Electronic Device Use Indicators Using Data from the Canadian Health Survey on Children and Youth

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Highlights

- This report provides an overview of the frequency of electronic device use for online activities and parents' knowledge of electronic device use among youth ages 12-17 years in Ontario as measured by the 2019 Canadian Health Survey of Children and Youth (CHSCY).

- Many youth in Ontario report using their electronic devices for a variety of reasons. For example, 63.9% (95% CI 62.4-65.3%) of youth ages 12-17 reported using social networking, 53.9% (95% CI 52.4-55.4%) reported using video or instant messaging, and 20.0% (95% CI 18.8-21.2%) reported playing games online several times a day or constantly.

- There were significant differences in all types of reported electronic device use as well as parents' knowledge of youths' online activities by sex at birth. Females tended to report a higher frequency of both social networking and video or instant messaging use, while males reported more frequent online gaming.

- There were significant differences by race and ethnic origin, measures of household income, Statistics Canada Peer Groups, geographic regions, and Public Health Units for video or instant messaging frequency, online gaming frequency, and parents' knowledge of youths' online activities, but not for social networking frequency. For example, as household income increased, video/instant messaging frequency increased while online gaming frequency decreased.

- There were significant differences by parental education for social networking use, online gaming, and parents' knowledge of youths' online activities, but not for video or instant messaging. Generally, youth with parents with higher education reported a lower frequency of social networking and online gaming.

- Despite finding some statistically significant differences across sociodemographic characteristics, many of the differences are small and it is unclear if they would be meaningful as determinants of differential health outcomes. What is clear is that frequent electronic device use is a pervasive trend in this age group in Ontario.

Introduction

This report is one in a series of summaries on CHSCY-derived child health indicators. CHSCY provides ongoing health-related information on children and youth at the national, provincial, and territorial levels. The purpose of the series is to provide clearly defining categories for socio-demographic variable use in analyses of CHSCY data to ensure consistent language and interpretation of results on various behaviours between public health units (PHUs). Basic estimates are provided by several levels of geography for PHUs with limited epidemiological support to access estimates for their region. For more information about the series, please see the series Technical Report.

This report provides an overview of the frequency of electronic device use and parent knowledge of youths' electronic device use among youth ages 12-17 years in Ontario as measured by the 2019 CHSCY.[1] Self-reported (by youth aged 12-17 year) social networking, video/instant messaging, and online gaming frequency are described, as well as parents knowledge of youths' online activities, along with any relationships with socio-demographic characteristics. All indicators were also examined by geographic region, Statistics Canada Peer Groups and Public Health Units. For information about sedentary behaviour (e.g., prevalence of meeting screen time recommendations) and other screen time indicators (e.g., weekly electronic device use while inactive, prevalence of electronic device use before sleep) more generally and among different age groups (3-17 years of age), please see the Sedentary Behaviour in Children and Youth Report. For more information about the CHSCY data and population characteristics, please see the CHSCY Technical Report.

Electronic device use among youth is highly common and widespread. Electronic devices used during leisure time, including smartphones, computers, iPads and other tablets, for the purpose of online social networking, video or instant messaging, or playing video games, can become problematic when used in excess. While the frequency of use of different online platforms and applications used on electronic devices may vary, as might the risks and impacts associated with the use of different platform or applications, there is evidence that higher frequency of electronic device use is associated with many negative health outcomes in youth.[2] Generally, there is an inverse correlation between electronic device use and overall well-being.[3] Overuse of electronic devices is associated with musculoskeletal symptoms (e.g., muscle pain, sedentary lifestyle),[4] visual problems,[4] changes in mood (e.g., irritability and temper),[5] sleep disruption and fatigue,[5] parental or peer relationship challenges, symptoms of psychological distress, depression or anxiety,[3] as well as impacts on school performance or attendance. There is consistent evidence that excessive social media use is associated with sleep difficulties,[6] poorer mental health and well-being,[7] body dissatisfaction and unhealthy dietary behaviours,[8,9] and other risk behaviours (e.g., substance use, sexual risk behaviours).[9,10] There is less consistent evidence on the impacts of frequent instant messaging (through phone service providers or online platforms), with some reporting higher levels of depression and anxiety[11] and others showing no consistent associations between instant messaging and internalizing symptoms.[12] Finally, higher engagement with online video games is associated with poorer diet and lifestyle behaviours (e.g., physical activity, sleep quality).[13,14] Parental knowledge of youths' activities is a protective factors for adolescent development; it is important for parents to be aware of the potential online risks that youth might face online.[15]

Surveillance on sedentary behaviours tends to focus on recreational screen time and electronic device use during free time. In the Sedentary Behaviour in Children and Youth Report, a composite variable of total screen time was created for children and youth that incorporated total amount of time spent watching television and playing games on a console. Those behaviours were measured in number of hours over the past seven days (ranging from 'no time' to '21 hours or more'). In that report, 51.5% of youth aged 12-17 years adhered to screen time guidelines, with a median screen time of 11.7 hours per week. The electronic device use-related indicators reported in this summary were measured by a perceived frequency Likert-scale ranging from 'never' to 'constantly' rather than by total time spent.

Understanding the socio-demographic and geographic factors related to electronic device use frequency among youth and parents' knowledge of youths' online activities can support public health practitioners and community partners target interventions towards disproportionately affected Ontarians that might be spending too much time on electronic devices. This report provides a baseline overview of electronic device use frequency and parents' knowledge of online activity indicators prior to the COVID-19 pandemic and will assist in similar investigations using future releases of the CHSCY.

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 tend to maintain power differentials within society. 'Ethnic origin' refers to communities' learned or adopted characteristics such as language, practices, and beliefs.[16,17] Note that the categorization of people as Indigenous, Black, and other racial categories has been historically and is 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." For more information on socio-demographic terminology, please refer to the Technical Notes and Technical Report.[17]

Race-based and Indigenous identify data is vital for the identification and monitoring of health inequities that stem from racism, bias and discrimination, and to inform the design of programs and services to reduce inequitable health outcomes.[18] However, it is important to interpret the association between these data and health outcomes in the context of historical and ongoing policies, practices and structures that drive and maintain inequities, including systemic racism and colonialism. Critically assessing and contextualizing race-based and Indigenous data is imperative due to the potential harms from misuse and misinterpretation. Public Health Ontario (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

Social networking frequency

OVERALL ESTIMATES

- Nearly two-thirds of youth aged 12-17 years reported using social networking (e.g., Facebook, Instagram, Twitter) several times a day or constantly [63.9% (95% CI 62.4-65.3%)] (Figure 1, Table 1).

Figure 1. Social networking frequency among youth ages 12-17 years; Ontario, 2019.
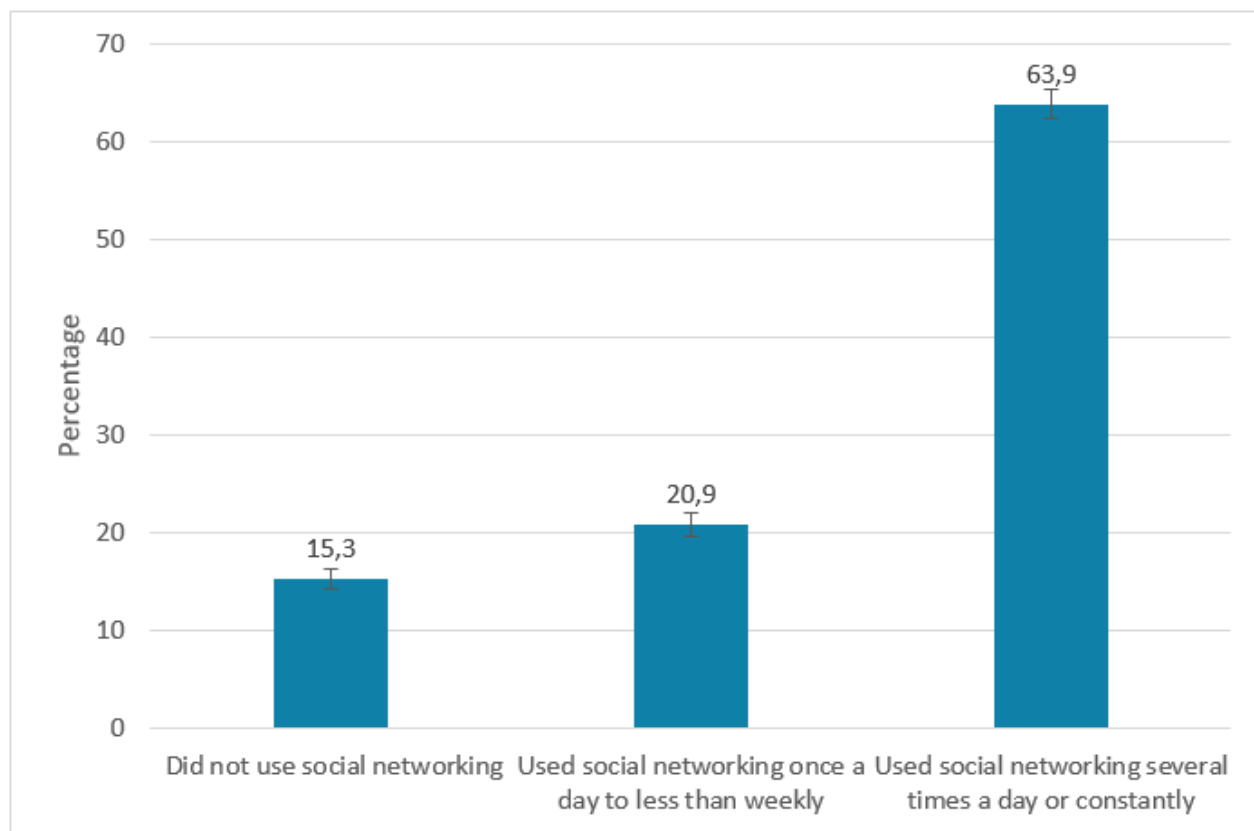

Table 1. Social networking frequency among youth ages 12-17 years; Ontario, 2019

Indicator	Weighted percentage % (95% CI)
Social networking frequency (12-17 year olds)	
Did not use social networking	15.3 (14.2-16.3)
Used social networking once a day to less than weekly	20.9 (19.6-22.1)
Used social networking several times a day or constantly	63.9 (62.4-65.3)

ESTIMATES BY CHILD SOCIODEMOGRAPHIC CHARACTERISTICS

- Among youth aged 12-17 years of age, social networking frequency only differed significantly by sex at birth. There were no significant differences by race and ethnic origin, Indigenous identity or immigration status (Table 2).

- A significantly higher proportion of females [71.9% (95% CI 70.0-73.7%)] than males [56.3% (95% CI 54.1-58.5%)] reported using social networking several times a day or constantly (Figure 2, Table 2). A significantly higher proportion of males reported not using social networking (18.8% [95% CI 17.1-20.4%]) or only using social networking once a day to less than weekly (25% [95% CI 23.1-26.8%]), compared to females [11.6% (95% CI 10.3-12.9%)]; 16.5% (95% CI 14.9-18.2%)], respectively.

Figure 2. Social networking frequency by sex at birth among youth ages 12-17 years; Ontario, 2019
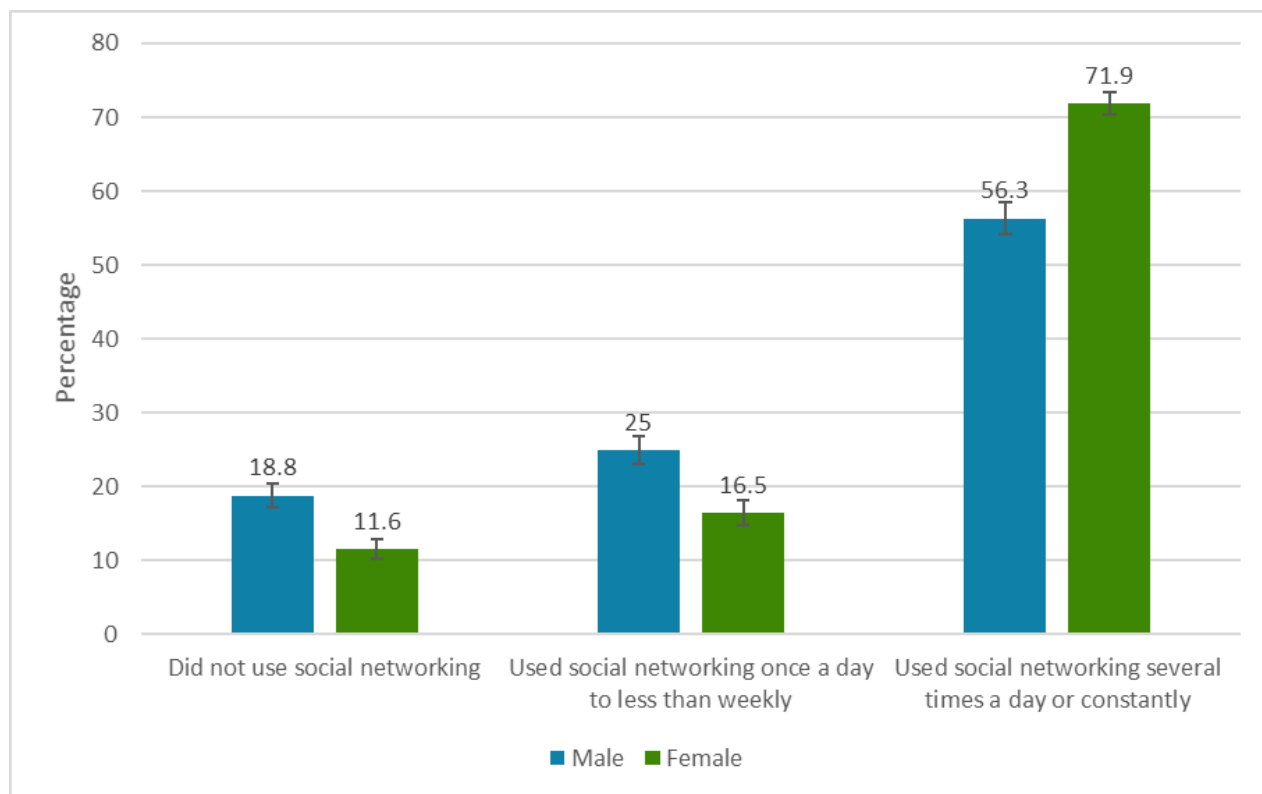

Table 2: Social networking frequency by sex at birth, race and ethnic origin, Indigenous identity, and immigration status in youth ages 12-17 years; Ontario, 2019

Socio-demographics	Did not use social networking – Weighted percentage (95% CI)	Used social networking once a day to less than weekly – Weighted percentage (95% CI)	Used social networking several times a day or constantly – Weighted percentage (95% CI)
Sex at birth*			
Male	18.8 (17.1-20.4)	25.0 (23.1-26.8)	56.3 (54.1-58.5)
Female	11.6 (10.3-12.9)	16.5 (14.9-18.2)	71.9 (70.0-73.7)
Race and ethnic origin			
Black	15.4[C] (10.2-20.5)	23.1 (17.3-28.9)	61.6 (54.8-68.4)
East Asian	15.4 (11.0-19.9)	22.4 (17.1-27.7)	62.2 (56.0-68.3)
Latin American	14.4[D] (4.9-23.9)	19.7[D] (8.1-31.3)	65.9 (52.7-79.2)
Other/Multiple	15.4[C] (8.1-22.7)	16.0[C] (8.6-23.3)	68.6 (59.2-78.1)
South Asian	19.1 (15.4-22.8)	19.4 (15.7-23.2)	61.5 (56.9-66.1)
Southeast Asian	12.8[C] (7.0-18.6)	15.0[C] (9.6-20.4)	72.2 (64.8-79.6)
West Asian/Arab	14.8[C] (8.0-21.7)	19.8[C] (12.9-26.6)	65.4 (56.8-74.0)
White/Non-racialized†	14.6 (13.3-15.9)	21.3 (19.7-22.8)	64.2 (62.4, 66.0)

Socio-demographics	Did not use social networking – Weighted percentage (95% CI)	Used social networking once a day to less than weekly – Weighted percentage (95% CI)	Used social networking several times a day or constantly – Weighted percentage (95% CI)
Indigenous identity			
Indigenous	18.2^C (12.5-23.9)	24.5 (18.3-30.8)	57.3 (49.9-64.6)
Non-Indigenous	15.2 (14.1-16.3)	20.8 (19.5-22.0)	64.0 (62.5-65.5)
Immigration status			
Non-immigrant	15.1 (13.9-16.3)	21.1 (19.8-22.4)	63.8 (62.2-65.4)
Immigrant	16.0 (12.7-19.2)	19.5 (16.1-22.9)	64.6 (60.4-68.7)
Non-permanent resident	NR	NR	53.7 (29.7-77.8)^C

Note: Indigenous identity and child/youth immigration status are ordered based on weight in the sample (i.e., percent of total Ontario sample), from largest to smallest, and race and ethnic origin are in alphabetical order.
†Excludes those identifying as Indigenous
*indicates a significant difference across socio-demographic variable levels (Rao-Scott Chi-Square Test p<0.05)
Capital C after estimate: Data quality indicator— marginal (0.15 < CV ≤ 0.25), interpret with caution due to high sampling variability
Capital D after estimate: Data quality indicator: marginal (0.25 < CV ≤ 0.35), interpret with caution due to high sampling variability.
NR: not reportable due to an insufficient number of observations or unacceptable quality (CV > 0.35)

ESTIMATES BY HOUSEHOLD SOCIODEMOGRAPHIC CHARACTERISTICS

- There were significant differences in social networking frequency by highest parental education, but no differences by household income, income quintiles or low income cut-off (Figure 3, Table 3).

