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ENHANCED EPIDEMIOLOGICAL SUMMARY

Mental Health Indicators using Data from the Canadian Health Survey of Children and Youth 2019

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Highlights

- In 2019, 86.9% of children 1-11 years had "excellent" or "very good" person most knowledgeable (PMK)-perceived mental health status while only 63.6% of youth reported their mental health to be "excellent" or "very good."
- The prevalence of having any PMK-reported health professional diagnosed mental health condition was 9.8% (95% CI 9.3-10.3) for children 1-17 years. The prevalence of having a mental health condition increased with age; 2.0% of children 1-4 years, 9.6% of children 5-11 years, and 15.0% of youth 12-17 years had a reported mental health condition.
- There were some significant differences across multiple socio-demographic indicators, however all aligned with previous knowledge of mental health and age, sex, income, race and ethnic origin, Indigenous identity, and immigration status.

Introduction

This report provides an overview of mental health indicators in children and youth 1-17 years as measured by the 2019 Canadian Health Survey of Children and Youth (CHSCY). The prevalence of parent-reported mental health, health professional diagnosed mental health conditions, and suicidal tendencies are described, as well as their relationship with socio-demographic characteristics. Prevalence estimates are also presented by geographic region, Statistics Canada Peer Group, and public health unit. For further information about the CHSCY data and population characteristics please see the CHSCY Technical Report.[1]

Mental health is the status of one's overall psychological and emotional well-being, encompassing one's thoughts, mood and behaviour.[2,3] Supporting good mental health provides children with the ability to handle life adversities and improve resiliency to cope with potentially traumatic events. Many environmental, genetic, social and structural factors contribute to the onset of mental health conditions.[4] These include a family history of a mental health condition, exposure to stressful life events, and socioeconomic status.[5] There are also structural factors including systemic racism, discrimination, and cultural interpretations of mental health that impact access to mental health services and mental health outcomes.[6]

Across Canada, 1.2 million children are affected by mental illness.[7] The most common mental health disorders among children include attention-deficit/hyperactivity disorder (ADHD), anxiety, mood

disorders, and behaviour disorders.[8,9] The proportion of children aged 19 and under with mental health conditions has increased by 2.6% per year from 2000 to 2016 and continues to be on the rise.[10] In 2016, 29% of suicides were among youth aged 15 to 19 years.[11] Mental health promotion is a required consideration within four Ontario Public Health Program Standards for local public health units in Ontario, as outlined in the Mental Health Promotion Guideline.[12] Understanding the burden of mental health disorders in children and youth within local communities is important to develop policies and programs to support children's mental health needs.

The CHSCY data includes multiple indicators of mental health including self-perceived mental health of the parent and youth (12-17 years), parental perception of their child's mental health and their spouse's mental health, diagnosed mental health conditions (ADHD, Autism Spectrum Disorder (ASD), anxiety, and mood disorders) as well as indicators of suicidal tendencies (among youth 15-17 years). These have been summarized below.

For information about the data source, indicator definitions and categorizations used in this summary, please see the Technical Notes at the end of this report.

Race-based and Indigenous Identity Data

The CHSCY utilizes the following socio-demographic terms to describe its variables: "Population Group", "Visible Minority", and "Aboriginal Identity". To stay current with health equity language preferred by impacted communities and to reduce unintentional harms when discussing and utilizing findings of the CHSCY, we have replaced the CHSCY terminology with the following terms in this report, where possible: "race and ethnic origin", "racialized groups", and "Indigenous".

'Race' is a social construct without a biological basis and created to categorize people into different groups based on visual traits in ways that create and maintain power differentials within society.[13] Ethnic origin refers to communities' learned or adopted characteristics such as language, practices, and beliefs.[14,15] Note that the categorization of people as Indigenous, Black, and other racial categories has been historically and currently used to mark certain groups for exclusion, discrimination, and oppression. Racism, racial categorization and racial discrimination; therefore, continue to shape the lives and opportunities of those who are categorized as "racialized people".[15] For more information on socio-demographic terminology and the appropriate interpretation and use of socio-demographic data, please refer to the Technical Notes and the CHSCY Technical Report.

Race-based and Indigenous identity data are vital for the identification and monitoring of health inequities that stem from colonialism, racism, bias and discrimination[16] and to inform the design of programs and services to promote the health and well-being of Indigenous peoples.

PHO includes data and analyses on Indigenous peoples to advance understanding and support action to enhance Indigenous people's health. PHO recognizes the importance of Indigenous data sovereignty and the First Nations principles of Ownership, Control, Access and Possession (OCAP) and Métis Principles of Ownership, Control, Access and Stewardship (OCAS). We continue to strive to build processes and relationships to respectfully and meaningfully analyze and report on Indigenous data.

Results

- Table 1 presents all mental health indicators for children and youth available in the CHSCY dataset, including those related to the perceived mental health of the PMK and their spouse.
- Excellent or very good mental health was highest for ages 1-11 years (86.9%, 95% CI 86.2-87.6). Youth self-reported excellent or very good mental health was lowest (63.6%, 95% CI 62.1-65.1) (Figure 1).
- Due to small sample sizes, access to mental health service questions were not examined by socio-demographic variables.

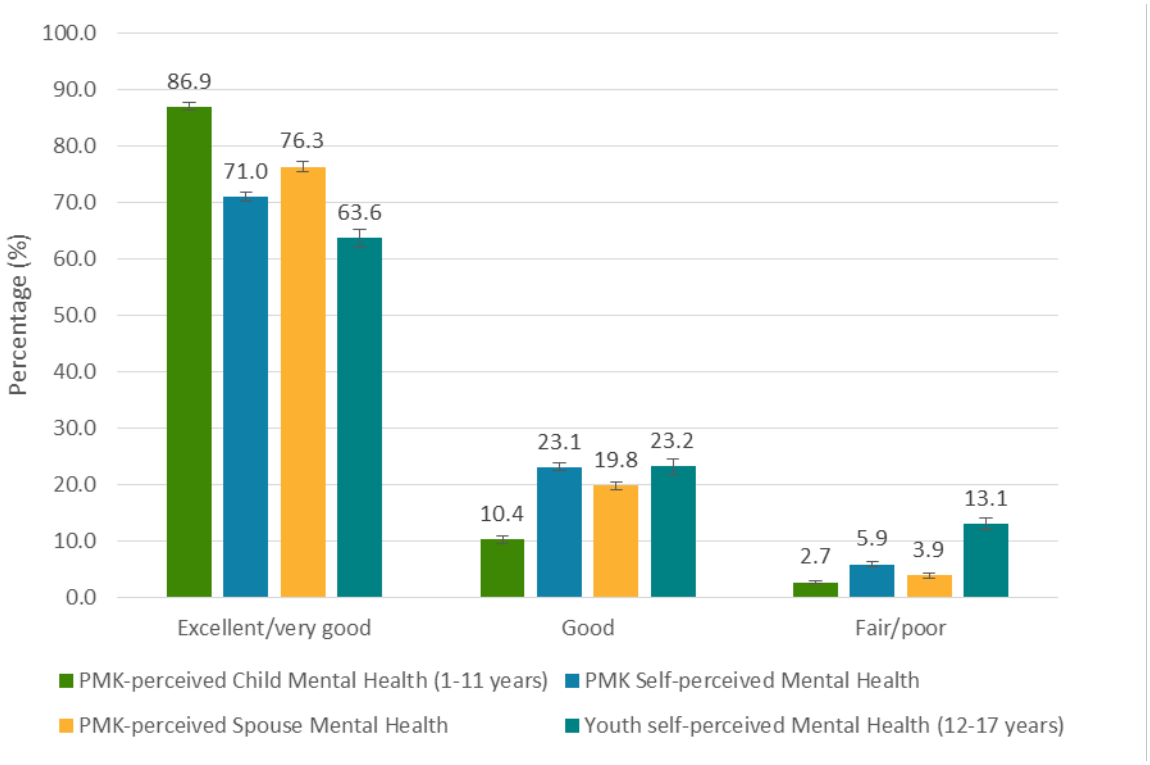
Table 1: Percentages of all mental health indicators in CHSCY among children and youth; Ontario, 2019.

Mental Health Indicators	Weighted percentage (95% CI)
PMK-perceived Child Mental Health (1-11 years)	
Excellent/very good	86.9 (86.2-87.6)
Good	10.4 (9.6-11.0)
Fair/poor	2.7 (2.4-3.0)
PMK Self-perceived Mental Health	
Excellent/very good	71.0 (70.2-71.8)
Good	23.1 (22.4-23.8)
Fair/poor	5.9 (5.5-6.3)
PMK-perceived Spouse Mental Health	
Excellent/very good	76.3 (75.5-77.2)
Good	19.8 (19.0-20.5)
Fair/poor	3.9 (3.5-4.3)
Youth self-perceived Mental Health (12-17 years)	
Excellent/very good	63.6 (62.1-65.1)
Good	23.2 (21.9-24.6)
Fair/poor	13.1 (12.1-14.2)
Physician Diagnosed Mental Health Conditions	
Any (yes/no)	9.8 (9.3-10.3)
ASD (1-17 years)	2.1 (1.9-2.4)
ADHD (1-17 years)	5.2 (4.8-5.5)
Anxiety Disorder (5-17 years)	5.3 (4.8-5.7)
Mood Disorder (5-17 years)	2.4 (2.1-2.7)
Required/received mental health services in past 12 months	
Yes	5.8 (5.4-6.2)
No	94.2 (93.8-94.6)
Difficulty accessing mental health services	
Yes	38.4 (34.7-42.2)
No	61.6 (57.8-65.3)
Reasons for difficulties accessing mental health services	
Wait time too long	69.8 (64.0-75.6)
Not available	23.6 (18.6-28.6)
Cost	35.8 (29.8-41.8)

Mental Health Indicators	Weighted percentage (95% CI)
Child not eligible	15.9[C] (11.2-20.7)
Other	29.4 (24.0-34.9)
Self-perceived satisfaction with life in general (12-17 years)	
Very satisfied/Satisfied	89.7 (88.7-90.7)
Neither satisfied or dissatisfied	5.6 (4.9-6.4)
Dissatisfied/Very dissatisfied	4.6 (4.0-5.3)
Self-perceived life stress (12-17 years)	
Not at all stressful/Not very stressful	38.9 (37.3-40.5)
A bit stressful	39.7 (38.2-41.3)
Quite a bit stressful/ Extremely stressful	21.4 (20.1-22.7)
Self-perceived happiness (12-17 years)	
Happy and interested in life/Somewhat happy	92.3 (91.5-93.1)
Somewhat unhappy	5.5 (4.7-6.2)
Unhappy with little interest in life/So unhappy that life is not worthwhile	2.2 (1.8-2.7)
Suicidal Tendencies (15-17 years)	
Feels sad/hopeless everyday	27.6 (25.6-29.7)
Considered attempting suicide/taking own life	15.5 (13.9-17.2)
Attempted suicide	6.7 (5.5-7.8)

C – This estimate should be interpreted with caution due to high sampling variability

Figure 1: Percentage of PMK-perceived or self-reported mental health in children and youth, Ontario, 2019.



Socio-demographic Variables

AGE AND SEX AT BIRTH

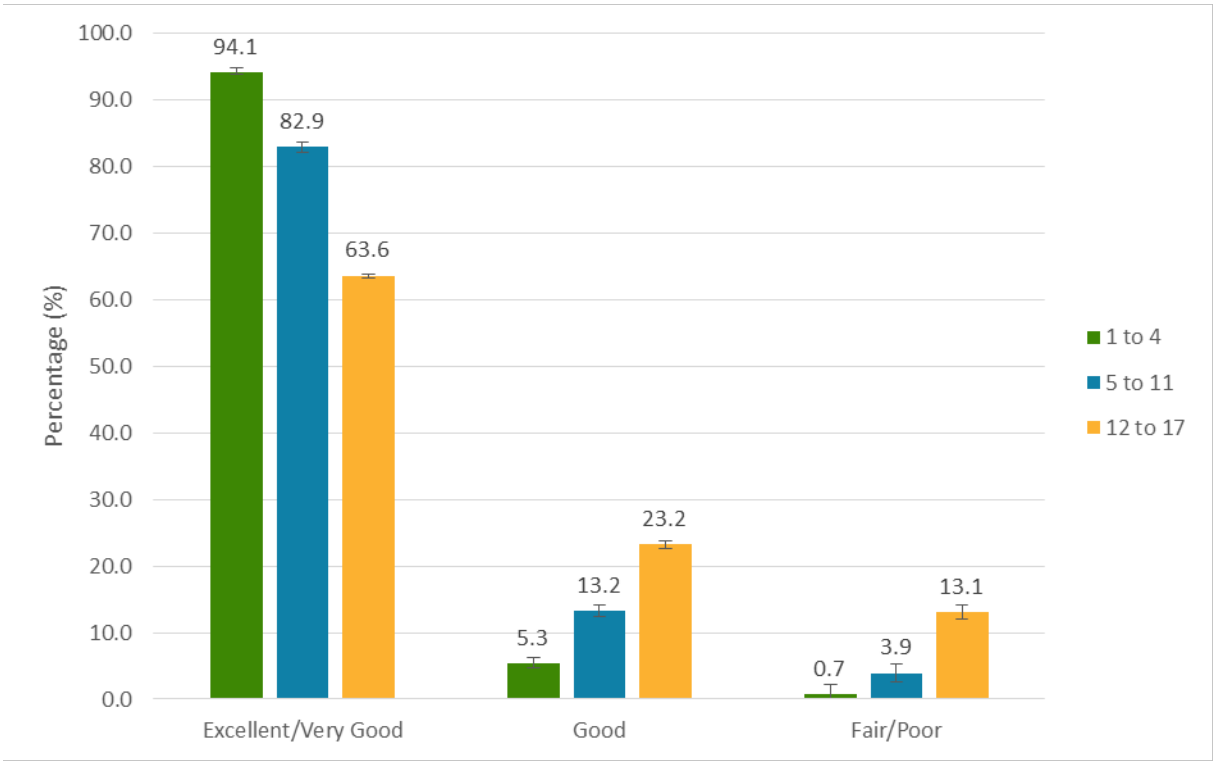
- When examining the prevalence of PMK-perceived child mental health stratified by age, our findings suggest that as age increases, mental health status significantly decreases (Table 2; Figure 2).
- There was a statistically significant difference between sex at birth (Table 2; Figure 3) and child mental health status.

