was the case with youth using child welfare services or those detained through youth justice services).

Measures

The study focussed on three broad areas of relevance to school engagement: risk, resilience, and service use. As resilience requires there to be exposure to risk, a number of risk factors were assessed and a composite score used for the purposes of our analysis. Risk factors included individual level internalizing and externalizing behaviours and community level risk measured as the student's perception of community danger. Service use included special

education services in the original PTR study. That study was concerned with understanding the service ecologies that mitigate risk exposure and enhance access to resources associated with resilience. These three areas were assessed through the use of both established measures and measures adapted specifically for the purposes of the PTR study. For the purposes of this analysis, our emphasis is on individual, family and community risk factors associated with school disengagement, individual, relational and community factors related to resilience, and service use patterns that might reasonably be expected to maintain school engagement.

Prior to fully launching the study, 40 youth were met with as part of a pilot group to test the questionnaire. Youth needed approximately 45 minutes to complete the questionnaire.

Risk. Risk was measured by making use of the Delinquency sub-scale from the 4-H study of Positive Youth Development, the 12-item version of the Centre for Epidemiological Studies Depression Scale, and by using items from the Boston Youth Survey (BYS) to establish a composite score for assessing sense of community danger. Together, the scales were able to measure risk as both danger within a youth's community and as internalizing and externalizing characteristics of the youth that put them at risk for early school leaving or that are linked to a lack of motivation to engage at school.

Delinquency was measured by using the Delinquency sub-scale of the 4HSQ, taken from the 4-H study of Positive Youth Development (Phelps et al., 2007; Theokas & Lerner, 2006). In the present study, ratings on a 5-point scale with options from never (1) to five or more times (5) were used. The scale asks how many times in the past year a youth has "Stolen something from a store", "Hit or beat up someone", "Damaged property", "Carried a weapon", and "Got into trouble with the police". Measuring reliability for this scale, the alpha coefficient was .83.

The 12-item version of the Centre for Epidemiological Studies Depression Scale (CES-D-12-NLSCY) (Poulin, Hand, & Boudreau, 2005) was used to measure risk of depression. The scale was favoured because it had already been used successfully and validated for youth in Atlantic Canada. The CES-D-12-NLSCY also compares well to other depression measures like the Beck Depression Inventory (Wilcox, Field, Prodromidis, & Scafidi, 1998). Rated on a 4-point scale from Rarely or none of the time (0) to All of the time (3) were questions asking how often during the past week a youth felt "too tired to do things", "had crying spells", or "was happy" (reverse scored). The alpha coefficient was .84, supporting the reliability of this scale.

The Boston Youth Survey (BYS), originally developed to better understand the lives of Boston school students and inform violence prevention, and school and community based programming, was used to establish a composite score for assessing sense of community danger. A four point Likert scale was used to assess six items: “There is litter, broken glass or trash around my community”, “People in my neighbourhood can be trusted” (reverse scored), “People in my neighbourhood get along with each other” (reverse scored), “If a child or young person was being abused by his or her family, how likely is it that your neighbours would report it?” (reverse scored), “How safe do you consider your neighbourhood to be?” (reverse scored), and “If a group of youth in your neighbourhood was skipping school, how likely is it that your neighbours would do something about it?” (reverse scored). In this case the alpha coefficient was .69.

Resilience. The three sub-scales of the revised Child and Youth Resilience Measure (CYRM) were used to measure resilience. The 28-item CYRM is an instrument validated with a sample of 1451 youth from eleven different countries (China, Russia, USA, Canada, Columbia, India, South Africa, the Gambia, Palestine, Israel, and Tanzania) who were growing up while facing diverse types of adversity (Authors, 2011; Authors, 2012). Items were rated on a 5-point scale from does not describe me at all (1) to describes me a lot (5), with higher scores indicating higher levels of resilience. For this analysis of school engagement, however, two of the 28 CYRM questions (“I feel I belong at my school” and “Getting an education is important to me”), were omitted to avoid redundancy. The three CYRM sub-scales assess (1) individual resources, (2) relationships with parents or primary caregivers, and (3) contextual resources and sense of belonging.