- A higher proportion of youth with parents with higher parental education (university or more) reported not using social networking [17.3% (95% CI 15.6-18.9%)] compared to youth with parents with College/Trades education [12.9% (95% CI 11.2-14.6%)] or high school or less [14.9% (95% CI 11.8-18.0%)] (Figure 3).

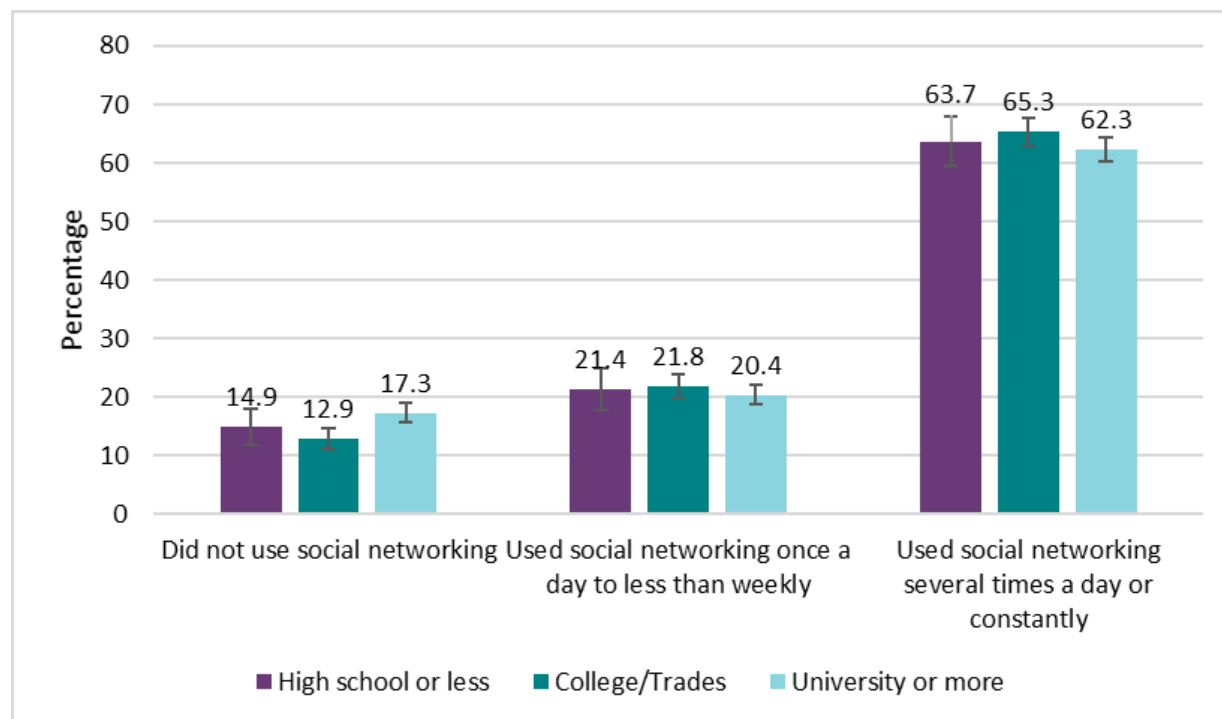**Figure 3. Social networking frequency by highest parental education in youth ages 12-17 years; Ontario, 2019.**

Table 3: Social networking frequency by highest parental education and income in youth ages 12-17 years; Ontario, 2019

Socio-demographics	Did not use social networking – Weighted percentage (95% CI)	Used social networking once a day to less than weekly – Weighted percentage (95% CI)	Used social networking several times a day or constantly – Weighted percentage (95% CI)
Highest parental education*			
High school or less	14.9 (11.8-18.0)	21.4 (17.9-24.9)	63.7 (59.5-67.9)
College/Trades	12.9 (11.2-14.6)	21.8 (19.7-23.9)	65.3 (62.9-67.7)
University or more	17.3 (15.6-18.9)	20.4 (18.7-22.1)	62.3 (60.2-64.4)
Household Income			
<$24,999	15.9 (11.5-20.3)	21.6 (16.7-26.4)	62.5 (56.7-68.3)
$25,000 to 49,999	13.6 (10.7-16.4)	22.1 (18.6-25.6)	64.3 (60.3-68.3)
$50,000 to 74,999	17.5 (14.3-20.7)	20.2 (16.7-23.6)	62.3 (58.2-66.5)
$75,000 to 99,999	16.9 (14.0-19.9)	20.9 (17.5-24.3)	62.2 (58.2-66.1)
$100,000 to 149,999	15.1 (12.8-17.5)	20.7 (18.0-23.4)	64.2 (61.0-67.4)
$150,000 to 199,999	14.1 (11.4-16.9)	20.2 (17.0-23.4)	65.7 (61.9- 69.5)
$200,000 and higher	13.9 (11.3-16.6)	20.7 (17.4-23.9)	65.4 (61.5-69.2)

Socio-demographics	Did not use social networking – Weighted percentage (95% CI)	Used social networking once a day to less than weekly – Weighted percentage (95% CI)	Used social networking several times a day or constantly – Weighted percentage (95% CI)
Income Quintiles			
Q1	14.2 (11.4-16.9)	21.8 (18.5-25.2)	64.0 (60.2-67.9)
Q2	16.8 (14.1-19.5)	20.7 (17.9-23.6)	62.5 (59.0-65.9)
Q3	17.0 (14.5-19.5)	21.1 (18.3-23.9)	61.9 (58.6-65.2)
Q4	14.2 (11.9-16.6)	21.0 (18.2-23.7)	64.8 (61.6-68.1)
Q5	14.0 (11.9-16.1)	19.9 (17.5-22.3)	66.1 (63.1-69.1)
Low Income Cut-Off (LICO)			
Above cut off	15.3 (14.1-16.5)	20.6 (19.2-21.9)	64.1 (62.5-65.8)
Below cut off	15.1 (12.5-17.7)	22.0 (19.1-24.9)	62.9 (59.5-66.3)

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

ESTIMATES FOR SUB-ONTARIO GEOGRAPHIES

STATISTICS CANADA PEER GROUPS

- Social networking frequency among youth ages 12-17 years did not differ by Statistics Canada Peer Groups (described in the Technical Notes) (Table 4).

Table 4: Social networking frequency by Statistics Canada Peer Groups in youth ages 12-17 years; Ontario, 2019

Peer Group	Did not use social networking – Weighted percentage (95% CI)	Used social networking once a day to less than weekly – Weighted percentage (95% CI)	Used social networking several times a day or constantly – Weighted percentage (95% CI)
G&H (largest metro centres)	15.8 (13.9-17.7)	19.0 (17.0-21.1)	65.2 (62.7-67.7)
B (mainly urban centers)	13.8 (11.8-15.8)	21.9 (19.4-24.4)	64.3 (61.6-67.0)
C (sparsely populated urban-rural mix)	16.7 (14.5-19.0)	21.7 (19.1-24.2)	61.6 (58.7-64.5)
D (mainly rural regions)	15.7 (13.5-17.9)	22.6 (20.1-25.1)	61.7 (58.7-64.6)

GEOGRAPHIC REGION

- Social networking frequency among youth ages 12-17 years did not differ by geographic region in Ontario (Table 5).

Table 5: Social networking frequency by geographic region in youth ages 12-17 years; Ontario, 2019

Region	Did not use social networking – Weighted percentage (95% CI)	Used social networking once a day to less than weekly – Weighted percentage (95% CI)	Used social networking several times a day or constantly – Weighted percentage (95% CI)
Toronto	16.8 (13.9-19.8)	19.1 (15.9-22.2)	64.1 (60.3-67.8,)
North West	13.5[C] (8.7-18.4)	20.9 (15.3-26.4)	65.6 (58.9-72.3)
North East	13.7[C] (9.4-18.0)	22.9 (17.7-28.2)	63.4 (57.4-69.3)
Eastern	14.7 (12.0-17.3)	24.4 (20.8-27.9)	61.0 (57.1-64.9)
Central East	14.7 (12.8-16.6)	19.3 (17.1-21.5)	66.0 (63.4-68.6)
Central West	15.9 (13.4-18.4)	21.2 (18.3-24.0)	63.0 (59.6-66.3)
South West	14.8 (12.1-17.5)	22.8 (19.2-26.3)	62.4 (58.6-66.3)

Capital C after estimate: Data quality indicator— marginal (0.15 < CV ≤ 0.25), interpret with caution due to high sampling variability

PUBLIC HEALTH UNIT

- Social networking frequency among youth aged 12-17 years did not significantly differ across Public Health Units (Table 6).

Table 6. Social networking frequency by Public Health Unit in youth ages 12-17 years; Ontario, 2019

Public health unit	Did not use social networking – Weighted percentage (95% CI)	Used social networking once a day to less than weekly – Weighted percentage (95% CI)	Used social networking several times a day or constantly – Weighted percentage (95% CI)
Brant County Health Unit	13.2 (6.0-20.5)[D]	20.6 (11.5-29.6)[C]	66.2 (55.7-76.8)
Chatham-Kent Health Unit	15.1 (9.1-21.1)[C]	21.8 (15.1-28.5)[C]	63.2 (55.0-71.3)
City of Hamilton Health Unit	11.0 (4.1-17.9)[D]	23.6 (14.0-33.1)[C]	65.4 (55.0-75.8)
City of Ottawa Health Unit	13.2 (9.4-17.1)	23.5 (18.2-28.8)	63.3 (57.5-69.0)
City of Toronto Health Unit	16.8 (13.9-19.8)	19.1 (15.9-22.2)	64.1 (60.3-67.8)
Durham Regional Health Unit	11.9 (6.5-17.4)[C]	18.4 (12.1-24.7)[C]	69.6 (62.2-77.1)
Grey Bruce Health Unit	17.9 (9.8-26.0)[C]	19.5 (11.1-27.8)[C]	62.6 (52.7-72.6)

Public health unit	Did not use social networking – Weighted percentage (95% CI)	Used social networking once a day to less than weekly – Weighted percentage (95% CI)	Used social networking several times a day or constantly – Weighted percentage (95% CI)
Haldimand-Norfolk Health Unit	20.8 (10.4-31.3)[D]	26.9 (15.0-38.8)[C]	52.3 (38.9-65.6)
Haliburton, Kawartha, Pine Ridge District Health Unit	14.0 (7.8-20.3)[C]	25.0 (18.4-31.7)	60.9 (53.2-68.7)
Halton Regional Health Unit	13.7 (9.7-17.7)	22.3 (17.6-26.9)	64.1 (58.8-69.4)
Hastings and Prince Edward Counties Health Unit	17.2 (9.9-24.6)[C]	22.9 (14.7-31.2)[C]	59.8 (50.4-69.2)
Huron Perth Health Unit	17.3 (8.6-26.0)[D]	22.0 (12.9-31.2)[C]	60.7 (49.9-71.5)
Kingston, Frontenac and Lennox and Addington Health Unit	19.4 (12.8-25.9)[C]	20.3 (13.5-27.1)[C]	60.3 (52.2-68.4)
Lambton Health Unit	15.2 (7.5-22.9)[D]	21.2 (12.4-30.0)[C]	63.6 (53.0-74.2)
Leeds, Grenville and Lanark District Health Unit	10.2 (4.4-16.0)[D]	30.6 (21.4-39.7)[C]	59.2 (49.5-69.0)
Middlesex-London Health Unit	15.5 (8.1-22.8)[C]	24.3 (15.2-33.3)[C]	60.3 (50.3-70.3)
Niagara Regional Area Health Unit	19.1 (11.9-26.3)[C]	18.0 (10.4-25.5)[C]	62.9 (53.9-71.9)
North Bay Parry Sound District Health Unit	NR	23.0 (11.7-34.4)[D]	63.8 (50.5-77.0)
Northwestern Health Unit	15.5 (9.2-21.7)[C]	25.6 (17.6-33.6)[C]	58.9 (50.0-67.8)
Oxford Elgin St. Thomas Health Unit	12.5 (7.2-17.8)[C]	23.1 (16.2-30.0)[C]	64.5 (56.6-72.3)
Peel Regional Health Unit	15.5 (12.5-18.6)	21.2 (17.9-24.5)	63.2 (59.3-67.2)
Peterborough County—City Health Unit	25.8 (16.0-35.6)[C]	19.8 (10.8-28.7)[C]	54.4 (43.7-65.1)
Porcupine Health Unit	13.7 (5.7-21.7)[D]	26.4 (15.8-36.9)[C]	60.0 (48.0-71.9)
Renfrew County and District Health Unit	NR	25.2 (12.7-37.8)[D]	61.5 (47.5-75.4)
Simcoe Muskoka District Health Unit	15.1 (10.8-19.3)	20.3 (15.3-25.2)	64.6 (58.9-70.4)
Sudbury and District Health Unit	17.3 (8.8-25.7)[D]	22.0 (12.2-31.9)[C]	60.7 (49.9-71.5)

Public health unit	Did not use social networking – Weighted percentage (95% CI)	Used social networking once a day to less than weekly – Weighted percentage (95% CI)	Used social networking several times a day or constantly – Weighted percentage (95% CI)
The District of Algoma Health Unit	NR	20.5 (10.1-30.9)[D]	71.5 (60.0-82.9)
The Eastern Ontario Health Unit	19.9 (10.8-28.9)[C]	28.4 (18.1-38.6)[C]	51.8 (40.4-63.1)
Thunder Bay District Health Unit	12.6 (6.2-19.0)[D]	18.7 (11.4-26.1)[C]	68.7 (59.9-77.4)
Timiskaming Health Unit	NR	26.7 (8.6-44.7)[D]	61.4 (40.8-82.1)[C]
Region of Waterloo, Public Health	18.8 (12.5-25.1)[C]	18.8 (12.6-25.1)[C]	62.4 (54.8-69.9)
Wellington-Dufferin-Guelph Health Unit	19.1 (13.5-24.8)[C]	21.6 (15.7-27.5)	59.3 (52.5-66.0)
Windsor-Essex County Health Unit	13.3 (9.0-17.6)[C]	23.0 (17.1-29.0)	63.7 (57.2-70.1)
York Regional Health Unit	14.1 (10.1-18.2)	16.2 (11.6-20.8)	69.6 (63.9-75.4)

Capital C after estimate: Data quality indicator— marginal (0.15 < CV ≤ 0.25), interpret with caution due to high sampling variability

Capital D after estimate: Data quality indicator: marginal (0.25 < CV ≤ 0.35), interpret with caution due to high sampling variability

NR: not reportable due to an insufficient number of observations or unacceptable quality (CV > 0.35)

Video/instant Messaging frequency

OVERALL ESTIMATES

- Just over half of youth aged 12-17 years of age reported using video or instant messaging (Whatsapp, Snapchat, or FaceTime) several times a day or constantly [53.9% (95% CI 52.4-55.4%)]. Close to one-third of youth reported using video or instant messaging less than weekly to once a day [30.5% (95% CI 29.1-32.0%)] (Figure 4, Table 7).