Table 2: PMK-perceived child and youth self-perceived mental health among children 1 to 17 years by age group and sex at birth; Ontario, 2019.

Socio-demographic	Excellent/Very Good % (95% CI)	Good % (95% CI)	Fair/Poor % (95% CI)
Age Group (years)			
1-4	94.1 (93.3-94.8)	5.3 (4.6-6.0)	0.7[C] (0.4-0.9)
5-11	82.9 (81.9-83.9)	13.2 (12.4-14.1)	3.9 (3.4-4.4)
12-17*	63.6 (62.1-65.1)	23.2 (21.9-24.6)	13.1 (12.1-14.2)
Sex at birth			
Male	80.6 (79.6-81.5)	14.2 (13.3-15.0)	5.2 (4.7-5.8)
Female	76.4 (75.4-77.5)	15.8 (14.9-16.8)	7.7 (7.1-8.4)

C – This estimate should be interpreted with caution due to high sampling variability
*For ages 12-17, youth self-perceived mental health is used

Figure 2: PMK-perceived child mental health and youth self-perceived mental health by age group; Ontario, 2019.



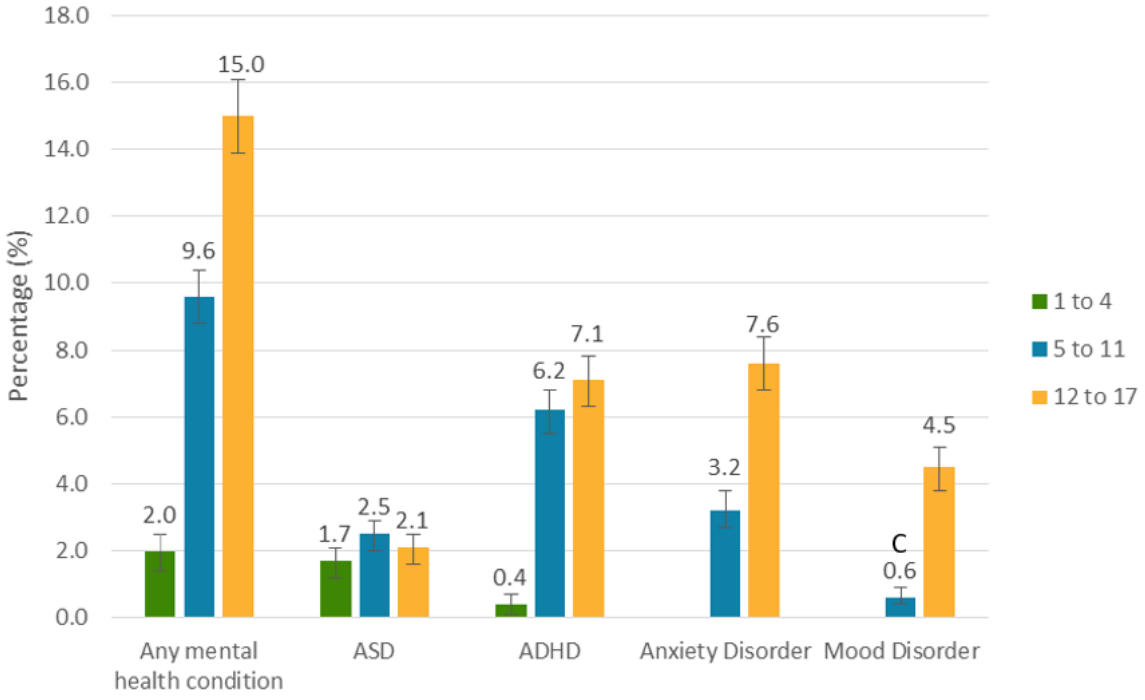
- There were significant age and sex differences for any reported physician diagnosed mental health condition, specifically, ADHD, anxiety disorder, and mood disorder. There was only a significant difference in sex for ASD; boys had an ASD prevalence of 3.3% (95% CI 2.9-3.8) compared to 0.8% for girls (95% CI 0.6-1.1) (Table 3; Figures 3 and 4).

Table 3: Mental health conditions among children 1 to 17 years by age group and sex at birth; Ontario, 2019.

Socio-demographic	Any Mental Health Condition* % (95% CI)	ASD† % (95% CI)	ADHD* % (95% CI)	Anxiety Disorder* % (95% CI)	Mood Disorder* % (95% CI)
Age Group (years)					
1-4	2.0 (1.4-2.5)	1.7 (1.2-2.1)	0.4 (0.1-0.7)	N/A	N/A
5-11	9.6 (8.8-10.4)	2.5 (2.0-2.9)	6.2 (5.5-6.8)	3.2 (2.7-3.8)	0.6[C] (0.4-0.9)
12-17	15.0 (13.9-16.1)	2.1 (1.6-2.5)	7.1 (6.3-7.8)	7.6 (6.8-8.4)	4.5 (3.8-5.1)
Sex at birth					
Male	11.6 (10.9-12.4)	3.3 (2.9-3.8)	7.2 (6.6-7.8)	4.5 (3.9-5.1)	1.8 (1.4-2.2)
Female	7.8 (7.2-8.5)	0.8 (0.6-1.1)	3.0 (2.5-3.4)	6.1 (5.4-6.8)	3.0 (2.6-3.5)

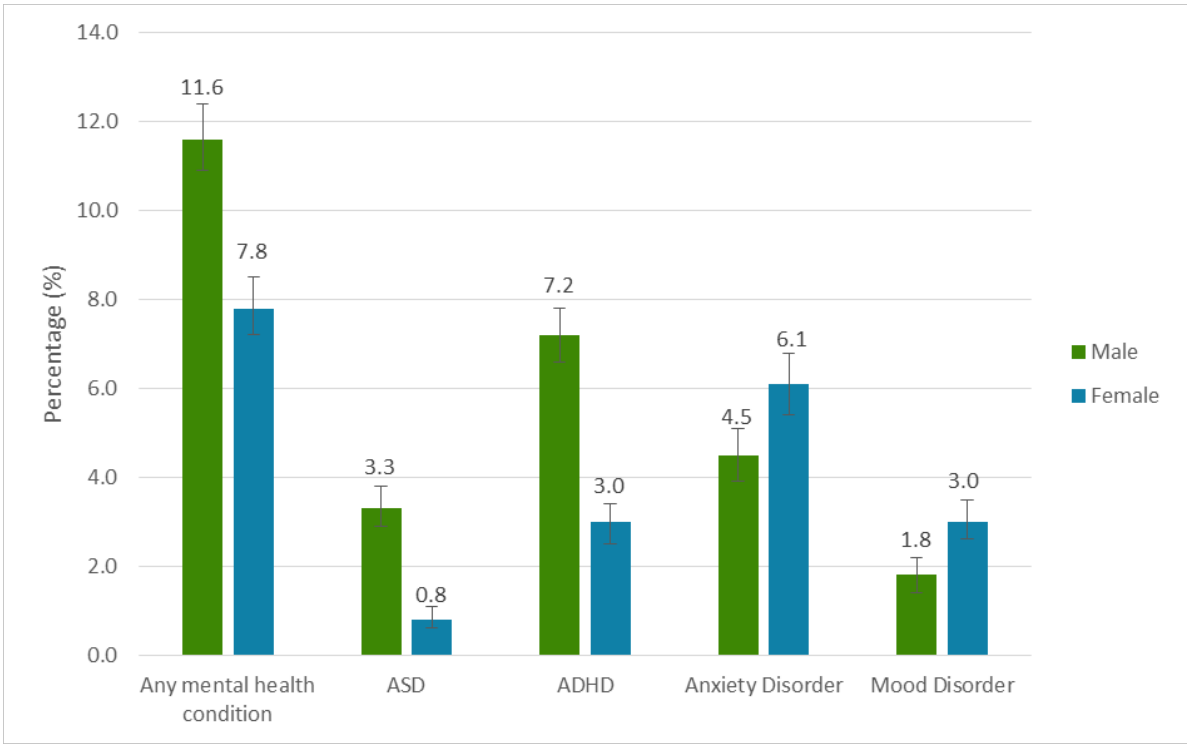
C – This estimate should be interpreted with caution due to high sampling variability
*indicates a significant difference across age group and sex at birth (Rao-Scott Chi-Square Test p<0.05)
†indicates a significant difference across sex at birth (Rao-Scott Chi-Square Test p<0.05)

Figure 3: Percentage of children 1 to 17 years with physician diagnosed mental health conditions by age group; Ontario, 2019.



C – This estimate should be interpreted with caution due to high sampling variability

Figure 4: Percentage of children 1 to 17 years with physician diagnosed mental health conditions by sex at birth; Ontario, 2019.



HIGHEST PARENTAL EDUCATIONAL ATTAINMENT

- There were significant differences across highest parental educational attainment for both PMK-perceived child mental health status and physician diagnosed mental health conditions.
- Children with parents' whose highest education attainment was university or more had lower percentages of PMK-perceived 'good' and 'fair or poor' mental health status, and a lower prevalence for any mental health condition, ASD, and ADHD. Parents with a college or trade degree had the highest proportion of children with an anxiety disorder or a mood disorder.

Table 4: PMK-perceived child and youth self-perceived mental health 1 to 17 years by highest parental educational attainment; Ontario, 2019.

Highest Parental Education*	Excellent/Very Good % (95% CI)	Good % (95% CI)	Fair/Poor % (95% CI)
High School or less	73.2 (71.0-75.4)	19.9 (17.9-21.9)	6.9 (5.6-8.1)
College/Trades	76.8 (75.6-78.1)	15.9 (14.8-17.0)	7.2 (6.4-8.0)
University or more	81.4 (80.5-82.4)	13.0 (12.2-13.8)	5.6 (5.0-6.2)

*indicates a significant difference across educational attainment levels (Rao-Scott Chi-Square Test p<0.05)

Figure 5: PMK-perceived child mental health and youth self-perceived mental health by highest parental educational attainment; Ontario, 2019.

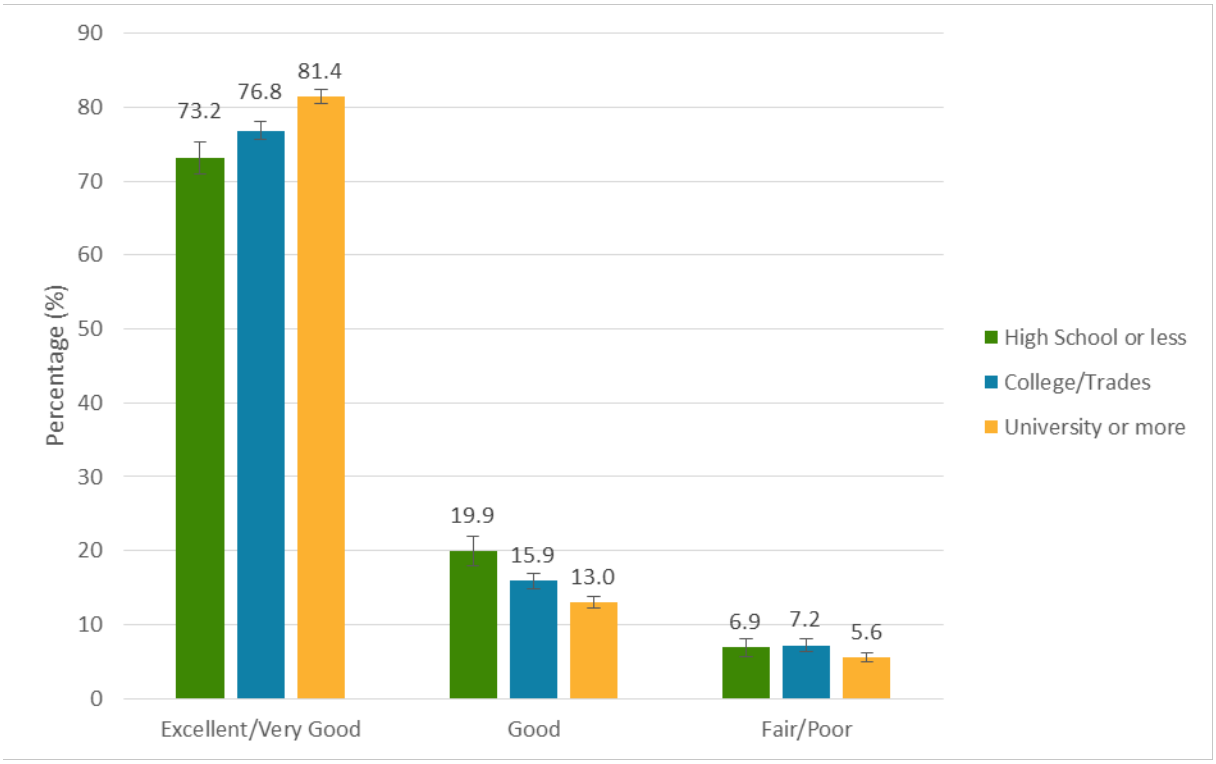
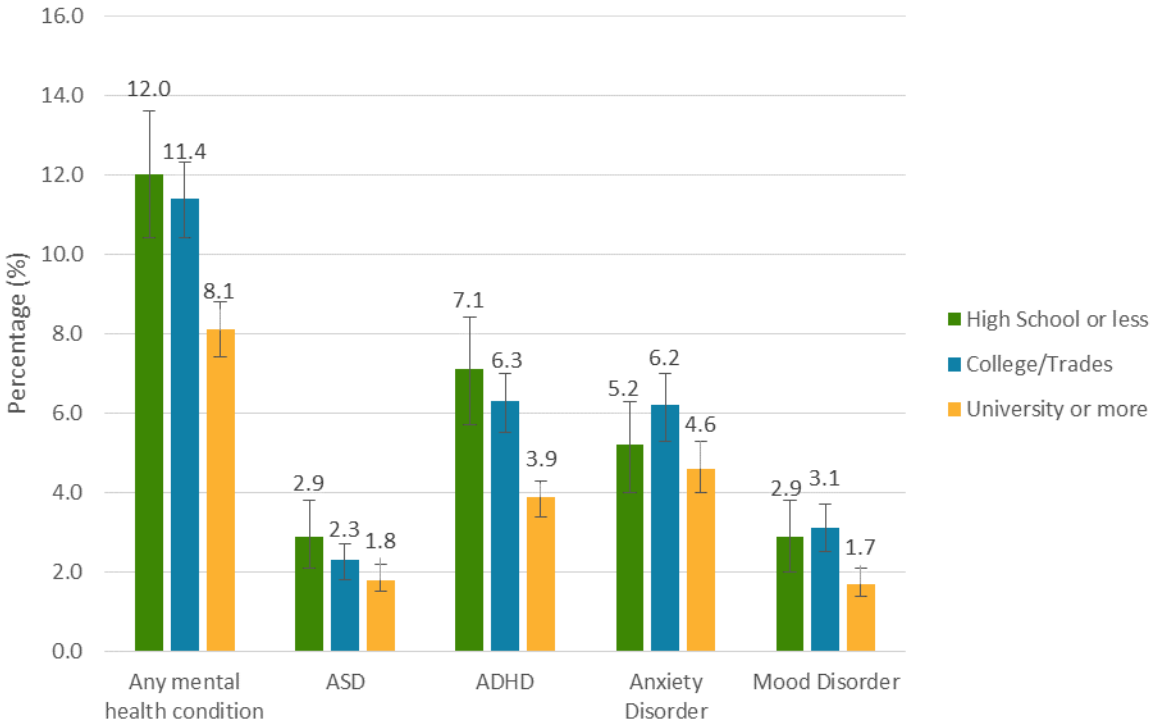


Table 5: Prevalence of mental health conditions among children 1 to 17 years by highest parental educational attainment; Ontario, 2019.

