Fostering Resilience in New Brunswick Schools and Communities

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New Brunswick

New Brunswick Health Council | Conseil de la santé du Nouveau-Brunswick

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The New Brunswick Health Council Mandate

New Brunswickers have a right to be aware of the decisions being made, to be part of the decision-making process, and to be aware of the outcomes delivered by the health system and its cost. The New Brunswick Health Council will foster this transparency, engagement, and accountability by:

- Engaging citizens in a meaningful dialogue.
- Measuring, monitoring, and evaluating population health and health service quality.
- Informing citizens on health system's performance.
- Recommending improvements to the Minister of Health.

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Acknowledgements

This report is the product of many collaborative efforts. The authors wish to acknowledge the contribution of Bill Morrison for his work on Mental Fitness, Michael Ungar and Linda Liebenberg for their work on resilience, Marlien McKay for her leadership with the New Brunswick Student Wellness Surveys as well as the support of all the school district superintendents and school principals.

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How to cite this document:
Fostering resilience in New Brunswick Schools and Communities (NBHC 2015)

Cette publication est disponible en français sous le titre :
Favoriser la résilience dans les écoles et les collectivités du Nouveau-Brunswick

Foreword

The New Brunswick Student Wellness Survey (NBSWS) is a provincial initiative of the New Brunswick Department of Social Development – Wellness Branch in cooperation with the Department of Education and Early Childhood Development. Data collection, analysis and knowledge mobilization are carried out by the New Brunswick Health Council (NBHC). The purpose of the survey is to examine student's perceptions, attitudes and behaviours in a number of key areas related to student wellbeing. The survey cycles every three years alternating between the two following groups:

- Elementary Student Wellness Survey: Parents of students in kindergarten to Grade 5, and students in grades 4 and 5
- Students in grades 6 to 12

The New Brunswick Student Wellness Survey falls under the legislated mandate of the NBHC to measure, monitor, and assess population health and promote the improvement of health service quality in the Province.

Objectives of the Project

1 To examine key factors or determinants of health, which can be focused on to improve the resilience and well-being of New Brunswick children and youth, using the 2012-2013 grades 6 to 12 Student Wellness Survey Results.

2 To improve the collective understanding around risk factors and protective factors which can be associated particularly with resilience, mental health and addictions to support promotion and prevention efforts as they relate to the New Brunswick Health Council's third recommendation:

"The Government of New Brunswick, through the Department of Health, ensures that a concerted strategy is developed to improve health promotion and disease prevention in the province. This strategy should consider the determinants of health, and focus first on four key areas: achieving healthy weights, lowering high blood pressure rates, improving mental health and preventing injuries."

3 To encourage a strength-based approach to address mental health and addictions challenges in the province of New Brunswick.

A **strength-based approach** is a specific method of working with and resolving problems experienced by the presenting person. It does not attempt to ignore the problems and difficulties. Rather, it attempts to identify the positive basis of the person's resources (or what may need to be added) and strengths that will lay the basis to address the challenges resulting from the problems.

In Summary

Key Messages

There are numerous strategies and initiatives in New Brunswick that involve stakeholders of all kinds in a movement towards better mental health and addictions outcomes for the children and youth of our province. Today is an opportune time for mental health and addictions discussions, and especially for discussions around prevention and positive mental health.

In terms of prevention, resilience in children and youth plays an important role in positive outcomes. Resilience is generally understood as a person's good adaptation despite important adversity (Luthar, Cicchetti & Becker, 2000). While finding a comprehensive definition of resilience has proven to be complex, the important thing for one to keep in mind is that resilience is a multidimensional construct encompassing individual, caregivers and contextual dimensions.

In terms of positive mental health, mental fitness is defined as a personal state of psychological wellness derived from people's experience of fulfilment of three basic psychological needs: Autonomy, Competence, and Relatedness. For children and youth, these three basic psychological needs are fulfilled in three specific main domains of life: within the school, the family and with friends.

Key Findings

Predictors of Resilience

In the Anglophone School Districts, results show that the most impactful predictor of resilience would be **Mental Fitness's Family** life domain, followed by the School and the Friends life domains of Mental Fitness, and finally Prosocial behaviours.

In the Francophone School Districts, the most impactful predictor of resilience is also **Mental Fitness's Family** life domain, but is followed by the Friends and then the School life domains of Mental Fitness, and finally Prosocial behaviours.

Needs Satisfaction

It is important for all three basic needs (autonomy, competence and relatedness) to be fulfilled across the various life domains (school, family and friends). Results show that currently in New Brunswick, with this particular sample of children and youth, needs for autonomy, competence and relatedness are being satisfied most within the Friends life domain followed by the Family life domain. The School life domain is the weakest of the life domains where youth' needs for autonomy, competence and relatedness need to be met. It is in this life domain where efforts

and support to enhance these needs could prove beneficial to psychological wellness and positive outcomes of our youth.

Introduction

Prevention

New Brunswick context

Initiatives

Making Promotion and Prevention a Priority

Half a decade ago, the Ministers of Health and Health Promotion/Healthy Living of Canada (2010) released a declaration on prevention and promotion. In this document, the Ministers declare prevention as a priority for our country. They also refer to prevention as a symbol of the quality of a system, and encourage making prevention the "first step in management".

The Ministers recognize positive mental health and mental fitness are foundational for the well-being of Canadian citizens. They also recognize that many factors influence population health, including, among others, environmental conditions, community resilience, and availability and accessibility of services. The declaration states that promoting health and preventing diseases is everyone's business – individuals, government, communities, researchers, the non-profit, and private sector – and encourage everyone to work together to support prevention and promotion.

"Prevention is necessary to the sustainability of the health system."
(Canada, 2010, p.1)

Mental Health and Addictions Context for New Brunswick Children and Youth

Data from 2013-2014 show that New Brunswick has the second highest Canadian mental health hospitalization rate for children and adolescents between the ages of 5 and 24, excluding the northern territories (Canadian Institute for Health Information, 2015). Indeed, for a number of diagnoses, New Brunswick rates greatly surpass national rates (New Brunswick Health Council, 2014a). Furthermore, data show that the most at-risk age group for hospitalization is the 15-24 years old (Canadian Institute for Health Information, 2015). Statistics Canada (2012) reports that 35.2% of New Brunswick youth in this age range have been diagnosed with a mental health or substance abuse disorder in their lifetime, compared to Canada at 30.7%.

Children and youth in need of mental health and addictions services in New Brunswick face a number of particular barriers. Following referral of children and youth, only 52.6% of mental illness service delivery is done within 30 days (New Brunswick Health Council, 2014a). Data from the Primary Health Survey (New Brunswick Health Council, 2014b) add that barriers to care in the province also include difficult navigation of the health care system (especially for zones 2 and 3), transportation barriers (especially for zones 5 and 7), and feelings of perceived discrimination (especially for zone 4). Nevertheless, efforts are made to try and eliminate these barriers and facilitate accessibility to care in the province. In addition, we are acknowledging some efforts in improving access to timely community mental health services for children and youth. In 2011, 42% of children and youth were receiving services within 30 days and this ranged from 15 to 64%

depending on where you lived in the province. In 2015 the average for the province has seen some improvement at 54% with a more equitable distribution in services ranging from 41 to 67% (NBHC, 2015). The question remains as to how much more could be accomplished if efforts were coordinated and deliberately designed to meet the needs of the population being addressed.

Initiatives and Opportunities

To address the pressing state of the mental health and addictions context in New Brunswick, the province and its residents have mobilized. Children and youth wellness has become a primary subject in the province, and New Brunswick has become a national leader in the matter. Following is a brief presentation of key opportunities currently unfolding in New Brunswick.

New Brunswick's Wellness Strategy

The original framework for New Brunswick's Wellness Strategy was developed in 2006. This work provided the foundation for the enhanced Strategy (Live well. Be well. New Brunswick's Wellness Strategy, 2009-2013), as well as the most current Strategy (New Brunswick' Wellness Strategy, The Heart of our Future, 2014-2021), which aims to enhance quality of life for all. The Strategy uses Bates & Eccles' (2008) definition of wellness:

Wellness is the optimal state of health and well-being of individuals and groups. It is the ability of people and communities to reach their fullest potential, both in terms of health and fulfillment of purpose. The active pursuit of good health and the removal of personal and societal barriers to healthy living are key elements to achieving wellness.

Two key outcomes are identified in New Brunswick' Wellness Strategy. The first is for New Brunswick to have *healthy and resilient people*. It is expected that New Brunswickers will have the opportunity to optimize their capacity to support healthy development and wellness for themselves and others. The second outcome is for New Brunswick to have *healthy and resilient environments* and that conditions that support wellness will have been optimized in homes, schools, communities, workplaces and other settings. In short, the Strategy aims to have more healthy and resilient people and settings.

The Action Plan for Mental Health in New Brunswick 2011-2018

In 2011, the Department of Health released a new mental health action plan (Province of New Brunswick, 2011-2018). This plan envisions all New Brunswickers to "have the opportunity to achieve best possible mental health and well-being within communities that promote empowerment, belonging and shared responsibility". This mental health care action plan presents an agenda for action with specific tasks that will enable the attainment of the following goals:

- Transforming service delivery through collaboration
- Realizing potential through an individualized approach
- Responding to diversity
- Collaborating and belonging: family, workplace and community
- Enhancing knowledge
- Reducing stigma by enhancing awareness
- Improving the mental health of the population

In short, the action plan aims for increased mental health and empowering communities.

The Link Program

The Link Program[1] was developed in the mid-1990s as a response to increased rates in teen suicide in the Grand-Falls area. In 2006, with support from the Wellness Branch, efforts to expand the Program to other areas of the province were initiated. The program is for students in grades 6 through 12, however in some areas the program has since expanded to respond to a greater population, for example, serving individuals in the workplace and various community settings. The Link Program aims to facilitate access to services for children and youth, and provides tools and resources to make the navigation of service systems easier. A provincial evaluation of the program conducted by Morrison & Peterson (2014) reports that by facilitating access to services, children and youth should be provided with timely support, thus reducing consequences associated with non-treatment. In short, the Link program aims to *facilitate access to and navigation of services*.

[1] Visit: www.programmelemaillon.com

Integrated Service Delivery (ISD)

The Integrated Service Delivery (ISD) framework[2] was announced in 2009 in response to four reports[3] urging the New Brunswick provincial government for greater collaboration between its departments and improved support for at-risk children and youth. Working together towards integrated services are the Departments of Education and Early Childhood Development, Social Development, Health, and Public Safety, as well as school districts and regional health authorities. ISD rejects a "one size fits all" approach and through greater collaboration between departments, it aims to offer a relevant and timely continuum of services to meet the varying needs of at-risk children and youth. In other words, "the right support, in the right intensity, at the right time, and at the right place". ISD Child and Youth Development (CYD) Teams are multidisciplinary teams working closely with children and youth and school staff to deliver services in schools and in community settings. The approach was piloted in two sites and evaluated by Doucet and collaborators (2013). In short, ISD aims for ***greater collaboration between departments*** for improved service delivery to children and youth.

New Brunswick's Provincial Crime Prevention and Reduction Strategy

The Provincial crime prevention and reduction strategy (Province of New Brunswick, 2012) was developed by a Roundtable on Crime and Public Safety and launched in 2012 by the Department of Public Safety. This strategy aims to "implement a comprehensive crime prevention and reduction strategy based on proven practices through planning, education, co-ordination, innovative leadership and evaluation." (p. 8). In order to accomplish this mission, the strategy is striving to produce two main outcomes: 1) prevention and reduction of crime and victimization, and 2) improved efficiencies in the co-ordination of crime prevention and reduction. Priorities where the greatest impact can be made include at-risk youth, chronic repeat offenders, domestic / intimate partner violence. In short, the Strategy aims for ***increased crime prevention***.