Figure 4. Video or instant messaging frequency among youth ages 12-17 years; Ontario, 2019.
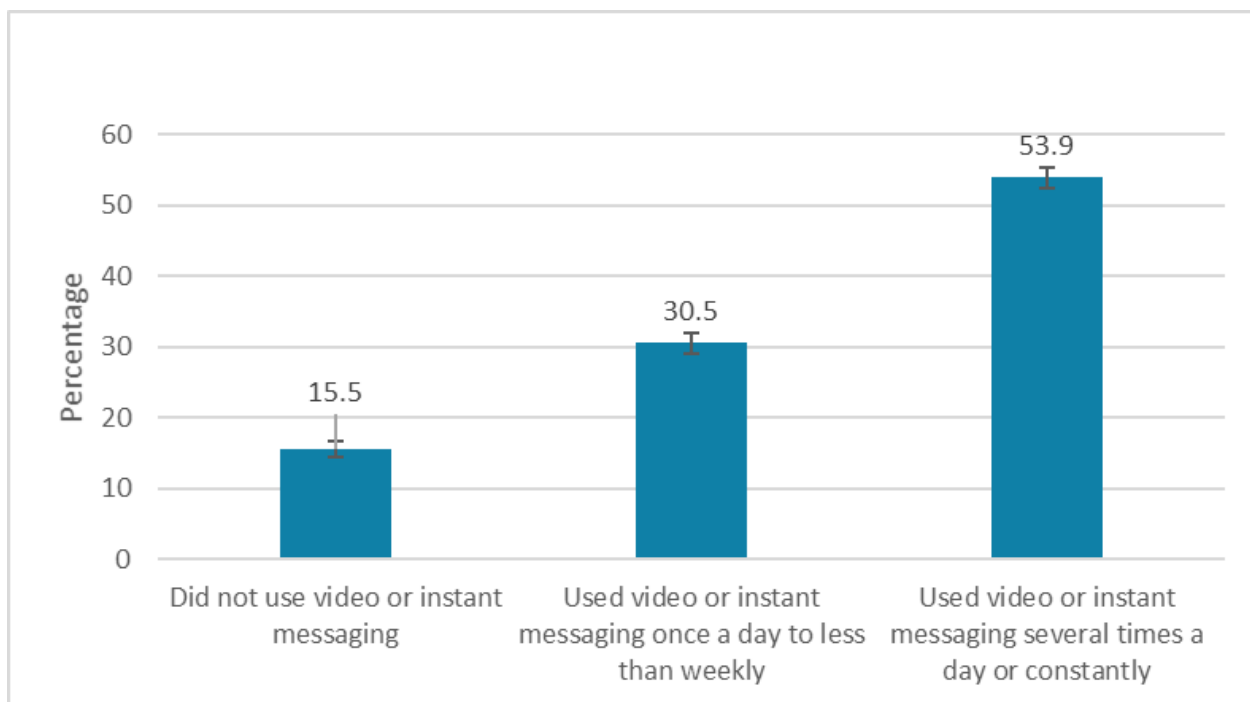

Table 7. Video or instant messaging frequency among youth ages 12-17 years; Ontario, 2019

Indicator	Weighted percentage % (95% CI)
Video or instant messaging (12-17 year olds)	
Did not use video or instant messaging	15.5 (14.4-16.6)
Used video or instant messaging once a day to less than weekly	30.5 (29.1-32.0)
Used video or instant messaging several times a day or constantly	53.9 (52.4-55.4)

ESTIMATES BY CHILD SOCIODEMOGRAPHIC CHARACTERISTICS

- There were significant differences in video or instant messaging frequency by sex at birth, race and ethnic origin, Indigenous identity, and immigration status (Table 8).

- Compared to males [47.0% (95% CI 44.9-49.1%)], a significantly higher proportion of females reported using video or instant messaging several times a day or constantly [61.2% (95% CI 59.1-63.4%)]. The proportion of males reporting not using video or instant messaging (20.8% [95% CI 19.0-22.5%]) was more than twice that of females [10.0% (95% CI 8.7-11.4%)] (Figure 5).

- The highest proportion of youth reporting that they use video or instant messaging several times a day or constantly identified as West Asian/Arab [60.3% (95% CI 51.4-69.3%)] or White/Non-racialized [57.0% (95% CI 55.1-58.9%)]. Significantly more youth identifying as White/non-racialized reported using video or instant messaging several times a day or constantly compared to youth identifying as East Asian [46.9% (95% CI 40.8-53.1%)] or South Asian [47.2% (95% CI 42.1-52.3%)]. While more youth identifying as West Asian/Arab reported using video or instant messaging several times a day or constantly than those identifying as White/non-racialized, this estimate was not significantly different from other race/ethnic origins.

- A significantly higher proportion of youth that identified as Indigenous reported that they did not use video or instant messaging [23.9% (95% CI 17.2-30.6%)] compared to those identifying as non-Indigenous [15.3% (95% CI 14.2-16.4%)].

- A higher proportion of youth identifying as non-immigrants [55.4% (95% CI 53.8-57.0%)] reported using video or instant messaging several times a day or constantly than those identifying as immigrants [46.6% (95% CI 42.3-51.0%)] and non-permanent residents [39.8% (95% CI 16.8-62.9%)]. However, the confidence interval for those identifying as non-permanent residents is very large and should therefore be interpreted with caution.

Figure 5. Video or instant messaging frequency by sex at birth in youth age 12-17 years; Ontario, 2019.
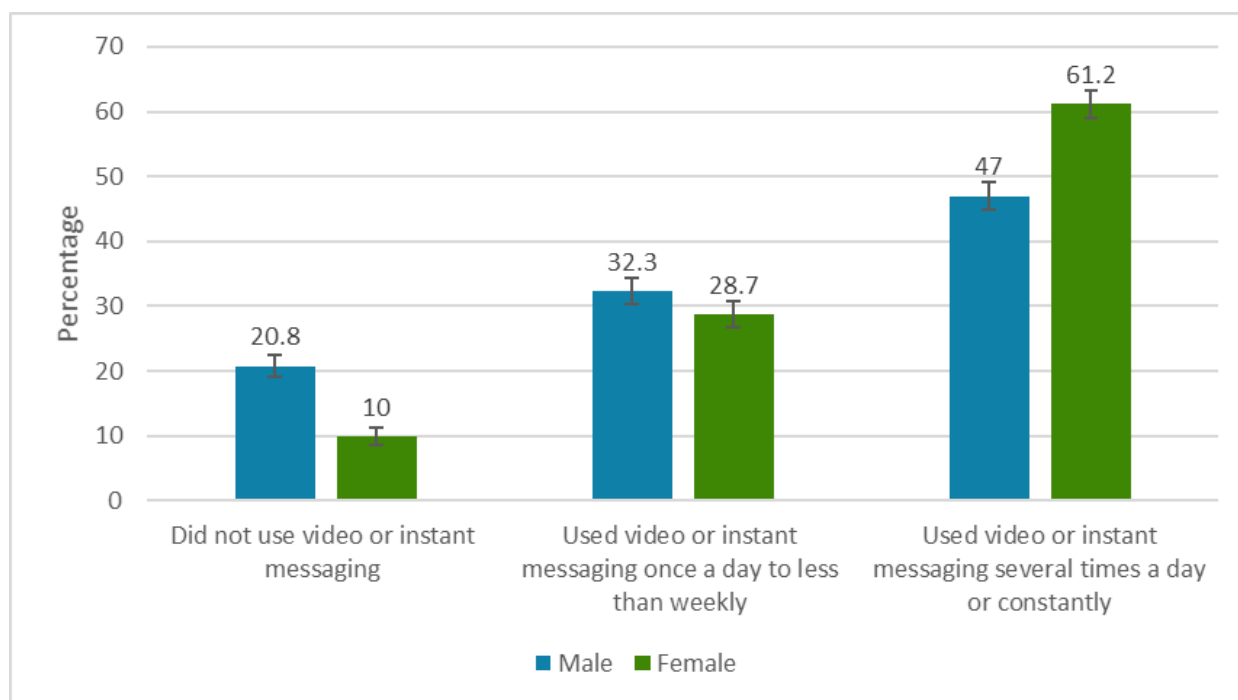

Table 8. Video or instant messaging frequency by sex at birth, race and ethnic origin, Indigenous identity, and immigration status in youth ages 12-17 years; Ontario, 2019

Socio-demographics	Did not use video or instant messaging – Weighted percentage (95% CI)	Used video or instant messaging once a day to less than weekly – Weighted percentage (95% CI)	Used video or instant messaging several times a day or constantly – Weighted percentage (95% CI)
Sex at birth*			
Male	20.8 (19.0-22.5)	32.3 (30.2-34.3)	47.0 (44.9, 49.1)
Female	10.0 (8.7-11.4)	28.7 (26.7-30.8)	61.2 (59.1, 63.4)

Socio-demographics	Did not use video or instant messaging – Weighted percentage (95% CI)	Used video or instant messaging once a day to less than weekly – Weighted percentage (95% CI)	Used video or instant messaging several times a day or constantly – Weighted percentage (95% CI)
Race and ethnic origin*			
Black	17.8[C] (12.3-23.2)	33.5 (26.7-40.3)	48.7 (41.5-55.9)
East Asian	14.9 (10.6-19.3)	38.2 (32.2-44.1)	46.9 (40.8-53.1)
Latin American	15.6[D] (5.9-25.3)	39.7[C] (25.6-53.8)	44.7 (30.5-58.9)[C]
Other (Multiple)	13.0[D] (6.4-19.6)	36.6 (26.8-46.4)	50.4 (39.9-60.9)
South Asian	15.8 (12.4-19.2)	37.0 (31.9-42.0)	47.2 (42.1-52.3)
Southeast Asian	16.4[C] (10.1-22.7)	31.0 (24.3-37.8)	52.6 (44.8-60.4)
West Asian/Arab	17.0[C] (9.9-24.1)	22.6[C] (15.1-30.2)	60.3 (51.4-69.3)
White/Non-racialized†	14.8 (13.6-16.1)	28.2 (26.4-30.0)	57.0 (55.1-58.9)
Indigenous identity*			
Indigenous	23.9 (17.2-30.6)	26.5 (19.8-33.1)	49.7 (42.4-57.0)
Non-Indigenous	15.3 (14.2-16.4)	30.6 (29.2-32.1)	54.0 (52.5-55.6)
Immigration status*			
Non-immigrant	15.6 (14.4-16.8)	29.0 (27.4-30.5)	55.4 (53.8-57.0)
Immigrant	14.7 (11.7-17.7)	38.7 (34.4-42.9)	46.6 (42.3-51.0)
Non-permanent resident	34.0[D] (11.3-56.8)	NR	39.8 (16.8-62.9)[D]

Note: Indigenous identity and child/youth immigration status are ordered based on weight in the sample (i.e., percent of total Ontario sample), from largest to smallest, and race and ethnic origin are in alphabetical order.
 †Excludes those identifying as Indigenous
*indicates a significant difference across socio-demographic variable levels (Rao-Scott Chi-Square Test p<0.05)
Capital C after estimate: Data quality indicator— marginal (0.15 < CV ≤ 0.25), interpret with caution due to high sampling variability
Capital D after estimate: Data quality indicator: marginal (0.25 < CV ≤ 0.35), interpret with caution due to high sampling variability
NR: not reportable due to an insufficient number of observations or unacceptable quality (CV > 0.35).

ESTIMATES BY HOUSEHOLD SOCIODEMOGRAPHIC CHARACTERISTICS

- Frequency of video or instant messaging among youth aged 12-17 years of age significantly differed by household income, income quintiles and low income cut-off, but not by highest parental education (Table 9).

- The percentage of youth reporting using video or instant messaging several times a day or constantly increased with increasing household income; a significantly greater percentage of youth in households with incomes greater than $150,000 reported using video or instant messaging several times a day or constantly compared to youth in households with incomes below $50,000 (Table 9).

- Significantly more youth from income quintile 4 [55.7% (95% CI 52.3-59.0%)] and income quintile 5 (60.0% [95% CI 57.0-63.1%]) reported using video or instant messaging several times a day or constantly compared to those from income quintile 1 [47.5% (95% CI 43.5-51.5%)] (Figure 6).

- Significantly lower percentage of youth living below the low income cut-off [48.0% (95% CI 44.4-51.7%)] reported using video or instant messaging several times a day compared to those living above the low income cut-off [55.5% (95% CI 53.9-57.1%)].