Highest Parental Education	Any Mental Health Condition* % (95% CI)	ASD* % (95% CI)	ADHD* % (95% CI)	Anxiety Disorder* % (95% CI)	Mood Disorder* % (95% CI)
High School or less	12.0 (10.4-13.6)	2.9[C] (2.1-3.8)	7.1 (5.7-8.4)	5.2 (4.0-6.3)	2.9[C] (2.0-3.8)
College/Trades	11.4 (10.4-12.3)	2.3 (1.8-2.7)	6.3 (5.5-7.0)	6.2 (5.3-7.0)	3.1 (2.5-3.7)
University or more	8.1 (7.4-8.8)	1.8 (1.5-2.2)	3.9 (3.4-4.3)	4.6 (4.0-5.3)	1.7 (1.4-2.1)

C – This estimate should be interpreted with caution due to high sampling variability
*indicates a significant difference across educational attainment levels (Rao-Scott Chi-Square Test p<0.05)

Figure 6: Percentage of children 1 to 17 years with physician diagnosed mental health conditions by highest parental educational attainment; Ontario, 2019.



HOUSEHOLD INCOME AND LOW INCOME CUT-OFF (LICO)

- There were significant differences of perceived mental health across household income categories and quintiles, as well as by LICO. However, some differences between groups were relatively small and clinical meaningfulness is unclear (Table 6).

- A higher percentage of children in households at the highest income category or quintile reported excellent or very good mental health. However, a slightly higher percentage reported fair or poor mental health in the top quintile compared to the lowest quintile and 6.7% of participants above the LICO reported fair/poor mental health compared to 5.6% below the LICO (Table 6).

Table 6: PMK-perceived child and youth self-perceived mental health among children 1 to 17 years by household income, income quintiles and low income cut off; Ontario, 2019.

Income Indicators	Excellent/Very Good % (95% CI)	Good % (95% CI)	Fair/Poor % (95% CI)
Household income*			
<$24,999	75.9 (73.1-78.7)	17.5 (14.9-20.1)	6.6 (5.0-8.1)
$25,000 to 49,999	76.1 (74.1-78.0)	17.4 (15.6-19.2)	6.5 (5.4-7.6)
$50,000 to 74,999	78.7 (76.7-80.6)	14.6 (12.9-16.3)	6.7 (5.5-7.9)
$75,000 to 99,999	77.6 (75.6-79.6)	15.0 (13.3-16.7)	7.4 (6.1-8.7)
$100,000 to 149,999	80.0 (78.5-81.5)	13.8 (12.5-15.2)	6.0 (5.2-7.0)
$150,000 to 199,999	79.5 (77.5-81.4)	14.9 (13.2-16.6)	5.6 (4.5-6.7)
$200,000 and higher	81.0 (79.0-83.0)	12.7 (11.1-14.4)	6.3 (5.0-7.6)
Income Quintiles*			
Q1	76.8 (75.0-78.7)	17.2 (15.5-18.9)	6.0 (5.0-7.0)
Q2	77.3 (75.6-78.9)	15.7 (14.2-17.1)	7.1 (6.1-8.1)
Q3	79.1 (77.5-80.7)	14.1 (12.7-15.5)	6.8 (5.8-7.8)
Q4	79.5 (77.9-81.0)	14.4 (13.0-15.8)	6.1 (5.1-7.1)
Q5	80.0 (78.5-81.5)	13.8 (12.6-15.1)	6.1 (5.2-7.1)
Low Income Cut Off† (LICO)			
Above LICO	78.8 (78.0-79.6)	14.5 (13.8-15.2)	6.7 (6.2-7.2)
Below LICO	77.8 (76.2-79.4)	16.6 (15.1-18.1)	5.6 (4.7-6.5)

C – This estimate should be interpreted with caution due to high sampling variability
*indicates a significant difference across income and income quintiles (Rao-Scott Chi-Square Test $p<0.05$)
†indicates a significant difference for the LICO (Rao-Scott Chi-Square Test $p<0.05$)

Figure 7: PMK-perceived child mental health and youth self-perceived mental health by income quintile; Ontario, 2019.

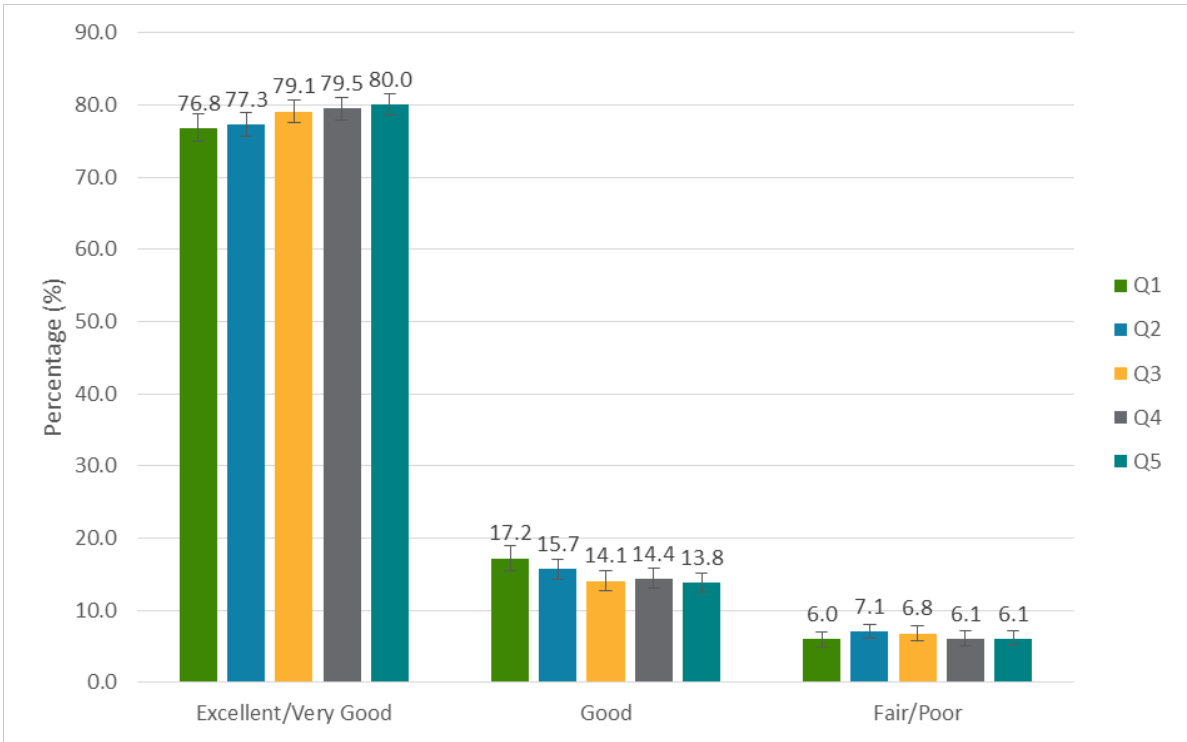


Table 7: Prevalence of mental health conditions among children 1 to 17 years by household income, income quintiles and low income cut off; Ontario, 2019.

Income Indicators	Any Mental Health Condition % (95% CI)	ASD* % (95% CI)	ADHD* % (95% CI)	Anxiety Disorder % (95% CI)	Mood Disorder† % (95% CI)
Household income					
<$24,999	11.3 (9.4-13.1)	3.3[C] (2.2-4.3)	7.3 (5.6-8.9)	5.4 (3.8-7.0)	3.5[C] (2.2-4.9)
$25,000 to 49,999	10.3 (8.8-11.7)	2.3[C] (1.6-3.0)	5.8 (4.7-7.0)	5.4 (4.1-6.7)	3.0[C] (2.1-3.8)
$50,000 to 74,999	9.1 (7.7-10.4)	2.3 (1.7-3.0)	4.6 (3.6-5.6)	5.8 (4.5-7.0)	2.5[C] (1.6-3.4)
$75,000 to 99,999	10.8 (9.3-12.4)	2.4[C] (1.6-3.2)	5.7 (4.6-6.8)	5.6 (4.3-7.0)	2.8[C] (1.8-3.8)
$100,000 to 149,999	9.0 (8.0-10.1)	2.1 (1.5-2.6)	4.8 (4.1-5.6)	4.5 (3.6-5.3)	1.7[C](1.2-2.3)
$150,000 to 199,999	10.0 (8.7-11.4)	1.8[C] (1.2-2.4)	5.0 (4.0-6.0)	5.3 (4.1-6.6)	2.0[C] (1.2-2.7)
$200,000 and higher	8.8 (7.4-10.3)	0.9[C] (0.5-1.4	3.7 (2.8-4.5)	5.4 (4.0-6.7)	2.2[C] (1.2-3.1)
Income Quintiles					
Q1	10.4 (9.0-11.7)	2.8 (2.1-3.5)	6.4 (5.3-7.5)	5.1 (3.9-6.3)	2.9 (2.1-3.7)
Q2	9.7 (8.6-10.9)	2.3 (1.8-2.8)	5.0 (4.1-5.9)	5.9 (4.8-7.0)	2.9 (2.1-3.7)
Q3	10.7 (9.5-12.0)	2.4 (1.7-3.0)	5.6 (4.7-6.4)	5.2 (4.2-6.3)	2.7 (2.0-3.4)
Q4	9.2 (8.0-10.3)	2.0 (1.5-2.5)	5.0 (4.1-5.9)	4.7 (3.7-5.7)	1.5[C] (1.0-2.0)

Income Indicators	Any Mental Health Condition % (95% CI)	ASD* % (95% CI)	ADHD* % (95% CI)	Anxiety Disorder % (95% CI)	Mood Disorder† % (95% CI)
Q5	9.0 (7.9-10.0)	1.2[C] (0.9-1.6)	4.0 (3.3-4.6)	5.4 (4.4-6.4)	2.2[C] (1.5-2.9)
Low Income Cut Off (LICO)					
Above LICO	9.8 (9.2-10.4)	2.0 (1.7-2.3)	5.0 (4.6-5.5)	5.3 (4.8-5.9)	2.4 (2.0-2.7)
Below LICO	9.8 (8.6-11.0)	2.6 (2.0-3.2)	5.6 (4.7-6.6)	5.0 (4.0-6.1)	2.7 (1.9-3.4)

*indicates a significant difference across income and income quintiles (Rao-Scott Chi-Square Test p<0.05)
†indicates a significant difference across income quintiles (Rao-Scott Chi-Square Test p<0.05)

RACE AND ETHNIC ORIGIN

- There were significant differences in mental health status by race and ethnic origin, however most "fair/poor" estimates, except White/non-racialized and South Asian, should be interpreted with caution due to high variability (Table 8).

- Due to small sample sizes in individual race and ethnic origin categories, a dichotomous variable was created to compare White/non-racialized and racialized groups. Those children identified as White/non-racialized had significantly higher prevalence rates for any physician diagnosed mental health condition, ADHD and anxiety disorders.

Table 8: PMK-perceived child and youth self-perceived mental health among children 1 to 17 years by race and ethnic origin; Ontario, 2019

Race and Ethnic Origin – Child*	Excellent/Very Good % (95% CI)	Good % (95% CI)	Fair/Poor % (95% CI)
Black	78.3 (75.0-81.5)	16.1 (13.2-19.0)	5.6[C] (4.0-7.3)
East Asian	77.1 (73.9-80.2)	17.5 (14.7-20.4)	5.4[C] (3.7-7.1)
Latin American	80.2 (72.5-87.9)	14.0[D] (6.7-21.2)	NR
Other (Multiple)	79.3 (74.6-84.0)	15.6 (11.3-19.9)	5.1[C] (2.9-7.3)
Southeast Asian	78.1 (74.2-82.0)	14.2 (10.7-17.7)	7.7[C] (5.2-10.2)
South Asian	83.0 (80.9-85.1)	12.7 (10.9-14.6)	4.3 (3.1-5.5)
West Asian/Arab	87.5 (84.1-90.9)	7.8[C] (5.1-10.4)	4.7[D] (2.4-7.0)
White/Non-racialized†	77.8 (76.9-78.6)	15.2 (14.5-16.0)	7.0 (6.4-7.6)

C and D – This estimate should be interpreted with caution due to high sampling variability
NR – This estimate could not be released as per Statistics Canada guidelines to not release estimates of unacceptable quality
*indicates a significant difference across race and ethnic origin (Rao-Scott Chi-Square Test p<0.05)
†White/Non-racialized group excludes people who identified as Indigenous.