ACCESS Open Minds / ACCESS Esprits Ouverts

In 2012, the Government of Canada and the Graham Boeckh Foundation jointly announced the investment of $25 million over a five-year period in the TRAM initiative (Transformational Research in Adolescent Mental Health). The successful TRAM Network applicant selected through a competitive process was ACCESS Open Minds, the national level network of which ACCESS NB is part. ACCESS stands for **A**dolescent/Early Adult **C**onnections to **C**ommunity-driven, **E**arly, **S**trength-based and **S**tigma-free Services.

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[2] Visit: http://www2.gnb.ca/content/gnb/en/corporate/pr/isd.html

[3] Ashley Smith; Connecting the Dots; Connecting Care and Challenge: Tapping Our Human Potential; Together into the future: a transformed mental health-care system for New Brunswick

In New Brunswick, the initiative's vision is the following:

> *Through the empowerment of youth and First Nations youth, ACCESS NB aims to ensure improved mental health for all New Brunswick youth, through the right supports, at the right time, in the right place and at the right intensity.*

To reach this vision, ACCESS NB works towards a number of outcomes related to the following overarching themes:

- Youth voice
- First Nations Youth voice
- Family/Carer voice
- Alignment of partners
- Service provision
- Knowledge Transfer and training
- Stigma reduction
- Research
- Sustainability

Primarily, ACCESS NB will establish *Safe spaces* within the communities where children and youth can access support from an ACCESS clinician. In short, the initiative aims for ***increased access to mental health and addictions services.***

Purpose of this Project

Now that a brief overview of the various strategies and initiatives involving stakeholders of all kinds has been presented, it is clear that everyone is on board for addressing issues around mental health and addictions in New Brunswick. Today is an opportune time for mental health and addictions discussions, and especially for discussions around prevention and positive mental health.

The present project focuses on positive mental health translated as the construct of *mental fitness*, as well as prevention as a function of *resilience*. More precisely, the question of interest is how mental fitness can contribute to levels of resilience, and how both can work closely to prevent eventual encounters with mental health and/or addictions challenges. The next section presents a brief scientific literature review of the constructs of mental fitness and resilience.

Literature Review

Mental Fitness

Resilience

This section presents a brief scientific literature review of the constructs of resilience and mental fitness. Resilience is generally understood as a person's good adaptation despite important adversity (Luthar, Cicchetti & Becker, 2000). However, further information on the complexity of defining resilience is explained bellow. Mental fitness refers to a positive sense of how we feel, think, and act as a result of the satisfaction of three basic psychological needs. Further explanation of those basic needs and how they relate to mental fitness follows.

Resilience

Defining resilience is complex

Despite great interest and numerous publications on resilience, the subject remains a complex field of study. As Windle (2010) explains, this complexity results from a lack of consensus in defining resilience. Despite this preoccupation having been raised over a decade ago already (Luthar, Cicchetti & Becker, 2000), debate on the question remains. This challenge is important because it has created inconsistencies through the years in the type of risk and protective factors considered to influence resilience, which in turn impacts the tools used to measure the construct (Khanlou & Wray, 2014; Luthar, Cicchetti & Becker, 2000; Windle, 2010; Zolkoski & Bullock, 2012). Despite differences in their approach, definitions of resilience suggested in the literature generally incorporate two essential common elements: the presence of risk and protective factors, in other words, adversity and successful adaptation (Fergus & Zimmerman, 2005; Luthar, Cicchetti & Becker, 2000; McKay, 2007; Windle, 2010). However, in order to do justice to the construct, Windle, Bennett & Noyes, (2011) add that a conceptualisation of resilience should also reflect the multidimensionality of the construct.

But resilience is multidimensional

While pioneers of resilience research mainly focused on individual qualities contributing to levels of resilience, today's literature recognises the importance of a multidimensional perspective of the construct. According to this perspective, resilience depends on an individual's capacities, as well as the resources present in their environment (Hjemdal et al., 2006; Luthar, Cicchetti & Becker, 2000; Ungar & Liebenberg, 2011). More precisely, risk and protective factors fall under three domains, including the individual, the family, and the environmental domains. According to Fergus & Zimmerman (2005), while individual qualities do contribute to resilience, to consider the construct solely as a static quality present in any given situation is problematic. The authors explain that first, this conceptualisation places the burden of a potential fail on the individual. That is to say that if individual characteristics are the sole contributor to resilience, upon facing failure, we perceive the individual as insufficient, which can result in self-blame. Also, this conceptualisation raises questions on prevention opportunities. Indeed, if resilience is a static individual trait, how is one to intervene? Hence a multidimensional perspective reflects more accurately the construct of resilience where risk and protective factors stem from individual, familial, and environmental domains, and interact to produce a given outcome.

So, what is resilience?

The Resilience Research Centre (RRC), among others, advocates such a multidimensional perspective of resilience. Rather than a quality of the individual, they suggest a social ecological interpretation of resilience:

> *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 well-being, and their capacity individually and collectively to negotiate for these resources to be provided and experienced in culturally meaningful ways. (Ungar, 2008, p. 225)*

More specifically, the authors behind this conceptualisation suggest there are three dimensions contributing to resilience (see Figure 1), including the *individual*, *relationship with primary caregivers*, and *contextual* dimensions. The *individual dimension* can be further divided by one's personal competences, social competences, and peer support. The re*lationship with primary caregivers dimension* relates to both physical and psychological needs. Finally, the *contextual factors* dimension refers to the spiritual, educational, and cultural contexts. Together, each of these dimensions contributes something different and important to one's level of resilience.

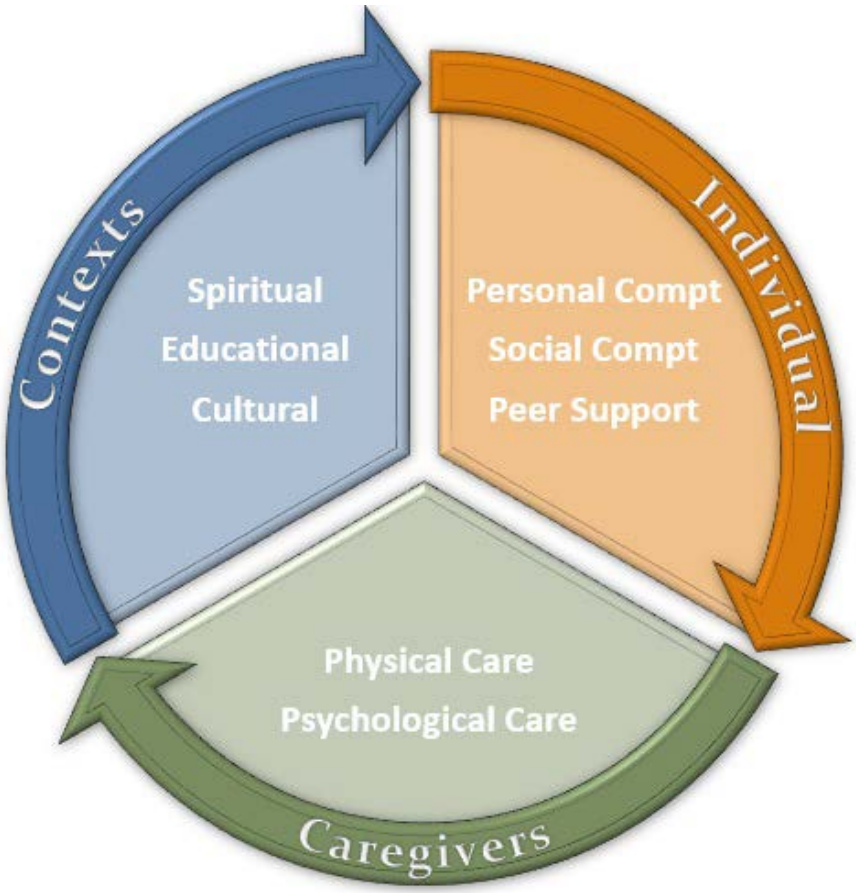


Figure 1. Resilience Dimensions

Mental Fitness

Where does it come from?

In 1963, Andie Knutson pleaded with the community of psychologists for a term that more effectively represents the concept of positive mental health, which according to him was "left on the doorstep of the public and professional community as a neglected and starving stepchild" (Knutson, 1963, p. 303). It is in response to this plea that Dorothea McCarthy (1964) suggested the term mental fitness for its avoidance of the connotation of illness and the possibility of representing the construct on a continuum.

Coming from a positive mental health approach, mental fitness is more than the absence of mental illness, and as such is being used much in the same way as physical fitness (Joint Consortium for School Health, 2010). It is a process towards functioning at optimal levels, and it is holistic, goal-oriented, adaptive, intentional, and developmental.

A detour in Self-determination theory

Self-determination theory (SDT) comes from the field of motivation, which according to Deci and Ryan (2007, p. 14) is "what moves people to act, think, and develop". According to SDT, individuals actively play a role in their development but their motivation is also influenced by the conditions in which they live (La Guardia & Ryan, 2002). Deci and Ryan (2007) suggest there are different types of motivation, including autonomous and controlled motivation. Briefly, they explain that autonomous motivation involves behaving fully by choice while controlled motivation involves behaving for reasons that are external to the individual. While not quite the same, the concepts of autonomous and controlled motivation resemble the idea of intrinsic and extrinsic motivation that some readers may be more familiar with.

Basic Psychological Needs Theory (BPNT), a sub-component of SDT, states that individuals have three basic psychological needs. Those basic needs that are essential for an individual's well-being include the need for *Autonomy*, *Competence*, and *Relatedness*. Basic psychological needs are as important to well-being as are the need for shelter, food, and water (Ryan & Deci, 2000). However, environmental conditions can either support or obstruct the satisfaction of these basic needs, thus influencing development and well-being (Ryan & Deci). As such, La Guardia and Ryan (2002) suggest it is the interaction between these basic needs and the environmental conditions, either supporting or obstructing their satisfaction, that influences motivation and development. For example, in the school environment, students can feel empowered or weak, competent or not, and related or like an outcast. In short, La Guardia and Ryan explain "if teens can feel autonomy, competence, and belongingness in school, they will experience more intrinsic motivation to learn, they will more deeply value and engage in school-relevant tasks, and they will experience greater well-being" (p. 200).

So what is mental fitness?

Mental fitness is defined as a personal state of psychological wellness derived from people's experience of fulfilment of three basic psychological needs: Autonomy, Competence, and Relatedness:

- Autonomy refers to our need for personal freedom to make choices or decisions that affect our lives. When this need is satisfied in conjunction with other need areas, freedom and choice are expressed in ways in which respect is demonstrated for self and others.
- Competence refers to our need for recognizing and using our personal gifts and strengths to achieve personal goals. Fulfillment of this need provides individuals with a sense of personal achievement and accomplishment.
- Relatedness refers to our need for connection to and closeness with family, peers, and other significant individuals.

These three basic psychological needs can be fulfilled in three domains of life relevant to children and youth, namely within the *school*, the *family* and with *friends*. Figure 2 depicts the concept of mental fitness as it relates to the basic psychological needs' satisfaction as well as the life domains in which satisfaction is required.