Figure 6. Video or instant messaging frequency by income quintiles (Q1 to Q5) in youth ages 12-17 years; Ontario, 2019
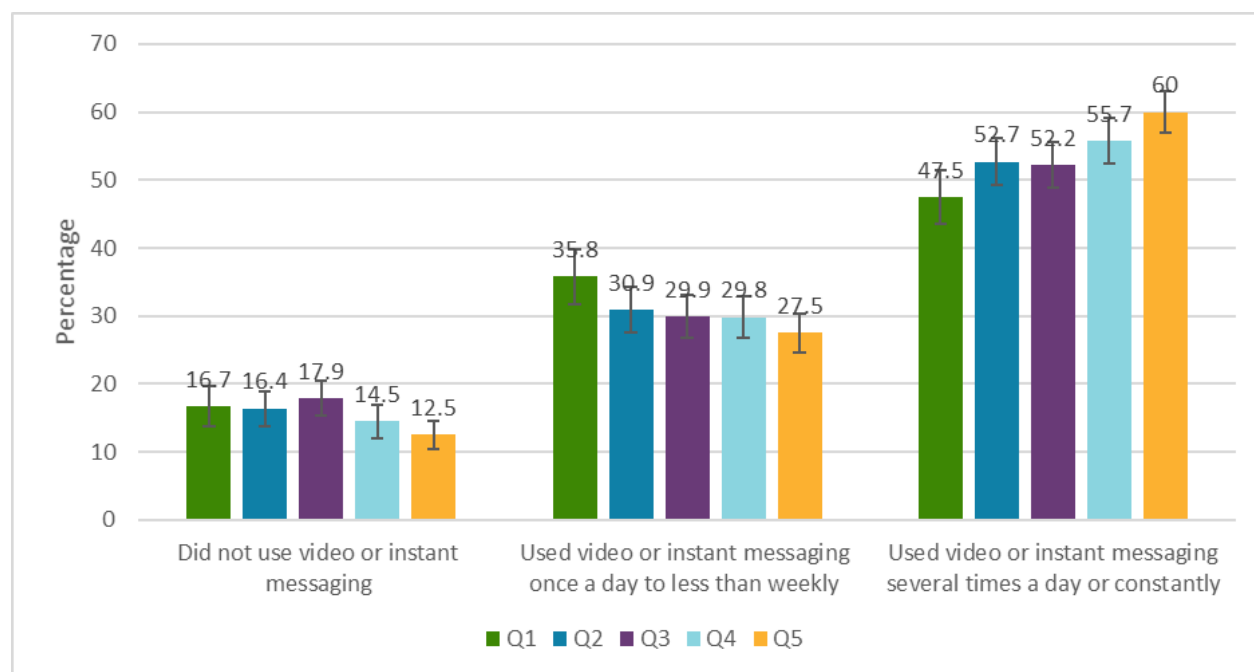

Table 9. Video or instant messaging frequency by highest parental education and income in youth ages 12-17 years; Ontario, 2019

Socio-demographics	Did not use video or instant messaging – Weighted percentage (95% CI)	Used video or instant messaging once a day to less than weekly – Weighted percentage (95% CI)	Used video or instant messaging several times a day or constantly – Weighted percentage (95% CI)
Highest parental education			
High school or less	18.2 (15.0-21.5)	31.0 (26.9-35.2)	50.7 (46.3-55.2)
College/Trades	14.5 (12.7-16.2)	28.9 (26.6-31.2)	56.6 (54.1-59.1)
University or more	15.8 (14.2-17.4)	31.7 (29.6-33.8)	52.5 (50.4-54.7)
Household Income*			
<$24,999	18.2 (13.9-22.6)	35.0 (29.0-41.0)	46.8 (40.8-52.7)
$25,000 to 49,999	15.9 (13.0-18.8)	33.4 (29.3-37.5)	50.7 (46.4-55.0)

Socio-demographics	Did not use video or instant messaging – Weighted percentage (95% CI)	Used video or instant messaging once a day to less than weekly – Weighted percentage (95% CI)	Used video or instant messaging several times a day or constantly – Weighted percentage (95% CI)
$50,000 to 74,999	16.3 (13.3-19.3)	31.7 (27.7-35.7)	52.0 (47.8-56.2)
$75,000 to 99,999	19.6 (16.3-23.0)	27.6 (23.9-31.3)	52.8 (48.8-56.8)
$100,000 to 149,999	14.9 (12.5-17.2)	30.9 (27.7-34.0)	54.3 (50.9-57.7)
$150,000 to 199,999	12.7 (10.2-15.3)	28.3 (24.4-32.1)	59.0 (55.0-63.0)
$200,000 and higher	12.2 (9.5-14.9)	28.5 (25.0-32.0)	59.3 (55.5-63.1)
Income Quintiles*			
Q1	16.7 (13.8-19.6)	35.8 (31.8-39.8)	47.5 (43.5-51.5)
Q2	16.4 (13.9-19.0)	30.9 (27.6-34.2)	52.7 (49.2-56.2)
Q3	17.9 (15.3-20.5)	29.9 (26.8-33.0)	52.2 (48.9-55.5)
Q4	14.5 (12.1-17.0)	29.8 (26.7-32.9)	55.7 (52.3-59.0)
Q5	12.5 (10.4-14.5)	27.5 (24.7-30.3)	60.0 (57.0-63.1)
Low Income Cut-Off (LICO)*			
Above cut off	15.0 (13.8-16.2)	29.5 (28.0-31.1)	55.5 (53.9-57.1)
Below cut off	17.6 (14.9-20.3)	34.4 (30.7-38.0)	48.0 (44.4-51.7)

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

ESTIMATES FOR SUB-ONTARIO GEOGRAPHIES

STATISTICS CANADA PEER GROUPS

- Video or instant messaging frequency among youth ages 12-17 years of age significantly differed by Statistics Canada Peer Groups (Table 10). When compared to the Ontario average [53.9% (95% CI 52.4-55.4%); Table 7], a significantly higher proportion of youth living in Peer Group D reported using video or instant messaging several times a day or constantly [58.4% (95% CI 55.4-61.3%)].

Table 10: Video or instant messaging frequency by Statistics Canada Peer Groups in youth ages 12-17 years; Ontario, 2019

Peer Group*	Did not use video or instant messaging – Weighted percentage (95% CI)	Used video or instant messaging once a day to less than weekly – Weighted percentage (95% CI)	Used video or instant messaging several times a day or constantly – Weighted percentage (95% CI)
G&H (largest metro centres)	16.1 (14.2-18.0)	34.0 (31.4-36.7)	49.9 (47.3-52.5)
B (mainly urban centers)	14.3 (12.2-16.4)	29.6 (26.8-32.4)	56.1 (53.0-59.2)

Peer Group*	Did not use video or instant messaging – Weighted percentage (95% CI)	Used video or instant messaging once a day to less than weekly – Weighted percentage (95% CI)	Used video or instant messaging several times a day or constantly – Weighted percentage (95% CI)
C (sparsely populated urban-rural mix)	17.9 (15.6-20.3)	26.5 (23.7-29.2)	55.6 (52.6-58.7)
D (mainly rural regions)	14.2 (12.2-16.2)	27.5 (24.8-30.1)	58.4 (55.4-61.3)↑

*indicates a significant difference across Statistics Canada Peer Groups (Rao-Scott Chi-Square Test p<0.05)
↑ Indicates significantly higher than the Ontario average, based on non-overlapping 95% confidence intervals

GEOGRAPHIC REGION

- Video or instant messaging frequency among youth ages 12-17 years of age significantly differed by geographic region. When compared to the Ontario average [53.9% (95% CI 52.4-55.4%)]; Table 7), a significantly higher proportion of youth living in the North West [69.7% (95% CI 63.2-76.2%)] and South West [59.9% (95% CI 56.1-63.8%)] regions of Ontario reported using video or instant messaging several times a day or constantly. Youth living in the Toronto region had the lowest percentage of youth reporting using video or instant messaging several times a day or constantly [45.8% (95% CI 42.0-49.6%)]. These differences are denoted by small arrows in Table 11.

Table 11: Video or instant messaging frequency by geographic region in youth ages 12-17 years; Ontario, 2019

Region*	Did not use video or instant messaging – Weighted percentage (95% CI)	Used video or instant messaging once a day to less than weekly – Weighted percentage (95% CI)	Used video or instant messaging several times a day or constantly – Weighted percentage (95% CI)
Toronto	19.5 (16.5-22.6)	34.7 (30.8-38.6)	45.8 (42.0-49.6)↓
North West	10.2^C (6.4-14.0) ↓	20.1^C (14.1-26.1) ↓	69.7 (63.2-76.2)↑
North East	16.6 (12.0-21.2)	24.6 (19.0-30.1)	58.9 (52.7-65.0)
Eastern	15.3 (12.3-18.2)	31.3 (27.4-35.2)	53.4 (49.4-57.5)
Central East	13.5 (11.7-15.4)	32.1 (29.5-34.8)	54.4 (51.6-57.1)
Central West	17.3 (14.6-19.9)	27.6 (24.4-30.9)	55.1 (51.6-58.6)
South West	12.9 (10.3-15.4)	27.2 (23.7-30.7)	59.9 (56.1-63.8)↑

*indicates a significant difference across geographic regions (Rao-Scott Chi-Square Test p<0.05)
↑ Indicates significantly higher than the Ontario average, based on non-overlapping 95% confidence intervals
↓ Indicates significantly lower than the Ontario average, based on non-overlapping 95% confidence intervals
Capital C after estimate: Data quality indicator— marginal (0.15 < CV ≤ 0.25), interpret with caution due to high sampling variability

PUBLIC HEALTH UNIT

- In youth ages 12-17 years, video or instant messaging frequency significantly differed across Public Health Units, and some Public Health Units were significantly different from the provincial average. For example, significantly fewer youth living in the area covered by the City of Toronto Health Unit [45.8% (95% CI 42.0-49.6%)] and significantly more youth living in the area covered by the Thunder Bay District Health Unit [74.4% (95% CI 65.9-83.0%)] reported using video or instant messaging several times a day or constantly, compared to the Ontario average [53.9% (95% CI 52.4-55.4%); Table 7]. These differences are denoted by small arrows in Table 12.

Table 12. Video or instant messaging frequency by Public Health Unit in youth ages 12-17 years; Ontario, 2019

Public health unit*	Did not use video or instant messaging – Weighted percentage (95% CI)	Used video or instant messaging once a day to less than weekly – Weighted percentage (95% CI)	Used video or instant messaging several times a day or constantly – Weighted percentage (95% CI)
Brant County Health Unit	17.4 (9.1-25.7)^C	24.5 (15.1-33.9)^C	58.1 (47.4-68.8)
Chatham-Kent Health Unit	15.4 (9.3-21.6)^C	22.6 (15.5-29.6)^C	62.0 (53.7-70.3)
City of Hamilton Health Unit	14.4 (6.9-22.0)^D	23.0 (13.1-32.8)^C	62.6 (51.4-73.8)
City of Ottawa Health Unit	13.9 (9.6-18.1)^C	36.4 (30.4-42.4)	49.7 (43.6-55.9)
City of Toronto Health Unit	19.5 (16.5-22.6)	34.7 (30.8-38.6)	45.8 (42.0-49.6) ↓
Durham Regional Health Unit	13.7 (8.2-19.1)^C	27.7 (20.5-35.0)	58.6 (50.6-66.6)
Grey Bruce Health Unit	12.2 (5.1-19.2)^D	29.4 (20.0-38.8)^C	58.4 (48.1-68.7)
Haldimand-Norfolk Health Unit	26.9 (15.3-38.5)^C	23.6 (12.4-34.8)^C	49.5 (36.0-63.0)
Haliburton, Kawartha, Pine Ridge District Health Unit	18.2 (11.5-24.9)^C	26.7 (19.4-34.0)	55.1 (47.0-63.3)
Halton Regional Health Unit	12.7 (8.9-16.5)^C	30.3 (25.1-35.5)	57.0 (51.6-62.4)
Hastings and Prince Edward Counties Health Unit	20.0 (12.0-28.1)^C	24.5 (15.9-33.1)^C	55.5 (45.5-65.4)
Huron Perth Health Unit	21.7 (12.3-31.1)^C	15.6 (7.3-23.9)^D ↓	62.7 (51.6-73.8)

Public health unit*	Did not use video or instant messaging – Weighted percentage (95% CI)	Used video or instant messaging once a day to less than weekly – Weighted percentage (95% CI)	Used video or instant messaging several times a day or constantly – Weighted percentage (95% CI)
Kingston, Frontenac and Lennox and Addington Health Unit	17.7 (11.6-23.8)[C]	27.4 (19.9-34.8)	54.9 (46.4-63.4)
Lambton Health Unit	16.6 (8.3-24.9)[D]	30.2 (20.0-40.4)[C]	53.2 (42.2-64.1)
Leeds, Grenville and Lanark District Health Unit	12.9 (6.3-19.5)[D]	24.0 (15.7-32.4)[C]	63.1 (53.6-72.5)
Middlesex-London Health Unit	11.4 (5.1-17.6)[D]	24.9 (15.4-34.4)[C]	63.7 (53.7-73.7)
Niagara Regional Area Health Unit	19.2 (11.3-27.2)[C]	35.6 (25.8-45.3)	45.2 (35.3-55.1)
North Bay Parry Sound District Health Unit	16.4 (6.2-26.7)[D]	27.4 (15.3-39.5)[C]	56.1 (42.8-69.5)
Northwestern Health Unit	17.4 (10.7-24.1)[C]	23.4 (16.0-30.9)[C]	59.2 (51.1-67.3)
Oxford Elgin St. Thomas Health Unit	15.5 (9.7-21.4)[C]	25.4 (18.6-32.2)	59.1 (51.1-67.1)
Peel Regional Health Unit	14.5 (11.6-17.4)	34.9 (30.9-39.0)	50.6 (46.5-54.6)
Peterborough County—City Health Unit	27.4 [C] (17.4-37.5) ↑	20.8 (11.6-30.1)[C]	51.7 (41.0-62.4)
Porcupine Health Unit	16.4 (7.2-25.6)[D]	23.6 (13.3-34.0)[C]	59.9 (48.1-71.7)
Renfrew County and District Health Unit	NR	27.2 (14.5-40.0)[C]	61.1 (46.8-75.4)
Simcoe Muskoka District Health Unit	10.3 (7.4-13.2) ↓	34.7 (29.2-40.2)	55.0 (49.1-61.0)
Sudbury and District Health Unit	19.7 (11.0-28.4)[C]	23.5 (13.1-33.9)[C]	56.8 (45.5-68.1)
The District of Algoma Health Unit	NR	26.3 (15.1-37.6)[C]	63.1 (51.0-75.2)
The Eastern Ontario Health Unit	20.6 (11.8-29.5)[C]	20.9 (11.9-29.8)[C]	58.5 (47.3-69.7)
Thunder Bay District Health Unit	7.0 (2.3-11.6)[D] ↓	18.6 (10.7-26.6)[C] ↓	74.4 (65.9-83.0) ↑
Timiskaming Health Unit	NR	NR	64.9 (45.1-84.8)[C]

Public health unit*	Did not use video or instant messaging – Weighted percentage (95% CI)	Used video or instant messaging once a day to less than weekly – Weighted percentage (95% CI)	Used video or instant messaging several times a day or constantly – Weighted percentage (95% CI)
Region of Waterloo, Public Health	24.1 (17.3-30.8)$^\uparrow$	26.2 (19.2-33.3)	49.7 (41.4-58.0)
Wellington-Dufferin-Guelph Health Unit	14.0 (9.4-18.6)^C	24.6 (18.8-30.5)	61.4 (54.9-67.9)
Windsor-Essex County Health Unit	8.7 (4.8-12.6)$^{C\downarrow}$	34.1 (27.6-40.5)	57.2 (50.3-64.1)
York Regional Health Unit	11.8 (7.8-15.7)^C	31.7 (25.6-37.9)	56.5 (50.0-63.0)

$\uparrow$ Indicates significantly higher than the Ontario average, based on non-overlapping 95% confidence intervals
$\downarrow$ Indicates significantly lower than the Ontario average, based on non-overlapping 95% confidence intervals
Capital C after estimate: Data quality indicator— marginal (0.15 < CV ≤ 0.25), interpret with caution due to high sampling variability
Capital D after estimate: Data quality indicator: marginal (0.25 < CV ≤ 0.35), interpret with caution due to high sampling variability
NR: not reportable due to an insufficient number of observations or unacceptable quality (CV > 0.35)

Online gaming frequency

OVERALL ESTIMATES

- One fifth of youth aged 12-17 years of age reported playing games online (e.g., League of Legends, Minecraft or World of Warcraft) several times a day or constantly (20.0% [CI 18.8-21.2%]) (Figure 7, Table 13).