Individual resources were measured with eleven items including: “I try to finish what I start”, “I am given opportunities to show others that I am becoming an adult and can act responsibly”, “I cooperate with people around me”, and “I know how to behave in different social situations”. For the present study, the alpha coefficient was .79. To measure relationships with parents or primary caregivers, seven items were used and included: “I talk to my caregiver(s) about how I feel”, “My caregiver(s) watch me closely”, “I enjoy my caregiver(s) cultural and family traditions”, and “If I am hungry, there is enough to eat”. In this case the alpha coefficient was .83. To measure contextual characteristics and sense of belonging, the remaining eight items were used: “I think it is important to serve my community”, “Spiritual beliefs are a source of strength for me”, “I participate in organized

religious activities”, “I am proud of my ethnic background”, “I enjoy my community’s traditions”, “I am treated fairly in my community”, “I have people I look up to”, and “I am proud to be a citizen of Canada”. For the present sample, the alpha coefficient was .78.

Service Use. Service use was assessed by using a composite score comprised of service use history. How often, if ever, a youth had used a service (including mental health services, youth corrections or contact with the police, child welfare, special educational supports, and community street youth outreach organizations) determined service use history, with youth asked to say whether they had “Never needed” the service, “Used it once in a lifetime,” “Twice,” or had contact “Three times or more.” Youth were asked to score their lifetime service use from a list of possible services based on services accessible to them in their community. Main service categories were broken down into seven to nine specific service options for youth to choose from, with possible scores for each item ranging from 0 to 3. Responses were summed for each main service type and divided by the total score available for each service. Scores were then multiplied by ten so that all service types had a minimum score of zero (indicating no involvement) and a maximum score of ten.

School engagement. To assess degree of school engagement, items from the Canadian National Longitudinal Survey of Children and Youth (NLSCY) that relate to school engagement, emotional attachment to school, and attitudes towards education were used. The NLSCY was a longitudinal survey used to measure factors that influence a child’s social, emotional and behavioural development. Items from the NLSCY are: “During the last 12 months (or during the last full school year you attended), how many times did you get suspended?”(reverse scored), “During the last 12 months (or the last full school year you attended), how many times did you skip a day of school without permission?” (reverse scored), and “How would you describe your school (or the last school you attended)?”. The alpha coefficient in the present study was .67.

Table 1 presents correlations among the predictor variables for risk, resilience and service use as well as the outcome variable school engagement. Descriptive data and reliability coefficients for the composites are also provided.

Table 1: Bivariate correlations and descriptive data on Measures (n=497)

	1	2	3	4	5	6	7	8	9	10	11
1. School Engagement (3 Items)	-										
2. Individual Sub-Scale CYRM Score (11 Items)	.305**	-									
3. Relationship with caregivers Sub-Scale CYRM Score (7 Items)	.311**	.410**	-								
4. Context Sub-scale CYRM Score (9 Items)	.423**	.545**	.499**	-							
5. School Service Use (8 Items)	-.110*	.077	.141**	.070	-						
6. Community Services Use (9 Items)	.164**	-.046	.130**	-.062	.372**	-					
7. Mental Health Service Use (8 Items)	.201**	-.078	-.031	-.092*	.421**	.510**	-				
8. Corrections Service Use (7 Items)	.382**	-.089*	.176**	.172**	.155**	.384**	.255**	-			
9. 4HSQ Delinquency (5 Items)	.484**	.143**	.235**	.255**	.138**	.271**	.227**	.615**	-		
10. CES-D-12-NLSCY Depression Scale (12 Items)	.280**	.289**	.207**	.261**	.218**	.225**	.424**	.134**	.210**	-	
11. Sense of community danger (4 Items)	.173**	.194**	.364**	.269**	-.036	.119**	-.015	.245**	.249**	.125**	-
M	19.783	43.109	26.695	27.211	3.659	2.028	2.809	2.978	5.618	12.149	13.408
SD	5.460	6.433	6.091	6.292	2.178	1.977	2.680	2.852	5.119	7.247	3.345
Range	5-29	20-55	8-35	10-40	10	10	10	10	16	35	5-22
Internal consistency reliability(α)	.671	.789	.833	.779	.635	.765	.798	.893	.827	.842	.686

