Investing in Connectedness

A Preventive Measure to Improve the Mental Health of Children and Youth

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Introduction

The World Health Organization (2016) describes mental health as a state of well-being in which each individual realizes his or her own potential, copes with the normal stresses of life, works productively, and contributes to his or her community. The Canadian Mental Health Association (CMHA) states that the mental health of children and youth is a critical issue (2014). Approximately 20% of Canadians are diagnosed with mental illness,[1] or will experience mental health problems, in their lifetime. The majority of these adults (50 – 70%) will be diagnosed as children or youth (CMHA, 2014).

There is a strong association between connectedness (i.e., a sense of belonging in which individuals perceive that they are valued, cared for, trusted, and respected by individuals and communities) and improved mental health and well-being of children and youth (McCreary Centre Society [MCS], 2014). Therefore, as a strategy to improve the mental health and well-being of children and youth in the capital region of British Columbia (BC), the Child and Youth Health Network (C&YHN) and its community partners are developing an Index of Connectedness (i.e., a tool to *measure* connectedness). As a first step to developing the Index of Connectedness, the purpose of this review is to demonstrate the association between connectedness, including peer, family, school, and community connectedness, and the mental health outcomes of children and youth.

[1] Mental illness is described as "collectively all diagnosable mental disorders" or "health conditions that are characterized by alterations in thinking, mood, or behavior (or some combination thereof) associated with distress and/or impaired functioning" (Centers for Disease Control and Prevention, 2013, para 3).

Background

The Issue

Mental health is essential to physical health, personal well-being, and positive family and interpersonal relationships (CMHA, 2014). As discussed above, the mental health of children and youth is a critical issue. The CMHA (2016) states that mental health disorders are the single most disabling group of disorders worldwide, and that (i) 50 – 70% of mental health disorders are diagnosed in childhood or adolescence; (ii) surpassed only by injuries, mental health disorders in youths are ranked as the second highest hospital expenditure in Canada; (iii) only 1 in 5 children who need mental health services (e.g., support and treatment services) will receive them. Left untreated, mental illness persists unnecessarily throughout the lifespan, with adverse outcomes ranging from reduced educational and occupational opportunities to increased mortality (Waddell, Shepherd, Chen, & Boyle, 2013). The associated economic burden of mental illness in Canada is estimated to exceed $51 billion[2] annually, which underscores the urgent need to address mental health starting in childhood (Waddell et al., 2013).

With respect to Southern Vancouver Island (specifically Victoria, Sooke, Saanich, and the Gulf Islands), the 2013 BC Adolescent Health Survey[3] (BC AHS) demonstrated that mental health is an area of concern. The BC AHS revealed that (i) 21% of local students had at least one mental health condition (see Figure 1); (ii) Most students (85%) reported feeling stressed in the past month; (iii) During the past year, 8% of local males and 22% of females reported cutting or injuring themselves on purpose without trying to kill themselves; (iv) there was an increase in

[2] This includes health care costs, lost productivity, and reductions in health-related quality of life (Centre for Addition and Mental Health, 2012).
[3] In 2013, 29,832 students in grades 7 – 12 completed the BC Adolescent Health Survey. These students answered questions about their health and about risk and protective factors in their lives (McCreary Centre Society, 2014).

the percentage of students who did not access services because students did not want their parents to know, or they did not know where to go (MCS, 2014). A known risk factor for attempting suicide is having a family member, or close friend, who has attempted or died by suicide (MCS, 2014). In the 2013 BC AHS, 14% of students reported that a family member had tried to kill themselves at some point, and 24% reported that a close friend had attempted suicide.