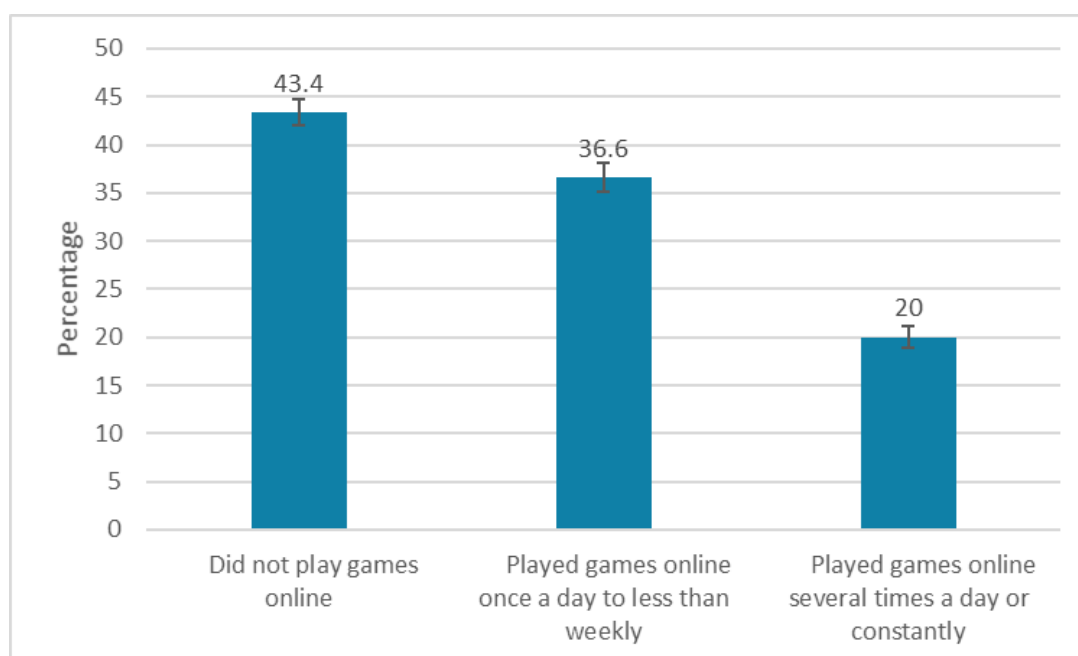**Figure 7. Online gaming frequency among youth ages 12-17 years; Ontario, 2019.**

Table 13. Online gaming frequency among youth aged 12-17 years; Ontario, 2019

Indicator	Weighted percentage % (95% CI)
Online gaming frequency (12-17 year olds)	
Did not play games online	43.4 (42.0-44.8)
Played games online once a day to less than weekly	36.6 (35.2-38.1)
Played games online several times a day or constantly	20.0 (18.8-21.2)

ESTIMATES BY CHILD SOCIODEMOGRAPHIC CHARACTERISTICS

- Online gaming frequency among youth aged 12-17 years of age significantly differed by sex at birth and by race and ethnic origin. Online gaming frequency did not differ by Indigenous Identity or by immigration status (Table 14).

- A significantly higher proportion of male youth reported playing games online several times a day or constantly [32.9% (95% CI 30.8-34.9%)] than female youth [6.4% (95% CI 5.4-7.5%)] (Figure 8, Table 14).

- A significantly higher proportion of youth identifying as Southeast Asian [35.9% (95% CI 28.3-43.5%)] reported playing games online several times a day or constantly compared to youth of

- West Asian/Arab [19.4% (95% CI 12.0-26.7%)], South Asian [16.0% (95% CI 12.4-19.7%)], Black [18.4% (95% CI 12.5-24.2%)] and White/Non-racialized [19.1% (95% CI 17.6-20.6%)] origins (Table 14). Estimates should be interpreted with caution due to high variability in the estimates (i.e., lower data quality).

Figure 8. Online gaming frequency by sex at birth among youth ages 12-17 years; Ontario, 2019.
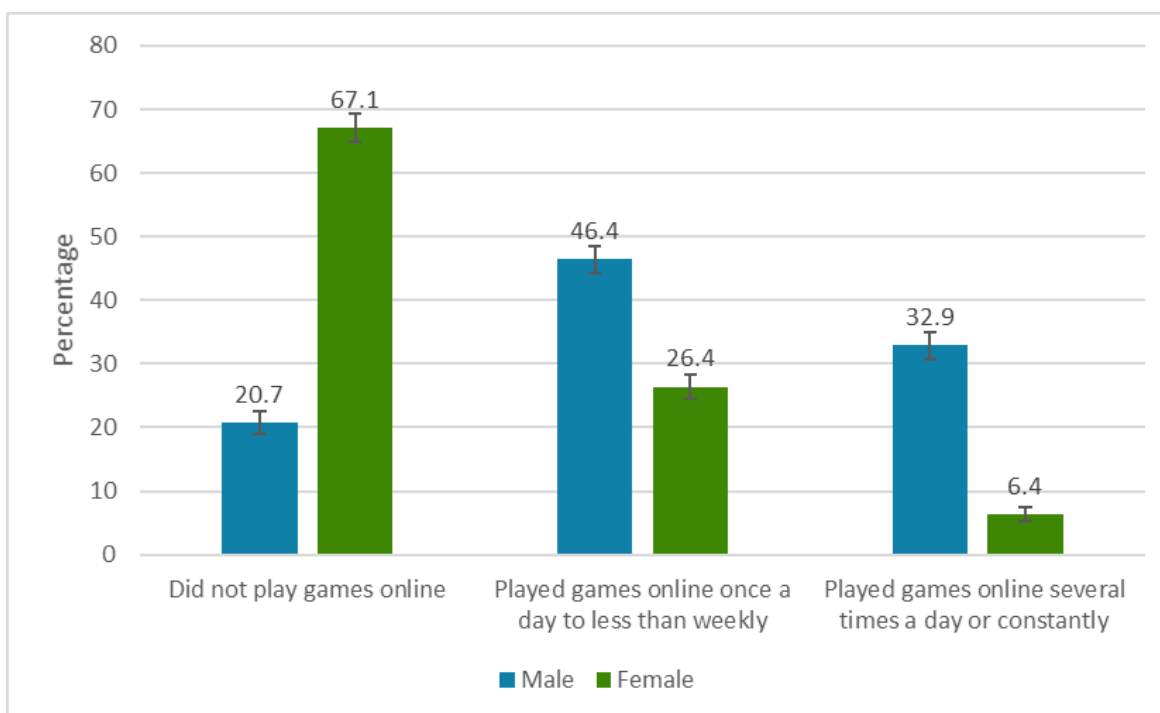
Table 14: Online gaming frequency by sex at birth, race and ethnic origin, Indigenous identity, and immigration status in youth ages 12-17 years; Ontario, 2019

Socio-demographics	Did not play games online – Weighted percentage (95% CI)	Played games online once a day to less than weekly – Weighted percentage (95% CI)	Played games online several times a day or constantly – Weighted percentage (95% CI)
Sex at birth*			
Male	20.7 (19.0-22.5)	46.4 (44.2-48.5)	32.9 (30.8-34.9)
Female	67.1 (65.0-69.3)	26.4 (24.5-28.4)	6.4 (5.4-7.5)
Race and ethnic origin*			
White/Non-racialized†	43.7 (41.9-45.6)	37.1 (35.2-39.0)	19.1 (17.6-20.6)
Black	50.8 (43.4-58.2)	30.8 (24.3-37.3)	18.4 (12.5-24.2)[C]
East Asian	35.2 (29.3-41.0)	40.2 (34.2-46.3)	24.6 (19.1-30.2)
Southeast Asian	32.1 (24.5-39.7)	32.0 (24.6-39.3)	35.9 (28.3-43.5)
South Asian	47.8 (43.0-52.7)	36.1 (31.3-41.0)	16.0 (12.4-19.7)
Latin American	43.5[C] (29.6-57.4)	36.8[C] (22.0-51.7)	19.7 (8.4-30.9)[D]
West Asian/Arab	44.0 (35.0-53.1)	36.6 (27.9-45.3)	19.4 (12.0-26.7)[C]
Other (Multiple)	36.8 (26.7-46.8)	41.6 (31.5-51.8)	21.6 (13.1-30.1)[C]
Indigenous identity			
Indigenous	44.6 (37.2-52.0)	31.2 (24.6-37.8)	24.2 (17.7-30.7)
Non-Indigenous	43.3 (41.9-44.7)	36.8 (35.3-38.3)	19.9 (18.7-21.1)
Immigration status			
Non-immigrant	43.4 (41.9-44.9)	37.1 (35.5-38.7)	19.5 (18.2-20.7)
Immigrant	43.5 (39.5-47.6)	34.1 (30.3-38.0)	22.3 (18.9-25.8)
Non-permanent resident	40.3[D] (16.7-63.8)	47.8[D] (24.0-71.6)	NR

Note: Indigenous identity and child/youth immigration status are ordered based on weight in the sample (i.e., percent of total Ontario sample), from largest to smallest, and race and ethnic origin are in alphabetical order.
†Excludes those identifying as Indigenous
*indicates a significant difference across socio-demographic variable levels (Rao-Scott Chi-Square Test p<0.05)
Capital C after estimate: Data quality indicator— marginal (0.15 < CV ≤ 0.25), interpret with caution due to high sampling variability
Capital D after estimate: Data quality indicator: marginal (0.25 < CV ≤ 0.35), interpret with caution due to high sampling variability
NR: not reportable due to an insufficient number of observations or unacceptable quality (CV > 0.35)

ESTIMATES BY HOUSEHOLD SOCIODEMOGRAPHIC CHARACTERISTICS

- Frequency of online gaming among youth aged 12-17 years of aged significantly differed by highest parental education, household income, income quintiles, and low income cut-off (Table 15).

- The proportion of youth that played games online several times a day or constantly decreased with increasing parental education. Less than one fifth of youth with parents with University education (or higher) reported playing games online several times a day or constantly [17.7% (95% CI 16.0-19.5%)] compared to nearly one quarter of youth with parents with high school education (or less) [23.0% (95% CI 19.5-26.5%)] (Figure 9).

- As household income increased, the proportion of youth reporting playing games online several times a day or constantly decreased. A similar trend was observed for income quintiles (with the exception of income quintile 4) and for low income cut off scores (Table 15).

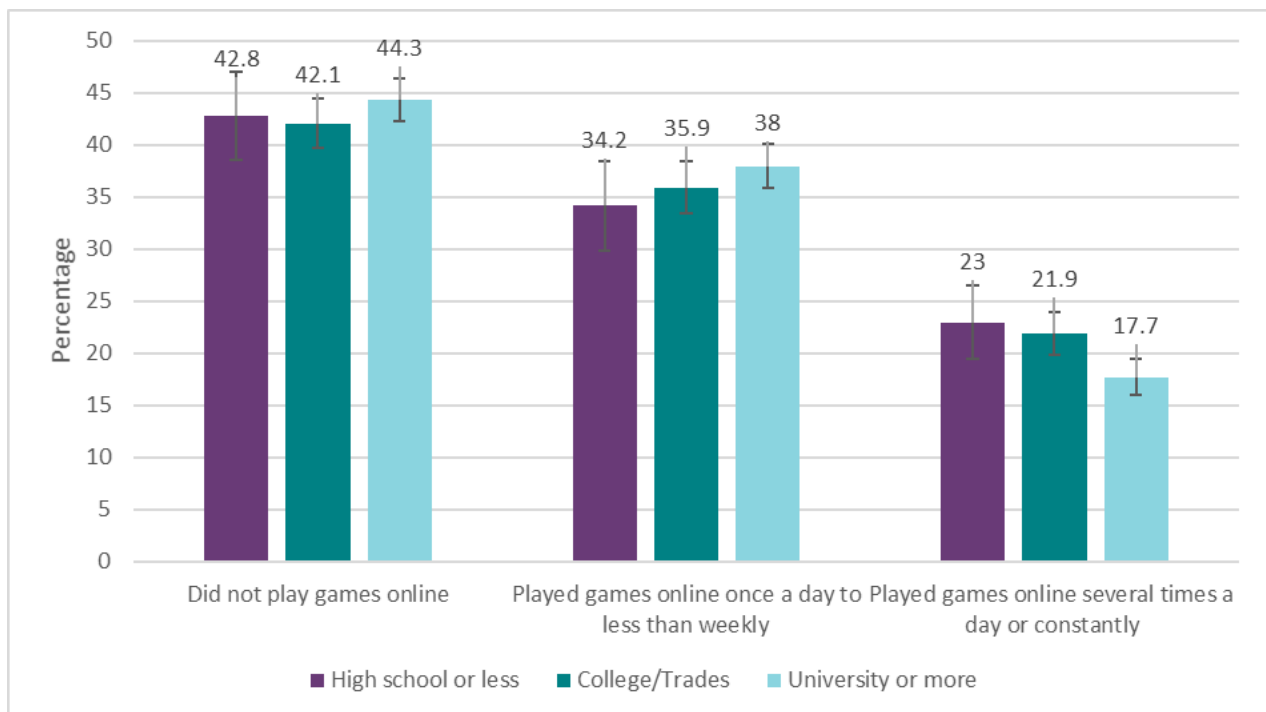**Figure 9. Online gaming frequency by highest parental education among youth ages 12-17 years; Ontario, 2019**

Table 15: Online gaming frequency by highest parental education and income in youth ages 12-17 years; Ontario, 2019

Socio-demographics	Did not play games online – Weighted percentage (95% CI)	Played games online once a day to less than weekly – Weighted percentage (95% CI)	Played games online several times a day or constantly – Weighted percentage (95% CI)
Highest parental education*			
High school or less	42.8 (38.6-47.1)	34.2 (29.9-38.5)	23.0 (19.5-26.5)
College/Trades	42.1 (39.7-44.5)	35.9 (33.4-38.4)	21.9 (19.8-24.0)
University or more	44.3 (42.2-46.3)	38.0 (35.9-40.1)	17.7 (16.0-19.5)
Household Income*			
<$24,999	44.1 (38.2-50.0)	29.0 (23.6-34.4)	26.9 (21.4-32.3)
$25,000 to 49,999	41.9 (37.8-45.9)	35.6 (31.6-39.7)	22.5 (19.2-25.8)
$50,000 to 74,999	40.9 (36.8-45.0)	37.1 (33.0-41.2)	22.0 (18.4-25.5)
$75,000 to 99,999	41.1 (37.1-45.2)	39.2 (35.1-43.4)	19.6 (16.3-23.0)
$100,000 to 149,999	44.7 (41.4-47.9)	37.0 (33.8-40.3)	18.3 (15.7-21.0)
$150,000 to 199,999	43.5 (39.5-47.5)	39.1 (35.1-43.0)	17.4 (14.3-20.6)
$200,000 and higher	47.4 (43.4-51.4)	35.9 (32.1-39.7)	16.7 (13.7-19.7)
Income Quintiles*			
Q1	42.0 (38.0-46.0)	33.8 (29.8-37.8)	24.2 (20.6-27.9)
Q2	41.9 (38.5-45.4)	35.6 (32.2-39.0)	22.5 (19.5-25.4)
Q3	42.3 (38.9-45.6)	40.7 (37.2-44.2)	17.0 (14.4-19.6)
Q4	43.6 (40.3-46.8)	35.6 (32.3-38.8)	20.8 (18.0-23.7)
Q5	46.6 (43.5-49.7)	36.8 (33.8-39.7)	16.6 (14.3-18.9)
Low Income Cut-Off (LICO)*			
Above cut off	43.5 (42.0-45.0)	37.6 (36.0-39.2)	18.9 (17.6-20.2)
Below cut off	42.8 (39.1-46.5)	33.0 (29.4-36.6)	24.2 (21.0-27.4)

*indicates a significant difference across socio-demographic variable levels (Rao-Scott Chi-Square Test p<0.05)
Estimates for Sub-Ontario Geographies

STATISTICS CANADA PEER GROUPS

- Online gaming frequency among youth ages 12-17 years of age significantly differed by Statistics Canada Peer Groups (Table 16).

