



Understanding the Determinants of the Mental Health of School-aged Children and Youth A Rapid Review

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Key Messages

- Mental health refers to two dimensions that operate on separate continua: mental wellbeing and mental health disorders.
- Protective factors enhance mental wellbeing; risk factors increase the likelihood, duration and severity of mental health disorders.
- Resilience is a dynamic process that involves a positive adaption to adversity which can alter the impact of risk factors on mental health.
- The Conceptual Framework organizes influencing risk and protective factors at the individual, family, learning environment, community and societal levels.
 - Individual factors: sense of self, skills and abilities, physical health and development, lifestyle, and life events.
 - Family factors: parental health, relationships and parenting style, family structure and the home environment.
 - Learning environment factors: engagement with learning, peer relationships, educational atmosphere and expectations.
 - Community factors: social networks, the neighbourhood and built environment.
 - Societal factors: socioeconomic status, social structure, equality and culture.

Executive Summary

Research Question

Is there a conceptual model, framework or theory that describes the factors that influence the mental health of school-aged children and youth?

Context

The Region of Peel – Public Health (ROP-PH) and school board partners have agreed to work collaboratively on mental health. In Peel, nearly 40% of students in grades 7-12 meet criteria for moderate-to-high psychological distress. One in five Peel students report visiting a health professional about mental health in the last 12 months. The School Health team currently does not have a mental health strategy to guide work in this area. Understanding the determinants of the mental health of children and youth will help the School Health team develop a school-based mental health strategy.

Methods and Results

A search of published and unpublished literature returned 1,035 results. Two strong quality grey literature documents were included after assessing relevance, quality, and study overlap.

Synthesis of the Results

Mental health refers to two dimensions that operate on separate continua: mental wellbeing and mental health disorders. Children and youth's mental health can be promoted by increasing protective factors and reducing risk factors. Enhancing

resilience can moderate the impact of risk factors on a child's mental health. The Conceptual Framework illustrates that children and youth's mental health is influenced by risk and protective factors at individual, family, learning environment, community, and societal levels. Individual factors include: a child's sense of self, skills and abilities, physical health status, lifestyle, and life events. Family factors include: parental health, relationships and parenting style, family structure and the home environment. Learning environment factors include: a child's engagement with learning, peer relationships, the educational atmosphere and expectations. Community factors include: social networks, and the neighbourhood and built environment. Finally, societal factors include: socioeconomic status, social structure, equality, and culture.

Recommendations

1. Use the Conceptual Framework to examine local data, identify data gaps and develop a plan to monitor the mental health of children and youth in Peel.
2. Collaborate with school board partners to develop a school-based mental health strategy for children and youth that includes:
 - a. Identifying priority areas from the Conceptual Framework for school-based intervention(s).
 - b. Identifying effective interventions in these priority areas.
3. Use the Conceptual Framework in other settings (e.g., community, child care) as mental health interventions are developed.

1 Issue

Enabling mental health is a priority for the Chronic Disease and Injury Prevention (CDIP) division identified in the 2016-2019 Strategic Plan. (1) Promoting mental health in the school setting is a recent addition to Ontario's modernized Standards for Public Health Programs and Services. (2)

The Region of Peel – Public Health (ROP-PH), the Peel District School Board (PDSB) and the Dufferin-Peel Catholic District School Board (DPCDSB) have signed a partnership agreement to work collaboratively on three health areas: healthy eating, physical activity and mental health. Anecdotally, school board partners have expressed that their main priority in schools is mental health. The School Health team currently does not have a mental health strategy to guide work in this area.

Understanding the determinants of the mental health of children and youth will help the School Health team develop a mental health strategy. The focus of this review is to identify a conceptual model, theory, or framework to understand the factors that influence the mental health of school-aged children and youth. It will be used to explore local data and potential opportunities for school-based interventions.

2 Context

Mental health is a concern for a large proportion of school-aged children and youth in Peel. There are approximately 237,800 students from kindergarten to grade 12 in Peel. (3) According to the 2015 Ontario Student Health and Drug Use Survey, 60% of Peel students in grades 7-12 rated their mental health as “excellent” or “very good.” (4)

Compared to male students (68%), fewer female students (50%) in Peel rated their mental health as “excellent” or “very good”. (4) In contrast, 37% of Peel students met criteria for moderate-to-high psychological distress. (4) More female students (46%) in Peel reported moderate-to-high levels of psychological distress compared to males (28%). (4) Female students (45%) were more than twice as likely to report not knowing who to talk to about mental health issues compared to males (20%). (4)

Data from the Ontario Ministry of Health and Long-Term Care indicate that rates of emergency department visits for mood disorders and anxiety disorders have increased in Peel children aged 0-18. Rates of mood disorders have increased from 66/100,000 to 182/100,000 from 2007 to 2016, and rates of anxiety disorders have increased from 103/100,000 to 291/100,000 during that same time period. (5) Females consistently have higher rates of mood and anxiety disorders compared to males in Peel. (5)

Interventions promoting positive mental health may have a significant impact on the population’s health in the future. Understanding factors contributing to the mental health of children and youth will help the School Health team identify opportunities to collaborate with school board partners on effective interventions.

3 Literature Review Question

Is there a conceptual model, framework or theory that describes the factors influencing the mental health or mental wellbeing of school-aged children and youth?

4 Literature Search

In May 2017, a search of peer-reviewed and grey literature was conducted and key informants were contacted (see Appendix A). The published literature search included MEDLINE Suite, PsycINFO, SocINDEX, Child Development and Adolescent Studies, and CINAHL. The grey literature sources included:

- Centre for Addiction and Mental Health (CAMH)
- Ontario Centre of Excellence for Child and Youth Mental Health
- Public Health Ontario (PHO)
- Ontario Ministry of Health and Long-Term Care (MOHLTC)
- British Columbia Ministry of Health
- Alberta Health
- Government of Manitoba – Health, Seniors and Active Living
- Public Health Agency of Canada (PHAC)
- World Health Organization (WHO)

Additionally, Google was searched. Key informants from Hamilton Public Health Services and the National Collaborating Centres for Public Health were asked to suggest relevant resources.

5 Relevance Assessment

Two reviewers screened the titles and abstracts of all peer-reviewed, grey and key-informant literature for relevance. Potentially relevant full-text documents were screened for relevance independently by two reviewers. Discrepancies were resolved through

discussion until consensus was reached or through consultation with a third reviewer.

Documents were assessed based on the following criteria:

- Inclusion criteria: framework, theory or conceptual model; mental health or mental wellbeing focus; school-aged children and/or youth grades K-12 (approximately aged 3-18); English language; similar setting to Canada
- Exclusion criteria: interventions; focus on mental illness or mental disorders; specific sub-populations; duplicates; published prior to 2007.

6 Results of the Search

The literature search and key informants identified 1,035 potentially relevant documents, after removal of duplicates. Thirty-seven full-text articles were further assessed for relevance based on primary title and abstract review. Three articles were critically appraised (see Appendix B).

7 Critical Appraisal

Two reviewers independently assessed the quality of three documents using the Critical Appraisal Skills Programme (CASP) Qualitative Checklist for peer-reviewed literature (one article) or the Adapted Authority, Accuracy, Coverage, Objectivity, Date, Significance Checklist (AACODS) for grey literature (two articles). One of these articles was initially reviewed by the research working group to test the usability of the AACODS tool and level of consistency among reviewers. Quality assessment discrepancies were resolved through discussion and mutual agreement, or consultation with a third party. Two articles were assessed as strong, one as weak. The two strong grey literature reports were included in this review.