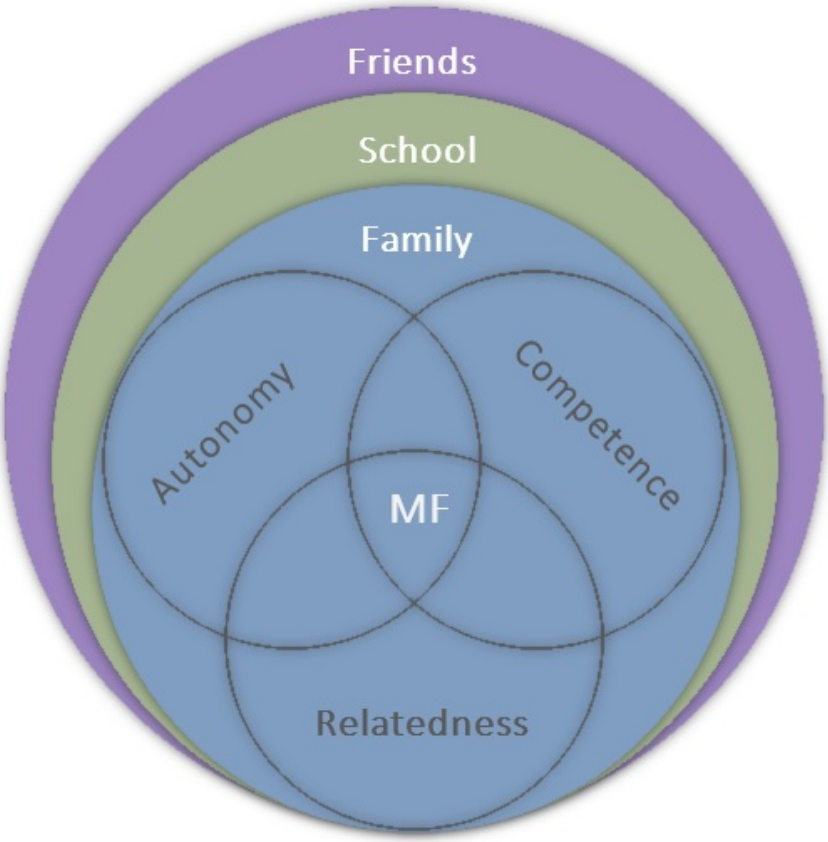


Figure 2. Mental Fitness and Needs Satisfaction

What the research tells us about mental fitness

Needs satisfaction – According to Deci and Ryan (2000), the satisfaction of the three basic psychological needs that are autonomy, competence, and relatedness enhances mental health. The authors also postulate that the failure to satisfy these needs leads to diminished motivation and well-being. Similarly, in evaluating well-being on a daily basis over a 14-day period, Reis, Sheldon, Gable, Roscoe and Ryan (2000) provide clear support for the relevance of all three basic needs to emotional well-being. In the first application of SDT to a children and adolescent sample, Véronneau, Koestner and Abela (2005) found similar results where the satisfaction of all three basic psychological needs was associated with positive affect. With a focus on academics, Aunola, Jaana, Lehtinen and Nurmi (2013) found that mothers' support of all three basic needs predicted their children's interest in mathematics. Finally, another study also shows that the satisfaction of the basic psychological needs moderated the relationship between negative life events and suicidal ideation and attempts (Rowe, Walker, Britton & Jameson, 2013).

Need for autonomy – There is also interest in evaluating the contribution of individual needs to various outcomes. For instance, the satisfaction of the need for autonomy has been found to be associated with more favourable outcomes regarding positive affect and vitality, as well as negative affect and physical symptoms (Reis, Sheldon, Gable, Roscoe & Ryan, 2000). Véronneau, Koestner & Abela (2005) also found higher levels of autonomy to be related to lower negative affect. Finally, perception of academic autonomy was found to have a positive effect on engagement in learning (Van Ryzin, Gravely & Roseth, 2009).

Need for competence – Like autonomy, the need for competence was also found to be associated with more favourable outcomes regarding positive affect and vitality, as well as negative affect and physical symptoms (Reis, Sheldon, Gable, Roscoe & Ryan, 2000). These results on positive and negative affect were replicated by Véronneau, Koestner & Abela (2005), and the authors also found competence to be a predictor of future depressive symptoms (six weeks later). The authors state competence was the most important predictor in their study as it was the only need able to predict all three outcome measures.

Need for relatedness – As for the satisfaction of relatedness needs, it was associated with future positive affect (Véronneau, Koestner & Abela, 2005) and prosocial motivation and behaviour such as intention and interest in volunteering, prosocial intentions, and an objective prosocial behaviour: donating to charity (Pavey, Greitemeyer & Sparks, 2011). Relatedness satisfaction specifically with teachers and peers had a positive effect on engagement in learning (Van Ryzin, Gravely & Roseth, 2009). Finally, it was found that relatedness was best satisfied by social activities such as meaningful talk and feeling understood and appreciated (Reis, Sheldon, Gable, Roscoe & Ryan, 2000).

Balance in need satisfaction and across contexts – Despite all this information, the contexts in which children and adolescents grow vary widely, and until recently, a developmental perspective of SDT was still lacking in the literature. Emery, Toste and Heath (2015) were first to examine the effect of the basic psychological needs on depressive symptoms with a

developmental perspective. They report that at different developmental stages, different needs will be the best predictor of depressive symptoms. The authors found that in their children sample (grades 4 to 6), competence was the best predictor of depressive symptoms, while in their adolescent sample (grades 8 through 12), autonomy and relatedness were more appropriate. The authors conclude that while satisfaction of some needs are more salient as a function of developmental periods, satisfaction of all basic needs remains necessary.

For their part, Véronneau, Koestner and Abela (2005) were not only interested in the satisfaction of the three basic needs, but also in the satisfaction of these needs across the various life contexts that are the school, the family and the circle of friends. They report that satisfaction of all three needs in the family and the school contexts were more integral to levels of well-being of children and teenagers, while need satisfaction with friends played a lesser role. Furthermore, they report that need satisfaction in the school context was the only predictor of positive affect six weeks later.

Similarly, Milyavskaya et al. (2009) were also interested in this perspective of needs satisfaction across life contexts. They hypothesised that the satisfaction of needs would vary more importantly across contexts than across needs. The authors found that just like the satisfaction of all three needs is important, so is the satisfaction of needs across all three life contexts. Indeed, a balance in the satisfaction of needs across contexts was independently related to well-being and school adjustment over and above balance across needs. These findings were replicated by Emery, Toste and Heath (2015) who also report need balance across contexts as a significant predictor over and above the level of satisfaction of each individual need in both their children and their adolescent samples.

Methodology

Youth Profile

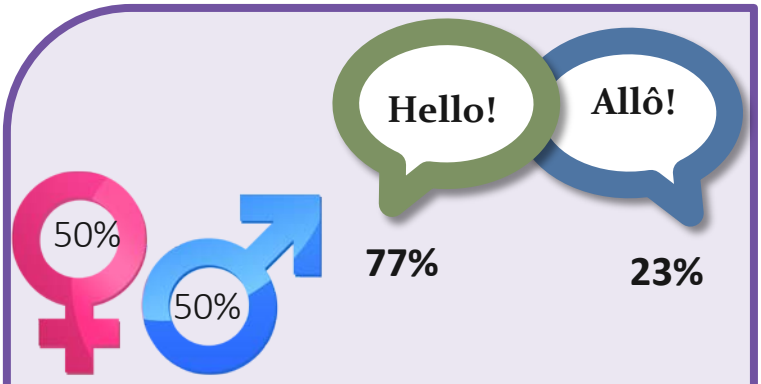
Measures

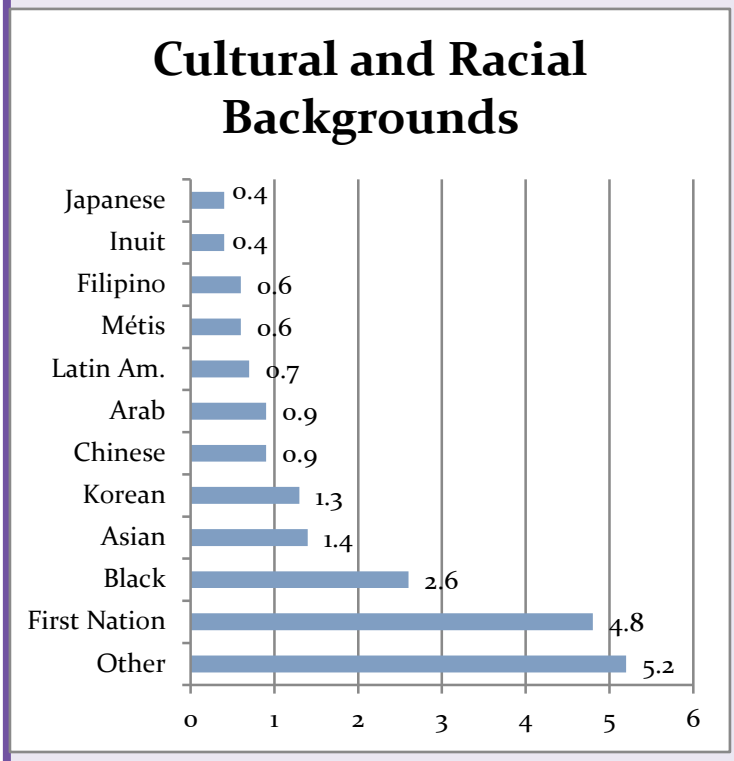
Survey

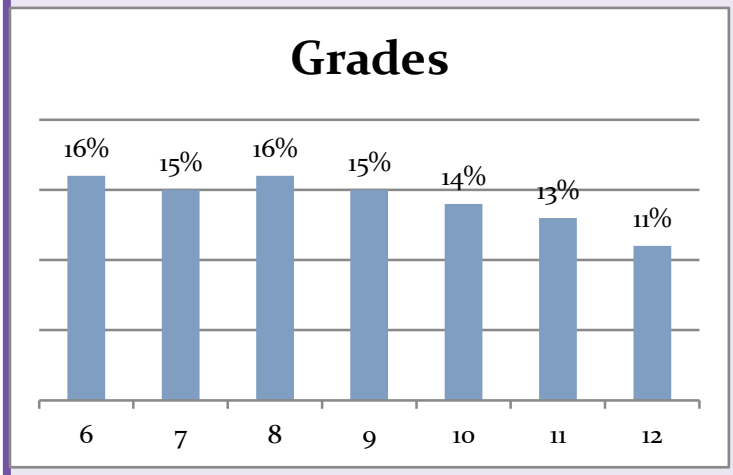
Data for the present project came from the Student Wellness Survey (SWS), a collaboration work between the New Brunswick Department of Social Development – Wellness Branch, the Department of Education and Early Childhood Development, and the New Brunswick Health Council (NBHC). On a three-year cycle, a population wide survey of students from kindergarten through grade 12 is conducted to gather information on the health of the province's children and youth. The SWS is a key component of the New Brunswick Wellness Strategy with the aim of identifying strengths and challenges in the young population's wellness. Used for this project is data from the latest available survey, that of 2012-2013. A profile of the children and youth who took part is presented here, as well as an overview of the questions and measures used.

Children and Youth Profile

For the purpose of this project, only data from youth in grades 6 through 12 is used. Children and youth taking part in this survey are 35,954 students from 177 schools across New Brunswick. Participation is rather evenly distributed between gender and grades, with a little fewer students from grades 11 and 12. The mean age is 14.28 (*SD* = 2.05). The wide majority of children and youth report identifying themselves as white (89.7%). The graph on the right presents the percentages of those identifying themselves as coming from other cultural and racial backgrounds.







Measures

Resilience

For the purpose of this project, resilience was measured using the *Child and Youth Resilience Measure* (CYRM-12; Liebenberg, Ungar, & LeBlanc, 2013). The CYRM-12 is a shortened version of the 28-item scale developed during the International Resilience Project, a project conducted by the Resilience Research Centre. This scale measures three dimensions of resilience. The *Individual* dimension refers to personal competences, peer support, and social competences. This dimension includes 5 items such as "I know where to go in my community to get help". The *Primary Caregivers* dimension refers to both physical and psychological care. This dimension includes 2 items such as "My family stands by me during difficult times". Finally, the *Contextual Factors* dimension refers to spiritual, educational, and cultural contexts. This last dimension includes 5 items such as "I feel I belong at my school". For the purpose of this project, resilience was measured as a total composite score.