Figure 1. Most commonly reported conditions

	Males	Females
Attention deficit hyperactivity disorder (ADHD)	8%	5%
Depression	6%	14%
Anxiety Disorder/ Panic Attacks	4%	16%

(McCreary Centre Society, 2014)

Connectedness

Evidence demonstrates that connectedness, including peer, family, school, and community connectedness, is associated with improved mental health and well-being for children and youth (McCreary Centre Society, 2014). The concept of connectedness is grounded in several conceptual frameworks, such as attachment theory, social development and learning theories, and resilience frameworks (Whitlock, Wyman, & Barreira, 2006). As a concept, "connectedness" has been studied quite loosely (e.g., to measure the quality of relationships, the possession of feelings or attitude states, or a combination thereof) and is defined differently across the disciplines, such as nursing and psychology (Barber & Schluterman, 2008). For the purpose of this paper, connectedness is defined as:

> A psychological state of belonging in which individuals perceive that they are valued, cared for, trusted, and respected by individuals and communities with whom they are in

> regular contact (e.g., peers, family, romantic relationships, groups) or in which they are socially or geographically embedded (Whitlock et al., 2006, p. 5).

Whitlock et al. (2006) add that connectedness is "best understood as a psychological state of being which reflects a sense of closeness, embeddedness, and visibility to individuals and collections of individuals…" (p. 5). More specifically, connectedness is the *subjective* experience of feeling close to, and a sense of belongingness to others (i.e., it is about the quality of relationships, *not* the quantity).

The Child and Youth Health Network

The Child and Youth Health Network (C&YHN) is a collaborative initiative in the capital region of BC. The C&YHN's core values include (but are not limited to) a holistic view of health, cultural awareness and cultural safety, and evidence-informed and strength-based decision making. As depicted in Appendix A, the C&YHN envision "communities supporting healthy kids growing into healthy adults raising healthy kids" (2016, para 3). To improve the mental health and well-being of children and youth in the capital region, the C&YHN intend to develop and use an Index of Connectedness (i.e., a tool to measure connectedness) as a strategy to (i) raise knowledge of the importance of connectedness for the mental health of children and youth; (ii) increase connectedness for children and youth as a way to improve their mental health and well-being; (iii) build partnerships within the C&YHN.

In 2016, the C&YHN and the Stewardship Committee[4] will work with a panel of experts to design the Index of Connectedness[5]. As a first step to this project, the purpose of this review is to identify, analyze, and synthesize evidence on the association between connectedness,

[4] The Stewardship Committee supports the mission and values of the C&YHN (among other factors) (C&YHN, 2016).
[5] For more information about the C&YHN and the Index of Connectedness, see http://childyouthhealth.org/.

including peer, family, school, and community connectedness, and the mental health outcomes of children and youth.

Methodology

The databases searched included the Cumulative Index to Nursing and Allied Health Literature (CINAHL) and PubMed. The key search terms included: connectedness, connectedness AND mental health, connectedness AND youth, social connectedness AND mental health, social connectedness AND youth, family connectedness AND mental health, school connectedness AND mental health and community connectedness AND mental health. Sixty-five abstracts yielded from the search were screened for inclusion. To qualify for inclusion, studies had to: (i) be published in a peer-reviewed journal since 2000; (ii) be published in English; (iii) report a measure of association between a connectedness sub-construct (i.e., peer, family, school or community connectedness, or a combination thereof) and mental illness[6]; and (iv) include a study population aged <21.

Results

In total, twenty-seven studies were included for review, including seventeen cross-sectional, nine longitudinal, and one systematic review. Of the studies included for review, (i) sample sizes ranged from 150 to 81,247; (ii) the majority of participants were between 11 – 18 years of age, thus youths <11 years of age might be underrepresented; and (iii) most studies were based on self-report measures of data (e.g., the National Longitudinal Study of Adolescent Health and the California Healthy Kids Survey). The results from these studies are summarized

[6] As stated above, mental illness was defined as "health conditions that are characterized by alterations in thinking, mood, or behavior (or some combination thereof) associated with distress and/or impaired functioning" (Centers for Disease Control Prevention, 2013, para 3).

in the following two sections. In the first section, a description of peer, family, school, and community connectedness, as described and measured in the literature examined, is provided. In the second section, the association between the constructs of connectedness and the health outcomes (e.g., reduced rates of depression, anxiety, and suicidal behaviour) of children and youth is examined. Thereafter, the conclusions drawn from this review are summarized.