8 Description of Included Studies

National Collaborating Centre for Determinants of Health (2017). Foundations: definitions and concepts to frame population mental health promotion for children and youth. (6)

This paper is part of a collection of resources from the National Collaborating Centres for Public Health. The objective is to define key concepts related to population mental health promotion, including the determinants of mental health of children and youth. The paper targets the public health sector and related stakeholders, and focuses on mental wellbeing in children and youth from conception to young adulthood (aged 19-24 years). This paper includes peer-reviewed and grey literature identified through published databases, hand searches of websites of relevant organizations, and reference checking.

Mental health and mental illness exist on two continua. The authors conceptualize mental health as synonymous with positive mental health, mental wellbeing, social and emotional wellbeing, and wellbeing in general. Mental health concepts were specifically separated from mental illness or mental health disorders. The determinants of mental health are organized into a socioecological model to map risk and protective factors of mental health at the individual, family, community, and societal levels. Although resilience is described as a protective factor, it is not included in the list of risk and protective factors at any level. A population health approach to mental health involves enhancing protective factors and reducing risk factors across the entire population to promote positive mental health. (See Appendix C)

Parkinson (2012): Establishing a core set of national, sustainable mental health indicators for children and young people in Scotland: Final Report. (7)

The objective of this paper, published by National Health Services (NHS) Health Scotland, is to establish a set of national indicators for Scotland's Mental Health Programme for children and youth (aged 17 years and younger). This paper targets policy makers, planners and others focused on the mental health of children and youth at the population level. This report includes policy, data, research studies, expert opinion, as well as surveys and focus groups with children and youth. Mental health indicators were initially developed from a modified version of an NHS Health Scotland framework for adults. An evidence review was then undertaken to determine a suitable draft framework and desirable indicators for children and youth. Key stakeholders, experts, and children and youth were consulted on a draft framework. To support the draft framework and identification of indicators, an additional literature search was undertaken regarding the views of children and youth on factors that influence mental health. The final framework included 32 peer-reviewed publications and eight grey literature reports. Relevant administrative and survey data were also reviewed and assessed for consistency with existing national indicators.

The authors conceptualize mental health as an overarching term consisting of two dimensions that operate on separate continua: mental wellbeing and mental health disorders. Mental wellbeing and mental health disorders are presented as population health outcomes, each with accompanying indicators. Risk and protective factors for mental health are presented within a socioecological model with five levels: individual, family, learning environment, community, and structural. Risk factors and protective

factors influence the mental health of children and youth. Resilience, a positive adaptation to adversity, can mitigate the impact of risk factors on a child's mental health. At a population level, mental health can be improved by addressing risk and protective factors for all children and youth. (See Appendix C).

9 Synthesis of Findings

The conceptual frameworks from the two included documents were synthesized to create a Conceptual Framework for the Mental Health of Children and Youth, herein referred to as the Conceptual Framework (see Table 1). The risk and protective factors for the mental health of children and youth were consistent in the two documents. (6,7) The Conceptual Framework describes mental health and summarizes a comprehensive list of the factors that influence it for children and youth.

Mental health refers to two dimensions that operate on separate continua: mental wellbeing and mental health disorders. Mental wellbeing refers to one's life satisfaction, happiness, and prosocial behaviour. (7) Mental health disorders include a wide range of illnesses that affect mood, thinking and behaviour, or symptoms that interfere with emotional, cognitive and social function. (7)

Protective factors enhance mental wellbeing; risk factors increase the likelihood, duration and severity of mental health disorders. Protective and risk factors can have immediate or long-term impacts on mental health outcomes. (6) Factors are identified as both risk and protective if their presence enhances mental health and their absence increases the risk of mental health disorders. (6,7) At the population level,

promoting protective factors and reducing risk factors is likely to improve overall mental health outcomes.

Resilience is a dynamic process that involves a positive adaption to adversity which can alter the impact of risk factors on mental health. Resilience is influenced by individual attributes (e.g., biological, cognitive, behavioural) as well as protective and risk factors. (7) Resilience can influence the impact of adverse events on an individual. (7)

The Conceptual Framework organizes influencing risk and protective factors at the individual, family, learning environment, community and societal levels (Table 1). The learning environment is unique because it is present in both the family and community levels. The available evidence describes associations between these factors and mental health. These relationships may not be causal. The factors in the Conceptual Framework are not weighted because the evidence does not describe the magnitude of the effect of each factor on mental health. (7) However, evidence describes family, social support and relationships as key predictors of a child's mental health. (6,7)

Table 1: Conceptual Framework of the Mental Health of Children and Youth

Dimensions of Mental Health		i) Mental Wellbeing: Life satisfaction, happiness, prosocial behaviour.		
		ii) Mental Health Disorders: Illnesses affecting mood, thinking and behaviour, or symptoms interfering with emotional, cognitive and social function.		
Resilience		Dynamic process of adapting positively to adversity.		
Level	Construct	Protective Factor Only	Protective & Risk Factor	Risk Factor Only
Individual	Sense of Self	<ul style="list-style-type: none"> • Sense of belonging • Spirituality 	<ul style="list-style-type: none"> • Self-perception • Emotions • Self-esteem • Efficacy • Sense of control 	<ul style="list-style-type: none"> • Isolation
	Skills and Abilities	<ul style="list-style-type: none"> • Emotional intelligence • Flexibility 	<ul style="list-style-type: none"> • Problem solving skills • Social skills 	
	Physical Health & Development	<ul style="list-style-type: none"> • Play 	<ul style="list-style-type: none"> • Physical health status • School readiness 	<ul style="list-style-type: none"> • Adverse birth outcomes
	Lifestyle	<ul style="list-style-type: none"> • Sleep • Physical activity 	<ul style="list-style-type: none"> • Nutrition 	<ul style="list-style-type: none"> • Alcohol or drug use • Smoking • Sexual orientation • Risky sexual behaviour
	Life events			<ul style="list-style-type: none"> • Stressful life events • Adverse childhood experiences
Family	Parental Health			<ul style="list-style-type: none"> • Alcohol or drug abuse • Physical or mental health problems • Caring for a family member with disability
	Relationships & Parenting Style	<ul style="list-style-type: none"> • Strong family support in decision making • Open communication • Family meals 	<ul style="list-style-type: none"> • Attachment • Parent-child relationship 	<ul style="list-style-type: none"> • Parental discord • Domestic abuse or violence

Footnotes:

These factors are associated with mental health but the evidence did not describe causal pathways.

Factors are not weighted because the magnitude of the effect of each factor on mental health was not described.

Additional factors identified by internal and external partners include: availability and access to treatment services, screen time and social media, and genetics.