Mental Fitness

Mental fitness was measured using the *Children's Intrinsic Needs Satisfaction Scale* (CINSS; Koestner & Veronneau, 2001), a scale adapted from the Intrinsic Needs Satisfaction Scale (INSS; Deci, Ryan, Gagne, Leone, Usunov, & Kornazheva, 2001). This scale measures the three basic needs of ***Autonomy***, ***Competence***, and ***Relatedness*** across the three life dimensions that are the ***School***, the ***Family***, and ***Friends***. It is noteworthy to mention that each need is reflected within each life dimension and vice-versa. For the purpose of this project, mental fitness was measured according to the three life dimensions.

- ***School*** - The satisfaction of the three basic needs within the school life dimension is measured by 6 items such as "I feel I do things well at school".
- ***Family*** - The satisfaction of the three basic needs within the family life dimension is measured by 6 items such as "I feel free to express myself at home".
- ***Friends*** - Finally, the satisfaction of the three basic needs within the friends life dimension is measured by 6 items such as "My friends like me and care about me".

Prosocial and Oppositional Behaviour

- ***Prosocial behaviour*** was assessed using five items such as "I often help people without being asked". A total prosocial behaviour level score was computed from all five items.
- ***Oppositional behaviour*** was assessed using seven items such as "I often say mean things to people to get what I want". A total oppositional level score was computed from all seven items.

Health Indicators and Behaviours

- *Healthy eating* was assessed with four items asking how many times the child or youth had eaten green vegetables, orange vegetables, other vegetables and fruit the previous day.
- *Sleeping habits* were assessed with one item asking how many hours of sleep the child or youth usually had each night.
- *Physical activity* was assessed with two items. The fist asked if the child or youth engaged in *moderate* physical activity at least 60 minutes daily. The second asked if the child or youth engaged in *hard* physical activity at least 60 minutes daily.
- *Tobacco use* was assessed with one item asking if the child or youth was currently a smoker.
- *Alcohol consumption* was assessed with one item asking the frequency with which the child or youth had drunk alcohol in the previous 12 months.
- *Drug consumption* was assessed with one item asking if the child or youth had previously ever used or tried marijuana or cannabis.
- *Activities* were assessed with two items. The first asked if the child or youth participated in activities such as dance, art, sports or student clubs at school. The second asked if the child or youth participated in activities such as dance, art, sports, or community groups outside of school.
- *Bullying* was assessed with two items. The first asked if the child or youth had ever been victim of bullying. The second asked if the child or youth had ever bullied another peer.
- *Link knowledge* was assessed with one item measuring children and youth's awareness of the Link Program.
- *Volunteering* was assessed with one item asking if the child or youth usually volunteered on a monthly basis.
- *Demographic* information such as age, gender, language, race, and percentage of low income within the community were also collected to paint a portrait of the children and youth population.

Results

Mental Fitness & Resilience Scores

Descriptive Statistics

Predictors of Resilience

This section presents the statistical results obtained from the analysis of the SWS data relating to resilience and mental fitness. First is presented the descriptive statistics of the variables of interest. Following will be the presentation of resilience and mental fitness scores by school districts. Finally, the section concludes with the presentation of the main analysis regarding the predictors of resilience.

Descriptive Statistics

Table 1 presents the Pearson correlations of the variables studied. In other words, it presents the amount of relationship each variable has with resilience and with the three domains of mental fitness. The darkened green areas mark the strongest relationships ($r \geq .30$). The three mental fitness components hold the highest correlations with resilience, meaning that individuals with higher levels of mental fitness will be likely to have higher levels of resilience. *Sleeping habits* and *Prosocial behaviours* also correlate importantly with resilience. Negative correlations, such as

Table 1. Correlations with Resilience and the Three Life Domains of Mental Fitness

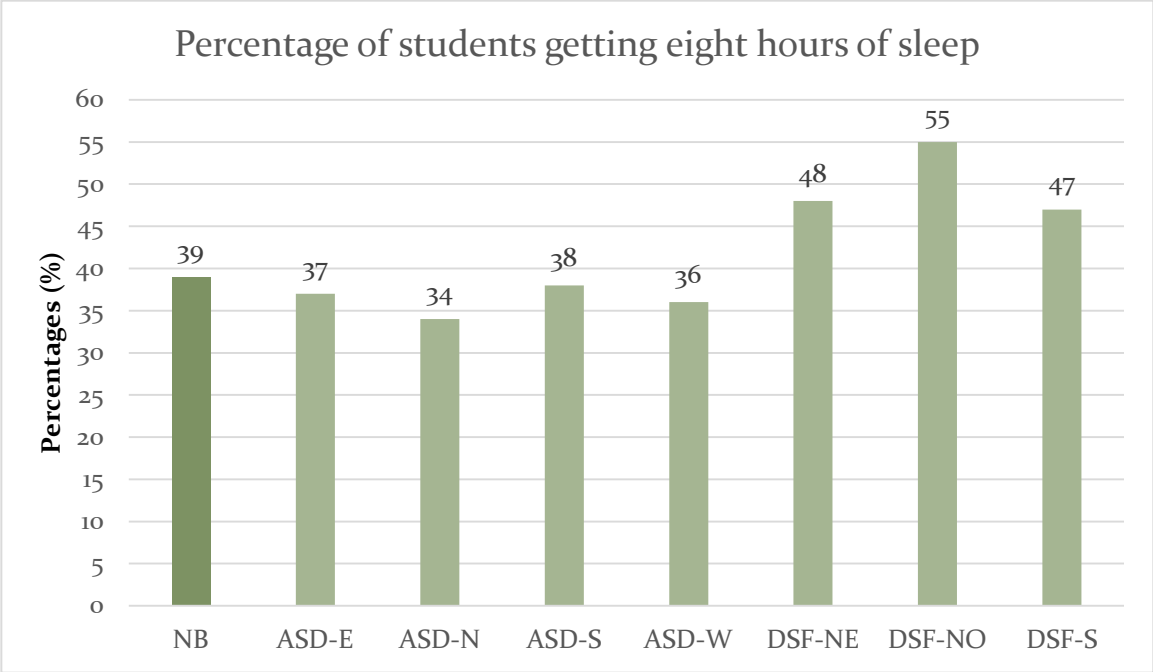
	Resilience	MF - School	MF - Family	MF - Friends
Sex	-.09	-.06	-.05	-.12
Age	-.11	-.06	-.13	-.07
Language	.08	.12	.11	.10
Income	-.00	.01	.01	-.01
Healthy eating	.18	.10	.10	.10
Sleeping habits	.30	.30	.32	.24
Physical activity	.05	.03	.05	.05
School Activities	.14	.15	.09	.08
Other Activities	.07	.06	.04	.04
Link program	.07	.09	.06	.06
Volunteering	.22	.17	.15	.14
Being a bully	-.24	-.22	-.24	-.23
Being bullied	-.24	-.27	-.27	-.27
Smoking	-.24	-.22	-.23	-.19
Drinking	-.24	-.21	-.21	-.13
Trying drugs	-.24	-.22	-.21	-.12
Prosocial	.41	.36	.30	.35
Oppositional	-.35	-.34	-.35	-.27
MF - Friends	.60	.65	.66	-
MF - Family	.65	.67	-	-
MF - School	.62	-	-	-

Note. MF = Mental Fitness. All correlations are statistically significant ($p < .05$) which is often the case with very large sample sizes.

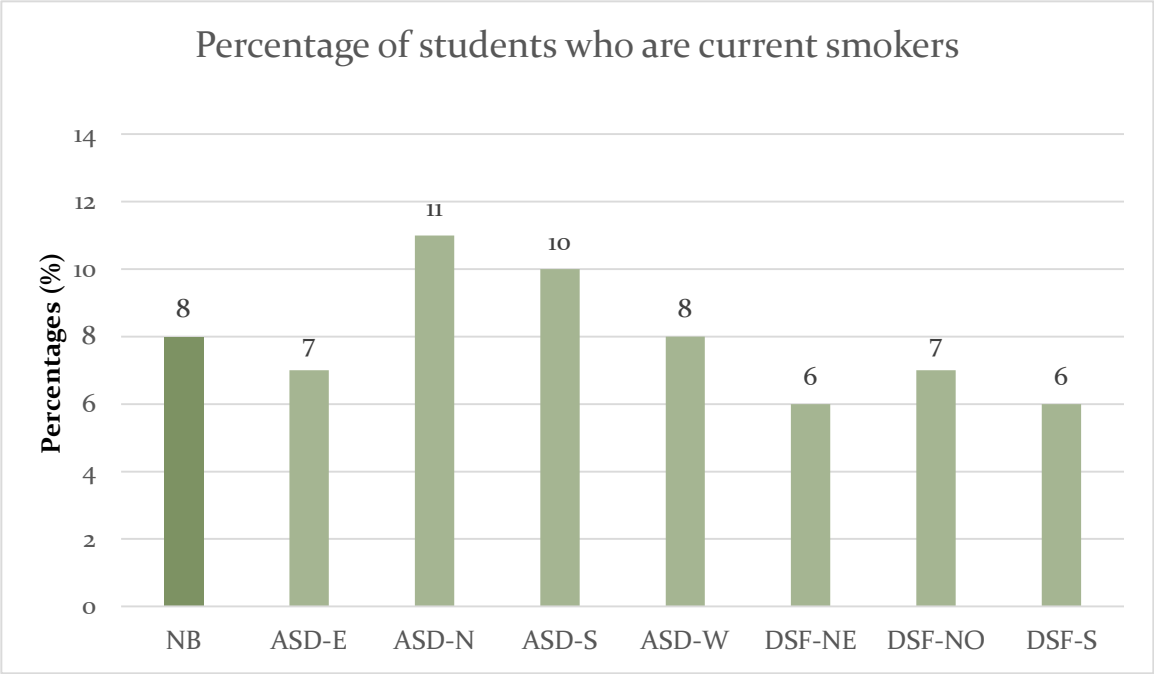
Oppositional behaviours indicate that individuals with higher levels of oppositional behaviours will be likely to have lower levels of resilience. Risky behaviours such as *Bullying, Smoking*, *Drinking* and *Trying drugs* are all negatively correlated with resilience and the components of mental fitness.

It might be of interest to take a closer look at those variables correlating importantly with resilience. The following pages present Graph 1 through Graph 6, which will inform the reader further about how each variable is playing out in each school district. Graphs 1 through 4 represent percentages of children and youth adopting various behaviours. Graphs 5 and 6 represent average scores on the given variables.