i. Definitions

The constructs of connectedness, including peer, family, school, and community connectedness, were described slightly differently and were measured with a variety of tools (or scales). Each of the tools however, arguably measure a similar underlying construct (i.e., peer, family, school or community connectedness, or a combination thereof, respectively). In general, peer connectedness was described as feeling supported, accepted, and cared for by friends, particularly in the school environment. This construct was described interchangeably with peer support (Matlin, Molock, & Tebes, 2011), peer attachment (Oldfield, Humphrey, & Hebron, 2016), and friend connectedness (Croll et al., 2002). Family connectedness was described as caring relationships in family dynamics, such as feeling cared for, listened to, or understood by parents. This construct was described interchangeably with parent-child connectedness (Ackard, Neumark-Sztainer, Story, & Perry, 2006), family attachment (Oldfield et al., 2016), family support (Stice, Ragan, & Randall, 2004) and parental closeness (Markham et al., 2003).

As first conceptualized by Goodenow, most studies described school connectedness as "feeling accepted, respected, included, and supported in the school environment" (as cited in Shochet, Dadds, Ham, & Montague, 2016, p. 80). Millings et al. (2012) added to this definition a sense of belongingness to one's school. This construct was described interchangeably with school attachment (Young, Sweetling, & Ellaway, 2011), school bonding (Catalano, Haggerty, &

Oesterle, 2004) and school engagement (Svavarsdottir, 2008). Finally, community connectedness was described as caring relationships in community dynamics (e.g., trust in other adults and neighbour relations), and/ or as opportunities to participate in the community (e.g., recreational, academic, or religious opportunities). This construct was described interchangeably with community support (Matlin et al., 2011).

ii. Emerging Themes

Both national and international cross-sectional and longitudinal studies demonstrate a strong association between connectedness, including peer, family, school, and community connectedness, and the mental health outcomes of children and youth. Increased levels of connectedness were associated with reduced rates of (i) depression and anxiety; (ii) suicidal behaviour; (iii) violence and substance use; (iv) disordered eating; and (v) other generalized behaviours (e.g., conduct disorder, emotional difficulty, and anti-social behaviour). Most of these outcomes were examined alongside other outcomes, including risky sexual behavior and academic outcomes (i.e., outcomes that were not the focus of this review), and have therefore been included for discussion. The articles in which these outcomes were displayed are summarized in the following sections.

Depression and Anxiety

Evidence strongly supports the association between connectedness and reduced symptoms of anxiety and depression (Ackard et al., 2006; Bond et al., 2007; Dang, 2016; Langille, 2012; Millings, Buck, Montgomery, Spears, & Stallard, 2012; Shochet et al., 2016; Stice, Ragan, & Randall, 2004; Voorhees et al., 2008). For example, Langille et al. examined the relationship between school connectedness and risk of depression in adolescents attending high school in Nova Scotia. The results revealed that school connectedness independently protected

risk of depression in both boys and girls. Likewise, Millings et al. examined the relationship between school connectedness and symptoms of depression in adolescents (aged 11 – 16) attending secondary school in the United Kingdom. The results revealed a strong negative association[7] between school connectedness and symptoms of depression.

In a longitudinal study, Shochet et al. (2016) examined the relationship between school connectedness and future symptoms of depression and anxiety in adolescents aged 12 – 14 (n = 2,022) attending high school in Queensland, New South Wales, and Tasmania, Australia. The results revealed that (i) school connectedness correlated strongly and negatively with concurrent and future self-report symptoms of depression and anxiety, and that (ii) school connectedness predicted depressive symptoms for both boys and girls, and anxiety symptoms for girls. The perceived positive feedback (e.g., respect, value, and belonging) experienced by those with increased school connectedness appears "to buffer against the negative impact of risk factors for depression, such as poor family relationships or negative life events" (Millings et al., 2012, p. 1065).