Dimensions of Mental Health		i) Mental Wellbeing: Life satisfaction, happiness, prosocial behaviour.		
		ii) Mental Health Disorders: Illnesses affecting mood, thinking and behaviour, or symptoms interfering with emotional, cognitive and social function.		
Resilience		Dynamic process of adapting positively to adversity.		
Level	Construct	Protective Factor Only	Protective & Risk Factor	Risk Factor Only
Family (continued)	Family Structure			<ul style="list-style-type: none"> Lone or teenage parent Parental imprisonment Lack of contact with non-resident birth parent
	Home Environment		<ul style="list-style-type: none"> Safety and security 	
Learning Environment	Engagement with Learning	<ul style="list-style-type: none"> Preschool learning Liking school 		Exclusion from school
	Peer Relationships	<ul style="list-style-type: none"> Friendships 		<ul style="list-style-type: none"> Poor relationships Bullying or being bullied
	Educational atmosphere	<ul style="list-style-type: none"> Sense of control 	<ul style="list-style-type: none"> Staff-student relationships School ethos 	
	Expectations		<ul style="list-style-type: none"> Sense of achievement 	<ul style="list-style-type: none"> Heavy workload Overscheduling Pressures to succeed or fit in
Community	Social Networks	<ul style="list-style-type: none"> Participation 	<ul style="list-style-type: none"> Social capital Social connections and relationships 	
	Neighbourhood & Built Environment		<ul style="list-style-type: none"> Neighbourhood safety Urban design 	
Society	Socioeconomic Status		<ul style="list-style-type: none"> Education, income, standard of living, employment 	<ul style="list-style-type: none"> Poverty Homelessness
	Social Structure	<ul style="list-style-type: none"> Legal recognition of rights Political participation 	<ul style="list-style-type: none"> Inclusion/exclusion 	<ul style="list-style-type: none"> Social and cultural oppression Colonization and war
	Equality		<ul style="list-style-type: none"> Level of inequality Discrimination and stigma 	
	Culture			<ul style="list-style-type: none"> Media and technology use

Footnotes:

These factors are associated with mental health but the evidence did not describe causal pathways.

Factors are not weighted because the magnitude of the effect of each factor on mental health was not described.

Additional factors identified by internal and external partners include: availability and access to treatment services, screen time and social media, and genetics.

Individual factors: sense of self, skills and abilities, physical health and development, lifestyle, and life events.

Sense of self includes self-perception, self-esteem, self-efficacy, and emotional temperament which can either promote or impede a child's mental health. (6) Sense of belonging or spirituality can be a protective factor; isolation can be a risk factor. (6,7)

Skills and abilities can have a protective effect on a child's mental health. Emotional intelligence is a key skill for building and maintaining relationships and is essential to mental health. (7) Emotional intelligence involves perceiving and responding to the emotions of others and being in control of one's own emotions. (7) The ability to problem solve and be flexible in new situations can promote a child's mental health. (6) Social skills including trust and communication can promote mental health. A lack of problem solving or social skills can be risk factors. (6)

Physical health status and development impact a child's mental health. Play is important to a child's development. (7) Play helps to foster a child's resilience and contributes positively to mental health. (7) Readiness for school can be an indicator of a child's development and may impact mental health. (7) For example, problems with motor development, speech or language can negatively impact mental health. (7) Being physically healthy promotes mental health whereas having long-standing physical illness, obesity, or disability are risk factors for poor mental health. (6,7) Experiencing adverse outcomes at birth (e.g., low birth weight, preterm birth, etc.) increases the risk of poor mental health later in life. (6,7)

Healthy lifestyle behaviours such as adequate sleep and physical activity promote mental health. (6,7) Physical activity is associated with heightened self-esteem and self-concept which contributes to mental health. (7) Nutrition can be either a risk or protective factor for mental health depending on whether it is adequate or inadequate. (6,7) Unhealthy lifestyle behaviours such as alcohol and drug use, smoking, and risky sexual behaviour is associated with poor mental health. (6,7) Alcohol and drug use are particularly harmful to a developing brain and can increase risk for adverse mental health outcomes. (7) Sexual orientation may negatively impact mental health. (7)

Experiencing stressful life events can negatively impact a child's mental health. (7) These events can pose a threat to a child or their family and interrupt or sever important relationships. (7) The effect of these events on a child depends on the context and child's resilience. (7) Over time a child who experiences a greater number of adverse events is more likely to experience adverse mental health. (7)

Family factors: parental health, relationships and parenting style, family structure and the home environment.

Poor parental health can negatively impact a child's mental health. (6,7) The child may be at greater risk for anxiety, depression, and mood disorders, at any age. (7) Factors that can increase a child's risk of poor mental health include parental substance or alcohol abuse, especially during pregnancy, or caring for a family member with a long-standing physical condition or disability. (6,7)

Relationships and parenting style are key determinants of a child's mental health. Strong family involvement (e.g., through family mealtimes) and support in decision

making provide a child with a sense of security and can help build resilience. (6,7) A lack of parental involvement and family discord, including frequent non-physical punishment (6) and exposure to domestic abuse or violence, can negatively impact a child's mental health. (6,7) A consistent and engaging parenting style promotes a child's mental health. (6,7) Secure attachment to a trusted primary caregiver in early infancy is critical to a child's resilience. (7) Secure attachment promotes positive social and emotional behaviour; whereas a lack of a primary attachment figure increases a child's risk of poor mental health. (7)

Family structure can influence a child's mental health. Lone parent families and teenage parent families have a higher tendency to have children with poor mental health due to associated social issues (e.g., lower income). (7) Lack of contact with a non-resident birth parent and parental imprisonment can also negatively impact a child's mental health. (7)

The home environment profoundly impacts a child's mental health from the earliest age. (7) A sense of safety, including access to quality housing, nutrition and childcare, contributes to resilience and promotes mental health. (6,7) In contrast, a lack of these things may negatively impact a child's mental health. (6,7) Living in poorer quality housing increases a child's level of stress and behavioural issues; exposure to nature and greenspace decreases a child's level of stress and feelings of psychological distress. (7)

Learning environment factors: engagement with learning, peer relationships, educational atmosphere and expectations.

Engagement with learning can have a positive or negative effect on a child's mental health. Preschool learning and a feeling of liking school can promote mental health; feeling excluded in school can negatively impact mental health. (7)

Peer relationships can have a positive or negative impact on a child's mental health. Having positive, close friendships with peers is one of the most important elements of school that contribute to mental health. (7) Being bullied or engaging in bullying interferes with the development of interpersonal relationships and can negatively impact a child's mental health. (7)

An educational atmosphere that promotes a child's sense of control (through choices and options) and fosters good staff student relationships can positively influence a child's mental health; an absence of this can negatively impact a child's mental health. (7) School ethos refers to factors such as relationships, personal and professional satisfaction, leadership, opportunities for children to take responsibility, involvement of staff in decision making, and the overall feel of the school. (7) A positive school ethos with a climate of trust and respect can protect a child's mental health; a poor school ethos can negatively impact a child's mental health. (7)

Expectations in the learning environment can have a positive impact on mental health if a child feels a strong sense of personal achievement. However, feeling a lack of achievement, heavy workloads, overscheduling and pressure to succeed or fit in, can generate feelings of anxiety and can negatively impact a child's mental health. (7)

Community factors: social networks, the neighbourhood, and built environment.

Social networks can promote or negatively impact a child's mental health. Participation in clubs, groups, and organizations enhances social connections and increases self-efficacy and agency, positively influencing mental health. (7) High levels of social capital (e.g., cohesion, sense of community, reciprocity, and belonging) and supportive social relationships promote a child's mental health. (6,7) Low levels of social capital and a lack of social connections and relationships can negatively impact a child's mental health. (6,7)

The neighbourhood and built environment can either promote or negatively impact a child's mental health. Community trust, access to greenspace, recreation and transportation are associated with lower levels of stress and enhanced mental health; neighbourhood crime and fear of crime, lack of greenspace and recreation areas are associated with higher levels of stress, physical and emotional vulnerability. (6,7)

Societal factors: socioeconomic status, social structure, equality and culture.