* $p \leq .05$ ** $p \leq .01$

Data analysis

ANOVA was used to examine differences in the dependent variable, school engagement, by the 11 independent variables, for the full sample as well as boys and girls. Hierarchical regression analyses were then used to examine the effects of resilience, service use, and risk on school engagement. Interactions between the independent variables and their subsequent impact on school engagement were then examined in a forced entry hierarchical analysis. As the focus of the study was on factors that contribute to positive growth and development, resources such as resilience and service supports were entered into the model before risk. The influence of supportive resources can be assessed by impact of risk variables. Specifically, these procedures allowed us to investigate how the mitigating effects of resilience and available supports alter as risk increases. Forced entry was used to reduce the influence of random variation in the data (Studenmund & Cassidy, 1987). The analysis was repeated for boys and girls because of the evidence that gender influences the impact of services and supports on behavior. Analyses were conducted with SPSS for Windows version 15 (SPSS, 2006).

Results

Table 1 presents the correlations between school engagement, contextual components of resilience, engagement with correctional services and delinquency. Of note is the relationship between engagement with correctional services and engagement in high rates of delinquent behaviour, as indicated by the 4HSQ delinquency scale, $r=.615$. While this relationship is high, and potentially indicative of multicollinearity, it is not considered unacceptable. Results of the tolerance statistics and the variance inflation factors of the various regression models support this interpretation of the correlations. Looking at the full data set, the average VIF is 1.086 and the tolerance statistics are satisfactory (.590-.990). This pattern continues for the data pertaining to girls (VIF average = 1.11; Tolerance: .637 - .963) and boys (VIF average = 1.046; Tolerance: .617 - .998).

Results of the ANOVA (Table 2) support the expectation of significant differences in levels of school engagement for all predictor variables except for engagement with additional

educational supports, $F(34, 459) = 1.381$, $p = .078$, and child welfare, $F(34, 458) = 1.327$, $p = .107$. Based on these findings, these measures were not included in the regression analysis. Similarly, sense of community danger amongst girls, $F(29, 186) = .983$, $p = .497$; and risk of depression amongst boys, $F(27, 253) = 1.120$, $p = .317$, were not included in the respective analyses for boys and girls (contact the authors for more information regarding ANOVA findings for boys and girls respectively).

Table 2: Results of ANOVA to assess significant differences in the outcome variable school engagement by the predictor variables (n=497)

	<i>F</i>	<i>df</i> ₁	<i>df</i> ₂	<i>p</i>	η^2
Resilience					
Individual	3.176	34	462	.000	.42
Primary Relationships	2.980	34	462	.000	.42
Context	4.273	34	462	.000	.42
Service Use					
School Supports	1.381	34	459	.078	.30
Child and Family Services	1.327	34	458	.107	.29
Mental Health	1.698	34	456	.010	.35
Corrections	3.884	34	459	.000	.48
Risk					
4HSQ Delinquency	5.638	34	462	.000	.51
CES-D-12-NLSCY	2.545	34	462	.000	.33
Sense of Community Danger	1.641	34	462	.014	.38

Table 3 presents the results of the hierarchical regression analysis used to examine the effects of risk, resilience and service use on degree of school engagement among all participants. The overall regression was statistically significant ($F(8, 482) = 35.371, p = .000$) and demonstrates that factors associated with resilience, involvement with services, and levels of risk explain 37% of the variability in school engagement.