Table 16: Online gaming frequency by Statistics Canada Peer Group in youth ages 12-17 years; Ontario, 2019

Peer Group*	Did not play games online – Weighted percentage (95% CI)	Played games online once a day to less than weekly – Weighted percentage (95% CI)	Played games online several times a day or constantly – Weighted percentage (95% CI)
G&H (largest metro centres)	44.2 (42.0-46.5)	34.3 (31.9-36.7)	21.5 (19.4-23.6)
B (mainly urban centers)	42.5 (39.7-45.3)	38.8 (35.8-41.7)	18.7 (16.4-21.1)
C (sparsely populated urban-rural mix)	41.7 (38.7-44.6)	37.7 (34.6-40.7)	20.7 (18.3-23.0)
D (mainly rural regions)	45.1 (42.2-48.0)	37.1 (34.2-40.0)	17.8 (15.5-20.1)

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

GEOGRAPHIC REGION

- Online gaming frequency among youth ages 12-17 years significantly differed by geographic region. The Toronto region had the highest percentage of youth reporting that they played games online several times a day or constantly [23.7% (95% CI 20.5-27.0%)], while those living in the South West reported the lowest frequency of playing games online several times a day or constantly [17.5% (95% CI 14.6-20.4)] (Table 17).

Table 17: Online gaming frequency by geographic region in youth ages 12-17 years; Ontario, 2019

Region*	Did not play games online – Weighted percentage (95% CI)	Played games online once a day to less than weekly – Weighted percentage (95% CI)	Played games online several times a day or constantly – Weighted percentage (95% CI)
Toronto	43.0 (39.5-46.5)	33.3 (29.6-37.0)	23.7 (20.5-27.0)
North West	38.8 (32.2-45.3)	43.4 (36.1-50.8)	17.8 (12.6-23.1)[C]
North East	38.8 (33.2-44.3)	38.6 (32.3-44.8)	22.7 (17.6-27.8)
Eastern	43.3 (39.6-47.0)	36.3 (32.4-40.2)	20.5 (17.2-23.7)
Central East	46.2 (43.9-48.5)	35.2 (32.7-37.8)	18.6 (16.5-20.7)
Central West	41.6 (38.2-45.0)	38.4 (34.8-42.0)	20.0 (17.3-22.8)
South West	41.1 (37.3-44.9)	41.4 (37.2-45.6)	17.5 (14.6-20.4)

*indicates a significant difference across geographic regions (Rao-Scott Chi-Square Test p<0.05)
Capital C after estimate: Data quality indicator— marginal (0.15 < CV ≤ 0.25), interpret with caution due to high sampling variability

PUBLIC HEALTH UNIT

- Online gaming frequency among youth ages 12-17 years significantly differed across Public Health Units. The proportion of youth responding that they played games online several times a day or constantly was significantly lower in Northwestern Health Unit (12.6% [95% CI 6.8-18.3%]), Simcoe Muskoka District Health Unit [13.7% (95% CI 9.8-17.6%)] and Windsor-Essex County Health Unit [14.1% (95% CI 9.6-18.6%); Table 18] compared to the provincial average [20.0% (95% CI 18.8-21.2); Table 13].

Table 18. Online gaming frequency by Public Health Unit in youth ages 12-17 years; Ontario, 2019

Public health unit*	Did not play games online – Weighted percentage (95% CI)	Played games online once a day to less than weekly – Weighted percentage (95% CI)	Played games online several times a day or constantly – Weighted percentage (95% CI)
Brant County Health Unit	41.4 (30.8-52.0)	35.9 (24.9-47.0)[C]	22.6 (14.0-31.3)[C]
Chatham-Kent Health Unit	40.0 (32.4-47.6)	38.7 (30.3-47.2)	21.3 (14.8-27.8)[C]
City of Hamilton Health Unit	38.0 (27.1-48.9)	42.8 (31.1-54.5)	19.2 (10.2-28.2)[C]
City of Ottawa Health Unit	41.4 (35.8-47.0)	39.0 (32.8-45.1)	19.6 (14.7-24.5)
City of Toronto Health Unit	43.0 (39.5-46.5)	33.3 (29.6-37.0)	23.7 (20.5-27.0)
Durham Regional Health Unit	49.1 (41.9-56.3)	33.3 (25.7-40.9)	17.6 (11.4-23.9)[C]
Grey Bruce Health Unit	39.6 (30.3-48.9)	44.0 (34.0-54.0)	16.4 (8.7-24.1)[C]
Haldimand-Norfolk Health Unit	42.8 (31.8-53.8)	34.9 (22.0-47.9)[C]	22.2 (11.4-33.0)[C]
Haliburton, Kawartha, Pine Ridge District Health Unit	45.2 (37.9-52.5)	37.0 (29.3-44.8)	17.8 (12.0-23.6)[C]
Halton Regional Health Unit	41.5 (36.6-46.5)	38.2 (32.7-43.8)	20.2 (15.6-24.8)
Hastings and Prince Edward Counties Health Unit	38.3 (29.2-47.4)	47.7 (37.8-57.6)	14.0 (7.6-20.5)[C]
Huron Perth Health Unit	40.1 (32.1-48.2)	42.6 (32.0-53.3)	17.2 (8.5-26.0)[D]
Kingston, Frontenac and Lennox and Addington Health Unit	44.9 (37.7-52.0)	31.6 (24.3-38.8)	23.6 (16.6-30.5)[C]
Lambton Health Unit	49.0 (38.9-59.1)	28.3 (18.3-38.2)[C]	22.8 (13.9-31.6)[C]
Leeds, Grenville and Lanark District Health Unit	48.2 (38.6-57.8)	27.8 (19.0-36.5)[C]	24.1 (15.7-32.4)[C]
Middlesex-London Health Unit	36.2 (26.6-45.9)	45.8 (34.9-56.6)	18.0 (10.4-25.6)[C]

Public health unit*	Did not play games online – Weighted percentage (95% CI)	Played games online once a day to less than weekly – Weighted percentage (95% CI)	Played games online several times a day or constantly – Weighted percentage (95% CI)
Niagara Regional Area Health Unit	37.7 (28.6-46.8)	44.2 (34.4-54.0)	18.1 (11.0-25.2)^C
North Bay Parry Sound District Health Unit	55.0 (41.8-68.3)	29.8 (17.6-42.0)^C	15.2 (6.3-24.0)^D
Northwestern Health Unit	45.7 (37.5-53.9)	41.8 (33.0-50.5)	12.6 (6.8-18.3)^C ↓
Oxford Elgin St. Thomas Health Unit	45.0 (37.1-52.9)	35.6 (27.7-43.4)	19.4 (13.1-25.8)^C
Peel Regional Health Unit	45.3 (41.8-48.9)	34.0 (30.2-37.7)	20.7 (17.4-24.0)
Peterborough County—City Health Unit	40.5 (31.1-49.8)	40.6 (29.4-51.7)	19.0 (10.4-27.5)^C
Porcupine Health Unit	32.9 (23.0-42.8)^C	39.1 (27.5-50.7)^C	28.0 (17.7-38.3)^C
Renfrew County and District Health Unit	34.6 (21.5-47.7)^C	46.9 (32.9-60.9)^C	18.4 (7.5-29.3)^D
Simcoe Muskoka District Health Unit	49.3 (43.7-54.8)	37.0 (31.5-42.6)	13.7 (9.8-17.6) ↓
Sudbury and District Health Unit	33.3 (23.0-43.6)^C	40.5 (28.7-52.3)	26.2 (16.1-36.3)^C
The District of Algoma Health Unit	37.4 (26.8-48.0)	44.7 (32.8-56.7)	17.9 (7.9-27.8)^D
The Eastern Ontario Health Unit	55.2 (44.7-65.6)	20.4 (11.6-29.2)^C ↓	24.5 (15.5-33.4)^C
Thunder Bay District Health Unit	35.6 (26.8-44.5)	44.2 (34.3-54.1)	20.2 (13.1-27.3)^C
Timiskaming Health Unit	34.4 (14.1-54.7)^D	36.6 (16.5-56.7)^D	29.0 (9.5-48.4)^D
Region of Waterloo, Public Health	45.8 (38.7-52.9)	33.7 (26.2-41.1)	20.5 (14.5-26.5)
Wellington-Dufferin-Guelph Health Unit	44.8 (38.2-51.4)	34.5 (27.8-41.2)	20.7 (15.4-26.0)
Windsor-Essex County Health Unit	43.4 (36.9-49.9)	42.5 (35.4-49.6)	14.1 (9.6-18.6)^C ↓
York Regional Health Unit	45.1 (40.6-49.6)	36.4 (31.0-41.8)	18.6 (14.0-23.1)

*indicates a significant difference across Public Health Units (Rao-Scott Chi-Square Test p<0.05)
↓ Indicates significantly lower than the Ontario average, based on non-overlapping 95% confidence intervals Capital C after estimate: Data quality indicator— marginal (0.15 < CV ≤ 0.25), interpret with caution due to high sampling variability
Capital D after estimate: Data quality indicator: marginal (0.25 < CV ≤ 0.35), interpret with caution due to high sampling variability

Parents Knowledge of Online Activities

OVERALL ESTIMATES

- More than half of youth aged 12-17 years of age reported that their parents are either often [40.7% (95% CI 39.2-42.2%)] or always [22.4% (95% CI 21.1-23.7)] aware of their online activities. Just over one in 20 reported that their parents never know about their online activities [6.2% (95% CI 5.4-7.0%)] (Figure 10, Table 17).

Figure 10. Parents' knowledge of youths' online activities, among youth ages 12-17 years; Ontario, 2019.
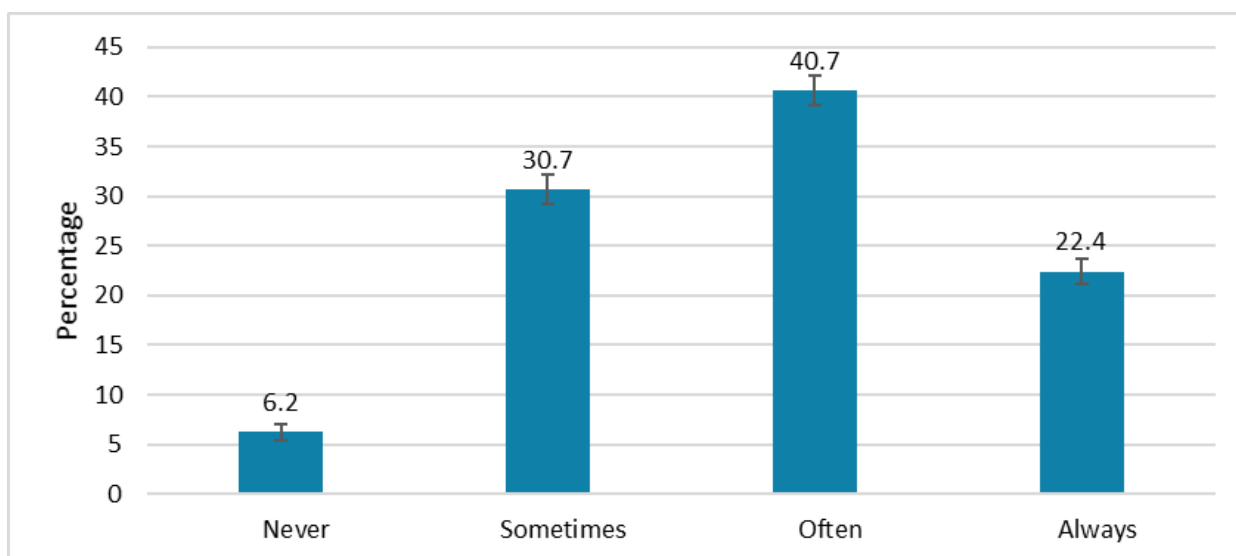
Table 19. Parents' knowledge of youth's online activities in youth ages 12-17 years; Ontario, 2019

Indicator	Weighted percentage % (95% CI)
Parents knowledge of youth's online activities (12-17 year olds)	
Never	6.2 (5.4-7.0)
Sometimes	30.7 (29.2-32.1)
Often	40.7 (39.2-42.2)
Always	22.4 (21.1-23.7)

ESTIMATES BY CHILD SOCIODEMOGRAPHIC CHARACTERISTICS

- Parents' knowledge of youths online activities differed by youths' sex at birth and race and ethnic origin. More females [24.0% (95% CI 22.1-26.0)] reported that their parents always know about their online activities than males [20.9% (95% CI 19.1-22.6%)] (Figure 12, Table 18).

- The highest proportion of youth reporting that their parents always know about their online activities identified as South Asian [29.5% (95% CI 25.0-34.0)], while the lowest identified as East Asian [13.9% (95% CI 9.5-18.3%)] and Southeast Asian [13.7% (95% CI 7.7-19.7%)]. Some of these estimates should be interpreted with caution due to high variability in the estimates (i.e., lower data quality) (Figure 13, Table 18).

- Parents' knowledge of youth's online activities did not differ by Indigenous identity or immigration status (Table 18).