The relationship between other variations of connectedness to symptoms of depression and anxiety was also explored. For example, Dang (2016) explored the relationship between social connectedness and self-esteem as predictors of resilience among maltreated homeless youth aged 14 – 21. The results revealed that youth with higher levels of social connectedness, described as feeling connected to prosocial peers, families and schools, reported reduced levels of anxiety and depression. In a longitudinal study, Voorhees et al. (2008) explored baseline peer, family, school and community factors predictive of new-onset depressive episodes in a representative sample of U.S. adolescents (n = 4791). The results revealed that family and school

[7] A negative association occurs when the values of one variable decrease (e.g., symptoms of depression) as the values of the other variable increase (e.g., connectedness).

connectedness, better school performance, and increased levels of peer acceptance reduced future risk of depressive episodes. Family connectedness, shared activities, and parental warmth were considered strongly protective, even after adjustment for baseline depressed mood.

Suicidal Behaviour

There is a strong association between connectedness and reduced rates of suicidal behaviour (Ackard et al., 2006; Anteghini et al., 2001; Duong, 2014; Eisenberg & Resnick, 2006; Langille, Asbridge, Cragg, & Rasic, 2015; Logan, 2009; Matlin, Molock, & Tebes, 2011; Young, Sweeting, & Ellaway, 2011). For example, Matlin et al. explored the relationship between social support to depression and suicidality among African American adolescents (n = 212). The results revealed that increased peer, family and community support was associated with decreased suicidality, described as suicide risk, suicidal ideation, and suicidal attempt. In particular, "over a third of the variability in reasons for living was predicted by family support, peer support and community connectedness" (Matlin et al., p. 108).

In a population based sample of boys and girls (n = 4746), Ackard et al. (2006) explored the association between parent-child connectedness to a broad range of emotional and behavioural health indicators. The results revealed that perceived low parental caring and communication (i.e., lack of family connectedness), and increased value placed on friends' opinions over parents' opinions, was associated with low-self-esteem, suicide attempts, substance use, and depression. Of particular interest, Ackard et al. stated that parents might have more influence on youths' behaviour than is apparent to them. While some youth showed more interest in being with their friends (versus their family), valuing parents' opinions over peers' opinions appeared to be protective against unhealthy behavioural and emotional health indicators (Ackard et al., 2006).

In this review, several studies examined the relationship between school connectedness and suicidal behaviour. For example, Young et al. (2011) explored whether school context is associated with reduced rates of suicide-risk and suicide-attempt. This study's methods included a longitudinal school-based survey of 1,698 youths surveyed when aged 11, 15, and in early adulthood (age 19). The results revealed that suicide-attempt, suicide-risk and self-harm were all more likely among pupils with low school engagement. Likewise, Langille et al. (2015) explored the relationship between school connectedness and suicidal behaviours in Canadian adolescents. This study's methods included a cross-sectional survey of students in grades 7, 9, 10, and 12 in Nova Scotia, New Brunswick, and Newfoundland and Labrador. The results revealed that greater school connectedness was associated with decreased suicidal ideation in both males and females, and with suicidal attempt in females. In males, school connectedness was *not* protective for suicide attempt when risk of depression was taken into consideration[8].

Violence and Substance Use

Evidence supports the association between connectedness, particularly family and school connectedness, and reduced rates of violence and substance use (Ackard et al., 2006; Anteghini et al., 2001; Bond et al., 2007; Borowsky, Ireland, & Resnick, 2002; Catalano et al., 2004; Resnick et al., 2004; Seil, Desai, & Smith, 2014; Yang et al., 2014). For example, Yang et al. examined the effects of connectedness (internal[9], peer, family, school, and community connectedness) to health-compromising behaviours among Asian American, Pacific Island, and Caucasian/White American adolescents in California. The results revealed that several dimensions of connectedness were associated with substance use and violent behaviour. In

[8] The difference between females and males in suicide attempt was not explained by higher school connectedness, as both males and females had similar levels of school connectedness.
[9] Internal connectedness was measured as six personal resilience strengths, including self-efficacy, empathy, problem solving, self-awareness, goals and aspirations, and cooperation and communication (Yang et al., 2014).

particular, “high levels of internal, family, and school connectedness were associated with decreased reports of substance use across the three ethnic groups” (p. 42). With respect to violent behaviour, high levels of internal and family connectedness were associated with decreased reports of violent behaviour across the three ethnic groups. The odds of violent behaviour and substance use, however, *increased* with friend connectedness.