Table 3: Results of hierarchical regression to predict school engagement by resilience, risk and supports (n = 497)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE E</i>	β	<i>B</i>	<i>SE E</i>	β	<i>B</i>	<i>SE E</i>	β
Constant	6.240	1.544		10.134	1.515		12.641	2.011	
Resilience									
Individual	.082	.042	.097	.089	.039	.105**	.077	.038	.089*
Primary Relationships	.097	.043	.108*	.063	.040	.070	.044	.040	.049
Context	.275	.045	.318**	.235	.042	.272**	.201	.041	.232**
Service Use									
Mental Health				-.182	.080	-.089*	-.046	.084	-.023
Corrections				-.569	.076	-.298**	-.263	.090	-.138**
Risk									
4HSQ Delinquency							-.323	.051	-.303**
CES-D-12-NLSCY							-.077	.032	-.102*
Sense of community danger							.071	.065	.044
R^2	.199			.304			.370		
<i>F</i> for change in R^2	40.233**			36.876**			16.709**		

* $p \leq .05$ ** $p \leq .001$

Model 1 explains 19.9% of the variance in school engagement. Of the three resilience components included in the analysis, it is relationship with caregivers, $\beta = .108$, $t(487) = 2.262$, $p = .024$, and context, $\beta = .318$, $t(487) = 6.132$, $p = .000$ that have a significant and positive association with school engagement, rather than individual factors. While this reflects our original hypothesis, this pattern changes as the model develops.

Model 2 includes resilience predictors and degree of service use. This second model explains an additional 10% of the variance in school engagement, accounting in total for 30% of the variance. Services include child welfare, mental health, and juvenile justice (including all forms of contact with the criminal justice system). Only interactions with mental health services, $\beta = -.089$, $t(485) = -2.273$, $p = .023$, and juvenile justice, $\beta = -.298$, $t(485) = -7.454$, $p = .000$, have a significant and negative association with school engagement. Increased engagement with either of these services results in decreased reports of engagement with school. Involvement with juvenile justice has a greater effect on the outcome variable than engagement with mental health services. In this second model, the Context subscale of the CYRM retains its previous significant relationship with school engagement $\beta = .272$, $t(485) = 5.587$, $p = .000$, while Primary relationships becomes statistically insignificant, and Individual characteristics becomes significant $\beta = .105$, $t(485) = 2.259$, $p = .024$.

Model 3 includes resilience, service use and two risk variables: engagement in delinquent behavior and risk of depression. Inclusion of these risk variables helps explain an additional 7% of the variance in school engagement, with the full model accounting for 37% of the variance in school engagement within the sample. This model allows us to better understand the effect of proximal risk variables in relation to resources (resilience) and supports (service use). Of the three new variables added, engagement in delinquent behavior, $\beta = -.303$, $t(482) = -6.402$, $p = .000$, and risk of depression, $\beta = -.102$, $t(482) = -2.419$, $p = .016$ both have an inverse association with school engagement and are significant. Sense of community danger however is not significant. Also, Individual resilience processes $\beta = .089$, $t(482) = 1.982$, $p = .048$, the Context subscale of the resilience measure $\beta = .232$, $t(482) = 4.940$, $p = .000$, and engagement with juvenile justice services $\beta = -.138$, $t(482) = -2.935$, $p = .003$, all retain a significant association with school engagement. The introduction of risk factors, however, has reduced the mitigating effect of mental health services on school engagement, with the association no longer being significant. It has also resulted in the reduction in the effect of juvenile justice as a negative predictor of school engagement.

These results can be further explored by examining findings from both the ANOVA and the regression analysis which show that additional support at school (such as receiving one-on-one support from a resource teacher, having an independent learning program, or seeing a school-based social worker) and engagement with child welfare services (such as having a social worker, having had a foster or group home placement, or having received home care) have no impact on level of school engagement. This is contrary to what we had hypothesized, that more service provision would increase a young person's reported engagement at school.

Model 3 also shows that when risk factors such as delinquency are introduced into the regression, the importance of all services is reduced. Inclusion of risk variables such as delinquency scores contribute to a more comprehensive understanding of the association between factors associated with resilience, service use and school engagement.

To better understand the model in relation to important sub-groups, the same analyses were run for girls and boys (Tables 4 and 5). Model 3 accounts for more of the variability in outcomes for girls ($R^2=.441$) than it does for boys ($R^2=.286$).