Table 9: Prevalence of mental health conditions among children 1 to 17 years by child race and ethnic origin; Ontario, 2019

Race and Ethnic Origin – Child	Any Mental Health Condition* % (95% CI)	ASD % (95% CI)	ADHD* % (95% CI)	Anxiety Disorder* % (95% CI)	Mood Disorder % (95% CI)
Black	8.5 (6.2-10.7)	2.9[C] (1.6-4.2)	4.6[C] (3.0-6.3)	2.4[D] (1.0-3.8)	NR
East Asian	5.6[C] (3.8-7.4)	1.8[D] (0.8-2.9)	1.6[D] (0.8-2.5)	2.2[D] (1.1-3.2)	NR
Latin American	6.6[D] (2.7-10.6)	NR	NR	NR	NR
Other (Multiple)	6.7[C] (4.4-9.1)	2.3[D] (1.0-3.7)	2.6[D] (1.1-4.1)	3.7[D] (1.4-6.0)	NR
Southeast Asian	5.7[C] (3.2-8.1)	2.2[D] (0.7-3.6)	2.5[D] (0.8-4.1)	2.5[D] (0.8-4.3)	NR
South Asian	4.0 (3.0-5.0)	1.8[C] (1.1-2.6)	1.4[C] (0.7-2.0)	1.9[D] (1.0-2.9)	NR
West Asian/Arab	4.4[D] (2.2-6.5)	NR	NR	2.7[D] (0.9-4.5)	NR
White/Non-racialized[†]	11.7 (11.0-12.4)	2.2 (1.9-2.5)	6.4 (5.8-7.0)	6.7 (6.0-7.3)	3.0 (2.5-3.4)

C and D – This estimate should be interpreted with caution due to high sampling variability
NR – This estimate could not be released as per Statistics Canada guidelines to not release estimates of unacceptable quality
*indicates a significant difference across race and ethnic origin (Rao-Scott Chi-Square Test p<0.05)
†White/Non-racialized group excludes people who identified as Indigenous.

INDIGENOUS IDENTITY

- There were significant differences between those identifying as Indigenous and those who did not. A significantly higher proportion of those identifying as non-Indigenous reported excellent or very good mental health and a significantly lower proportion reported fair or poor (Table 10; Figure 8).

Table 10: PMK-perceived child and youth self-perceived mental health among children 1 to 17 years by Indigenous identity; Ontario, 2019

Indigenous Identity*	Excellent/Very Good % (95% CI)	Good % (95% CI)	Fair/Poor % (95% CI)
Yes	68.7 (64.6-72.7)	21.0 (17.3-24.6)	10.4 (7.7-13.1)
No	78.9 (78.2-79.6)	14.8 (14.2-15.4)	6.3 (5.9-6.8)

*indicates a significant difference across indigenous identity (Rao-Scott Chi-Square Test p<0.05)

Figure 8: PMK-perceived child mental health and youth self-perceived mental health by Indigenous identify; Ontario, 2019

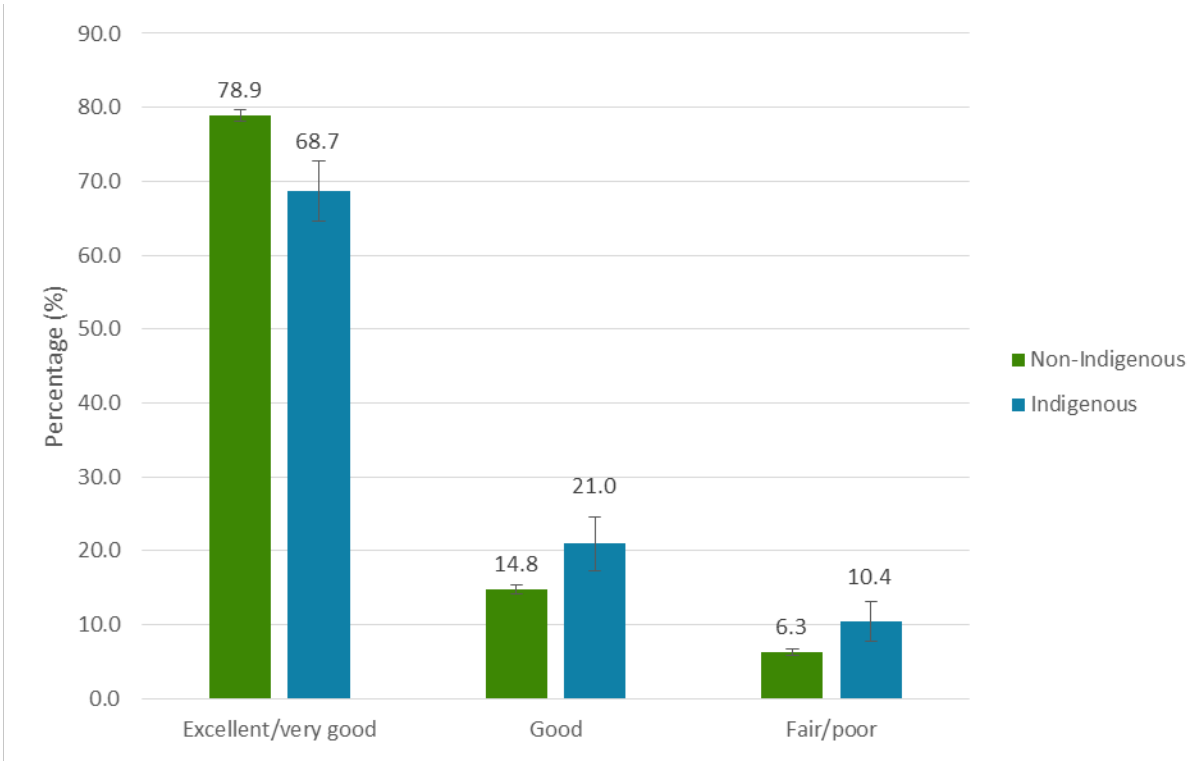
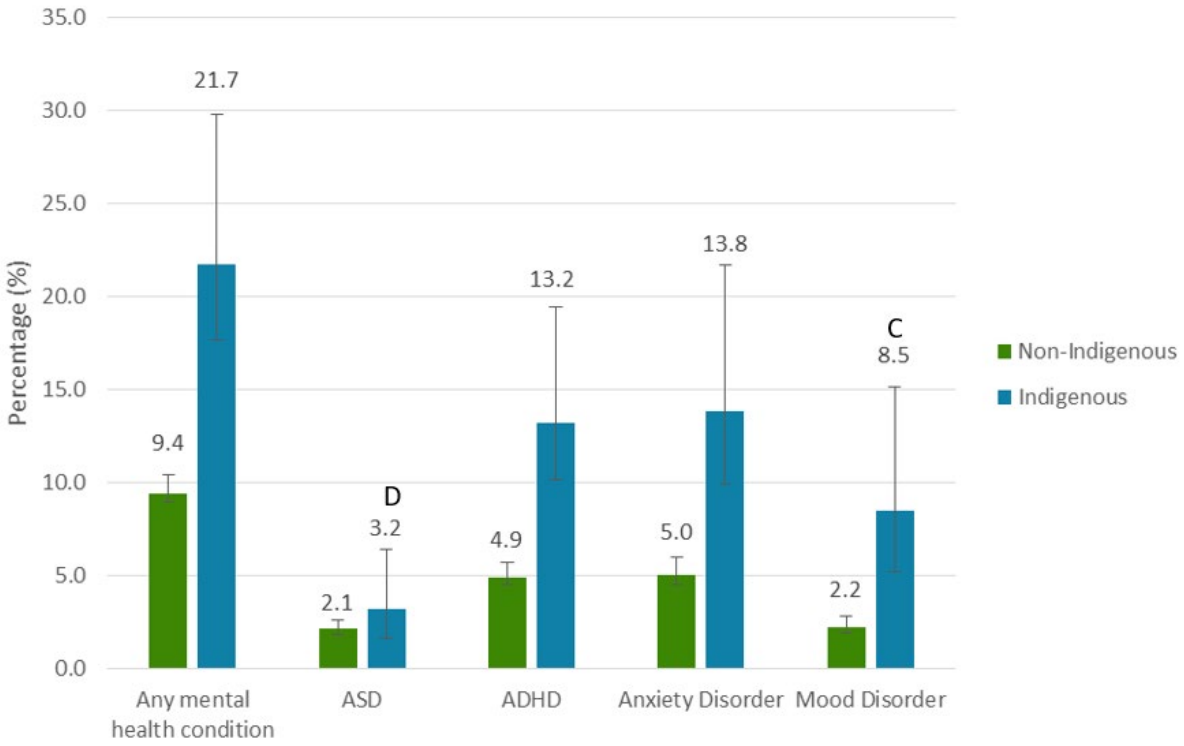


Table 11: Prevalence of mental health conditions among children 1 to 17 years by child indigenous identity; Ontario, 2019

Indigenous Identity	Any Mental Health Condition* % (95% CI)	ASD % (95% CI)	ADHD* % (95% CI)	Anxiety Disorder* % (95% CI)	Mood Disorder % (95% CI)
Yes	21.7 (17.7-25.8)	3.2[D] (1.6-4.8)	13.2 (10.1-16.3)	13.8 (9.9-17.8)	8.5[C] (5.2-11.8)
No	9.4 (8.9-9.9)	2.1 (1.8-2.3)	4.9 (4.5-5.3)	5.0 (4.5-5.5)	2.2 (1.9-2.5)

C and D – This estimate should be interpreted with caution due to high sampling variability
*indicates a significant difference across indigenous identity (Rao-Scott Chi-Square Test p<0.05)

Figure 9: Percentage of children 1 to 17 years with physician diagnosed mental health conditions by Indigenous identity; Ontario, 2019



C and D – This estimate should be interpreted with caution due to high sampling variability

IMMIGRATION STATUS – CHILD

- There were no significant differences in PMK-perceived child and youth self-perceived mental health for those children who are immigrants, non-immigrants and non-permanent residents (Table 12).

- There were significant differences in physician diagnosed mental health conditions between immigrants and non-immigrants. Non-immigrants had a significantly higher prevalence of any mental health condition than immigrants. However, due to small sample sizes for each diagnosis individually, estimates are to be interpreted with caution (Table 13).

Table 12: PMK-perceived child and youth self-perceived mental health among children 1 to 17 years by child immigration status; Ontario, 2019

Immigration Status	Excellent/Very Good % (95% CI)	Good % (95% CI)	Fair/Poor % (95% CI)
Non-immigrant	78.2 (77.5-79.0)	15.2 (14.5-15.8)	6.6 (6.1-7.1)
Immigrant	80.6 (78.2-83.1)	13.7 (11.5-15.8)	5.7 (4.3-7.1)
Non-permanent resident	87.8 (79.9-95.6)	11.3[D] (3.6-19.0)	NR

C and D – This estimate should be interpreted with caution due to high sampling variability
NR - This estimate could not be released as per Statistics Canada guidelines to not release estimates of unacceptable quality

Table 13: Prevalence of mental health conditions among children 1 to 17 years by child immigration status; Ontario, 2019

Immigration Status	Any Mental Health Condition* % (95% CI)	ASD* % (95% CI)	ADHD* % (95% CI)	Anxiety Disorder* % (95% CI)	Mood Disorder* % (95% CI)
Non-immigrant	10.4 (9.9-11.0)	2.3 (2.0-2.5)	5.5 (5.1-5.9)	5.8 (5.3-6.4)	2.6 (2.3-3.0)
Immigrant	4.5 (3.2-5.8)	NR	2.6[C] (1.5-3.6)	1.6[D] (0.8-2.4)	1.0[D] (0.4-1.6)
Non-permanent resident	NR	NR	NR	NR	NR

C and D – This estimate should be interpreted with caution due to high sampling variability
NR – This estimate could not be released as per Statistics Canada guidelines to not release estimates of unacceptable quality

Geographic analysis

PEER GROUP

- The highest prevalence rates of fair/poor mental health were in Peer Groups D, B, and C. These were statistically different compared to the urban grouping of G&H (Table 14; Figure 12).
- Similarly, there was a higher prevalence of those with any physician diagnosed mental health condition, ADHD, anxiety and mood disorders in groups B, C, and D compared to G&H. There was no statistically significant different in ASD between groups (Table 15).

Table 14: PMK-perceived child and youth self-perceived mental health among children 1 to 17 years, by Statistics Canada Peer Group; Ontario, 2019

Peer Groups*	Excellent/Very Good % (95% CI)	Good % (95% CI)	Fair/Poor % (95% CI)
B	78.5 (77.0-79.9)	14.3 (13.0-15.6)	7.3 (6.3-8.2)
C	76.2 (74.8-77.7)	16.9 (15.6-18.1)	6.9 (6.1-7.8)
D	76.5 (75.0-77.9)	15.9 (14.7-17.1)	7.6 (6.7-8.6)
G&H	80.4 (79.3-81.5)	14.5 (13.5-15.5)	5.1 (4.5-5.8)

*indicates a significant difference across Peer Groups (Rao-Scott Chi-Square Test $p<0.05$)

Figure 10: PMK-perceived child mental health and youth self-perceived mental health by Statistics Canada Peer Group; Ontario, 2019.