A child's mental health can be positively or negatively influenced by socioeconomic status. Higher levels of education, income, standard of living and employment in the family promote a child's mental health; lower levels of education, poverty, homelessness and unemployment may increase a child's risk of mental health disorders. (6,7)

Perception that one's rights are recognized and respected, and that they can make a positive difference in the world, positively impact a child's mental health. (6,7) Involvement in activities that influence local decisions promotes a child's self-esteem

and self-efficacy. (7) In contrast, social and cultural oppression (6,7), colonization and war (6) can adversely impact a child's mental health.

Equality in society also influences a child's mental health. (6,7) The absence of discrimination and stigma promotes a child's mental health. (6,7) Discrimination on any grounds (e.g., race, gender, or religion) negatively impacts dignity, self-esteem and mental health. (6,7)

Culture influences perception of self, social norms, and values, and how a child interacts with others. The impact of culture on a child's mental health is a topic yet to be fully explored by researchers. (7) Emerging evidence suggests that the media is of particular importance. (7) For example, the media may influence a child's body image, particularly among females. (7) New forms of media such as social networking or mobile phones may be associated with social anxiety or aggression by peers, and could negatively impact mental health. (7)

10 Applicability and Transferability

A tool for assessing the applicability and transferability (A&T) of the research evidence was adapted to consider the findings and recommendations from this report with the local context. Highlights from facilitated discussions with internal and external partners¹ follow.

Acceptability

Partners agree the Conceptual Framework is comprehensive. The Conceptual Framework presents a comprehensive, evidence-informed picture of the factors influencing the mental health of school-aged children and youth across socioecological levels of influence. Internal and external partners agreed that the Conceptual Framework will be acceptable in the current social and political climate. Internal partners noted the Conceptual Framework is timely since the Ontario Public Health Standards now include mental health promotion. External partners noted the Conceptual Framework aligns with their mental health strategies.

Transferability

Internal and external partners noted the absence of ethnicity from the Conceptual Framework. In 2011, approximately 18% of Peel children aged 0-18 years were immigrants, compared to 9% in Ontario. (4) While ethnicity is not a risk or protective

¹ There were two meetings to discuss the applicability (feasibility) and transferability (generalizability) of the recommendations with: (1) external partners from two school boards on November 23, 2017; and (2) ROP - PH staff on December 14, 2017.

factor for the mental health of children and youth, the Conceptual Framework may not be generalizable to newcomers in Peel.

Utility

The Conceptual Framework will be useful to a number of teams in the CDIP division as well as external partners. Strong support is expected for the Conceptual Framework in the ROP-PH because it addresses health disparities, risk and protective factors to promote overall health, fosters partnerships and relationships, and is evidence-informed.

ROP-PH staff noted that many of the risk and protective factors in the Conceptual Framework are being addressed through ROP-PH priorities and programming (e.g., Nurturing the Next Generation Strategic Priority, substance misuse, healthy sexuality, the built environment). There may be opportunities to incorporate mental health messaging in these program areas.

External partners mentioned that they are implementing some programs that address some of the risk and protective factors indicated in the Conceptual Framework. They identified priority areas for population-level school based interventions: resilience, sleep, technology use, physical health, and substance use.

Internal and external partners identified gaps in the Conceptual Framework. Internal partners noted that local availability and access to mental health services is a factor that influences the mental health of children and youth. Local availability and access to treatment services may reduce the duration and severity of mental health disorders once they occur. Internal partners noted that genetic factors influence an individual's

mental health and are not included in the Conceptual Framework. Genes inherited from parents can make a child more or less susceptible to the development of mental health disorders from birth, or more or less vulnerable to exposure to other risk factors for mental health disorders throughout life. While one document reviewed recognized genetic endowment as a factor influencing mental health, it was excluded as a determinant in the paper because genetics cannot be modified by population-level policy intervention. (7) Finally while the literature mentions technology use, internal and external partners specifically identified screen time and social media as emerging risk factors for the mental health of children and youth. Social media may change the nature of relationships and connections, and the implications for mental health are not yet known in the literature.

11 Recommendations

1. Use the Conceptual Framework to examine local data, identify data gaps and develop a plan to monitor the mental health of children and youth in Peel.
2. Collaborate with school board partners to develop a school-based mental health strategy for children and youth that includes:
 - a. Identifying priority areas from the Conceptual Framework for school-based intervention(s).
 - b. Identifying effective interventions in these priority areas.
3. Use the Conceptual Framework in other settings (e.g., community, child care, etc.) as mental health interventions are developed.

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Appendices

Appendix A: Search Strategy

Appendix B: Literature Search Flowchart

Appendix C: Data Extraction Tables

Appendix D: Applicability & Transferability Worksheet

Appendix A: Search Strategy

MEDLINE Suite and PsycINFO

Database: EBM Reviews - Cochrane Database of Systematic Reviews <2005 to May 10, 2017>, Global Health <1973 to 2017 Week 17>, Ovid Healthstar <1966 to March 2017>, Ovid MEDLINE(R) <1946 to May Week 1 2017>, Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations <May 11, 2017>, PsycINFO <2002 to May Week 2 2017>

Search Strategy:

-
- 1 exp Adolescent/ (3169460)
 - 2 exp Young Adult/ (1099008)
 - 3 exp Child/ (2913496)
 - 4 exp Child, Preschool/ (1403770)
 - 5 "youth*".ti,ab. (173901)
 - 6 "teen*".ti,ab. (65254)
 - 7 ("framework*" or "theor*" or "conceptual*" or "model*").ti. (990154)
 - 8 *Mental Health/ (63985)
 - 9 "well-being".ti. (30570)
 - 10 1 or 2 or 3 or 4 or 5 or 6 (5236945)
 - 11 8 or 9 (92017)
 - 12 7 and 10 and 11 (429)
 - 13 remove duplicates from 12 (255)
 - 14 limit 13 to english language [Limit not valid in CDSR; records were retained] (245)
 - 15 limit 14 to yr="2007 -Current" (193)










CINAHL

S12	S6 AND S9 AND S10	Limiters - Published Date: 20070101-20171231; Exclude MEDLINE records; Language: English Search modes - BooleanPhrase	View Results (39)
S11	S6 AND S9 AND S10	Search modes - BooleanPhrase	View Results (121)
S10	S7 OR S8	Search modes - BooleanPhrase	View Results (19,174)
S9	S1 OR S2 OR S3 OR S4 OR S5	Search modes - BooleanPhrase	View Results (515,463)
S8	TI "well-being"	Search modes - BooleanPhrase	View Results (4,843)
S7	(MH "Mental Health")	Search modes - BooleanPhrase	View Results (14,656)
S6	TI "framework*" OR "theor*" OR "concept*" OR "model"	Search modes - BooleanPhrase	View Results (73,715)
S5	"adolescent*" OR "youth*" OR "teen"	Search modes - BooleanPhrase	View Results (258,467)
S4	(MH "Adolescence+")	Search modes - BooleanPhrase	View Results (240,640)
S3	(MH "Child, Preschool")	Search modes - BooleanPhrase	View Results (104,299)
S2	(MH "Child+")	Search modes - BooleanPhrase	View Results (337,842)
S1	(MH "Young Adult")	Search modes - BooleanPhrase	View Results (61,376)