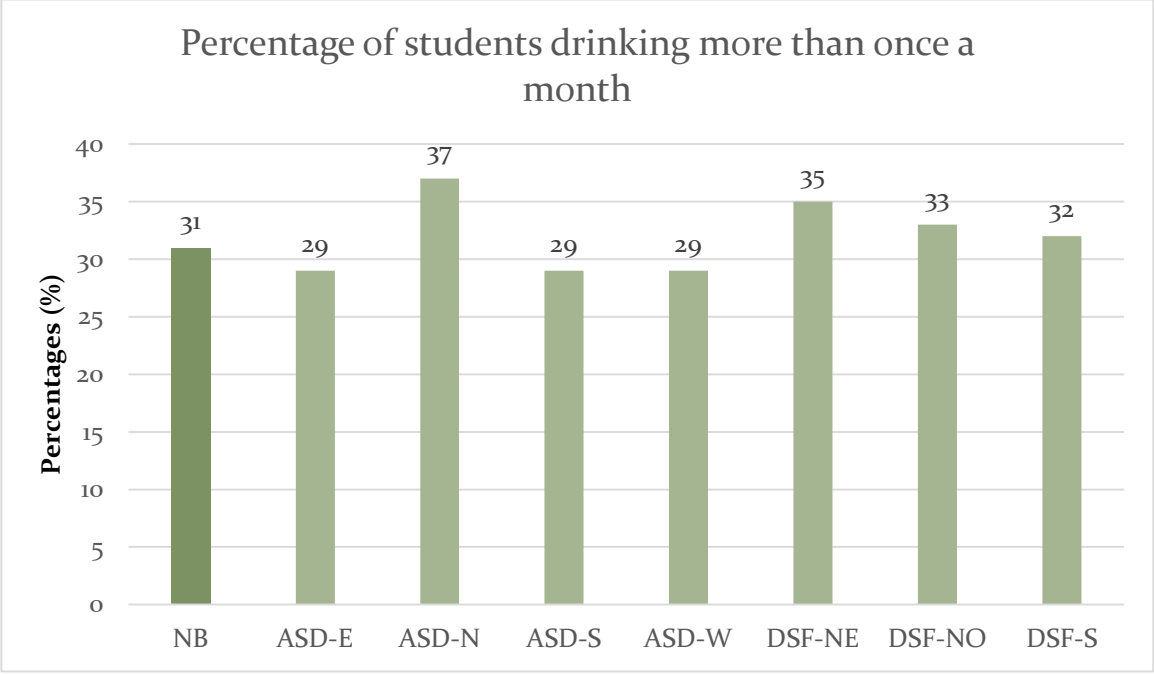
Graph 1.



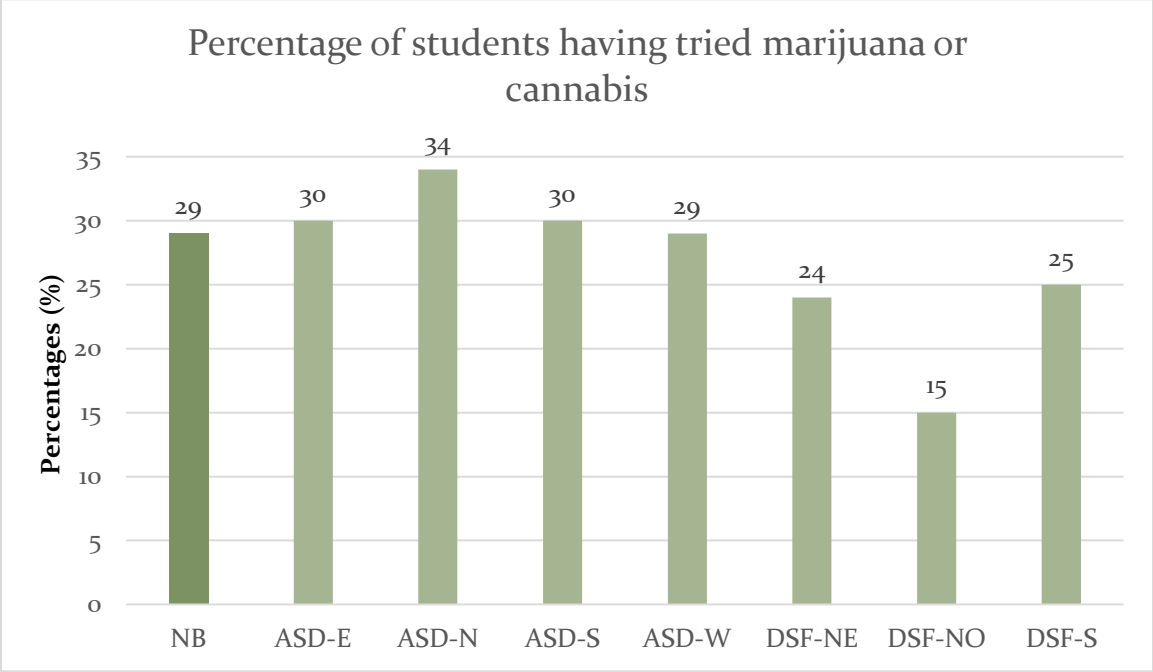
Graph 2.



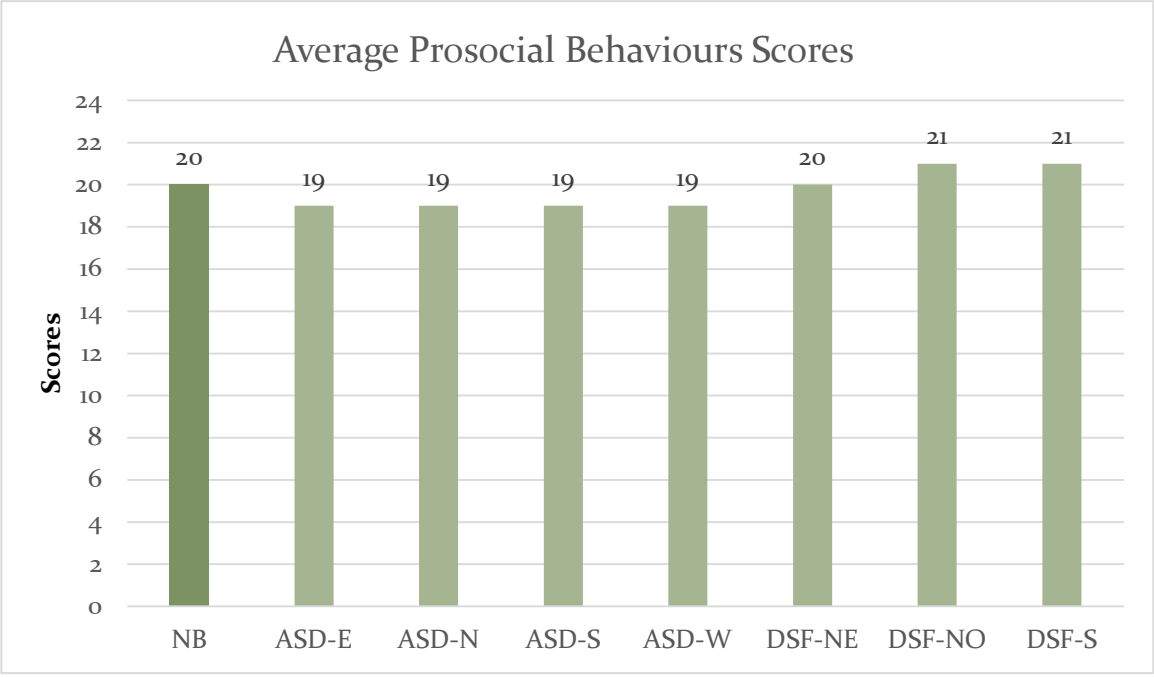
Graph 3.



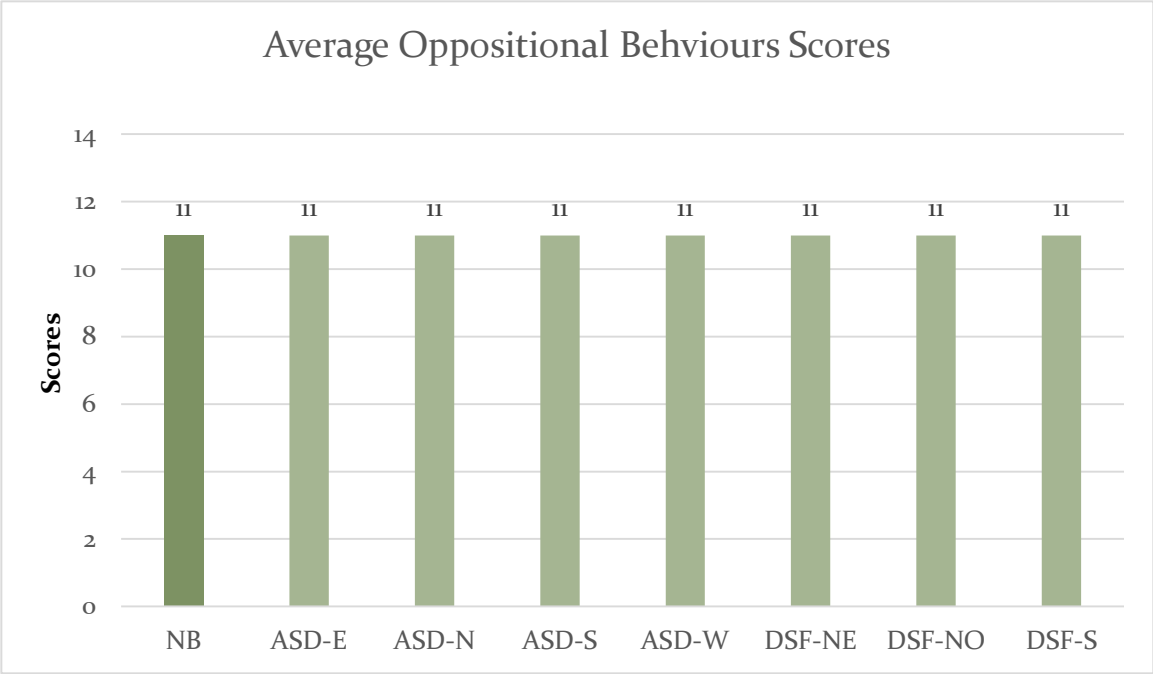
Graph 4.



Graph 5.



Graph 6.


Average Oppositional Behviours Scores
Scores
14
12
10
8
6
4
2
0
11
11
11
11
11
11
11
11
NB
ASD-E
ASD-N
ASD-S
ASD-W
DSF-NE
DSF-NO
DSF-S

Mental Fitness and Resilience Portrait

Distribution of scores

Mental fitness is scored on a scale that can range **between 18 and 72 points**, where the higher the points, the higher the level of mental fitness. In order to ease the interpretation of these scores, cut-off points were calculated. These cut-off points indicate what can be considered as low, moderate or high levels of mental fitness. Cut-off points were determined by the absence or the presence of risk factors or negative behaviours, such as drug consumption and oppositional behaviours.

As such, scores ranging between 18 and 52 points represent low levels of mental fitness. Scores ranging between 52 and 66 points represent moderate levels of mental fitness. Finally, scores ranging between 66 and 72 points represent high levels of mental fitness.

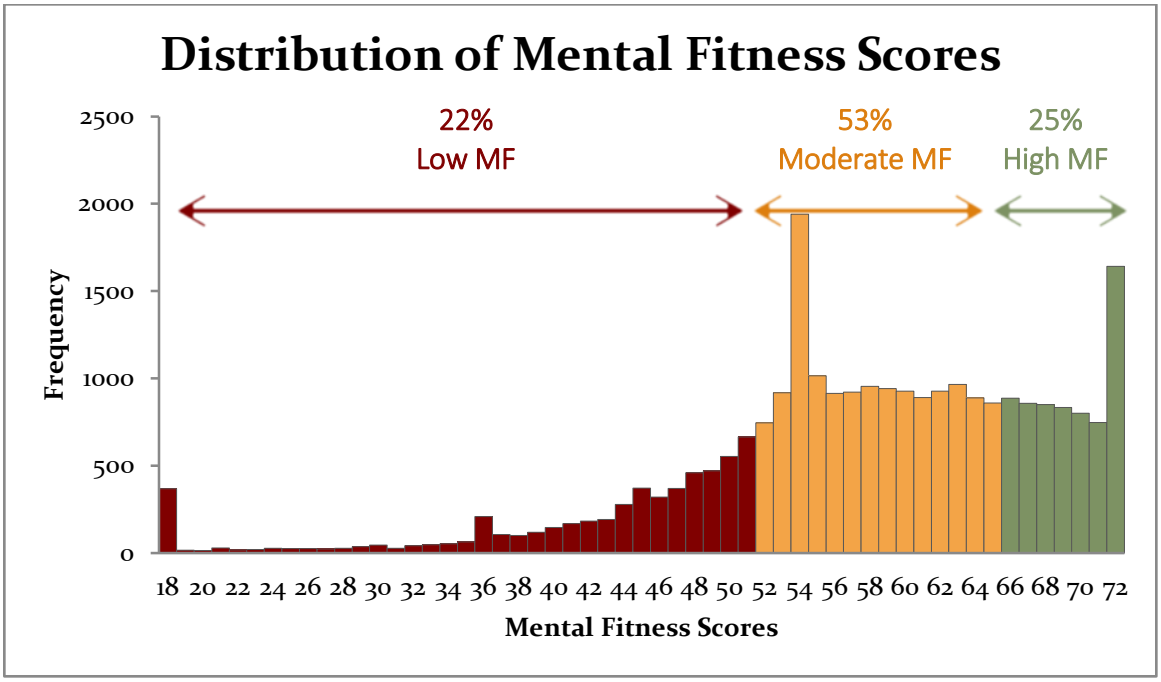
Graph 7 presents the distribution of mental fitness scores for New Brunswick children and youth. In other words, the graph shows how many children and youth (frequency) have a given mental fitness score. It is possible to notice that the distribution is skewed in such a way where the majority (76%) have moderate to high levels of mental fitness.