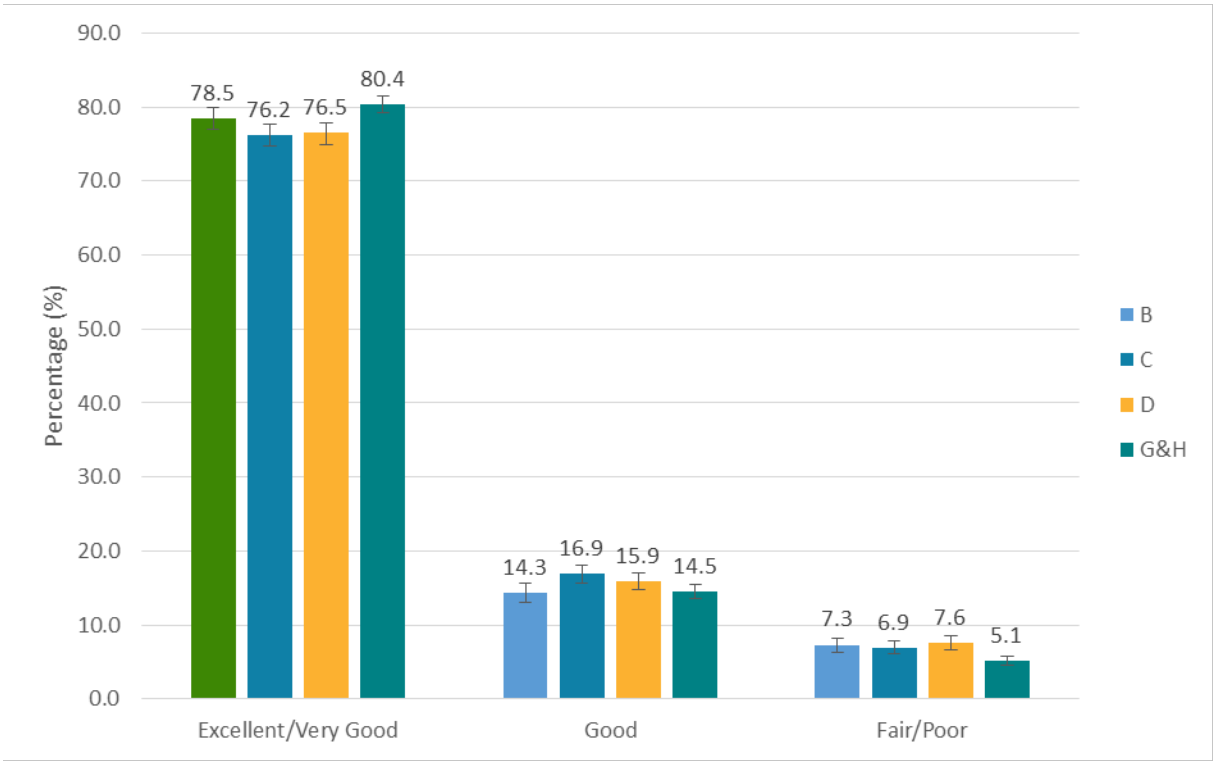


Table 15: Prevalence of mental health conditions among children 1 to 17 years by Statistics Canada Peer Groups; Ontario, 2019

Peer Groups	Any Mental Health Condition* % (95% CI)	ASD % (95% CI)	ADHD* % (95% CI)	Anxiety Disorder* % (95% CI)	Mood Disorder* % (95% CI)
B	11.2 (10.0-12.3)	2.3 (1.8-2.9)	6.1 (5.2-7.0)	5.9 (4.9-6.9)	3.0 (2.3-3.8)
C	11.7 (10.7-12.8)	2.1 (1.6-2.5)	7.0 (6.2-7.8)	6.7 (5.6-7.7)	3.1 (2.4-3.8)
D	11.0 (10.0-12.1)	2.5 (1.9-3.0)	6.2 (5.4-7.0)	6.5 (5.5-7.4)	2.7 (2.1-3.4)
G&H	7.3 (6.6-8.1)	1.8 (1.5-2.2)	3.2 (2.7-3.7)	3.7 (3.1-4.4)	1.5[C] (1.1-1.9)

*indicates a significant difference across Peer Groups (Rao-Scott Chi-Square Test p<0.05)

GEOGRAPHIC REGION

- There were significant differences in mental health status by geographic region. North West region had the highest prevalence of fair/poor mental health status, Toronto has the lowest prevalence (Table 16; Figure 11).

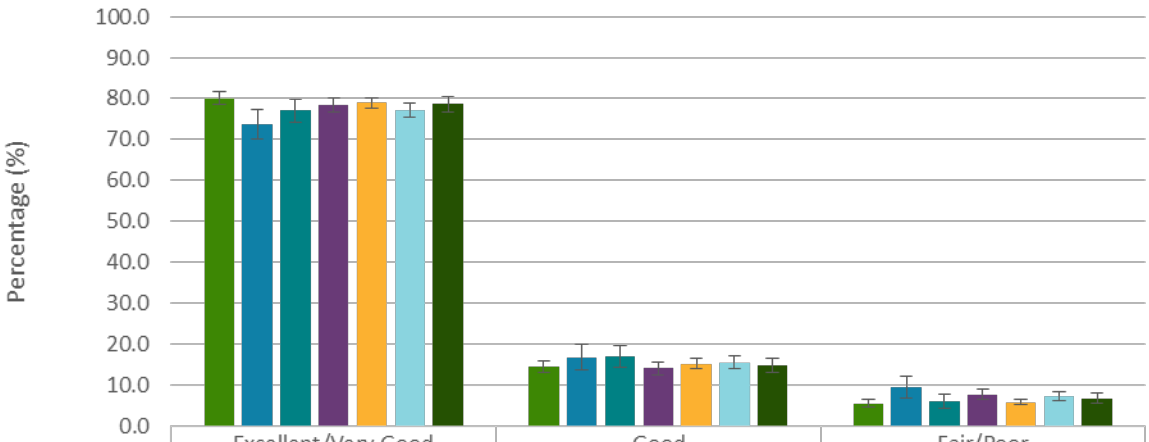
- There were also significant differences in the type mental health conditions across regions. However, many of this estimates should be interpreted with caution due to high sampling variability (Table 17).

Table 16: PMK-perceived child and youth self-perceived mental health for children 1 to 17 years, by geographic region; Ontario, 2019.

Geographic Region*	Excellent/Very Good % (95% CI)	Good % (95% CI)	Fair/Poor % (95% CI)
North West	73.7 (70.0-77.4)	16.8 (13.6-19.9)	9.5 (6.9-12.1)
North East	77.1 (74.2-79.9)	17.0 (14.4-19.5)	6.0 (4.3-7.6)
South West	78.6 (76.7-80.5)	14.7 (13.0-16.4)	6.7 (5.4-8.0)
Central West	77.2 (75.5-79.0)	15.5 (13.9-17.1)	7.3 (6.2-8.4)
Central East	79.0 (77.7-80.3)	15.2 (14.0-16.4)	7.3 (6.2-8.4)
Eastern	78.4 (76.6-80.2)	14.0 (12.4-15.6)	7.6 (6.4-8.8)
Toronto	80.1 (78.6-81.6)	14.5 (13.1-15.8)	5.5 (4.6-6.4)

C and D – This estimate should be interpreted with caution due to high sampling variability
*indicates a significant difference across geographic regions (Rao-Scott Chi-Square Test p<0.05)

Figure 11: PMK-perceived child mental health and youth self-perceived mental health by geographic region; Ontario, 2019.



	Excellent/Very Good	Good	Fair/Poor
Toronto	80.1	14.5	5.5
North West	73.7	16.8	9.5
North East	77.1	17.0	6.0
Eastern	78.4	14.0	7.6
Central East	79.0	15.2	5.8
Central West	77.2	15.5	7.3
South West	78.6	14.7	6.7

Table 17: Prevalence of mental health conditions among children 1 to 17 years by geographic region; Ontario, 2019

Geographic Region	Any Mental Health Condition* % (95% CI)	ASD % (95% CI)	ADHD* % (95% CI)	Anxiety Disorder* % (95% CI)	Mood Disorder % (95% CI)
North West	11.3 (8.3-14.3)	NR	6.9[C] (4.4-9.3)	5.5[C] (3.1-8.0)	3.8[D] (1.9-5.8)
North East	11.4 (9.2-13.7)	2.0[C] (1.1-2.9)	7.5 (5.6-9.4)	6.1[C] (4.1-8.1)	3.0[C] (1.6-4.4)
South West	10.5 (9.0-11.9)	1.5[C] (0.8-2.3)	6.1 (5.0-7.3)	6.0 (4.5-7.4)	2.6[C] (1.8-3.4)
Central West	10.8 (9.4-12.1)	2.4 (1.7-3.1)	5.6 (4.6-6.6)	6.3 (5.1-7.6)	3.6 (2.6-4.6)
Central East	8.6 (7.7-9.5)	2.3 (1.9-2.8)	4.0 (3.3-4.6)	4.6 (3.8-5.4)	1.7 (1.2-2.1)
Eastern	12.6 (11.1-14.2)	2.0[C] (1.4-2.6)	7.9 (6.6-9.1)	6.1 (4.9-7.4)	2.8[C] (1.9-3.8)
Toronto	7.8 (6.8-8.8)	2.0 (1.5-2.4)	3.5 (2.8-4.1)	4.0 (3.1-5.0)	1.7[C] (1.1-2.4)

C and D – This estimate should be interpreted with caution due to high sampling variability
NR - This estimate could not be released as per Statistics Canada guidelines to not release estimates of unacceptable quality
*indicates a significant difference across geographic regions (Rao-Scott Chi-Square Test p<0.05)

PUBLIC HEALTH UNIT

- There were significant differences in mental health status by public health unit. However, due to limitations in sample size, most "fair/poor" estimates are to be interpreted with caution (Table 18).

- Due to sample size limitations, many individual health conditions were not reportable and therefore not reported here.

Table 18: PMK-perceived child and youth self-perceived mental health for children 1 to 17 years by public health unit; Ontario, 2019

Public Health Unit	Excellent/Very Good % (95% CI)	Good % (95% CI)	Fair/Poor % (95% CI)
District of Algoma Health Unit	75.4 (69.7-81.2)	15.3[C] (10.4-20.1)	9.3[C] (5.2-13.4)
Brant County Health Unit	79.1 (74.3-83.9)	11.5[C] (7.5-15.5)	9.4[C] (5.9-12.9)
Durham Regional Health Unit	76.9 (73.0-80.7)	16.0 (12.5-19.6)	7.1[C] (7.8-9.4)
Grey Bruce Health Unit	78.5 (73.9-83.0)	15.0 (10.8-19.2)	6.6[C] (3.8-9.3)
Haldimand-Norfolk Health Unit	76.8 (71.3-82.2)	14.6[C] (9.8-19.3)	8.6[C] (5.0-12.3)
Haliburton, Kawartha, Pine Ridge District Health Unit	73.9 (69.9-77.9)	19.0 (15.3-22.7)	7.1[C] (4.8-9.4)
Halton Regional Health Unit	78.5 (75.9-81.2)	13.4 (11.1-15.8)	8.0 (6.2-9.8)
City of Hamilton Health Unit	76.1 (70.5-81.7)	17.2 (12.1-22.3)	6.7[C] (3.5-9.9)
Hastings and Prince Edward Counties Health Unit	75.9 (71.5-80.3)	18.9 (14.9-23.0)	5.2[C] (2.7-7.6)
Huron Perth Health Unit	79.9 (74.7-85.1)	16.1[C] (11.2-21.0)	4.0[D] (1.8-6.3)

Public Health Unit	Excellent/Very Good % (95% CI)	Good % (95% CI)	Fair/Poor % (95% CI)
Chatham-Kent Health Unit	75.8 (71.7-80.0)	16.8 (13.0-20.6)	7.3[C] (4.8-9.8)
Kingston, Frontenac and Lennox and Addington Health Unit	73.6 (69.2-78.0)	17.4 (13.6-21.3)	9.0[C] (6.2-11.7)
Lambton Health Unit	78.4 (73.2-83.5)	16.0 (11.4-20.6)	5.6[D] (2.5-8.8)
Leeds, Grenville and Lanark District Health Unit	73.7 (68.8-78.6)	15.9 (12.0-19.8)	10.4[C] (6.7-14.1)
Middlesex-London Health Unit	77.6 (71.5-83.8)	14.7 (10.4-19.1)	7.7[C] (4.2-11.2)
Niagara Regional Area Health Unit	78.5 (73.6-83.3)	16.0 (11.7-20.4)	5.5[C] (2.9-8.1)
North Bay Parry Sound District Health Unit	77.6 (71.5-83.8)	17.0[C] (11.3-22.6)	5.4[D] (1.9-9.0)
Northwestern Health Unit	74.4 (70.3-78.5)	15.9 (12.4-19.4)	9.7 (7.0-12.4)
City of Ottawa Health Unit	81.6 (78.9-84.3)	11.1 (8.9-13.4)	7.3 (5.4-9.1)
Peel Regional Health Unit	81.7 (79.8-83.5)	13.7 (12.0-15.4)	4.6 (3.7-5.6)
Peterborough County-City Health Unit	74.7 (68.9-80.5)	16.1[C] (11.1-21.1)	9.2[C] (5.1-13.2)
Porcupine Health Unit	75.6 (69.9-81.4)	18.8 (13.5-24.1)	5.5[D] (2.4-8.6)
Renfrew County and District Health Unit	75.7 (68.9-82.4)	15.3[C] (9.2-21.5)	9.0[D] (4.6-13.4)
Eastern Ontario Health Unit	73.5 (67.9-79.1)	19.4 (14.4-24.4)	7.1[C] (3.9-10.3)
Simcoe Muskoka Health Unit	76.2 (73.4-79.0)	15.9 (13.5-18.4)	7.8 (6.0-9.7)
Sudbury and District Health Unit	79.0 (73.6-84.4)	16.1[C] (11.2-20.9)	4.9[D] (2.0-7.9)
Thunder Bay District Health Unit	73.4 (68.4-78.4)	17.2 (12.9-21.5)	9.4[C] (5.8-13.0)
Timiskaming Health Unit	72.5 (62.1-83.0)	22.3[C] (12.6-32.0)	NR
Waterloo Health Unit	75.4 (71.3-79.5)	16.9 (13.3-20.5)	7.7[C] (5.2-10.3)
Wellington-Dufferin-Guelph Health Unit	77.5 (74.4-80.5)	15.7 (12.9-18.5)	6.8 (4.9-8.8)
Windsor-Essex County Health Unit	82.2 (79.1-85.3)	11.7 (9.1-14.4)	6.0[C] (4.0-8.0)
York Regional Health Unit	79.3 (76.4-82.3)	15.6 (12.9-18.2)	5.1[C] (3.5-6.7)
Southwestern Public Health	74.8 (70.9-78.6)	17.4 (14.1-20.7)	7.8[C] (4.8-10.8)
City of Toronto Health Unit	80.1 (78.6-81.6)	14.5 (13.1-15.8)	5.5 (4.6-6.4)

C and D – This estimate should be interpreted with caution due to high sampling variability
NR - This estimate could not be released as per Statistics Canada guidelines to not release estimates of unacceptable quality

Table 19: Prevalence of any mental health conditions among children 1 to 17 years by public health unit; Ontario, 2019

Public Health Unit	Any Mental Health Condition % (95% CI)
District of Algoma Health Unit	15.5[C] (10.5-20.5)
Brant County Health Unit	13.3[C] (9.1-17.5)
Durham Regional Health Unit	11.4 (8.2-14.5)
Grey Bruce Health Unit	11.6[C] (7.9-15.2)
Haldimand-Norfolk Health Unit	10.9[C] (6.5-15.3)
Haliburton, Kawartha, Pine Ridge District Health Unit	11.7 (8.9-14.6)
Halton Regional Health Unit	10.2 (8.1-12.3)
City of Hamilton Health Unit	13.2[C] (8.7-17.8)
Hastings and Prince Edward Counties Health Unit	10.6[C] (7.4-13.9)
Huron Perth Health Unit	8.2[C] (4.8-11.7)
Chatham-Kent Health Unit	14.5 (11.2-17.9)
Kingston, Frontenac and Lennox and Addington Health Unit	18.1 (14.3-21.8)
Lambton Health Unit	9.3[C] (5.7-13.0)
Leeds, Grenville and Lanark District Health Unit	14.3 (10.4-18.2)
Middlesex-London Health Unit	11.8[C] (7.7-15.9)
Niagara Regional Area Health Unit	8.0[C] (4.9-11.0)
North Bay Parry Sound District Health Unit	9.9[C] (5.5-14.3)
Northwestern Health Unit	10.3 (7.3-13.3)
City of Ottawa Health Unit	11.5 (9.2-13.8)
Peel Regional Health Unit	5.2 (4.1-6.3)
Peterborough County-City Health Unit	13.6[C] (9.0-18.3)
Porcupine Health Unit	6.8[C] (3.6-9.9)
Renfrew County and District Health Unit	14.1[C] (8.6-19.6)
Eastern Ontario Health Unit	13.2[C] (9.1-17.3)
Simcoe Muskoka Health Unit	11.1 (9.0-13.2)
Sudbury and District Health Unit	11.0[C] (6.7-15.2)
Thunder Bay District Health Unit	11.8[C] (7.6-15.9)
Timiskaming Health Unit	17.8[D] (8.4-27.3)
Waterloo Health Unit	11.1 (8.1-14.2)
Wellington-Dufferin-Guelph Health Unit	9.4 (7.2-11.7)
Windsor-Essex County Health Unit	8.2 (5.9-10.6)
York Regional Health Unit	9.2 (7.0-11.3)
Southwestern Public Health	11.3 (8.4-14.1)
City of Toronto Health Unit	7.8 (6.8-8.8)

Youth-specific Mental Health Indicators (12-17 years)

- There are three youth-specific mental health indicators in the CHSCY dataset: life satisfaction, self-perceived life stress, and general happiness. These indicators are presented in Tables 20-22 by all socio-demographic indicators.