SocINDEX

Search ID	Search Terms	Search Options	Actions
S11	S7 AND S8 AND S9	Limiters - Date of Publication: 20070101-20171231 Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - SocINDEX with Full Text 131
S10	S7 AND S8 AND S9	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - SocINDEX with Full Text 277
S9	TI "framework*" OR "theor*" OR "concept*" OR "model**"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - SocINDEX with Full Text 94,959
S8	S2 OR S3 OR S4	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - SocINDEX with Full Text 111,900
S7	S1 OR S5 OR S6	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - SocINDEX with Full Text 64,724
S6	DE "CHILD mental health"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - SocINDEX with Full Text 1,311
S5	DE "MENTAL health"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - SocINDEX with Full Text 19,442
S4	DE "YOUTH"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - SocINDEX with Full Text 7,767
S3	TI ("adolescen*" OR "teen*" or "youth") OR AB ("adolescen*" OR "teen*" or "youth")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - SocINDEX with Full Text 108,718
S2	DE "TEENAGERS"	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - SocINDEX with Full Text 13,935
S1	TI ("mental health" or "well-being") OR AB ("mental health" or "well-being")	Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - SocINDEX with Full Text 57,783

Child Development & Adolescent Studies

Search ID	Search Terms	Search Options	Actions
<input type="checkbox"/> S4	 S1 AND S2 AND S3	Search modes - Boolean/Phrase	 View Results (4) 
<input type="checkbox"/> S3	 (((ZW "mental health")) or ((ZU "mental health"))) or ((ZU "well-being"))	Search modes - Boolean/Phrase	 View Results (10,997)
<input type="checkbox"/> S2	 TI "framework*" OR "theor*" OR "concept*" OR "model**"	Search modes - Boolean/Phrase	 View Results (14,853)
<input type="checkbox"/> S1	 (((((ZW "young adult")) or ((ZW "adolescence")))) or ((ZW "child"))) or ((ZW "preschool"))	Search modes - Boolean/Phrase	 View Results (4,805)

Grey Literature

Search terms: youth, child, mental health, mental well*, concept*, theor*, framework, model

Process: for websites where searches returned more than 100 documents, a relevancy filter was used when available, and only the first 50 documents were reviewed.

Website	Hits	Titles screened	Full-text review	Relevant
Centre for Addiction and Mental Health (CAMH)	~1,080	First 50	0	0
Ontario Centre of Excellence for Child and Youth Mental Health	~65	~65	1	0
Public Health Ontario (PHO)	120	First 50	0	0
Ministry of Health and Long-Term Care (MOHLTC)	33	33	0	0
British Columbia Ministry of Health	1,130	First 50	2	0
Alberta Health	~67	First 50	0	0
Government of Manitoba – Health, Seniors and Active Living department	~43	~43	0	0
Public Health Agency of Canada (PHAC)	~ 234	First 50	1	1
Substance Abuse and Mental Health Services Administration (SAMHSA)	~3,480	First 50	0	0
World Health Organization (WHO)	417	First 50	0	0
Google	~70,600,000	First 50	0	0
Government Search Engine on Google	~22,600,000	First 50	1	0
Total	~93,206,669	591	5	0

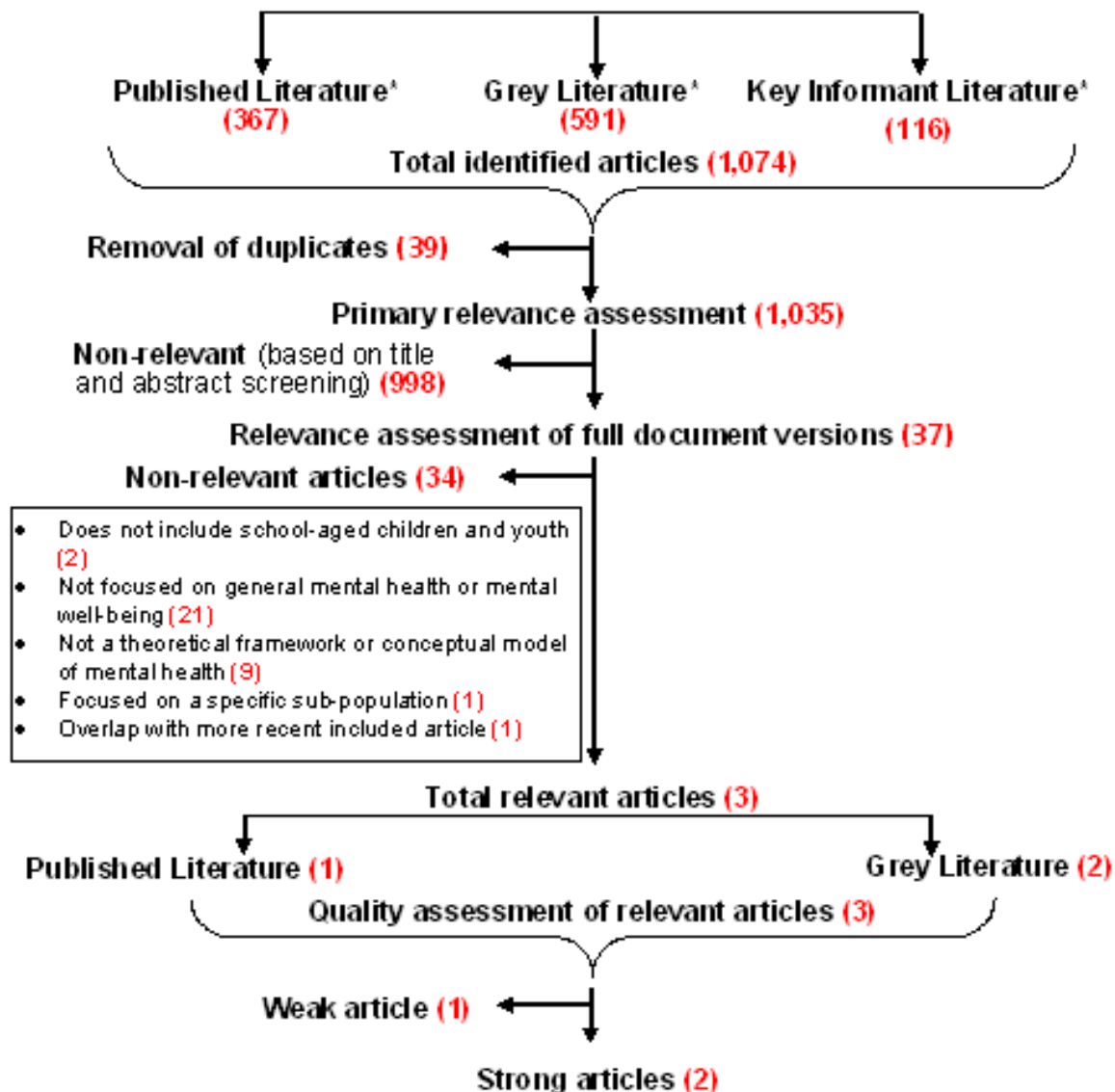
Key Informants

Key informants were contacted from two organizations resulting in 116 documents.

Key Informant Organization	Date contacted	Document type	Number of documents	Full-text review	Relevant
Hamilton Public Health	June 2017	Published literature	1	0	0
The National Collaborating Centres for Public Health (Determinants of Health; Healthy Public Policy)	May 2017	Mix of grey and published; predominantly grey literature	115	6	3

Appendix B: Literature Search Flow Chart

Is there a conceptual model, framework or theory of mental well-being among school-aged children and youth?



Adapted from: healthevidence.org *Keeping Track of Search Results: A Flowchart*.

[Retrieved January 13, 2010]

*See Appendices for more details on sources and search results.