In a national sample of U.S. adolescents, Resnick et al. (2004) examined individual, family, and community-level factors protective for violence perpetuation. This study analyzed two waves of data from the National Longitudinal Study of Adolescent Health. Factors found to diminish young people’s involvement in interpersonal violence included (i) parental and school connectedness; (ii) parental expectations; (iii) connectedness to other adults; (iv) and a higher grade point average. In a similar longitudinal study, Borowsky et al. (2002) also found that school connectedness, parent-family connectedness, and emotional well-being were significantly protective against violence perpetration.

Catalano et al. (2004) summarized the investigations of school connectedness in two longitudinal studies by the Social Development Research Group, and found that “school bonding during the middle and high school years, measured from age 10 to 18, was significantly and negatively associated with substance use, delinquency, [and] violence… in adolescence and young adulthood (up to age 21)” (p. 255). With few exceptions, the strength of this negative relationship did not differ by gender or ethnicity (Catalano et al., 2004).

Sexual Behaviour

Evidence supports the association between connectedness and reduced sexual risk-taking (Markham et al., 2003; Anteghini et al., 2001). For example, Markham et al. explored the relationship between family connectedness and adolescent sexual risk taking. This cross-

sectional study included 976 urban, predominately minority alternative high school students in Houston, Texas. The results revealed that students with high levels of family connectedness were significantly less likely "to have ever had sex, had sex without a condom in the past three months and ever been involved in a pregnancy" (p. 177). In another cross-sectional study, Anteghini et al. explored risk and protective factors associated with health risk-behaviours among adolescents (n= 2059) in Santos, Brazil. Factors associated with diminished involvement in early sexual intercourse (onset before age 15) included peer, family, and school connectedness. These factors were also protective for substance use, suicidal ideation, and suicidal attempt.

Disordered Eating

Croll et al. (2002) explored protective factors associated with disordered eating (i.e., doing the following to lose weight, such as binge eating, fasting or skipping meals, and vomiting) in a population-based sample (n= 81,247) of adolescents in Minnesota, U.S. Factors found to be protective for both males and females included emotional well-being, positive self-esteem, and family connectedness, with only males showing school connectedness as a protective factor. Of particular note, females who reported higher levels of peer support had a *higher* prevalence of disordered eating. Croll et al. stated that this finding might reflect "a high level of concern of friends in response to observing disordered eating in their friend, or conversely, it may reflect a group norm of disordered eating which bonds the group together…" (p. 173). In males, high levels of peer support and school connectedness were found to be protective. Croll et al. stated that males who are connected with peers and school might "feel more comfortable with themselves physically and emotionally, thereby decreasing their chances of resorting to disordered eating practices" (p. 173).

Academic outcomes

There is a strong association between school connectedness and improved academic outcomes (Bond et al., 2007; Catalano et al., 2004; Niehaus, Rudasill, & Rakes, 2012). Bond et al. examined the extent to which social and school connectedness is associated with educational attainment (among other outcomes). This study's longitudinal design included adolescents attending secondary school in Victoria, Australia (n= 2678). The results revealed that the likelihood of completing school was reduced for those with either low school connectedness, poor social connectedness[10], or both. In another longitudinal study, Niehaus et al. examined the relationship between school connectedness and academic outcomes among sixth-grade students (n= 330). The results revealed that students who experienced less decline, or growth, in perceived school support had higher grade point averages than students who experienced more decline in school support.

As stated above, Catalano et al. (2004) summarized the investigations of two longitudinal studies by the Social Development Research Group. Catalano et al. described the relationship between school bonding and academic outcomes, stating that an increase in school bonding "correlated positively with self-reported and official grade point average (GPA)… and associated negatively with grade repetition, school dropout, school misbehaviour, having been disciplined at school, and suspension/ expulsion" (p. 256).