Table 4: Results of hierarchical regression to predict school engagement by resilience, risk and supports for girls (n = 216)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE E</i>	β	<i>B</i>	<i>SE E</i>	β	<i>B</i>	<i>SE E</i>	β
Constant	6.057	2.130		8.728	2.344		16.094	2.344	
Resilience									
Individual	.097	.059	.125	.106	.057	.137	.053	.053	.069
Primary Relationships	.091	.062	.099	.065	.062	.070	.018	.056	.020
Context	.304	.063	.373**	.270	.062	.332**	.213	.057	.262**
Service Use									
Mental Health				-.196	.109	-.109	.024	.109	.014
Corrections				-.376	.133	-.175*	-.008	.138	-.004
Risk									
4HSQ Delinquency							-.395	.077	-.338**
CES-D-12-NLSCY							-.153	.042	-.234**
R^2		.266			.317			.441	
<i>F</i> for change in R^2		25.564**			7.8839*			23.115**	

* $p \leq .05$ ** $p \leq .001$

Table 5: Results of hierarchical regression to predict school engagement by resilience, risk and supports for boys (n = 281)

Variable	Model 1			Model 2			Model 3		
	<i>B</i>	<i>SE E</i>	β	<i>B</i>	<i>SE E</i>	β	<i>B</i>	<i>SE E</i>	β
Constant	7.494	2.167		11.735	2.101		12.247	2.626	
Resilience									
Individual	.082	.058	.095	.073	.054	.085	.083	.053	.095
Primary Relationships	.086	.057	.102	.067	.053	.080	.059	.054	.070
Context	.204	.062	.233**	.178	.058	.203*	.160	.057	.182*
Service Use									
Mental Health				-.248	.119	-.114*	-.193	.121	-.089
Corrections				-.558	.099	-.313**	-.353	.119	-.198*
Risk									
4HSQ Delinquency							-.225	.068	-.219*
Sense of community danger							-.034	.090	-.022
R^2		.128			.257			.286	
<i>F</i> for change in R^2		13.283**			23.379**			5.446*	

* $p \leq .05$ ** $p \leq .001$

Reviewing the full model for girls, contextual process related to resilience $\beta = .262$, $t(208) = 3.757$, $p = .000$, engagement in delinquency $\beta = -.338$, $t(208) = -5.151$, $p = .000$, and risk of depression $\beta = -.234$, $t(208) = -3.644$, $p = .000$ are all significant.

The analysis for boys shows a similar pattern contextual resilience processes $\beta = .182$, $t(267) = 2.803$, $p = .005$ and engagement in delinquent behaviour $\beta = -.219$, $t(267) = -3.003$, $p = .001$, both being significant. However, sense of community danger is not significant. As with the model for all youth in the sample, the relationship between involvement with correctional services and school engagement remains inverse, and significant for boys $\beta = -.198$, $t(267) = -2.978$, $p = .003$.

Discussion

These findings raise important questions about how contextual aspects of resilience and patterns of service use affect school engagement. For both boys and girls, internalising and externalising behavioural issues play a key role in disengagement from school. For boys engagement in delinquent behaviour poses the key risk for school disengagement while for girls it is both delinquency and risk of depression. Our findings suggest that for an at-risk adolescent population who scores high on measures of delinquency and depression, and is a user of multiple social services, contextual factors combine with gender to influence school attendance, thoughts about school, and feelings of belonging when at school. As hypothesized, factors associated with community aspects of resilience like cultural adherence (enjoyment of one's cultural traditions and identification with one's ethnic and national identity) and fair treatment in one's community are more strongly related to school engagement than individual or relational factors. In this regard, our work continues a growing trend in the literature toward the need for greater contextual sensitivity in studies of at-risk youth and their functional outcomes.