LIFE SATISFACTION

- The majority of youth 12-17 years of age in Ontario (>80%) were very satisfied or satisfied with their life in 2019. There were statistically significant differences in sex and Indigenous identity; males and those who did not identify as Indigenous reported higher satisfaction (Table 20).

Table 20: Self-reported life satisfaction for youths 12-17 years by socio-demographic indicators; Ontario, 2019

Socio-demographic	Very satisfied/Satisfied % (95% CI)	Neither satisfied or dissatisfied % (95% CI)	Dissatisfied/ Very dissatisfied % (95% CI)
Sex at birth*			
Male	92.1 (90.8-93.4)	4.3 (3.4-5.2)	3.6 (2.7-4.5)
Female	87.2 (85.7-88.7)	7.1 (5.9-8.2)	5.7 (4.7-6.7)
Highest Parental Education			
High School or less	89.2 (86.5-91.8)	5.5[C] (3.6-7.4)	5.3[C] (3.3-7.3)
College/Trades	89.5 (87.9-91.1)	5.7 (4.6-6.9)	4.8 (3.6-5.9)
University or more	90.2 (88.8-91.6)	5.7 (4.5-6.8)	4.1 (3.3-4.9)
Household Income			
<$24,999	88.4 (84.6-92.3)	7.7[C] (4.5-11.0)	3.8[D] (1.7-6.0)
$25,000 to 49,999	87.8 (85.1-90.5)	6.5 (4.7-8.4)	5.6[C] (3.7-7.6)
$50,000 to 74,999	90.4 (87.9-93.0)	4.5[C] (2.8-6.2)	5.0[C] (3.1-7.0)
$75,000 to 99,999	88.1 (85.3-90.9)	7.0[C] (4.9-9.1)	4.9[C] (2.9-6.8)
$100,000 to 149,999	90.5 (88.7-92.4)	5.4 (3.9-6.8)	4.1 (2.9-5.3)
$150,000 to 199,999	90.4 (88.1-92.8)	4.9[C] (3.1-6.8)	4.6[C] (3.0-6.2)
$200,000 and higher	91.5 (89.1-93.8)	4.3[C] (2.7-6.0)	4.2[C] (2.6-5.8)
Income Quintiles			
Q1	89.7 (87.4-92.0)	6.5 (4.6-8.4)	3.8[C] (2.5-5.1)
Q2	88.4 (86.1-90.7)	5.6 (4.1-7.1)	6.0 (4.3-7.8)
Q3	89.3 (87.1-91.5)	6.6 (4.9-8.3)	4.1[C] (2.7-5.5)
Q4	90.0 (88.1-92.0)	5.1 (3.6-6.6)	4.9 (3.5-6.3)
Q5	91.1 (89.3-92.9)	4.6[C] (3.3-6.0)	4.2 (3.0-5.5)
Low Income Cut Off (LICO)			
Above LICO	89.7 (88.6-90.7)	5.5 (4.7-6.3)	4.8 (4.1-5.6)
Below LICO	89.9 (87.8-92.1)	6.1 (4.4-7.8)	4.0[C] (2.6-5.4)
Race and Ethnic Origin			
Black	89.7 (85.5-94.0)	4.2[D] (1.7-6.8)	6.0[D] (2.6-9.5)
East Asian	86.1 (81.7-90.5)	10.1[C] (6.2-14.0)	3.8[D] (1.5-6.1)
Latin American	93.8 (87.4-100)	NR	NR
Other (Multiple)	92.4 (87.7-97.1)	NR	NR
South Asian	91.3 (88.5-94.1)	5.1[D] (2.9-7.3)	3.6[C] (1.7-5.5)

Socio-demographic	Very satisfied/Satisfied % (95% CI)	Neither satisfied or dissatisfied % (95% CI)	Dissatisfied/ Very dissatisfied % (95% CI)
Southeast Asian	90.1 (85.5-94.7)	NR	5.8[D] (2.4-9.3)
West Asian/Arab	91.5 (86.1-96.9)	NR	NR
White/Non-racialized[†]	89.7 (88.5-91.0)	5.5 (4.6-6.4)	4.8 (3.9-5.7)
Indigenous Identity*			
Yes	83.7 (78.4-89.0)	8.8[C] (4.9-12.6)	7.5[D] (3.3-11.8)
No	89.9 (88.9-90.9)	5.6 (4.8-6.3)	4.6 (3.9-5.2)
Immigration Status			
Non-immigrant	89.3 (88.2-90.4)	5.9 (5.0-6.7)	4.8 (4.1-5.5)
Immigrant	91.5 (89.1-93.9)	4.8[C] (3.0-6.5)	3.7[C] (2.1-5.3)
Non-permanent resident	89.8 (75.5-100)	NR	NR

C and D – This estimate should be interpreted with caution due to high sampling variability
NR - This estimate could not be released as per Statistics Canada guidelines to not release estimates of unacceptable quality
†White/Non-racialized group excludes people who identified as Indigenous.
*indicates a significant difference across geographic regions (Rao-Scott Chi-Square Test p<0.05)

SELF-PERCEIVED LIFE STRESS

- There were significant differences by sex, income variables, race and ethnic origin, and immigration status in self-perceived life stress among Ontario youth. The proportion of female youth reporting their life was “quite a bit stressful” or “extremely stressful” was twice that of male youth (Table 19; Figure 14).

- Although there were significant differences between income groups, there was no clear social gradient for either household income or income quintile. A significantly higher proportion of youth with a household income below the LICO reported their life was “not at all stressful” or “not very stressful” (Table 19).

- The White/non-racialized group and non-immigrants reported their life being “a bit stressful” significantly more than racialized groups, however East Asian and South Asian youth had a higher prevalence of reporting their lives were “quite a bit stressful” or “extremely stressful” compared to the White/non-racialized group (Table 19).

Table 21: Self-perceived life stress for youths 12-17 years by socio-demographic indicators; Ontario, 2019

Socio-demographic	Not at all stressful/ Not very stressful % (95% CI)	A bit stressful % (95% CI)	Quite a bit stressful/ Extremely stressful % (95% CI)
Sex at birth*			
Male	46.9 (44.6-49.1)	38.4 (36.3-40.6)	14.7 (13.1-16.3)
Female	30.5 (28.3-32.7)	41.1 (38.8-43.4)	28.4 (26.4-30.4)
Highest Parental Education			
High School or less	39.0 (34.8-43.3)	40.6 (36.3-44.8)	20.4 (16.9-24.0)

Socio-demographic	Not at all stressful/ Not very stressful % (95% CI)	A bit stressful % (95% CI)	Quite a bit stressful/ Extremely stressful % (95% CI)
College/Trades	40.6 (38.1-43.1)	38.3 (35.9-40.7)	21.1 (18.9-23.3)
University or more	37.7 (35.4-39.9)	40.7 (38.4-42.9)	21.7 (19.8-23.5)
Household Income*			
<$24,999	42.5 (36.2-48.8)	36.5 (30.6-42.3)	21.0 (15.9-26.1)
$25,000 to 49,999	42.7 (38.4-47.1)	35.4 (31.4-39.5)	21.8 (18.3-25.4)
$50,000 to 74,999	41.7 (37.5-46.0)	35.7 (31.6-39.7)	22.6 (19.2-26.0)
$75,000 to 99,999	37.9 (33.9-41.8)	41.0 (37.0-45.1)	21.1 (17.6-24.5)
$100,000 to 149,999	39.3 (36.0-42.5)	41.0 (37.7-44.2)	19.8 (17.3-22.2)
$150,000 to 199,999	34.4 (30.6-38.3)	44.1 (40.0-48.2)	21.4 (18.0-24.9)
$200,000 and higher	34.5 (30.5-38.4)	43.0 (39.0-47.0)	22.5 (19.1-25.9)
Income Quintiles*			
Q1	46.1 (41.8-50.4)	35.2 (31.2-39.2)	18.7 (15.5-21.9)
Q2	39.2 (35.8-42.7)	36.2 (32.8-39.5)	24.6 (21.6-27.6)
Q3	39.6 (36.1-43.0)	39.7 (36.3-43.1)	20.7 (18.0-23.5)
Q4	37.3 (33.9-40.6)	43.5 (39.9-47.0)	19.3 (16.7-21.8)
Q5	34.0 (30.9-37.1)	43.2 (40.0-46.4)	22.9 (20.1-25.6)
Low Income Cut Off (LICO)*			
Above LICO	37.3 (35.6-39.0)	41.1 (39.4-42.7)	21.6 (20.2-23.1)
Below LICO	44.9 (41.0-48.7)	34.7 (31.2-38.2)	20.4 (17.4-23.5)
Race and Ethnic Origin*			
Black	48.2 (40.9-55.5)	31.3 (24.6-37.9)	20.5 (14.9-26.2)
East Asian	33.9 (27.8-40.0)	39.2 (33.2-45.1)	27.0 (21.3-32.7)
Latin American	47.7[C] (33.0-62.4)	36.3[C] (22.1-50.5)	16.1[D] (6.3-25.8)
Other (Multiple)	33.5 (23.7-43.4)	42.3 (32.1-52.5)	24.1[C] (15.5-32.8)
South Asian	43.8 (38.8-48.8)	37.7 (32.8-42.6)	18.5 (14.5-22.4)
Southeast Asian	34.7 (27.0-42.5)	37.9 (30.2-45.7)	27.3 (20.1-34.6)
West Asian/Arab	46.6 (37.1-56.1)	36.5 (27.5-45.6)	16.9[C] (10.4-23.4)
White/Non-racialized[†]	37.3 (35.4-39.2)	41.5 (39.6-43.3)	21.2 (19.7-22.8)
Indigenous Identity			
Yes	40.1 (32.9-47.2)	38.3 (31.1-45.5)	21.6 (15.7-27.6)
No	38.9 (37.3-40.5)	39.8 (38.3-41.4)	21.3 (20.0-22.6)
Immigration Status*			
Non-immigrant	37.5 (35.9-39.2)	40.9 (39.3-42.6)	21.5 (20.1-23.0)
Immigrant	45.0 (40.6-49.5)	34.8 (30.6-39.1)	20.1 (16.7-23.6)
Non-permanent resident	48.9[C] (25.0-72.9)	NR	NR

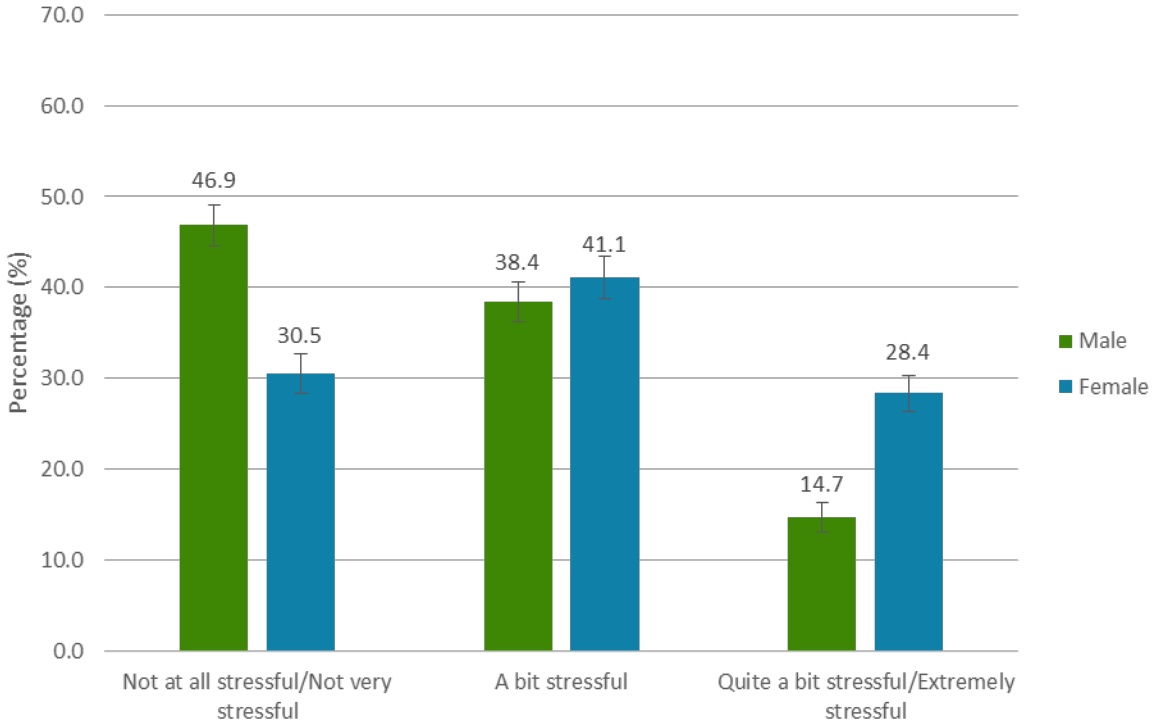
C and D – This estimate should be interpreted with caution due to high sampling variability

NR - This estimate could not be released as per Statistics Canada guidelines to not release estimates of unacceptable quality

†White/Non-racialized group excludes people who identified as Indigenous.