Generalized Behaviour

Adolescent attachment relationships, including peer attachment, parental attachment, and a sense of connectedness with school, have been established as salient predictors of psychological well-being (Oldfield, Humphrey, & Hebron, 2016). To develop a further

[10] Social connectedness was measured with three questions. "Students were asked to say whether, in their friendship group, they had someone to talk to, someone to depend on when angry or upset, and someone who could be trusted" (Bond et al., 2007, p. 357); thus, Bond et al. essentially measured *peer* connectedness.

understanding of these relationships, Oldfield et al. sought to examine the relative importance of each attachment or connectedness relationship, and how each relationship influences the mental health outcomes of adolescents. This study's sample included 203 adolescents (aged 11 – 16 years) attending high school in the North West of England. While the results revealed that peer attachment, parental attachment, and school connectedness was associated with decreased levels of conduct problems, emotional difficulties, and improved prosocial behaviour, only parental attachment was significantly associated with conduct problems and emotional difficulties.

In a similar study, Laible (2007) examined the links between attachment security and social behaviour in late adolescence, and found that "adolescents with secure relationships to parents and peers reported being more emotionally aware, more sympathetic, [and] more prosocial…" (p. 1193). Laible stated that secure attachment relationships foster appropriate social behaviour through promoting high levels of empathy, emotional awareness and positive expressiveness.

Discussion

This review demonstrates several important findings. First, there is a strong association between connectedness, including peer, family, school, and community connectedness, and improved health and well-being of children and youth. To be expected, a combination of these constructs (i.e., peer, family, school, and community connectedness combined) is associated with the best health outcomes. Factors also found to be protective (i.e., associated with psychological well-being) include: high self-esteem, emotional well-being, increased GPA, valuing parents' opinions over peers' opinions, a household with at least two adults, and religious activities (e.g., attendance in religious activities). Second, of those studies in which a range of protective factors were examined, family connectedness appeared to be the most consistent factor associated with

improved health and well-being, for both males and females. Stice et al. suggest that parental support is typically more consistent than other types of support, and that "parents might provide higher quality support because they are more mature and can draw on more life experience to offer guidance and instrumental support" (2004, p. 158).

Third, while peer connectedness is associated with improved health and well-being, this construct is also associated with health-risk behaviours, such as disordered eating, substance use, and suicidal behaviour (Ackard et al., 2006; Bond et al., 2007; Croll et al., 2002; Yang et al., 2014). Therefore, prevention or intervention programs designed to strengthen peer connectedness should encourage adolescents to choose their friends based on healthier interests (Hoffman, Monge, Chou, & Valente, as cited in Yang et al., 2014). Finally, interpretation of the cross-sectional studies warrants caution, as the nature of this data limits interpretation of causality (e.g., perhaps symptoms of depression and anxiety lead to reduced levels of connectedness). However, based on observations seen in longitudinal studies (e.g., Shochet et al., 2016; Bond et al., 2007; and Resnick et al., 2004), it is logical to assume that connectedness across various contexts improves the health and well-being of children and youth.

The findings discussed in this review are aligned with McPherson et al. (2014), whom conducted a comprehensive systematic review on the role and impact of family and community social capital on mental health and behavioural problems in children and adolescents. In this systematic review, the elements of family social capital included (but was not limited to) quality of parent-child relations (e.g., parent-child communication), family structure (e.g., number of adults in the home), and adult interest in the child. Elements of community social capital included (but was not limited to) social support networks (e.g., peer support), trust and safety, and the quality of the school (e.g., relationship with teachers and peers).

The elements of family and social capital, as described by McPherson et al., are essentially the same elements of connectedness as described and explored in this review. Moreover, McPherson et al.'s review demonstrates that both family and community social capital is strongly associated with mental health and behavioural problems in children and adolescents, and that positive parent-child relations, extended family support, social support networks, religiosity, and neighbourhood and school quality are particularly protective. With respect to family social capital, positive parent-child relationships (characterized by, for example, support, positive communication, and feelings of nurturance) offered the most consistent protective role for children and adolescents.

Implications for Public Health

This review provides a strong evidence base to demonstrate that connectedness, including peer, family, school, and community connectedness, leads to improved health and well-being for children and youth. This review provides credibility to initiatives designed to strengthen connectedness, such as implementation of the Index of Connectedness. The Index will be used to measure connectedness and will thereby demonstrate, for example, (i) geographical regions' connectedness level[11] (e.g., areas with low, medium, or high levels of connectedness); (ii) areas in need of initiatives to strengthen connectedness (i.e., it will identify inequitable differences between geographical regions); and (iii) areas with an increased likelihood to produce better health outcomes. As an important next step, the literature should be reviewed to determine evidence-based strategies that will increase connectedness, such as the CDC's strategies to increase school connectedness (e.g., assign students developmentally appropriate levels of responsibility for classroom management and decision-making) (CDC, 2009).