We found no support, however, for our second hypothesis. More school-based supports were not associated with greater school engagement. Interestingly, increased use of mental health and juvenile justice services was associated with decreased school engagement. The data suggest that for boys engaged with youth criminal justice services this was a particular risk. This finding may however be due to their elevated rates of engagement in delinquent behaviour that would most likely bring them into contact with the law. Youth who are using social services or accessing educational supports may be getting more service but

those services are not contributing to at-risk youth changing their self-reported level of school engagement. These findings suggest that formal service providers are not establishing the necessary contextual supports that vulnerable youth need to reconnect with their education, or connecting youth to existing supports. This is particularly interesting in that many of the youth sampled who were receiving mental health services or were engaged with correctional services were in residential facilities that mandated school attendance.

An alternate suggestion, one that is less centred on the psychopathology of the students, and more ecological in its interpretation, is that service providers themselves have neither convinced at-risk youth of the value of education, nor built bridges to school that would engage these young people with their educators. In other words, it could be that despite the common goal of service providers to promote school attendance, they fail to make education meaningful to the young people they serve. Most notable in our research is the negative association between increased use of mental health services and decreased school engagement. While we might expect juvenile delinquents to resist school attendance as part of an overall pattern of delinquency, it seems odd that greater use of mental health services does not stabilise a young person's participation in school given the intensity of the service. Perhaps the individual focus of many mental health interventions focused on depression and delinquency overlook broader issues of the child's participation in everyday activities like school. Therapists may also not see their role as advocates for educational programs that meet the needs of young people in ways that would entice them back into school.

Our findings also contribute to our understanding of how sampling bias in studies of school engagement may influence results. Our sample did not pre-select youth who were already attending school. Instead, the sample comprised at-risk youth in the community, many of who reported high rates of truancy and who could not have reasonably been expected to have been included in the research if sampled during regular class time. Our findings, therefore, report on factors associated with school engagement that are relevant to youth who are at significant risk for dropping out. We have shown that contextual factors are protective (increased school engagement) for high-risk youth but we do not know from this sample if contextual factors matter as much to youth who are exposed to fewer risks (Suh, Suh & Houston, 2007). For example, disengagement from school may function as a protective process for some young people who face significant levels of adversity (Kelly, 2009).

Our results indicate the need for future studies of school engagement to ensure the following: (1) meso- and exo-systemic factors are better accounted for in the designs (see also Balfanz, Herzog, & MacIver, 2007), and (2) research includes young people from outside school settings.

Limitations

This study was based on correlational data from a cross-sectional data set. Without analysis of longitudinal data, results cannot support causal claims. Nor was the sample randomized, though this limitation is a necessary accommodation given that the purpose of the study was to engage with youth who show complex needs as evidenced by their service use patterns. As the focus of the study was on youth who shared patterns of multiple service use, we tolerated a large age range in the sample in part to locate enough youth for the study. There is no comprehensive database in Canada that could capture young people's service use across multiple social services. This range of ages may, however, compromise the validity of the findings if young people's experience of service changes over time. Future studies may wish to focus on youth under 16 years of age and those 16 and older who have the choice to exercise more say over whether they attend school and participate in services.

With regard to the measure of school engagement itself, the combination of social and academic factors into one scale makes it difficult to distinguish whether behavioural, emotional or cognitive aspects of school engagement are most important for this population (Fredricks et al., 2004).

As discussed in the results of this study, the correlation value between engagement in delinquent behaviour and criminal justice services is suggestive of multicollinearity in the data. However, the tolerance statistics and variance inflation factors reduced concerns of this correlation value. This was further supported in that there was only a significant relationship between school engagement, and engagement in delinquency and youth criminal justice services for boys. This pattern was not observed for girls even though there was a significant relationship between school engagement and engagement in delinquency.

Conclusion

School engagement is a concern for young people who are already facing significant adversity and using multiple services. The purpose of this analysis of the PTR data has been to examine the association between school engagement, aspects of resilience, service use, and risk at multiple ecological levels, including gender. Our findings suggest the need for studies to account for meso- and exo-systemic factors when investigating school engagement. Like other research that has looked at young people's attitudes towards education (for example, McKendrick et al., 2007) our findings lend support to the notion that changing opportunities for young people to access contextual resources, and negotiate for these to be provided in meaningful ways, may help them engage more in school.

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