*indicates a significant difference across socio-demographic indicator (Rao-Scott Chi-Square Test p<0.05)

Figure 12: Self-reported life stress for youths 12-17 years by sex at birth; Ontario, 2019.



SELF-PERCEIVED HAPPINESS

- The majority of youth 12-17 years of age in Ontario (>85%) were "happy and interested in life" or "somewhat happy". There were statistically significant differences in sex and Indigenous identity; males and those who did not identify as Indigenous reported greater levels of happiness (Table 22; Figure 13).

Table 22: Self-perceived happiness for youths 12-17 years by socio-demographic indicators; Ontario, 2019

Socio-demographic	Happy and interested in life/ Somewhat happy % (95% CI)	Somewhat unhappy % (95% CI)	Unhappy with little interest in life/ So unhappy that life is not worthwhile % (95% CI)
Sex at birth*			
Male	94.4 (93.4-95.5)	4.3 (3.3-5.2)	1.3[C] (0.8-1.8)
Female	90.1 (88.8-91.4)	6.7 (5.6-7.8)	3.2 (2.4-4.0)
Highest Parental Education			
High School or less	92.2 (90.0-94.5)	5.1[C] (3.3-6.9)	2.6[D] (1.3-3.9)
College/Trades	91.6 (90.1-93.0)	5.9 (4.6-7.1)	2.6[C] (1.7-3.5)
University or more	93.2 (92.1-94.3)	5.0 (4.0-6.1)	1.8[C] (1.2-2.3)
Household Income			
<$24,999	89.4 (85.6-93.2)	6.6[C] (3.7-9.6)	4.0[D] (1.5-6.4)

Socio-demographic	Happy and interested in life/ Somewhat happy % (95% CI)	Somewhat unhappy % (95% CI)	Unhappy with little interest in life/ So unhappy that life is not worthwhile % (95% CI)
$25,000 to 49,999	90.8 (88.5-93.0)	6.2[C] (4.4-8.1)	3.0[C] (1.6-4.4)
$50,000 to 74,999	93.1 (91.1-95.2)	4.1[C] (2.5-5.7)	2.7[C] (1.4-4.1)
$75,000 to 99,999	91.8 (89.4-94.1)	5.5[C] (3.6-7.4)	2.7[C] (1.2-4.3)
$100,000 to 149,999	93.2 (91.5-94.8)	5.2 (3.6-6.8)	1.6[C] (1.0-2.3)
$150,000 to 199,999	93.5 (91.5-95.5)	5.4[C] (3.5-7.2)	NR
$200,000 and higher	92.8 (90.7-95.0)	5.8[C] (3.8-7.8)	1.4[D] (0.6-2.1)
Income Quintiles			
Q1	91.8 (89.7-94.0)	5.4[C] (3.6-7.1)	2.8[C] (1.5-4.1)
Q2	91.1 (89.2-93.0)	5.6 (4.1-7.1)	3.3[C] (2.1-4.6)
Q3	92.8 (91.0-94.6)	4.8[C] (3.3-6.2)	2.4[C] (1.3-3.6)
Q4	92.8 (91.0-94.6)	5.7[C] (4.0-7.4)	1.4[C] (0.8-2.1)
Q5	92.9 (91.2-94.5)	5.8 (4.3-7.4)	1.3[C] (0.7-1.9)
Low Income Cut Off (LICO)			
Above LICO	92.3 (91.3-93.2)	5.5 (4.7-6.3)	2.2 (1.7-2.7)
Below LICO	92.5 (90.6-94.4)	5.3[C] (3.7-6.9)	2.3[C] (1.2-3.3)
Race and Ethnic Origin			
Black	90.6 (86.4-94.8)	4.5[D] (1.8-7.3)	4.8[D] (1.7-8.0)
East Asian	89.0 (85.0-93.0)	8.4[C] (4.7-12.0)	NR
Latin American	93.7 (86.6-100)	NR	NR
Other (Multiple)	95.4 (91.8-98.9)	NR	NR
South Asian	93.7 (91.1-96.3)	5.2[C] (2.8-7.5)	NR
Southeast Asian	90.0 (85.4-94.7)	7.6 (3.5-11.7)	NR
West Asian/Arab	96.9 (94.4-99.4)	NR	NR
White/Non-racialized[†]	92.6 (91.6-93.6)	5.2 (4.3-6.1)	2.2 (1.7-2.8)
Indigenous Identity*			
Yes	85.4 (79.9-90.9)	10.9[C] (6.1-15.7)	NR
No	92.5 (91.7-93.3)	5.3 (4.6-6.0)	2.2 (1.7-2.7)
Immigration Status			
Non-immigrant	91.9 (91.0-92.8)	5.9 (5.1-6.7)	2.2 (1.7-2.7)
Immigrant	94.3 (92.4-96.2)	3.1[C] (1.6-4.6)	2.6[D] (1.2-4.0)
Non-permanent resident	89.8 (75.5-100)	NR	NR

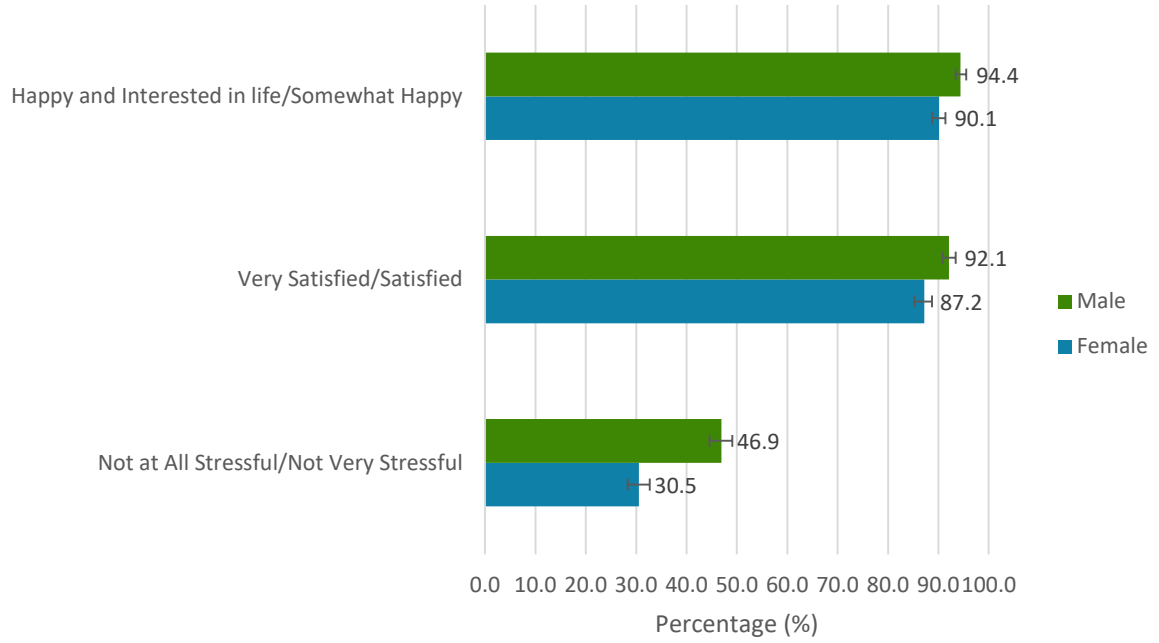
C and D – This estimate should be interpreted with caution due to high sampling variability

NR - This estimate could not be released as per Statistics Canada guidelines to not release estimates of unacceptable quality

†White/Non-racialized group excludes people who identified as Indigenous.

*indicates a significant difference across socio-demographic indicator (Rao-Scott Chi-Square Test $p<0.05$)

Figure 13: Life satisfaction, happiness and stress in youth aged 12 to 17 years by sex at birth, Ontario, 2019



SUICIDAL TENDENCIES AMONG YOUTH (15-17 YEARS)

- There are three indicators on suicidal tendencies in the CHSCY that are specific to youth 15-17 years of age. They include: feeling sad or hopeless every day, considered attempting suicide/taking own life, and attempted suicide. This data is presented in Table 23 by the selected socio-demographic indicators. Each column represents a separate indicator that has been dichotomized as risk vs. no risk, therefore the rows do not add to 100% (see Technical Notes).
- Girls had a significantly higher prevalence of feeling sad or hopeless, considering attempting suicide or have attempted suicide compared to boys (Table 23; Figure 14).
- More youth with household incomes above the LICO reported that they considered suicide or taking their own life compared to those living below the LICO (16.7% vs. 11.0%). However, estimates in the below LICO category should be used with caution due to higher sampling variability.

Table 23: Suicidal tendencies among youths 15-17 years by socio-demographic indicators; Ontario, 2019

Socio-demographic	Feels sad/hopeless everyday % (95% CI)	Considered attempting suicide/taking own life % (95% CI)	Attempted suicide % (95% CI)
Sex at birth			
Male	19.5 (16.9-22.1)	11.6 (9.5-13.7)	3.8[C] (2.5-5.0)
Female	36.4* (33.2-39.6)	19.9* (17.3-22.4)	9.8* (7.9-11.8)
Highest Household Education			

Socio-demographic	Feels sad/hopeless everyday % (95% CI)	Considered attempting suicide/taking own life % (95% CI)	Attempted suicide % (95% CI)
High School or less	28.9 (23.2-34.5)	13.1 (9.3-16.9)	6.1[C] (3.5-8.7)
College/Trades	27.8 (24.5-31.0)	16.9 (14.0-19.7)	8.1 (6.0-10.2)
University or more	26.5 (23.5-29.4)	14.9 (12.5-17.2)	5.9 (4.3-7.5)
Household Income			
<$24,999	30.6 (22.3-38.9)	13.7[C] (8.0-19.5)	NR
$25,000 to 49,999	27.9 (22.3-33.6)	14.9 (10.6-19.1)	9.3[C] (5.6-13.0)
$50,000 to 74,999	25.8 (20.5-31.0)	12.2 (8.7-15.7)	7.1[C] (4.1-10.0)
$75,000 to 99,999	32.6 (26.8-38.5)	18.0 (13.2-22.9)	8.3[C] (4.8-11.7)
$100,000 to 149,999	24.9 (21.0-28.9)	16.0 (12.5-19.5)	5.4[C] (3.4-7.4)
$150,000 to 199,999	27.3 (22.2-32.4)	15.7 (11.2-20.2)	7.1[C] (4.0-10.1)
$200,000 and higher	27.0 (21.6 (32.5)	17.8 (13.0-22.6)	5.9[C] (3.2-8.7)
Income Quintiles			
Q1	28.2 (22.7-33.7)	12.3[C] (8.5-16.2)	3.7[D]* (1.9-5.5)
Q2	27.1 (22.7-31.5)	14.5 (11.1-17.8)	9.5[C] (6.4-12.6)
Q3	29.4 (24.8-34.0)	17.1 (13.2-21.0)	7.2[C] (4.7-9.7)
Q4	24.9 (20.6-29.1)	15.5 (11.9-19.1)	6.0[C] (3.7-8.3)
Q5	28.5 (24.2-32.8)	17.6 (13.9-21.3)	6.4[C] (4.1-8.7)
Low Income Cut Off (LICO)			
Above LICO	27.5 (25.3-29.7)	16.7* (14.8-18.6)	7.1 (5.8-8.4)
Below LICO	28.1 (23.1-33.1)	11.0[C] (7.6-14.4)	4.9[C] (2.8-7.1)
Race and Ethnic Origin			
Black	27.6[C] (18.1-37.1)	14.7[D] (7.2-22.1)	NR
East Asian	26.7[C] (18.2-35.2)	20.7[C] (12.7-28.7)	NR
Latin American	33.2[D] (12.0-54.5)	NR	NR
Other (Multiple)	28.1 (14.7-41.6)	22.0[D] (9.3-34.6)	NR
South Asian	27.2 (20.3-34.2)	7.9[C] (4.3-11.5)	NR
Southeast Asian	41.7 (30.3-53.1)	24.5[C] (15.0-33.9)	13.8[D] (6.0-21.7)
West Asian/Arab	32.5[C] (20.1-44.8)	NR	NR
White/Non-racialized[†]	26.0 (23.6-28.4)	15.6 (13.5-17.6)	6.5 (5.2-7.9)
Indigenous Identity			
Yes	34.3[C] (24.0-44.7)	24.3[C] (14.6-34.0)	15.8[D] (6.9-24.6)
No	27.5 (25.4-29.6)	15.3 (13.7-17.0)	6.5 (5.3-7.6)
Immigration Status			
Non-immigrant	28.2 (26.0-30.4)	16.4 (14.5-18.3)	7.1 (5.8-8.4)
Immigrant	25.2 (19.9-30.5)	11.6[C] (8.0-15.2)	4.7[D] (2.2-7.2)
Non-permanent resident	NR	NR	NR

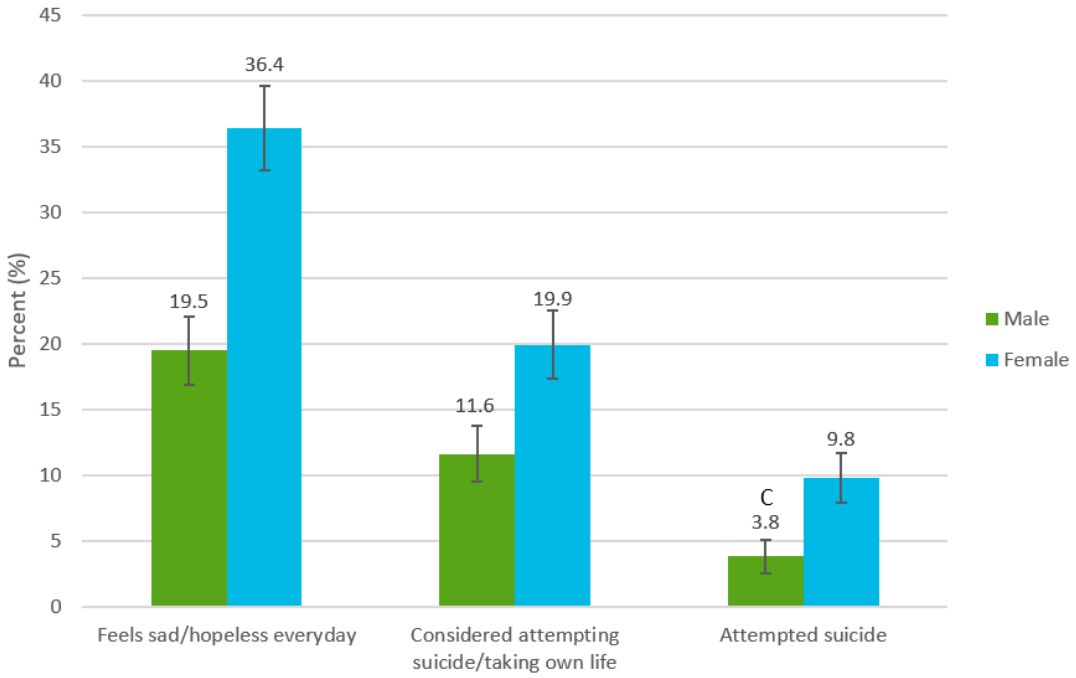
C and D – This estimate should be interpreted with caution due to high sampling variability

NR - This estimate could not be released as per Statistics Canada guidelines to not release estimates of unacceptable quality

†White/Non-racialized group excludes people who identified as Indigenous.