[11] The goal is to measure connectedness at the *municipal* level.

Conclusion

In conclusion, the Canadian Mental Health Association (2014) states that the mental health of children and youth is a critical issue. Each year, approximately 20% of Canadians will experience a mental illness, and the majority (50 -70%) will be diagnosed before the age of eighteen. In the southern region of Vancouver Island, the 2013 BC Adolescent Health Survey revealed that 21% of local students (grades 7 – 12) had at least one mental health condition. To improve the mental health and well-being of children and youth in the capital region of BC, the C&YHN and its community partners are developing an Index of Connectedness (i.e., a tool to measure connectedness). As a first step to developing the Index of Connectedness, the purpose of this review was to demonstrate the association between connectedness, including peer, family, school, and community connectedness, and the mental health outcomes of children and youth.

This review revealed that (i) connectedness across various contexts significantly improves the mental health and well-being of children and youth; (ii) family connectedness (i.e., feeling cared for, listened to, and understood by parents) appears to be particularly protective, for both males and females; (iii) while peer connectedness is associated with improved health outcomes, this construct is also associated with health-risk behaviours. Therefore, programs designed to strengthen peer connectedness should encourage adolescents to choose their friends based on healthier interests. Moreover, this review demonstrates that investment in connectedness (i.e., through investing in measures to enhance connectedness) will lead to improved health and well-being of children and youth, thereby contributing to the overall health of the communities in which these individuals live, work, and play.

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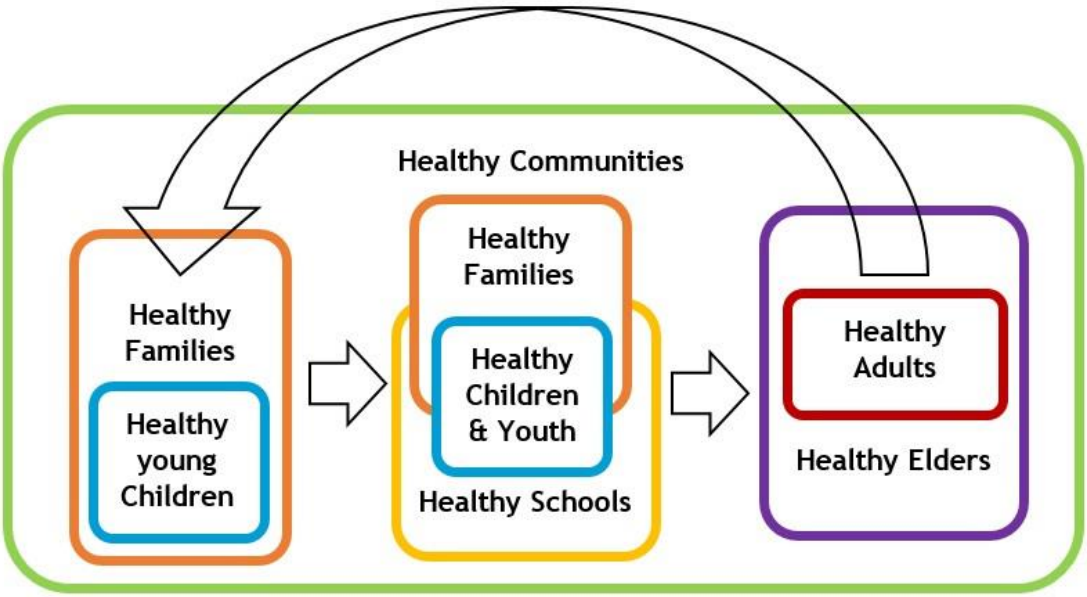
Appendix A

Healthy communities supporting healthy kids growing into healthy adults raising healthy kids



(C&YHN, 2016)