Figure 11. Parents' knowledge of youths' online activities by sex at birth among youth ages 12-17 years; Ontario, 2019.
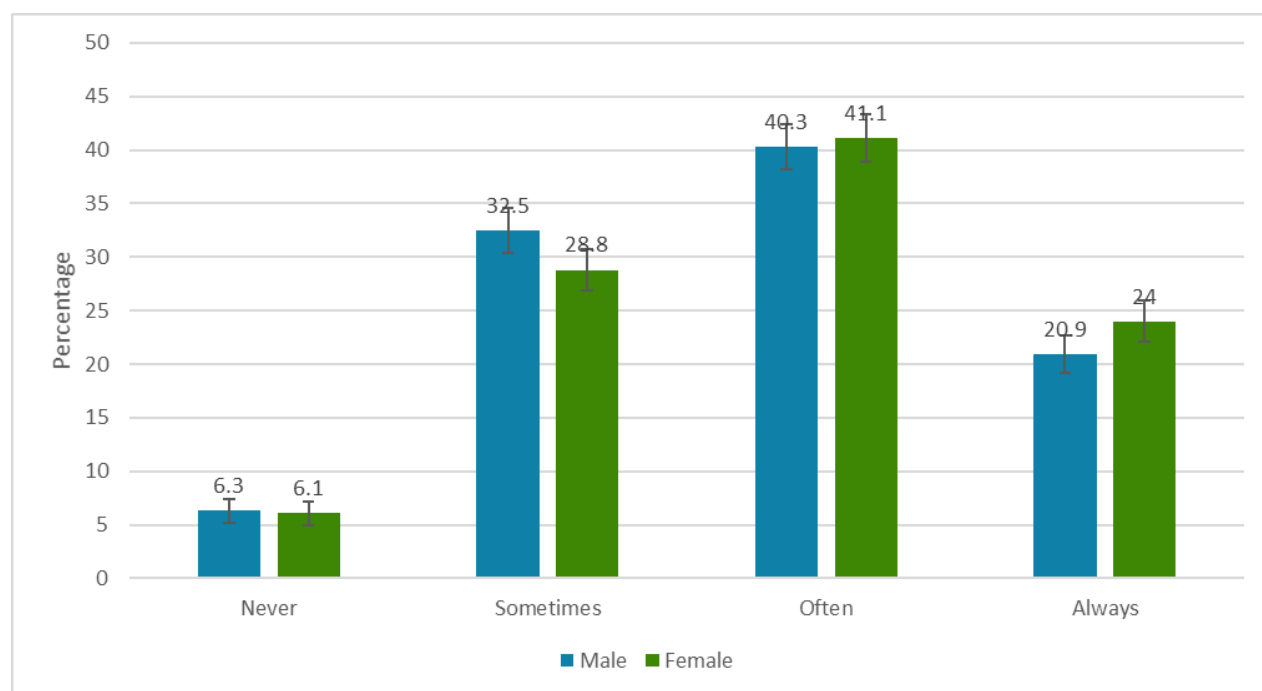

Table 20: Parents knowledge of youth's online activities by sex at birth, race and ethnic origin, Indigenous identity, and immigration status in youth ages 12-17 years; Ontario, 2019

Socio-demographics	Never – Weighted percentage (95% CI)	Sometimes – Weighted percentage (95% CI)	Often – Weighted percentage (95% CI)	Always – Weighted percentage (95% CI)
Sex at birth*				
Male	6.3 (5.2-7.4)	32.5 (30.4-34.6)	40.3 (38.2-42.4)	20.9 (19.1-22.6)
Female	6.1 (5.0-7.2)	28.8 (26.8-30.7)	41.1 (38.9-43.3)	24.0 (22.1-26.0)

Socio-demographics	Never – Weighted percentage (95% CI)	Sometimes – Weighted percentage (95% CI)	Often – Weighted percentage (95% CI)	Always – Weighted percentage (95% CI)
Race and ethnic origin*				
Black	12.3 (7.1-17.6)[C]	35.7 (28.8-42.5)	32.0 (25.2-38.8)	20.0 (14.3-25.6)
East Asian	6.3 (3.1-9.6)[D]	43.9 (37.6-50.2)	35.9 (30.0-41.8)	13.9 (9.5-18.3)[C]
Latin American	NR	36.8 (22.4-51.2)[C]	43.7 (28.6-58.7)[C]	17.0 (6.4-27.5)[D]
Other (Multiple)	NR	30.3 (20.4-40.3)[C]	40.6 (30.2-50.9)	22.1 (13.2-30.9)[C]
South Asian	5.8 (3.5-8.1)[C]	24.4 (20.1-28.8)	40.3 (35.2-45.4)	29.5 (25.0-34.0)
Southeast Asian	11.4 (6.2-16.5)[C]	39.3 (31.6-47.1)	35.6 (28.1-43.2)	13.7 (7.7-19.7)[C]
West Asian/Arab	8.2 (3.4-13.0)[D]	26.0 (17.3-34.7)[C]	39.2 (29.9-48.4)	26.7 (18.6-34.7)[C]
White/Non-racialized†	5.3 (4.4-6.2)	29.2 (27.5-30.9)	43.0 (41.0-44.9)	22.6 (21.0-24.1)
Indigenous identity				
Indigenous	6.5 (2.9-10.1)[D]	36.1 (29.0-43.3)	33.9 (27.0-40.9)	23.4 (17.3-29.5)
Non-Indigenous	6.2 (5.4-7.0)	30.5 (29.1-32.0)	40.9 (39.3-42.5)	22.4 (21.1-23.7)
Immigration status				
Non-immigrant	6.3 (5.4-7.1)	30.7 (29.1-32.2)	41.1 (39.4-42.8)	21.9 (20.5-23.3)
Immigrant	6.2 (4.2-8.2)[C]	31.3 (27.4-35.3)	38.8 (34.8-42.9)	23.7 (20.0-27.4)
Non-permanent resident	NR	NR	48.0 (23.6, 72.4)[D]	NR

Note: Indigenous identity and child/youth immigration status are ordered based on weight in the sample (i.e., percent of total Ontario sample), from largest to smallest, and race and ethnic origin are in alphabetical order.
†Excludes those identifying as Indigenous
*indicates a significant difference across socio-demographic variable levels (Rao-Scott Chi-Square Test p<0.05)
Capital C after estimate: Data quality indicator— marginal (0.15 < CV ≤ 0.25), interpret with caution due to high sampling variability
Capital D after estimate: Data quality indicator: marginal (0.25 < CV ≤ 0.35), interpret with caution due to high sampling variability
NR: not reportable due to an insufficient number of observations or unacceptable quality (CV > 0.35)

ESTIMATES BY HOUSEHOLD SOCIODEMOGRAPHIC CHARACTERISTICS

- Parents' knowledge of youths' online activities significantly differed across highest parental education level, household income, income quintiles and low income cut-off scores.
- As parental education increased, the proportion of youth responding that their parents "always" know about their online activities decreased, while the proportion of youth responding that their parents "often" know about their online activities increased (Figure 12).
- As household income increased, the proportion of youth responding that their parents were always aware of their online activities tended to decrease, while the proportion of youth responding that their parents often know about their online activities tended to increase. The largest and significant differences are on the outer ends (lowest household income, lowest income quintile compared to the highest or Q5; Figure 13, Table 19).

Figure 12. Parents' knowledge of youths' online activities by parental education among youth ages 12-17 years; Ontario, 2019.
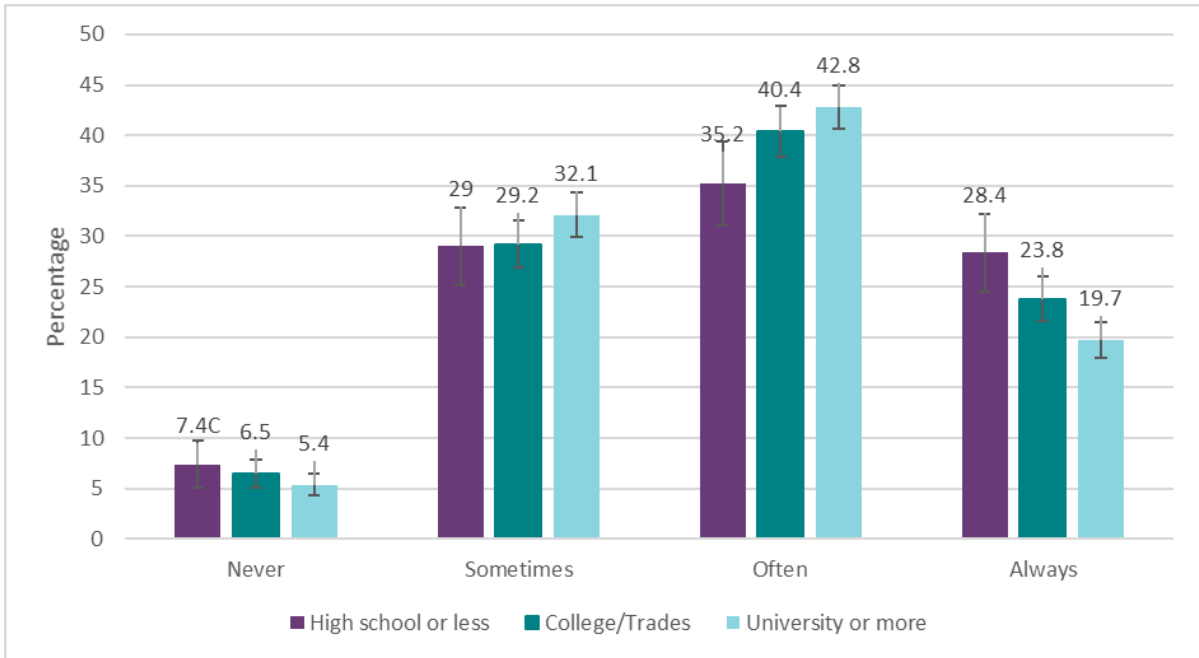
C-interpret with caution due to high sampling variability

Figure 13. Parents' knowledge of youths' online activities by low income cut-off among youth ages 12-17 years; Ontario, 2019.
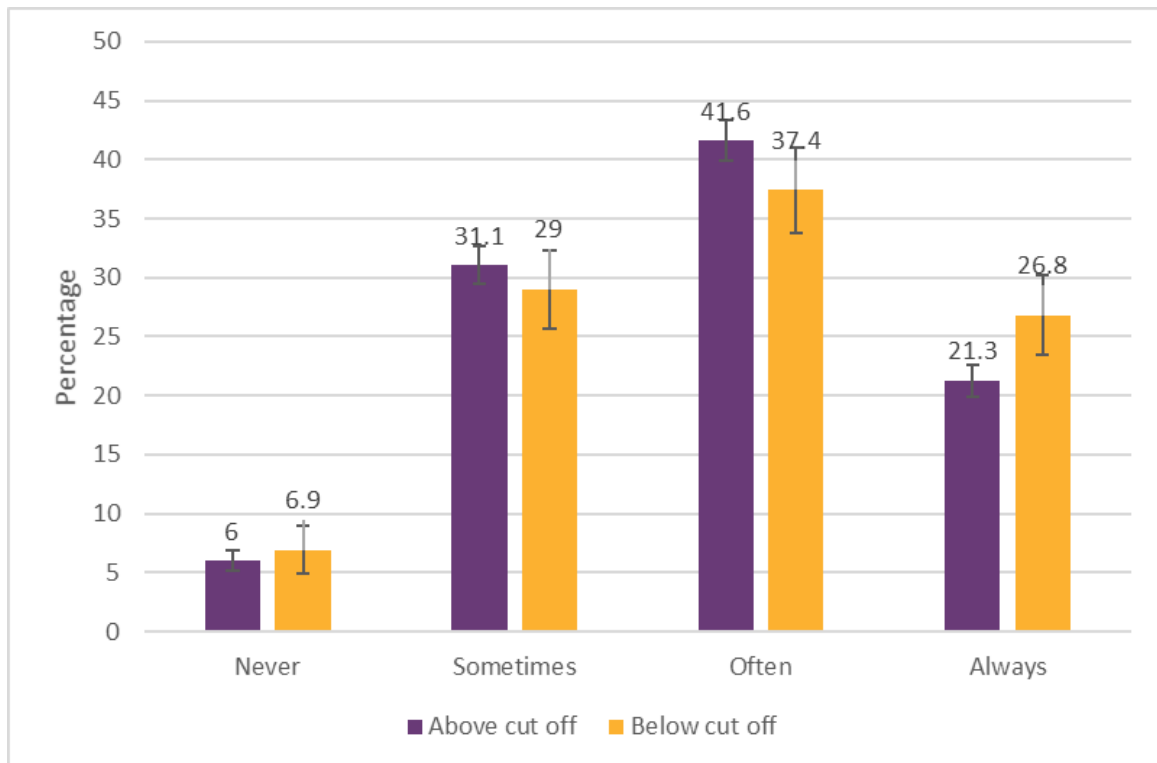
Table 21: Parents knowledge of youth's online activities by highest parental education and income in youth ages 12-17 years; Ontario, 2019

Socio-demographics	Never – Weighted percentage (95% CI)	Sometimes – Weighted percentage (95% CI)	Often – Weighted percentage (95% CI)	Always – Weighted percentage (95% CI)
Highest parental education*				
High school or less	7.4 (5.1-9.7)[C]	29.0 (25.2-32.8)	35.2 (31.1-39.4)	28.4 (24.5-32.2)
College/Trades	6.5 (5.1-7.9)	29.2 (26.9-31.6)	40.4 (37.9-43.0)	23.8 (21.6-26.1)
University or more	5.4 (4.4-6.5)	32.1 (29.9-34.3)	42.8 (40.6-45.0)	19.7 (17.9-21.4)
Household Income*				
<$24,999	7.9 (4.3-11.5)[C]	31.8 (26.1-37.5)	34.1 (28.6-39.7)	26.2 (20.8-31.5)
$25,000 to 49,999	6.5 (4.4-8.7)[C]	29.1 (25.2-33.1)	38.9 (34.6-43.1)	25.4 (21.7-29.2)
$50,000 to 74,999	8.0 (5.4-10.5)[C]	30.2 (26.3-34.0)	38.3 (34.1-42.5)	23.6 (20.0-27.1)
$75,000 to 99,999	6.7 (4.6-8.8)[C]	32.5 (28.6-36.3)	40.0 (35.9-44.0)	20.9 (17.7-24.0)
$100,000 to 149,999	5.1 (3.6-6.6)[C]	30.8 (27.7-33.8)	40.4 (37.1-43.8)	23.6 (20.8-26.5)
$150,000 to 199,999	6.0 (3.9-8.1)[C]	32.3 (28.2-36.3)	43.2 (39.2-47.3)	18.4 (15.4-21.5)
$200,000 and higher	4.4 (2.8-6.0)[C]	28.6 (24.9-32.3)	47.6 (43.4-51.7)	19.4 (16.3-22.5)
Income Quintiles*				
Q1	6.5 (4.4-8.7)[C]	28.8 (25.0-32.6)	37.7 (33.6-41.9)	26.9 (23.1-30.8)
Q2	8.1 (6.0-10.1)	31.2 (28.0-34.4)	37.6 (34.2-41.0)	23.2 (20.4-26.0)
Q3	5.6 (4.1-7.2)	31.3 (28.2-34.4)	39.4 (36.0-42.8)	23.7 (20.9-26.6)
Q4	5.6 (3.9-7.3)[C]	32.1 (28.9-35.4)	42.6 (39.3-46.0)	19.7 (17.0-22.3)
Q5	5.4 (3.9-6.9)	29.7 (26.7-32.7)	45.4 (42.1-48.6)	19.5 (17.1-22.0)
Low Income Cut-Off (LICO)*				
Above cut off	6.0 (5.2-6.9)	31.1 (29.5-32.7)	41.6 (39.9-43.3)	21.3 (19.9-22.6)
Below cut off	6.9 (4.9-8.9)	29.0 (25.6-32.3)	37.4 (33.7-41.0)	26.8 (23.4-30.2)

*indicates a significant difference across socio-demographic variable levels (Rao-Scott Chi-Square Test p<0.05)
Capital C after estimate: Data quality indicator— marginal (0.15 < CV ≤ 0.25), interpret with caution due to high sampling variability

ESTIMATES FOR SUB-ONTARIO GEOGRAPHIES

STATISTICS CANADA PEER GROUPS

- Parents' knowledge of online activities among youth ages 12-17 years significantly differed by Statistics Canada Peer Groups (Table 20).

Table 22: Parents knowledge of youth's online activities by Statistics Canada Peer Group in youth ages 12-17 years; Ontario, 2019

Peer Group*	Never – Weighted percentage (95% CI)	Sometimes – Weighted percentage (95% CI)	Often – Weighted percentage (95% CI)	Always – Weighted percentage (95% CI)
G&H (largest metro centres)	6.8 (5.4-8.2)	32.0 (29.5-4.6)	37.9 (35.3-40.5)	23.3 (21.1-25.5)
B (mainly urban centers)	6.6 (5.0-8.3)	28.4 (25.7-31.1)	42.8 (39.8-45.8)	22.2 (19.7-24.7)
C (sparsely populated urban-rural mix)	4.6 (3.5-5.8)	29.8 (27.0-32.7)	41.9 (38.8-45.0)	23.6 (21.0-26.2)
D (mainly rural regions)	5.4 (4.0-6.7)	33.3 (30.3-36.3)	42.3 (39.3-45.4)	19.0 (16.7-21.3)

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

GEOGRAPHIC REGION

- Parents' knowledge of online activities significantly differed by geographic region. Compared to the Ontario average [22.4% (95% CI 21.1-23.7); Table 19], Eastern region had a significantly lower proportion of youth reporting that their parents "always" know about their online activities [16.5% (95% CI 13.6-19.4); Table 21].