*indicates a significant difference across socio-demographic indicator (Rao-Scott Chi-Square Test p<0.05)

Figure 14: Suicidal tendencies among youths 15-17 years by sex at birth; Ontario, 2019



C – This estimate should be interpreted with caution due to high sampling variability

Discussion

CHSCY is a valuable data source for better understanding the mental health status of children and youth in Ontario. This discussion will briefly examine the mental health indicators among children as measured by CHSCY, in the context of other available data sources, and limitations for consideration when interpreting and undertaking mental health analyses using CHSCY data.

The CHSCY estimates 2.7% of children 1-11 years and 13.1% of youth 12-17 years in Ontario have "fair" or "poor" mental health. The overall prevalence of having a health professional diagnosed mental health condition was 9.8%; 2.0% of children 1-4 years, 9.6% 5-11 years and 15.0% 12-17 years. This is similar to data from the US showing approximately 2% of children 2-5 years of age had ever received a diagnosis of ADHD, anxiety or ASD.[17] In this US study, prevalence of mental health conditions increased with age, and this was observed in the CHSCY data as well.

We analyzed the CHSCY data by available social-demographic data to acknowledge the differences in mental health outcomes between groups that may be caused by structural and social determinants of health. There were significant sex differences in mental health status. Females were more likely to have PMK-rated or self-rated mental health as "fair" or "poor" and a higher prevalence of mood and anxiety disorders. Conversely, males had a higher prevalence of any mental health condition, due to significantly higher rates of ASD and ADHD. These sex differences are consistent with multiple previous studies.[18-20] In youth 12-17 years, females reported more life stress, less life satisfaction, less general happiness compared to males, results that were also consistent with other data sources.[21] Females also reported a higher prevalence of suicidal tendencies including feeling sad/hopeless every day, considered attempting suicide, and attempting suicide.

Children and youth from households with higher income or higher parental education level had slightly better mental health status compared to those in lower income or education households, a result that is

consistent with previous studies.[22,23] Although when comparing the lowest household income or lowest income quintile to the highest, there was minimal difference in those reporting “fair” or “poor” mental health.

There were some significant differences in race and ethnic origin in the CHSCY data, although due to small sample sizes, results are to be interpreted with caution. In previous studies, Chiu et al., showed South Asian, Chinese and Black respondents to the Canadian Community Health Survey (CCHS, 12 years+) had lower self-reported physician diagnosed mood and anxiety disorders compared to White respondents.[24] Though from the CCHS study focused on youth and adults, the same trend was observed using data from CHSCY.

Children and youth identifying as Indigenous had a lower prevalence of “excellent/very good” mental health and a higher prevalence of any mental health condition, ADHD, and anxiety. Previous research from high income countries such as Canada, the US, Australia, and New Zealand, with a history of European colonization and subsequent cultural marginalization of Indigenous peoples, found Indigenous children to be disproportionately affected by mental health problems compared to non-Indigenous children.[25] Studies have also identified modifiable psychosocial risk and protective factors for the mental health of Indigenous children to develop more innovative strategies to mental health promotion that use a strengths-based approach, and are adaptable to cultural practices and belief systems of Indigenous peoples.[25,26]

Our findings indicate no significant differences in mental health status between immigrant and non-immigrant groups and some significant differences in health professional diagnosed mental health conditions, although cell sizes were small and individual diagnoses should be interpreted with caution. This aligned with one study using data from British Columbia showed children and youth from first-generation immigrant or refugee backgrounds had a lower prevalence of various mental health conditions including ADHD and mood/anxiety disorders as compared to non-immigrant children in youth.[27] Salami et al., also showed that there was no significant difference between the overall mental health status of immigrant and non-immigrant children and youth using data from the Canadian Health Measures Survey.[22]

Although there were some statistically significant differences between Statistics Canada Peer Groups and geographic regions and mental health indicators, these differences were small. The biggest difference was between the North West region, with the highest prevalence of “fair” or “poor” mental health, and Toronto, of about four percent. There was a higher prevalence of any health professional diagnosed mental health conditions in the more rural peer groups, compared to the urban grouping of G&H.

Limitations

There may be limitations to the mental health indicators in the CHSCY data. For children 1-11 years, PMH-perceived child mental health status is reported which may not accurately reflect the true mental health status of the child. In the youth participants, both PMK-reported mental health status and youth-self reported mental health status are collected. Due to poor correlation between the two variables, we used the youth-self reported variable. However, this was not available for children less than 12 years. With respect to the youth-reported mental health indicators, data from CHSCY may be underestimated due to social desirability bias, as surveys are completed at home rather than in school. For example, findings from the 2019 Ontario Student Drug Use and Health Survey (OSDUHS) showed 26.5% of youth (grades 7-12) rated their mental health as “fair/poor”,[21] compared to the 13.1% reported in the CHSCY data. Although for indicators of suicidal tendencies, CHSCY and OSDUHS were more similar; 15.5% of

youth 15-17 years in CHSCY and 16.4% of youth in OSDUHS seriously contemplated suicide in the past year.[21]

Technical Notes

Data Source

This report examined the Ontario portion of the 2019 Canadian Health Survey on Children and Youth (CHSCY) which used the Canadian Child Tax Benefit (CCB) as the sampling frame to select children and youth between the ages of 1 to 17 years old as of January 31, 2019.

- Children living in private dwellings across 10 provinces and 3 territories were eligible.
- Children living on First Nation reserves or other Indigenous settlements were excluded from the survey. Further, children living in foster care and children and youth who were institutionalized were excluded.

Indicators

MENTAL HEALTH VARIABLES

AGES 1-4 YEARS

PMK-reported mental health (GEN_020) – fair/poor, good, very good/excellent

Health professional diagnosed mental health conditions (LTC_005H, LTC_005I) – ADHD, ASD

(LTC_005H) Attention deficit disorder or attention deficit hyperactivity disorder, also known as ADD or ADHD

(LTC_005I) Autism spectrum disorder, also known as autism, autistic disorder, Asperger's disorder or pervasive developmental disorder

AGES 5-11 YEARS

PMK-reported mental health (GEN_020) – fair/poor, good, very good/excellent

Health professional diagnosed mental health conditions (LTC_005) "Has this child been diagnosed with any of the following long-term conditions?

(LTC_005D) An anxiety disorder, such as a phobia, obsessive-compulsive disorder or a panic disorder"
(LTC_005E) A mood disorder such as depression, bipolar disorder, mania or dysthymia
(LTC_005H) Attention deficit disorder or attention deficit hyperactivity disorder, also known as ADD or ADHD

(LTC_005I) Autism spectrum disorder, also known as autism, autistic disorder, Asperger's disorder or pervasive developmental disorder

AGES 12-17 YEARS

PMK-reported mental health (GEN_020 or GENDVMCP) – fair/poor, good, very good/excellent (excluding youth who are their own PMK)

Youth self-perceived mental health (GEN_050) – fair/poor, good, very good/excellent

Satisfaction with life in general (GEN_055, use derived variable GENDVSWY) – Using a scale of 0 to 10, how do you feel about your life as a whole right now? 0-10, very dissatisfied to very satisfied

Derived variable[28]: Very satisfied, satisfied, neither satisfied or dissatisfied, dissatisfied, very dissatisfied

Self-perceived life stress (GEN_060) – "Thinking about the amount of stress in your life, how would you describe most of your days?" – Not at all stressful, not very stressful, a bit stressful, quite a bit stressful, extremely stressful

Self-perceived happiness (GEN_065) – "How would you usually describe yourself? Would you say:" Happy and interested in life, somewhat happy, somewhat unhappy, unhappy with little interest in life, so unhappy that life is not worthwhile

AGES 15-17 YEARS

Suicidal tendencies indicators

Physician diagnosed mental health conditions (LTC_005) "Has this child been diagnosed with any of the following long-term conditions?

- (LTC_005D) An anxiety disorder, such as a phobia, obsessive-compulsive disorder or a panic disorder"
- (LTC_005E) A mood disorder such as depression, bipolar disorder, mania or dysthymia
- (LTC_005H) Attention deficit disorder or attention deficit hyperactivity disorder, also known as ADD or ADHD
- (LTC_005I) Autism spectrum disorder, also known as autism, autistic disorder, Asperger's disorder or pervasive developmental disorder

SOCIO-DEMOGRAPHIC VARIABLES

The socio-demographic variables used in this analysis include age, sex at birth, household income, education of person most knowledgeable (PMK) of the child and their spouse, race and ethnic origin (including Indigenous identity), and immigration status. For more information on these socio-demographic variables and how they were recoded please see the full Technical Report.

- Age was categorized as 1-4, 5-11, and 12-17 years.
- Sex at birth was categorized as male or female.
- Household income was categorized into 7 levels (<$24,999, $25,000-$49,999, $50,000-$74,999, $75,000-$99,999, $100,000-$149,999, $150,000-$199,999, and $200,000+).
- Low income cut-off (LICO) measure is a dichotomous variable describing low or high income. It was calculated using Canadian 2019 before-tax income adjusted for community and household size
- Highest Household Educational Attainment of the PMK or PMK Spouse was categorized into three groups (high-school or less, college/vocational/university certificate or diploma, and university or more).

- Race and ethnic origin were categorized as South Asian, Black, East Asian, Southeast Asian/Filipino, West Asian/Arab, White/Not a Racialized Group, Latin American, and other (or multiple).
- Indigenous identity (First Nations, Inuit or Métis) was defined as 'Yes' or 'No'
- Immigration status was categorized as non-immigrant, immigrant, and non-permanent residents.

GEOGRAPHIC VARIABLES

The proportion of children was categorized by Statistics Canada Peer Groups and by major geographic regions.

Statistics Canada Peer Groups are based on the following list:

- Group B – Mainly urban centres with moderate population density
    - Durham Region Health Department, Halton Region Public Health, City of Hamilton Public Health Services, Middlesex-London Health Unit, Ottawa Public Health, Region of Waterloo Public Health and Emergency Services, Windsor-Essex County Health Unit
- Group C – Sparsely populated urban-rural mix
    - Algoma Public Health, Brant County Health Unit, Chatham-Kent Public Health, Eastern Ontario Health Unit, Haliburton, Kawartha, Pine Ridge District Health Unit, Hastings Prince Edward Public Health, Kingston, Frontenac and Lennox & Addington Public Health, Lambton Public Health, Niagara Region Public Health, North Bay Parry Sound District Health Unit, Porcupine Health Unit, Peterborough Public Health, Public Health Sudbury & Districts, Thunder Bay District Health Unit, Timiskaming Health Unit
- Group D – Mainly rural
    - Grey Bruce Health Unit, Haldimand-Norfolk Health Unit, Huron Perth Public Health, Leeds, Grenville & Lanark District Health Unit, Northwestern Health Unit, Renfrew County and District Health Unit, Simcoe Muskoka District Health Unit, Southwestern Public Health, Wellington-Dufferin-Guelph Public Health
- Group G&H – Largest population centres with high population density
    - City of Toronto, Peel Public Health, York Region Public Health

The major **geographic regions** are the following:

- North West – Northwestern Health Unit, Thunder Bay District Health Unit
- North East – Porcupine Health Unit, Timiskaming Health Unit, Public Health Sudbury & Districts, Algoma Public Health, North Bay and Parry Sound District Health Unit
- South West – Windsor-Essex County Health Unit, Chatham-Kent Public Health, Southwestern Public Health, Lambton Public Health, Middlesex-London Health Unit, Huron Perth Public Health, Grey Bruce Health Unit

- Central West – Wellington-Dufferin-Guelph Public Health, Halton Region Public Health, City of Hamilton Public Health Services, Niagara Region Public Health, Region of Waterloo Public Health and Emergency Services, Haldimand-Norfolk Health Units, Brant County Health Unit
- Toronto Public Health
- Central East – Peel Public Health, York Region Public Health, Durham Region Health Department, Haliburton, Kawartha, Pine Ridge District Health Unit, Peterborough Public Health, Simcoe-Muskoka District Health Unit
- East – Renfrew County and District Health Unit, Hastings Prince Edward Public Health, Kingston, Frontenac and Lennox & Addington Public Health, Leeds, Grenville & Lanark District Health Unit, Ottawa Public Health, Eastern Ontario Health Unit

Data Analysis

SAS Enterprise Guide was used to conduct all statistical analysis. Bivariate analyses was conducted between the covariates and mental health indicators.

- PROC SURVEY commands were used with bootstrap replications (n=1,000) and bootstrap weights provided by Statistics Canada. Using these, point estimates and 95% confidence intervals were calculated.
- Statistics Canada approved guidelines were used to report outcomes, where estimates with coefficients of variation (CV) with less than 0.15% were reported without warnings.

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