Resilience is scored on a scale that can range **between 12 and 60 points**, where the higher the points, the higher the level of resilience. Once again, in order to ease the interpretation of these scores, cut-off points were calculated in a similar manner as for the mental fitness scores. These cut-off points indicate that scores ranging between 12 and 45 points represent low levels of resilience, and that scores ranging between 45 and 60 points represent higher levels of resilience.

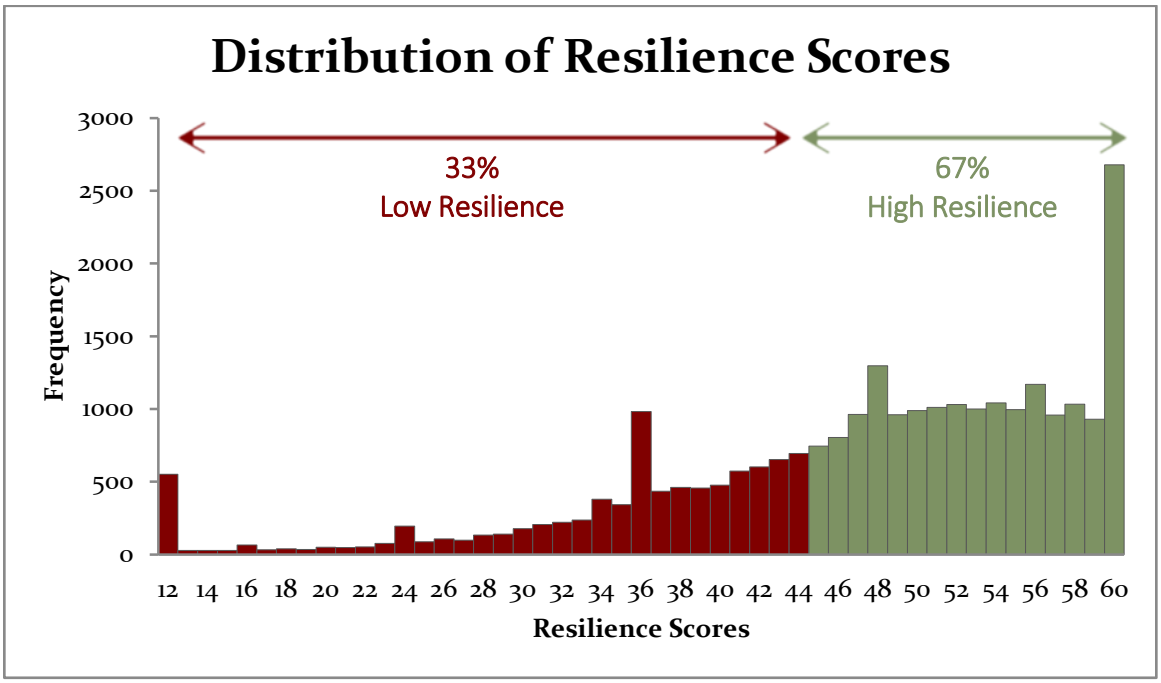
Graph 8 presents the distribution of resilience scores for New Brunswick children and youth. In other words, the graph shows how many children and youth (frequency) have a given resilience score. It is possible to notice that once again, the distribution is skewed in such a way where the majority (67%) have higher levels of resilience.

The reader will surely notice the similarity between the distribution of mental fitness scores and the distribution of resilience scores. Indeed, both are skewed towards higher scores and both have a relatively similar percentage of low and moderate to high scores. This is consistent with data from Table 1 that were showing high correlations between the construct of resilience and the components of mental fitness.

Graph 7.



Graph 8.



Provincial overview

Here, Figure 3 presents the same information but in a different fashion for which some readers may be more familiar with. The majority of the children and youth in New Brunswick are at the bottom of the pyramid of intervention, creating a solid foundation to work from for our service providers, schools and communities. Indeed, 76% of surveyed children and youth report having moderate to high levels of mental fitness and 67% of them report having higher levels of resilience, as per the cut-off points previously described. However, 24% of the children and youth in the province have shown to have low levels of mental fitness and 33% have shown to have low levels of resilience. These individuals, constituting the top of the pyramid of intervention, are children and youth who are considered at risk. In other words, they are the ones presenting a number of risk factors or negative behaviours. These children and youth at the top of the pyramid are at risk and have greater demands on the systems of care.

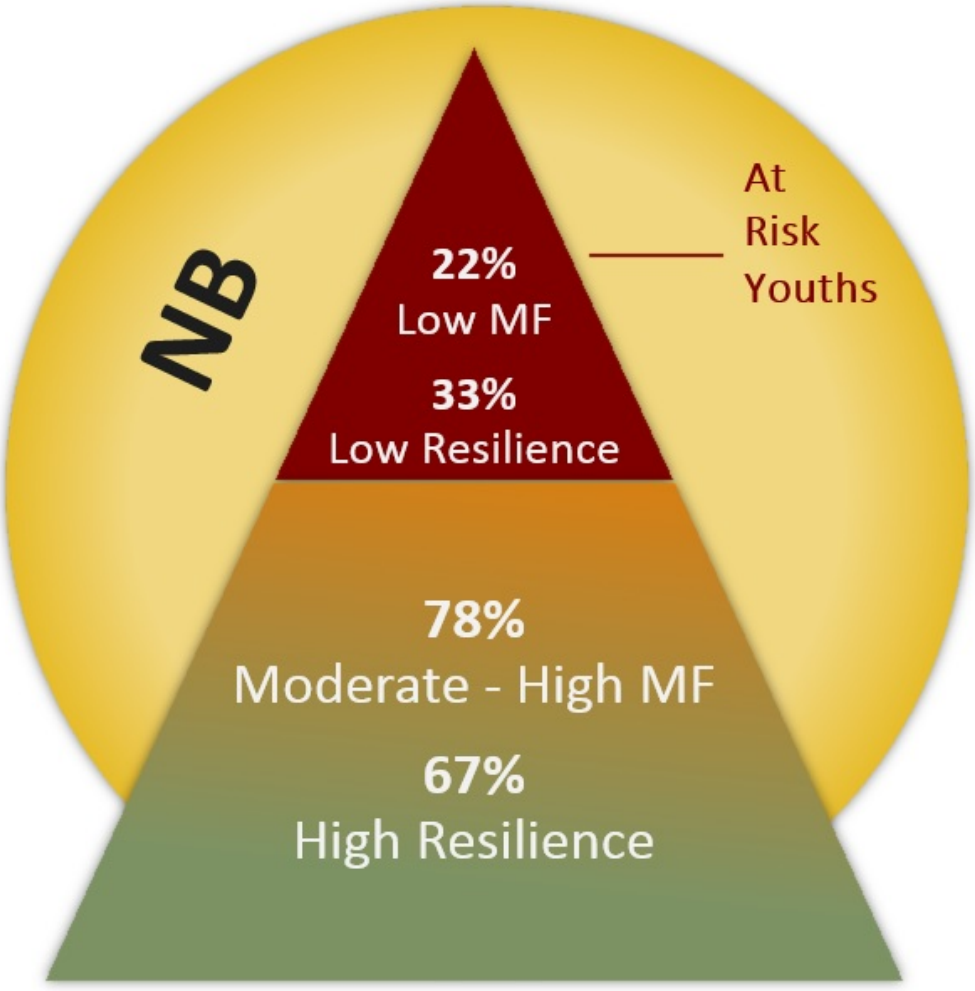
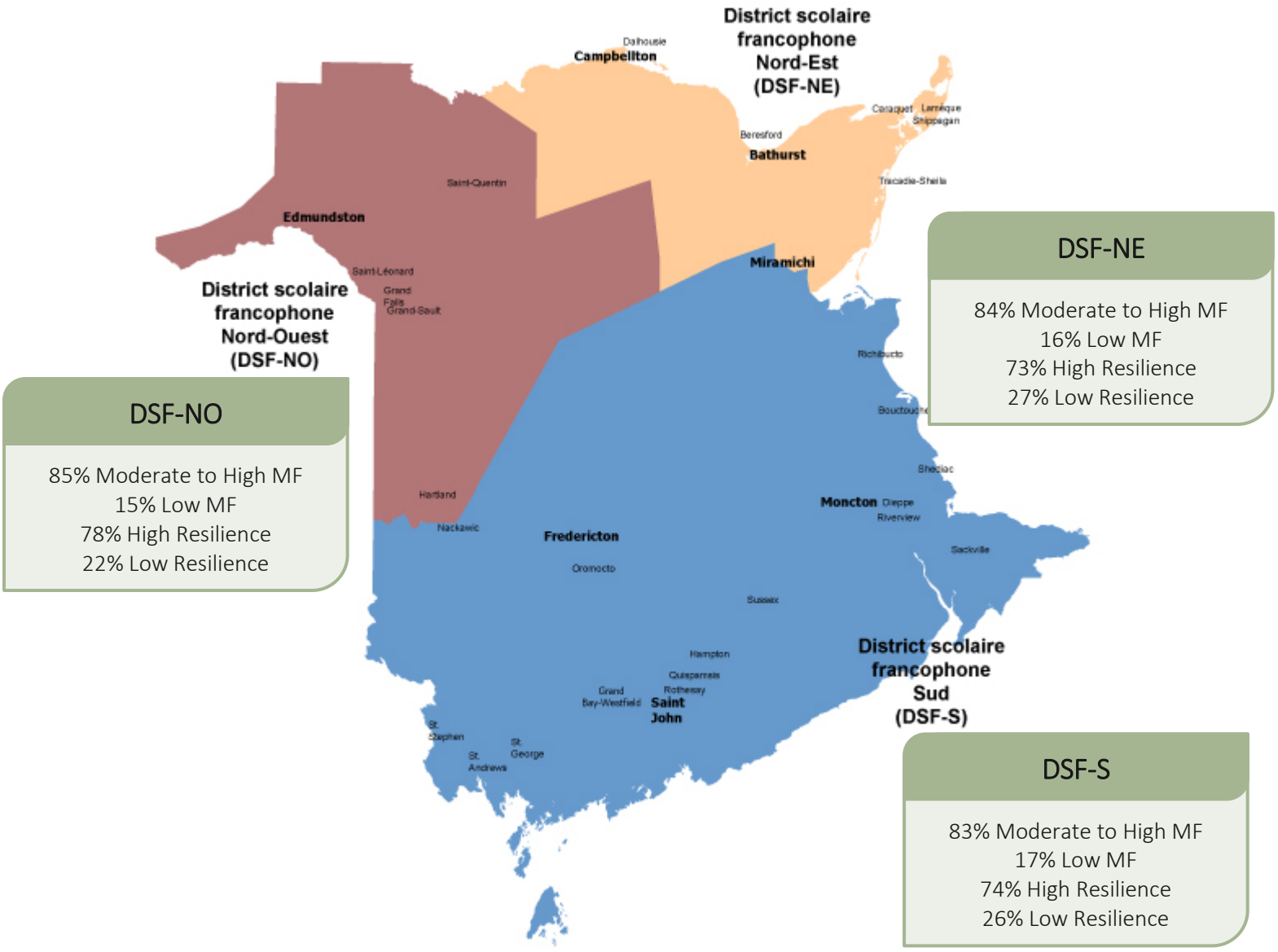


Figure 3. NB Levels of Mental Fitness and Resilience

Francophone School Districts

Figure 4 presents the percentages of students with low and moderate to high levels of mental fitness, as well as the percentages of students with low and high levels of resilience among the three Francophone School Districts. Percentages are generally consistent between school districts. The *District scolaire francophone Nord-Ouest*, however, is showing a higher percentage of students with high levels of resilience and fewer with low levels of resilience.