Appendix C: Data Extraction Tables

Criteria	Report 1: Foundations: definitions and concepts to frame population mental health promotion for children and youth
Author(s), Date, Country	Dyck, L. & Oickle, D. (2017), Canada
Journal or Organization	National Collaborating Centre for Determinants of Health
Quality Assessment	Strong (AACODS Grey Literature Checklist).
Objective(s) of Report	This foundational paper provides definitions and background on key concepts, including the determinants of positive mental health for children and youth. A population approach to mental health promotion and a description of settings and public health roles are also included as foundational concepts to support the other papers in this collection. (p.1).
Target Audience	The public health sector and related stakeholders. (p.1)
Target Population	Children and youth from conception to young adulthood (ages 19-24) (p.1).
Evidence Used to Develop the Model or Framework <ul style="list-style-type: none"> • Search terms • Search period • Inclusion / exclusion criteria • Number of studies included 	<ul style="list-style-type: none"> • Databases: Peer-reviewed and grey literature <ul style="list-style-type: none"> -Peer-reviewed: CINAHL, EBSCOhost, Medline, PsycARTICLES, PsychINFO, PubMed, Sociological Abstracts, WorldCat -Grey literature: Google, Google Scholar -hand searches of sites and relevant organizations and networks. -reference checking (p.2). • Inclusion criteria: English language, published in the past 10 years (2005-2016) • Keywords / search terms: mental health OR (mental health promotion, public mental health, population mental health, population mental health promotion, wellbeing, mental wellbeing, socio-emotional wellbeing, wellness), child OR (adolescent, young adults, young man, young woman, minor, teen, youth, juvenile, pubescent, preteen, kid, girl, boy, emerging adult), equity, inequity, equality, inequality, social determinants, Indigenous, First Nations, Metis, Inuit, Aboriginal, sex and gender.
Organization of the Synthesis	The determinants of mental health in children and youth are organized into a socioecological model to illustrate protective and risk factors across several levels of influence. These include: <ul style="list-style-type: none"> • Individual <ul style="list-style-type: none"> -Physical health and health behaviours -Cognitive ability -Emotional temperament -Social skills • Family <ul style="list-style-type: none"> -Attachment and relationships

	<ul style="list-style-type: none"> -Physical environments <ul style="list-style-type: none"> • Community <ul style="list-style-type: none"> -Relationships -Social Environments -Built and natural environments • Society <ul style="list-style-type: none"> -Socio-economic status (SES) -social structure, discrimination/oppression
Outcomes	<p>Mental health includes concepts of mental wellbeing, positive mental health, emotional/social wellbeing, and wellbeing in general. Distinct from mental illness or mental disorder which is a spectrum of cognitive, emotional and behavioural disorders.</p> <p>Mental health is understood in terms of the “Keyes two-continuum model.” This model suggests that mental health and mental illness exist on separate continua so that people with mental illness can experience good mental health that allows them to flourish. Likewise, people without a mental illness can experience poor mental health and struggle to cope. (p.2)</p>
Determinants of Mental Health	<p>Protective factors reduce the risk of mental illness by enhancing coping capacity and mitigating the impact of adverse events (p.5)</p> <p>Risk factors act to increase the likelihood an individual will develop a mental health problem or to increase the duration and severity of a mental health problem once it occurs (p.5)</p> <p>Risk and protective factors can be proximal (i.e., happen immediately before the outcome) or distal (i.e., happen long before the outcome). (p.5)</p> <p>From a life course perspective, exposure to risk factors in early childhood can affect mental health in the short and long term. (p.2)</p> <p>The determinants of population mental health include:</p> <ol style="list-style-type: none"> 1. Individual Determinants (p.6). <ul style="list-style-type: none"> • Protective factors / conditions: <ul style="list-style-type: none"> -Good physical health and healthy behaviours (physical activity, sleep) -Ability to problem solve, manage one’s thoughts, learn from experience; tolerate unpredictability and be flexible -Feeling empowered, a sense of control or efficacy, positive emotions, a sense of self and a sense of spirituality -Good social skills (communication, trust) -A sense of belonging

- Risk factors / conditions:
 - Chronic health condition, physical or intellectual disability, premature birth/ low birth weight/ birth complications/ birth injury, prenatal brain damage, alcohol or drug abuse
 - Weak problem solving skills
 - Low self-esteem
 - Feeling of a lack of control
 - Feeling negative emotions
 - Isolation
 - Weak social skills

2. Family Determinants (p.6)

- Protective factors / conditions:
 - Strong emotional attachment
 - Positive, warm and supportive parent-child relationships
 - Safe stable housing, adequate nutrition, and access to childcare
- Risk factors / conditions
 - Poor attachment, lack of warm/affectionate parenting and positive relationships throughout childhood
 - Domestic abuse/violence
 - Parental substance abuse
 - Parental health status
 - Caring for someone with a disability or illness
 - Inadequate housing
 - Inadequate nutrition
 - Inadequate access to childcare

3. Community Determinants (p.6)

- Protective factors / conditions:
 - Secure and satisfying relationships that give support
 - High levels of social capital (reciprocity, social cohesion, sense of belonging, ability to participate)
 - Safe urban design and access to green spaces and recreation
 - Supportive school and workplace environments
 - Access to adequate transportation
- Risk factors / conditions:
 - Insecure or no relationships and isolation
 - Low levels of social capital, belonging and social exclusion
 - Lack of accessible or safe transportation
 - Poor urban design

	<p>-Lack of leisure areas and green spaces</p> <p>4. Society Determinants (p.6)</p> <ul style="list-style-type: none"> • Protective factors / conditions <ul style="list-style-type: none"> -Higher levels of education, economic security, and standards of living (housing, income, work) -Freedom from discrimination/racism -Low levels of social inequality -Legal recognition of rights -Social inclusion -Public safety -Political participation • Risk factors / conditions: <ul style="list-style-type: none"> -Low education -Low material standard of living (housing/ homelessness, unemployment, inadequate working conditions, economic insecurity and debt) -Social and cultural oppression and discrimination, colonization or war -Poverty and social inequalities -Neighbourhood violence and crime
Population Health Approach	<ul style="list-style-type: none"> • Positive mental health is promoted by enhancing protective factors and reducing risk factors across the entire population. (p.5) • A population impact will be achieved if there is a focus on the whole population and addressing both risk factors as well we protective factors such as “coping capacity, resilience and community connectedness.” (p.7) • This includes creating environments that support child development, mental health and resilience. (p.8)
Limitations / Comments	<ul style="list-style-type: none"> • Not an exhaustive review of the literature (p.3)

Criteria	Report 2: Establishing a core set of national, sustainable mental health indicators for children and young people in Scotland: Final Report
Author(s), Date, Country	Parkinson, J. (2012), United Kingdom
Journal or Organization	NHS Health Scotland
Quality Assessment	Strong (AAOCDS Grey Literature Checklist)
Objective(s) of Report	<ul style="list-style-type: none"> • Establish a set of indicators for children and young people covering both the state of mental health (mental health problems and mental wellbeing) and associated contextual factors (p.6, p.8) • This document sets out the background, objectives, process, evidence base, indicators, measures and data sources for the indicators used in Scotland’s Mental Health Programme for children and young people (p.6) • This will provide a benchmark for mental health improvement in Scotland to help inform decision-making about priorities for action and resource allocation and will shape and inform future policy decisions by indicating the overall mental health outcomes of policies, initiatives and other activities (p.9).
Target Audience	<ul style="list-style-type: none"> • The primary audience is policy makers, planners and others with responsibility at a national or local population level for the mental health of children and young people in Scotland. • It will be of interest to a wide range of policy areas – especially children, early years and education – in addition to health and mental health. • Although the indicator set is developed for the national level, it also has local utility (p.17).
Target Population	Children and young people aged 17 years and under (p.6).
Evidence Used to Develop the Model or Framework <ul style="list-style-type: none"> • Search terms • Search period • Inclusion / exclusion criteria • Number of studies included 	<ul style="list-style-type: none"> • Mixed evidence used including current policy, data, research, expert opinion (through a national advisory group and other contacts), children and young people’s views (through a literature review), and focus groups with children and youth not represented in the literature review, and theory. • The indicators were developed within a modified version of an earlier published adult framework. • Process (p.6): <ul style="list-style-type: none"> -an evidence review to determine a desirable set of indicators and a suitable framework -consultation on a draft framework and indicators with key stakeholders, experts, organizations, networks, children and young people -a critical review of the literature on children and young people’s views of the factors that influence their mental health (Shucksmith et al., 2009), which involved: <ol style="list-style-type: none"> (1) scoping, searching, screening for relevance assessment and quality of the published and grey literature (2) synthesis of the evidence -search terms related to: children and young people, mental health (problems and wellbeing), views and opinions -inclusion criteria: English language, primary research, age 0-18, developed country, published 1999-2008 -6 databases of peer-reviewed literature (ASSIA, CINAHL, IBSS, Medline, PsychINFO, and SSCI)