DSF-NO

85% Moderate to High MF
15% Low MF
78% High Resilience
22% Low Resilience

DSF-NE

84% Moderate to High MF
16% Low MF
73% High Resilience
27% Low Resilience

DSF-S

83% Moderate to High MF
17% Low MF
74% High Resilience
26% Low Resilience

Figure 4. Levels of Mental Fitness and Resilience among the Francophone School Districts

Anglophone School Districts

Figure 5 presents the percentages of students with low and moderate to high levels of mental fitness, as well as the percentages of students with low and high levels of resilience among the four Anglophone School Districts. Percentages are generally consistent between school districts.

ASD-N

74% Moderate to High MF
26% Low MF
64% High Resilience
36% Low Resilience

ASD-W

74% Moderate to High MF
26% Low MF
65% High Resilience
36% Low Resilience

ASD-E

73% Moderate to High MF
27% Low MF
64% High Resilience
36% Low Resilience

ASD-S

73% Moderate to High MF
27% Low MF
65% High Resilience
35% Low Resilience

Figure 5. Levels of Mental Fitness and Resilience among the Anglophone School Districts

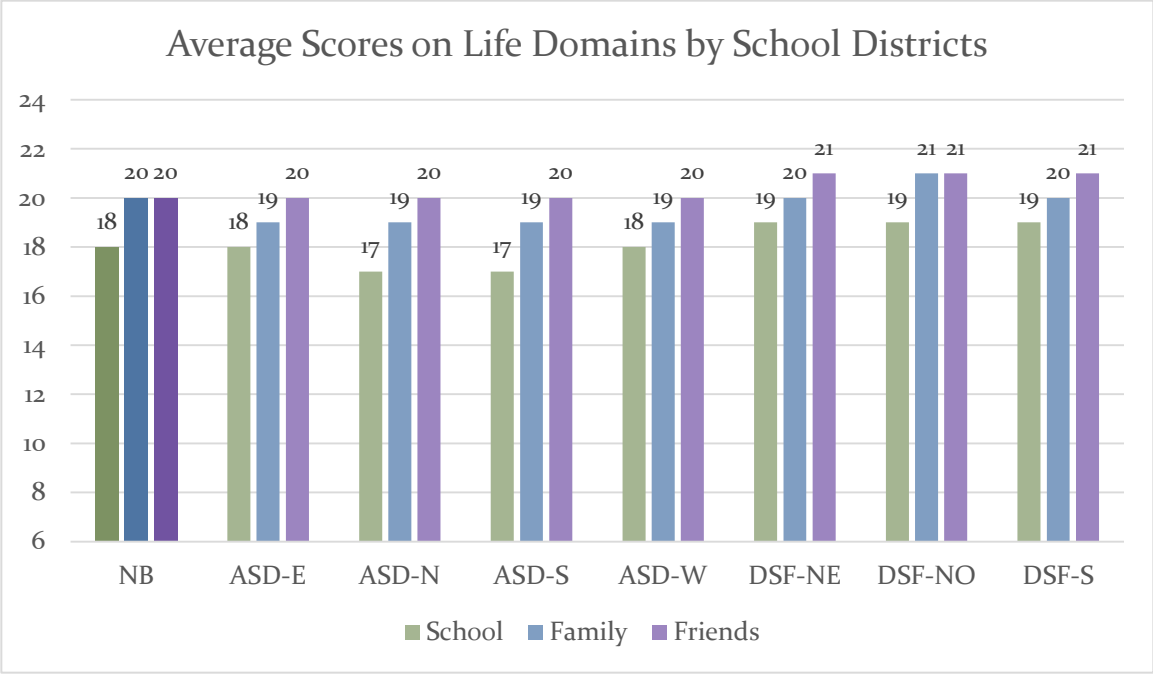
Scores on Life Domains of Mental Fitness

As discussed previously, mental fitness can be evaluated as a whole but it can also be deconstructed into sub-components. As a reminder, mental fitness refers to the satisfaction of the needs for *autonomy*, *competence* and *relatedness* among the three life domains that are the *school*, the *family* and the circle of *friends*. Here we take a closer look at the average scores on each life domain.

Scores for School, Family and Friends can **range between 6 and 24 points**, where the higher the points, the higher the level of need satisfaction within that given life domain. Graph 9 presents the average School, Family and Friends scores for each school district. In each case, the Friends life domain is where needs for autonomy, competence and relatedness are more optimally satisfied with scores sitting around the 20 points mark. Following is the Family life domain, which presents scores revolving around the 19 points mark. Finally, the School life domain presents scores of the order of 18 points.

Obviously, each life domain still has room for improvement in terms of satisfying the needs for autonomy, competence and relatedness. It is, however, within the school life domain that efforts are especially needed in order to create greater balance in terms of needs satisfaction across contexts for children and youth of New Brunswick, particularly in the ASD-N and ASD-S.

Graph 9.



Predictors of Resilience

In order to determine which of the measured variables can predict resilience, a multiple regression was conducted. This analysis can tell us if our measured variables (our predictors) are good predictors of resilience and how much they contribute to impacting resilience.

The heat map presented in Table 2 shows all the predictor variables that were tested. The top portion of the table contains the demographic predictors that were controlled for, including *Sex*, *Age* and *Income*. The middle part of the table contains behavioural predictors that can be protective or risk factors, such as *Healthy eating*, *Sleeping habits*, *Smoking* and *Drinking*. Finally, the lowest portion of the table contains the *Prosocial* and *Oppositional* behaviours, as well as the three life domains of *School*, *Family* and *Friends* in which mental fitness is measured.

Because of different sociocultural realities between the Anglophone and the Francophone School Districts, predictors of resilience were tested separately. The importance of each predictor variable is identified in the table according to a light to dark red gradient where the most important predictors of resilience are dark red.

According to Table 2, the demographic variables have little impact on students' resilience. Among the behavioural predictors, *Sleeping habits* are coming out with some degree of importance in predicting resilience, especially for students of the Anglophone School District. For students of the Francophone School District, knowledge of the *Link program* and *Volunteering* were also noteworthy predictors of resilience.

It is, however, clearly in the bottom portion of the table that are found the most impactful predictors of resilience. For both the Anglophone and the Francophone school districts, the Mental Fitness components of *School*, *Family* and *Friends* come out as the predictor variables contributing most importantly to students' levels of resilience, followed by *Prosocial behaviours.*

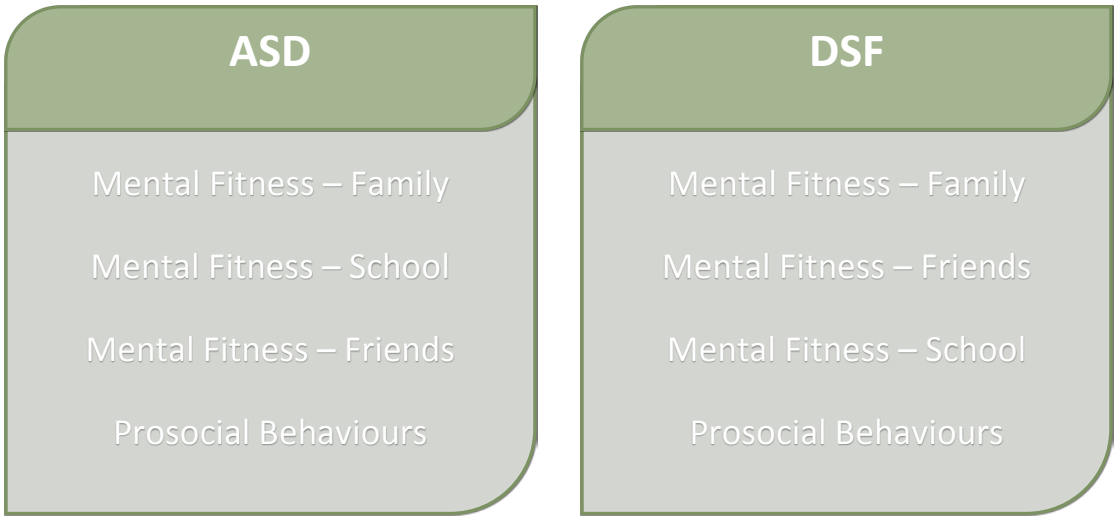
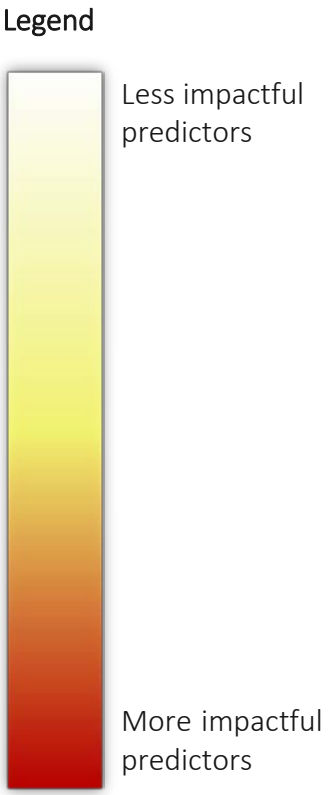


Figure 6. Best Predictors of Resilience

Table 2. Predictors of resilience and their level of importance

Predictors	ASD	DSF
Sex	0.009	-0.012
Age	-0.029	-0.010
Income	-0.004	0.011
Healthy eating	0.024	0.028
Sleeping habits	0.058	0.034
Physical activity	0.000	0.005
Activities at school	0.039	0.020
Other Activities	0.016	0.001
Link program	0.009	0.068
Volunteering	0.033	0.053
Being a bully	-0.033	-0.001
Being bullied	-0.047	-0.040
Smoking	0.035	0.022
Drinking	-0.041	-0.009
Trying drugs	0.049	0.018
Oppositional behaviours	-0.084	-0.053
Prosocial behaviours	0.153	0.189
Mental Fitness - School	0.207	0.184
Mental Fitness - Family	0.320	0.272
Mental Fitness - Friends	0.174	0.216



Note. ASD: Anglophone School District. DSF: District scolaire francophone. Table values represent Beta weights from the multiple regression analysis.

In sum

For the Anglophone School Districts, it would appear that the most impactful predictor of resilience would be *Mental Fitness's Family* life domain, followed by *School*, *Friends*, and *Prosocial* behaviours.

As for the Francophone School Districts, it would appear that the most impactful predictor of resilience would be *Mental Fitness's Family* life domain, followed by *Friends*, *School*, and *Prosocial* behaviours.

Conclusion

Discussion

Final Thoughts

Discussion

The aim of this project was threefold:

1. To examine key factors or determinants of health, which can be focused on to improve the resilience and wellness of New Brunswick children and youth, using the 2012-2013 grades 6 to 12 student wellness survey results.