	<ul style="list-style-type: none"> -web-based search and expert and network contacts were used to identify grey literature -quality assessment by 2 appraisers using a tool adapted from the NICE Framework -32 peer-reviewed publications and 8 grey literature reports were included in quality appraisal and data extraction -review and assessment of the suitability of relevant administrative and survey data and existing national indicators -alignment with wider policy initiatives -identification of robust indicators -identification of additional data needs and priorities for new data collection
<p>Organization of the Synthesis</p>	<p>Within the framework, the indicators are structured under constructs (categories) of two types (Table 1 p.24):</p> <ol style="list-style-type: none"> 1. High level constructs – mental health state <ul style="list-style-type: none"> • Mental wellbeing • Mental health problems 2. Contextual constructs – covering the risk and protective factors for mental health <ul style="list-style-type: none"> • Individual • Family • Learning Environment • Community • Structural
<p>Outcomes</p>	<ol style="list-style-type: none"> 1. High level constructs – Mental Health <p>Mental health is an umbrella term to refer to two dimensions: mental wellbeing and mental health problems. This is consistent with Keyes’ dual continuum model of mental health.</p> <p>i.Mental Wellbeing (p.7, 27-29)</p> <ul style="list-style-type: none"> • Positive mental health, which includes, for example, life satisfaction, happiness, positive relationships with others and purpose in life. • A range of emotional and cognitive attributes associated with a self-reported sense of wellbeing and/or resilience in the face of adversity. • Indicators of mental wellbeing in children include: mental wellbeing, life satisfaction, happiness and prosocial behaviour <p>ii.Mental Health Problems (p.7, 32-35)</p> <ul style="list-style-type: none"> • Mental illness, psychiatric morbidity, e.g., depression and anxiety

	<ul style="list-style-type: none"> • Covers a continuum from symptoms that meet the criteria for clinical diagnosis (emotional problems, conduct problems and hyperkinetic disorders being most common), to symptoms at a sub-clinical threshold which interfere with emotional, cognitive and social function. • Indicators of mental health problems include: common mental health problems, emotional and behavioural problems, emotional symptoms, conduct problems, hyperactivity/inattention, sadness, alcohol dependency, drug-related disorders, suicide, self-harm and eating disorders <p>Resilience</p> <ul style="list-style-type: none"> • Adaptions that occur prior to, during and after stress exposure that alter the impact of adverse events on a child, increasing or decreasing their susceptibility. (p.8) • Child specific attributes at the biological, cognitive and behavioural level moderate the impact of psychological adversity, as do external factors, the most consistent external factor being social support/relationships. (p.8) • The mental health of a child is a result of the complex interplay of many factors contributing to their individual level of resilience. Exposure to an unfavourable contextual factor will not necessarily result in a child developing a mental health problem or having poor mental wellbeing. While their risk may be increased, the mental health outcome will rely on the individual situation of a child relative to the many factors impacting on them and their own level of resilience. (p. 8)
<p>Determinants of Mental Health</p>	<p>Over time, throughout a child’s life both developmental experience and contextual factors have an impact on mental health.</p> <p>2. Contextual constructs (risk and protective factors)</p> <p>Individual</p> <ul style="list-style-type: none"> • Learning and Development that occurs outside the formal education system (p.38-40). Participation in learning is associated with a range of mental health benefits and also contributes to the adoption of healthy behaviours, skills and competencies, social networks and qualifications. <ul style="list-style-type: none"> • Formal and informal learning can help build resilience to stress (p. 38) • Play is a very important means of learning and development and important for the development of emotional flexibility, resilience, and is a means to enhance children’s subjective wellbeing, and better physical health. • Difficulties with motor, speech or language can increase the risk of mental health problems such as anxiety. (p. 38-39) • Readiness for school is an indicator of learning and development which influences mental health. • Healthy Living (p.42-46) encompasses lifestyle choices that influence and are influenced by mental health <ul style="list-style-type: none"> • Physical Activity <ul style="list-style-type: none"> -significant evidence of a consistent association between increased physical activity and heightened self-esteem, self-concept, self-efficacy, self-determination, and personal control.

-relatively equivocal evidence of an association with cognitive functioning
-some evidence that participation in sport and physical activity can help prevent mental health problems such as anxiety, depression and that physically active children are less likely to suffer mental health problems.

- Healthy Eating
 - poor nutrition has been associated with increased risk of emotional and behavioural problems.
- Obesity
 - associated with impaired psychological health, poor quality of life, low self-esteem, psychological distress, depression, eating disorders, body dissatisfaction, poor educational outcomes and involvement in bullying behaviours.
- Alcohol consumption
 - clear association between alcohol misuse and mental health problems, although causality is debated.
- Drug use
 - leads to disruption in functioning, development, and performance especially in the developing adolescent brain. Drug use is associated with mental health problems such as depression, schizophrenia and psychotic symptoms.
- Smoking
 - growing evidence that youth smoking is a marker for poor mental health; some evidence suggesting depression and anxiety increase risk of nicotine dependence.
- Sexual health
 - negative relationship between various sexual risk taking behaviours and life satisfaction.
- General health (p.49-50) including long-standing physical health problems and disabilities. Mental health is fundamental to physical health; physical illness and disability increase the risk of mental health problems.
- Spirituality (p.52-54) is considered to be important to mental health; however is widely debated in the literature on how spirituality fits in the context of mental health.
- Emotional intelligence (p.56-57) involves accurately perceiving emotions and self-regulation / management of those emotions, thus is fundamental to good relationships with others and therefore mental wellbeing.
- Life events (p.59-61) have the potential to influence mental health by virtue of being highly psychologically threatening to the child or their family.
 - Stressful life events - change the child's perception of themselves, of people, or things in a way that presents a threat to the child's self-esteem or reduces their perceived sense of security
 - Adverse childhood experiences – the cumulative impact of the number and duration of adverse childhood experiences (traumatic and personal) is important with respect to long-term mental health harm.

Family

- Family relations (p.66) and home environments profoundly effect on children's mental health from the earliest age

- Parent-child relationship
 - mental health promoters: loving and trusting relationships, open communication, strong familial involvement, support in decision making, sense of safety and security, buffering against adversity
 - risk factors: family discord and abusive relationships with parents cause mental health problems
- Nurturing adult
 - poor parenting is a well-established risk factor for mental health problems (conduct disorder, anti-social and aggressive behaviour)
 - early attachment is important for positive emotional and social behaviour
- Family meals
- Talking to parents
- Treatment by parent(s)
 - consistent and engaging parenting styles are suggested to be protective of mental health; lack of parental involvement exerts a negative effect on mental wellbeing.
- Parental discord
 - families classified as having poor functioning and frequent punishment strategies (non-physical) are associated with higher childhood mental health problem rates.
- Caring for a family member
- Family Structure (p.71)
 - Lone parent family - have a higher tendency to have children with mental health problems. The risk of mental health problems in children of lone parents is related to unemployment and lower incomes among lone parents.
 - Contact with non-resident birth parent
 - Teenage parents
 - adverse social and health outcomes (exclusion from education/training, lower income, live in social housing, poor nutrition)
 - 3x as likely to suffer post-natal depression than their older counterparts
 - Parental imprisonment
 - impact on a child's mental health may be positive or negative, situation specific.
- Parental Healthy Living (p.75)
 - Maternal smoking in pregnancy is associated with increased risk of psychological problems, most frequently related to attention problems, hyperactivity and conduct problems.
 - Maternal alcohol use in pregnancy can lead to fetal alcohol spectrum disorder and increased risk of a range of serious developmental problems including delayed neurological development, growth impairment, cognitive and behavioural disorders, psychological dysfunction and poor psychosocial adaptation.
 - Maternal drug use in pregnancy - children of problem drug users face a range of social issues and family problems that negatively impact their mental health (poverty, violence, inappropriate parenting, frequent

- residence changes, unsatisfactory education and socialization)
 - Parental problematic alcohol consumption
 - Parental problematic drug use
- Parental Health (p.80-81) – poor parental health (mental and physical) is related to higher rates of mental health problems in children and young people.
 - Parental common mental health problems – increased risk of major depression and anxiety for offspring of those with serious depression, affecting children of all ages.
 - Postnatal depression in mothers is associated with increased problems in mother-infant interaction, rates of emotional and behaviour problems in children, delayed cognitive development, increased risk for depression and anxiety in adolescence.
 - Parental alcohol dependency is associated with higher risks among children of anxiety, mood, abuse, and dependence disorders.
 - Parental limiting long-standing physical condition or disability is associated with higher rates of anxiety and depression in children relative to children in “healthy” families; however, the extent of the risk is mediated by many social and family factors.

Learning Environment

- Engagement with learning (p.83-84)
 - Pre-school home learning environment - promotes social-behavioural outcomes
 - School attendance – poorer attendance in children with mental health problems
- Peer and friend relationships (p.87)
 - Early years friendships and close friends are one of the most important aspects of school contributing to mental wellbeing, and poor relationships with peers at school is seen as a source of mental health problems
 - Experience of being bullied and participation in bullying - has a detrimental effect on the mental and physical health of others, and interferes with the development of mutually satisfying inter-personal relationships for those who engage in bullying and those who experience it.
- Educational environment (p.91)
 - Relationships with teachers and school staff are important to mental health; poor relationships are detrimental to mental health
 - Sense of control (being provided choices and options) at school
 - School ethos or life of the school community – a positive ethos and climate of respect and trust fosters learning. School ethos includes factors such as relationships, the learning environment, personal and professional satisfaction, leaderships, opportunities for children to take responsibility, involvement of staff in decision making, and the overall “feel” of the school.
- Pressures and expectations (p.95)
 - Pressure of school work and pressure to succeed in life generate feelings of being anxious and nervous

- A sense of personal achievement is critical to children and young people's mental health and the feeling of not achieving impacts negatively on mental health
- Concerns about keeping pace with classmates lead to feeling overwhelmed, inferior, and stressed.

Community

- Participation (p.97)
 - Participation in clubs, groups or organizations – children with mental health problems are less likely to take part in a group, club or organization
 - Sense of community – associated with lower perception of global loneliness, better psychological health
- Social networks (p.101) - a lack of social connections and networks are associated with poor mental health.
- Social support (p.103) - supportive social relationships protect and enhance mental health and have an important role in maintaining resilience in the face of adversity.
- Trust (p.106)
 - Neighbourhood trust - high levels of community trust have been associated with reduced psychological distress in children
 - Strong trust and social cohesion between citizens in a neighbourhood has been found to mitigate the risk-increasing effect of socioeconomic deprivation on children's mental health service use.
- Neighbourhood safety (p.108)
 - Crime and fear of crime increase sense of physical and emotional vulnerability

Structural

- Equality (p.111-112)
 - Inequality is a cause of mental health problems and a consequence of mental health problems
 - Mental health problems are more common in socially disadvantaged populations, areas of deprivation, and are associated with less education, low income and unemployment
 - Children's life satisfaction increases with family affluence
- Social inclusion (p.116-117)
 - Social exclusion is a cause and consequence of mental health problems.
 - Social disadvantage is strongly associated with mental health problems.
 - Various measures of economic disadvantage and social deprivation based on household characteristics (e.g. workless households, low education) are associated with higher rates of mental health problems in children (anxiety, depression, substance abuse, delinquent behaviour and poor adaptive functioning).
 - Homeless children are more likely to suffer mental health problems (behavioural and emotional).
- Discrimination (p.121)
 - Discrimination on the grounds of race, gender, religion, adversely impacts mental health, affecting a person's dignity and self-esteem, and can lead to a sense of alienation, isolation, fear and intimidation.

	<ul style="list-style-type: none"> • Sexual orientation – gay and bisexual men have disproportionately higher rates of self-harm and or attempted suicide relative to the general population. • Physical environment (p.125-126) <ul style="list-style-type: none"> • Children’s mental development is associated with housing quality; children living in poorer quality housing have higher levels of stress hormones and behavioural problems. • Children with more nature (greenspace) exhibit less psychological distress and the presence of nearby nature protects children from the impacts of life stress. • Violence (p.130) <ul style="list-style-type: none"> • Living with or experiencing violence, including psychological abuse, is a significant risk factor for mental health (depression, anxiety, conduct disorders, suicidal behaviour, and substance abuse and PTSD). • Domestic abuse – children exposed to domestic abuse exhibit higher rates of depression and anxiety, trauma symptoms, behavioural and cognitive problems and risk taking behaviours. • Culture and values (p.136) <ul style="list-style-type: none"> • Contemporary culture shapes notions of normality, success and failure, notably in relation to gender and sexual identity, body image, as well as material possessions. Negative feelings about body image and physical maturation contribute to mental health problems. • The media is an important influence on the development of body (dis)satisfaction and weight-control behaviours, particularly among females. • Social networking sites and mobile phones may be associated with social anxiety and peer aggression. • Further research is required to define the emerging issue of culture as a mental health construct (norms, individualism, materialism, media, etc) and understand indicators important to the mental health of children.
Population Health Approach	<ul style="list-style-type: none"> • At a population level, improving contextual factors are likely to result in an overall improvement in mental health outcomes and a worsening of contextual factors are likely to result in an overall decrease in mental health outcomes.
Limitations / Comments	<ul style="list-style-type: none"> • limited evidence base (equivocal nature and/or absence of evidence) • data limitations and challenges • lack of longitudinal studies leads to uncertainty about the direction of causality; cross-sectional studies can only indicate associations • the majority of the evidence-base comes from studies assessing factors that affect mental health problems rather than mental wellbeing; it is unknown if these are necessarily the same. • no attempt to rank or weight the constructs due to limitations of the current evidence-base; accurate and appropriate weightings cannot yet be established. • absence of suitable scales or questions with further work required to explore some concepts and develop appropriate questions for surveys to collect data