   In order to respond to the first objective, a series of social economic determinants were evaluated. They were put against each other so it would be possible to determine which would contribute most importantly to resilience in children and youth of the province of New Brunswick. The results obtained showed that many of the social economic determinants examined were important contributors to one's level of resilience. It was, however, having the three basic intrinsic needs met among the three life domains (School, Family and Friends) that showed the largest impact, and by a significant margin. They were closely followed by Prosocial behaviours.

   In other words, every one of the variables examined has its place in contributing to children and youth' level of resilience. As such, current efforts aiming to enhance protective factors such as healthy eating habits, physical activity, sleep, volunteering and extracurricular activities, and efforts aimed at decreasing risk factors such as bullying, drug consumption and smoking are important. However, if one is to significantly increase children and youth' resilience (as it is defined in this document), it is by means of the mental fitness components and prosocial behaviours that the greatest improvements can be achieved.

   It is, however, also important for the reader to note that these results are showing what are the current most important predictors of resilience in children and youth in New Brunswick. During this important developmental age, many things are changing rapidly in one's life. As such, it is possible that some variables did not result predicting resilience as much as what would have been expected. As a hypothetical example, it would be possible that physical activity would not be an important predictor of resilience in children and youth in the present time but that if the youth in question continued to lack such habits into adulthood, they might later have an impact. Again, this is also why it is suggested that current efforts in related health domains continue.

2. To improve the collective understanding around risk factors and protective factors that can be associated particularly with resilience, mental health and addictions to support prevention efforts as they relate to the New Brunswick Health Council's third recommendation.

   The present document has put a significant emphasis on communicating that resilience is a multidimensional construct from which risk and protective factors stem from the individual, the caregivers and the contextual levels. Children and youth need strong support systems around them to be resilient, and satisfying their basic needs for autonomy, competence and

relatedness within the school, the family and with the friends contributes importantly towards such resilience. Davydov et al. (2010) suggest a model in which "resilience fosters mental health through harm reduction, protection, and promotion. In other words, resilience reduces or limits the negative impact (e.g., depression or anxiety) of adversity or exposure to traumatic events" (Hu, Zhang & Wang, 2015, p. 24). Now that there is a collective understanding of the multidimensionality of resilience and the risk and protective factors associated with it, service providers, educators, policy makers, community organizations and researchers are now be better equipped to effectively integrate the promotion of mental fitness and resilience in their prevention efforts.

3. To encourage a strength-based approach to address mental health and addictions challenges in the province of New Brunswick.

   For too long now the field of mental health has been focused on mental illness and deficiencies. However, it is clear that it is possible to attain optimal well-being despite mental illness, as each operates on a separate continuum (Keyes, 2003). By focusing on a strength-based approach, service providers are communicating to the children and youth that they are enough, that they are great and that they can achieve mental well-being as well as anyone else. Resilience and mental fitness, as strength-based approaches, aim to encourage the development of assets in children and youth' lives. In fact, they highlight the importance of assets in all domains of life, whether it is at school, within the family or with friends. Moreover, the results from this project add support to the existing literature on such strength-based approaches, furthermore validating their importance and their relevance. As such, it only makes sense that going forward, strength-based approaches such as found in the constructs of resilience and mental fitness can become an integral part of services addressing mental health and addictions challenges in the province of New Brunswick.

Final Thoughts

As demonstrated by the numerous strategies and initiatives around mental health and addictions in New Brunswick, it is clear that this is the most opportune time for strength-based approaches and prevention. Focusing on increasing mental fitness among the children and youth population of New Brunswick requires focus on increasing their strengths rather than focusing on deficits or gaps. Efforts have already begun in the province to support the fulfilment of autonomy, competence and relatedness needs in our children and youth, and the results obtained from this project support continued investment in these initiatives. The increased fulfilment of these three basic needs among all three of the life domains that are the school, the family and the circle of friends is essential for healthy and mentally fit children and youth. Furthermore, by increasing the satisfaction of the needs for autonomy, competence and relatedness in our children and youth, we are contributing to their resilience. This is great news because resilient children and youth are better equipped to cope with challenges and maintain positive outcomes. And in turn, resilient children and youth contribute to resilient families and communities.

References

Aunola, K., Viljaranta, J., Lehtinen, E. & Nurmi, J.-E. (2013). The role of maternal support of competence, autonomy and relatedness in children's interests and mastery orientation. *Learning and Individual Differences, 25*, 171-177.

Bates, H. & Eccles K. (2008). Wellness curricula to improve the health of children and youth: A review and synthesis of related literature. Edmonton, Alberta.

Canada. Public Health Agency of Canada. Health and Health Promotion/Healthy Living. Creating a healthier Canada: Making prevention a priority. A declaration on prevention and promotion from Canada's Ministers of Health and Health Promotion/Healthy Living. 2010.

Canadian Institute for Health Information (2015). *Care for children and youth with mental disorders*. Ottawa: Ontario.

Davydov, D. M., Stewart, R., Ritchie, K., & Chaudieu, I. (2010). Resilience and mental health. *Clinical Psychology Review, 30*, 479–495.

Deci, E. L. & Ryan, R. M. (2007). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology, 49*, 14-23.

Deci, E. L., Ryan, R. M., Gagne, M., Leone, D. R., Usunov, J. & Kornazheva, B. P. *Intrinsic Need Satisfaction Scale* (Unpublished questionnaire). Rochester, NY: University of Rochester; 2001.

Doucet, D., Bourque, J., LeBlanc, S. R., Lavoie, M., Gallant, L. & Roy-Lang, V. (2013). Integrated Service Delivery Implementation Evaluation : Final Report. Moncton, NB: Centre de recherche et de développement en éducation.

Emery, A. A., Toste, J. R. & Heath, N. L. (2015). The balance of intrinsic need satisfaction across contexts as a predictor of depressive symptoms in children and adolescents. *Motivation and Emotion, 39,* 753-765.

Fergus, S. & Zimmerman, M. A. (2005). Adolescent resilience: A framework for understanding healthy development in the face of risk. *Annual Review of Public Health, 26*, 399-419.

Hjemdal, O., Friborg, O., Stiles, T. C., Martinussen, M. & Rosenvinge, J. H. (2006). A new scale for adolescent resilience: Grasping the central protective resources behind healthy development. *Measurement and Evaluation in Counseling and Development, 39*, 84-96.

Hu, T., Zhang, D. & Wang, J. (2015). A meta-analysis of the trait resilience and mental health. *Personality and Individual Differences, 76*, 18-27.

Joint Consortium for School Health (2010). Schools as a setting for promoting positive mental health: Better practices and perspectives. Summerside: Prince Edward Island.

Keyes, C. L. M. & Haidt, J. (Eds.). (2003). *Flourishing: Positive psychology and the life well-lived*. Washington: American Psychological Association.

Khanlou, N. & Wray, R. (2014). A whole community approach toward child and youth resilience promotion: A review of resilience literature. *International Journal of Mental Health and Addiction, 12*, 64-79. doi: 10,1007/s11469-013-9470-1

Knutson, A. L. (1963). New perspectives regarding positive mental health. *American Psychologist, 18*, 300-306.

Koestner, R. F. & Veronneau, M. H. *Children's Intrinsic Needs Satisfaction Scale* (Unpublished questionnaire). Montreal, Qc: McGill University; 2001.

La Guardia, J. G., & Ryan, R. M. (2002). What adolescents need: A self-determination theory perspective on development within families, school, and society. In F. Pajares & T. Urdan (Eds.), *Academic Motivation of Adolescents* (pp. 193–220). Greenwich: Information Age Publishing, Inc.

Liebenberg, L., Ungar, M., & LeBlanc, J. C. (2013). The CYRM-12: A brief measure of resilience. *Canadian Journal of Public Health, 104*(2), 131-135.

Luthar, S., Cicchetti, D. & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development, 71*, 543-562.

McCarthy, D. (1964). Mental Fitness. *American Psychologist, 19*, 201-202.

McKay, K. (2007). *Hardiness, resilience, and mental health*. Moncton, N.-B. : École de pscyhologie, Faculté des sciences de la santé et des services communautaires, Université de Moncton.

Milyavskaya, M., Gingras, I., Mageau, G. A., Koestner, R., Gagnon, H., Fang, J. & Boiché, J. (2009). Balance across contexts: Importance of balanced need satisfaction across various life domains. *Personality and Social Psychology Bulletin, 35*, 1031-1045.

Morrison, B. & Peterson, P. (2014). *Provincial Link Program review and consultation*. (Unpublished report). Fredericton: New Brunswick.

New Brunswick Health Council (2014a). *Children and Youth Rights and Well-being Snapshot 2014*. Moncton: New Brunswick.

New Brunswick Health Council (2014b). *New Brunswickers' Experiences with Primary Health Services, Results from the New Brunswick Health Council's 2014 Primary Health Survey*.

Pavey, L., Greitemeyer, T. & Sparks, P. (2011). Highlighting relatedness promotes prosocial motives and behaviour. *Personality and Social Psychology Bulletin, 37*, 905-917.

Province of New Brunswick (2009-2013). *Live well, be well: New Brunswick's wellness strategy 2009-2013*. Fredericton, New Brunswick.

Province of New Brunswick (2011-2018). The action plan for mental health in New Brunswick 2011-2018. Fredericton, New Brunswick.

Province of New Brunswick (2012). Moving from theory to outcome: New Brunswick's Crime Prevention and Reduction Strategy. Fredericton, New Brunswick.

Province of New Brunswick (2014-2021). New Brunswick's wellness strategy 2014-2021: The hearth of our future. Fredericton, New Brunswick.

Reis, H. T., Sheldon, K. M., Gable, S. L., Roscoe, J. & Ryan, R. M. (2000). Daily well-being: The role of autonomy, competence, and relatedness. *Personality and Social Psychology Bulletin, 26*, 419-435.

Rowe, C. A., Walker, K. L., Britton, P. C. & Jameson, K. H. (2013). The relationship between negative life events and suicidal behaviour. *Crisis, 34*, 233-241.

Ryan, R. M. & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68-78.

Statistics Canada (2012). Canadian Community Health Survey – Mental Health (CCHS), Table 105-1101 Mental Health Profile.

Theron, L., Liebenberg, L. & Malindi, M. (2013). When schooling experiences are respectful of children's rights: A pathway to resilience. *School Psychology International*, 1-13.

Ungar, M. (2011). Community resilience for youth and families: Facilitative physical and social capital in contexts of adversity. *Children and Youth Services Review, 33*, 1742-1748.

Ungar, M. et al. (2008). The study of youth resilience across cultures: Lessons from a pilot study of Measurement development. *Research in Human Development, 5*, 166-180. doi: 10.1080/15427600802274019

Ungar, M. et Liebenberg, L. (2011). Assessing resilience across cultures using mixed methods: Construction of the Child and Youth Resilience Measure. *Journal of Mixed Methods Research, 5*, 126-149. doi: 10.1177/1558689811400607

Van Ryzin, M. J., Gravely, A. A. & Roseth, C. J. (2009). Autonomy, belongingness, and engagement in school as contributors to adolescent psychological well-being. *Journal of Youth Adolescence, 38*, 1-12.

Véronneau, M.-H., Koestner, R. & Abela, J. R. Z. (2005). Intrinsic need satisfaction and well-being in children and adolescents: An application of the self-determination theory. *Journal of Social and Clinical Psychology, 24*, 280-292.

Windle, G. (2010). What is resilience? A review and concept analysis. *Reviews in Clinical Gerontology, 21*, 152-169.

Windle, G., Bennett, K. M. & Noyes, J. (2011). A methodological review of resilience measurement scales. *Health and Quality of Life Outcomes, 9*, 1-18.

Zolkoski, S. M. & Bullock, L. M. (2012). Resilience in children and youth: A review. *Children and Youth Services Review, 34*, 2295-2303