Table 23: Parents knowledge of youth's online activities by geographic region in youth ages 12-17 years; Ontario, 2019

Region*	Never – Weighted percentage (95% CI)	Sometimes – Weighted percentage (95% CI)	Often – Weighted percentage (95% CI)	Always– Weighted percentage (95% CI)
Toronto	7.3 (5.1-9.5)[C]	31.5 (27.9-35.1)	37.7 (33.8-41.5)	23.5 (20.4-26.7)
North West	10.3 (5.1-15.4)[D]	32.9 (26.0-39.8)	36.1 (29.2-42.9)	20.8 (14.6-27.0)[C]
North East	8.3 (4.8-11.8)[C]	29.6 (24.0-35.2)	37.1 (31.0-43.1)	25.1 (19.8-30.3)
Eastern	6.7 (4.4-9.1)[C]	32.2 (28.3-36.1)	44.5 (40.3-48.7)	16.5 (13.6-19.4) ↓
Central East	5.9 (4.4-7.3)	32.1 (29.4-34.7)	39.2 (36.4-42.0)	22.9 (20.5-25.2)
Central West	5.5 (3.7-7.2)[C]	27.5 (24.3-30.7)	42.4 (38.9-45.9)	24.6 (21.4-27.8)
South West	5.2 (3.5-6.9)[C]	29.6 (25.9-33.3)	43.7 (39.7-47.6)	21.6 (18.2-25.0)

*indicates a significant difference across geographic regions (Rao-Scott Chi-Square Test p<0.05)
↓ Indicates significantly lower than the Ontario average, based on non-overlapping 95% confidence intervals Capital C after estimate: Data quality indicator— marginal (0.15 < CV ≤ 0.25), interpret with caution due to high sampling variability
Capital D after estimate: Data quality indicator: marginal (0.25 < CV ≤ 0.35), interpret with caution due to high sampling variability

PUBLIC HEALTH UNIT

- Parents' knowledge of online activities among youth ages 12-17 years significantly differed across Public Health Units. The proportion of youth responding that their parents "always" know about their online activities was significantly lower in the City of Ottawa Health Unit [14.8% (95% CI 10.6-19.0); Table 22] compared to the provincial average [22.4% (95% CI 21.1-23.7); Table 17]. Similarly, the proportion of youth responding that their parents "sometimes" know about their online activities was significantly lower in the District of Algoma Health Unit [18.5% (95% CI 8.8-28.2); Table 22] compared to the provincial average [30.7% (95% CI 29.2-32.1); Table 17]. However, the proportion of youth responding that their parents "often" know about their online activities was significantly higher in Leeds, Grenville and Lanark District Health Unit [54.1% (95% CI 44.2-63.9); Table 22] compared to the provincial average [40.7% (95% CI 39.2-42.2); Table 17].

Table 24. Parents' knowledge of youth's online activities by Public Health Unit in youth ages 12-17 years; Ontario, 2019

Public health unit*	Never – Weighted percentage (95% CI)	Sometimes – Weighted percentage (95% CI)	Often – Weighted percentage (95% CI)	Always – Weighted percentage (95% CI)
Brant County Health Unit	NR	29.8 (19.5-40.1)[C]	43.9 (32.8-55.1)	18.7 (10.3-27.2)[C]
Chatham-Kent Health Unit	6.1 (2.1-10.2)[D]	32.3 (23.7-40.9)	41.7 (32.9-50.5)	19.9 (12.8-26.9)[C]
City of Hamilton Health Unit	NR	21.9 (12.2-31.7)[C]	50.2 (38.2-62.2)	20.5 (11.0-30.0)[C]
City of Ottawa Health Unit	9.0 (5.1-12.8)[C]	33.8 (27.8-39.8)	42.4 (36.0-48.8)	14.8 (10.6-19.0) ↓
City of Toronto Health Unit	7.3 (5.1-9.5)[C]	31.5 (27.9-35.1)	37.7 (33.8-41.5)	23.5 (20.4-26.7)
Durham Regional Health Unit	NR	28.7 (21.5-36.0)	43.0 (34.7-51.3)	22.2 (15.3-29.1)[C]
Grey Bruce Health Unit	NR	36.6 (26.4-46.9)	40.1 (30.0-50.3)	18.7 (10.8-26.5)[C]
Haldimand-Norfolk Health Unit	NR	26.3 (14.9-37.7)[C]	40.4 (27.4-53.4)[C]	27.0 (16.1-37.9)[C]
Haliburton, Kawartha, Pine Ridge District Health Unit	NR	35.9 (28.0-43.9)	36.4 (28.8-44.0)	24.8 (18.2-31.4)
Halton Regional Health Unit	5.5 (3.1-8.0)[C]	30.0 (24.7-35.4)	39.7 (34.2-45.1)	24.8 (19.8-29.7)
Hastings and Prince Edward Counties Health Unit	NR	27.7 (18.5-36.9)[C]	46.9 (37.1-56.7)	22.5 (14.1-31.0)[C]

Public health unit*	Never – Weighted percentage (95% CI)	Sometimes – Weighted percentage (95% CI)	Often – Weighted percentage (95% CI)	Always – Weighted percentage (95% CI)
Huron Perth Health Unit	NR	32.0 (21.1-42.8)[C]	43.6 (32.6-54.7)	16.9 (8.6-25.2)[C]
Kingston, Frontenac and Lennox and Addington Health Unit	NR	32.5 (24.4-40.6)	46.3 (37.8-54.8)	19.7 (13.3-26.1)[C]
Lambton Health Unit	NR	31.2 (20.8-41.7)[C]	41.5 (30.4-52.6)	22.5 (14.0-31.1)[C]
Leeds, Grenville and Lanark District Health Unit	NR	25.6 (17.2-34.1)[C]	54.1 (44.2-63.9) ↑	15.0 (8.0-22.1)[C]
Middlesex-London Health Unit	NR	24.9 (15.7-34.0)[C]	45.8 (35.5-56.0)	23.7 (14.9-32.6)[C]
Niagara Regional Area Health Unit	NR	29.4 (20.6-38.2)[C]	41.7 (31.8-51.7)	28.5 (19.6-37.3)[C]
North Bay Parry Sound District Health Unit	NR	30.9 (19.7-42.2)[C]	30.4 (17.7-43.1)[C]	32.1 (19.5-44.7)[C]
Northwestern Health Unit	NR	35.3 (26.5-44.2)	43.4 (34.0-52.8)	17.2 (10.5-24.0)[C]
Oxford Elgin St. Thomas Health Unit	6.4 (2.4-10.3)[D]	34.6 (26.1-43.1)	42.0 (33.8-50.1)	17.0 (11.3-22.8)[C]
Peel Regional Health Unit	6.9 (4.8-9.0)[C]	27.9 (24.3-31.6)	38.8 (34.8-42.7)	26.4 (22.6-30.2)
Peterborough County—City Health Unit	NR	22.1 (12.8-31.4)[C]	50.3 (38.8-61.7)	22.2 (12.8-31.6)[C]
Porcupine Health Unit	NR	36.2 (23.9-48.6)[C]	35.4 (23.7-47.1)[C]	16.0 (7.4-24.6)[D]
Renfrew County and District Health Unit	NR	44.4 (30.1-58.7)[C]	29.9 (16.7-43.2)[C]	15.2 (4.9-25.4)[D]
Simcoe Muskoka District Health Unit	4.1 (1.9-6.4)[D]	35.2 (29.4-40.9)	38.8 (33.0-44.6)	21.9 (17.6-26.2)
Sudbury and District Health Unit	NR	31.2 (20.0-42.3)[C]	34.1 (22.4-45.7)[C]	25.8 (15.6-36.0)[C]
The District of Algoma Health Unit	NR	18.5 (8.8-28.2)[D]↓	52.4 (39.8-65.0)	24.7 (13.9-35.5)[C]
The Eastern Ontario Health Unit	NR	26.5 (16.7-36.2)[C]	51.0 (39.5-62.6)	20.2 (11.3-29.2)[C]
Thunder Bay District Health Unit	13.1 (5.9-20.3)[D]	31.8 (22.4-41.2)[C]	32.7 (23.5-42.0)	22.4 (13.8-30.9)[C]

Public health unit*	Never – Weighted percentage (95% CI)	Sometimes – Weighted percentage (95% CI)	Often – Weighted percentage (95% CI)	Always – Weighted percentage (95% CI)
Timiskaming Health Unit	NR	33.3 (12.8-53.9)^D	35.3 (15.6-55.0)^D	NR
Region of Waterloo, Public Health	7.1 (2.8-11.3)^D	26.1 (19.0-33.1)	36.4 (28.8-44.0)	30.4 (22.5-38.4)
Wellington-Dufferin-Guelph Health Unit	4.7 (1.7-7.8)^D	30.9 (24.2-37.7)	47.4 (40.5-54.2)	17.0 (11.7-22.2)^C
Windsor-Essex County Health Unit	NR	27.7 (21.1-34.3)	44.6 (37.3-51.8)	24.3 (18.2-30.3)
York Regional Health Unit	5.7 (2.4-9.0)^D	38.1 (31.8-44.4)	37.2 (30.9-43.4)	19.0 (14.3-23.8)

↑ Indicates significantly higher than the Ontario average, based on non-overlapping 95% confidence intervals
↓ Indicates significantly lower than the Ontario average, based on non-overlapping 95% confidence intervals
Capital C after estimate: Data quality indicator— marginal (0.15 < CV ≤ 0.25), interpret with caution due to high sampling variability Capital D after estimate: Data quality indicator: marginal (0.25 < CV ≤ 0.35), interpret with caution due to high sampling variability NR: not reportable due to an insufficient number of observations or unacceptable quality (CV > 0.35)

Discussion

The CHSCY data are necessary to fill a gap in our understanding of frequency of electronic device use as well as parents' knowledge of youths' online activities among youth aged 12-17 years in Ontario. While other recent data exist (e.g., 2021 Ontario Student Drug Use and Health Survey [OSDUHS],[19] 2019 national CHSCY report focused on electronic device use and mental health)[21], the sample size was either small and not necessarily representative of all youth in Ontario, or the data presented were for all Canadian youth and not particular to the youth of Ontario.

Overall, nearly two-thirds (63.9%) of youth aged 12-17 years in Ontario reported using social networking several times a day or constantly, while over half (53.9%) reported using video or instant messaging and one fifth reported playing games online several times a day or constantly. These estimates are similar to those reported at the national level, where 61% reported social media, 51% video or instant messaging, and 19% reported playing video games online several times a day or more.[20] Although measured differently, similar findings were reported in the 2021 OSDUHS; most students in grades 7-12 reported using social media (e.g., Instagram, TIkTok, Snapchat, Facebook) daily, with 30.8% reporting five hours or more and 13.7% reporting spending seven hours or more on social media per day.[19] Just over half of those students (52.2%) reported spending at least five hours per day, while 25.6% reported seven hours or more per day on their electronic devices (e.g., smartphones, tablets, gaming consoles). This high frequency of electronic device use reported per day has public health implications, including detrimental effects to both physical and mental health, and increased risk for problematic (i.e., addictive) use.[2,3]

All of the electronic device use indicators as well as parents' knowledge of youths' online activities differed by sex at birth. Females reported more time spent social networking and using video or instant messaging than males, while males reported more time playing video games online than females. This is consistent with other reports and research.[21] Using three large and representative surveys of youth in the US and UK to examine time spent using digital media, authors found that adolescent girls spent more time on smartphones using social media and texting, while boys spent more time gaming and on electronic

devices.[21] The 2021 OSDUHS data showed similar patterns, with females reporting more hours per day on social media (e.g., 41.2% of females versus 20.7% of males spending five hours or more per day), and significantly more males reporting playing video games daily (65.1% of males versus 21.6% of females).[19] Data from the 2017/18 Health Behaviour in School-Aged Children Study (HBSC) identified intensive use (i.e., online communication with others almost all of the time) as well as problematic use (i.e., potential addiction to social media) to be more common in females than males (38% versus 30%, and 7.7% versus 5.2% of males, respectively).[22] These sex differences also have important public health implications; females are more likely to experience cyberbullying and problematic social media use than males, and moderate or heavy digital media use has a more detrimental effect on females' mental health than males'.[21,23-25]

There were significant differences in social networking use, online gaming, and parents' knowledge of youths' online activities by parental education levels. Generally, youth with parents with higher education reported a lower frequency of social networking and online gaming. There were also significant differences across most of the indicators by income variables. Video and instant messaging frequency increased while online gaming frequency tended to decrease as household income increased, with a slight increase in the proportion of youth reporting playing games online several times a day or constantly in income quintile 4. The proportion of youth responding that their parents were always aware of their online activities decreased with increasing household income.

Geographically, two of the electronic device use indicators (video or instant messaging frequency, online gaming frequency) and parents' knowledge of youths' online activities differed significantly. Youth living in the more rural and less population dense regions reported more video and instant messaging, while those living in mainly rural and population dense regions reported more online gaming.

It is important to recognize some of the potential benefits of social media, video/instant messaging and online gaming, including staying connected to or meeting new friends, finding community and connectedness, sharing music or art through digital content creation (e.g., Instagram, TikTok), and the increased potential for exploration and self-expression.[26-28] For some, online interactions or engagements may feel safer or more feasible than gathering in person.[26] The HBSC identified that those with 'Intense social media use' (i.e., highly frequent throughout the day) reported greater life satisfaction, more family support and fewer psychological complaints.[22] However, it is not yet understood if these benefits outweigh risks, including exposure to harmful or inappropriate content, dangerous people, cyberbullying, oversharing of personal information and privacy concerns, identity theft, increased exposure to advertisements, and impacts on health behaviours (e.g., sleep, physical activity, homework, engaging in activities with families or friends).[29]

In April 2024, the Ontario government introduced new measures to reduce cellphone use in schools to limit distractions and address the negative impact of mobile devices and social media.[30] Beginning in September, students in kindergarten to Grade 6 will be required to keep phones on silent and "out of sight" during the school day (unless granted permission for use), while students in Grades 7-12 will not be permitted to use cellphones during class time without permission. Ontario will also be the first province to block access to social media platforms on school networks or devices. This policy change follows a substantial increase in screen time and electronic device use during the COVID-19 pandemic, and at a time when the gaming industry is constantly evolving and enhancing their marketing to attract an increasing number of youth consumers.[31] It is important to build our understanding of these electronic device use indicators and the prevalence of use prior to, during, and after these changes are made.

The most apparent differences were seen between male and females in this age group, which aligns with previous research. Although there were some statistically significant differences across other child sociodemographics, household sociodemographics, and geographic regions for electronic device use indicators, many of the differences are small. Whether or not these differences are meaningful as determinants of differential health outcomes is not clear. Additional analyses, including longitudinal studies would be needed to unpack these nuances. What is clear from the analyses presented in this summary is that frequent electronic device use is a pervasive trend in this age group in Ontario, regardless of sociodemographic characteristics.

Limitations

Several limitations should be considered when interpreting these results. Retrospective self-reported data collected in CHSCY may be subject to recall errors or biases. The electronic device use indicators measured in CHSCY were not validated. The questions asked on the CHSCY questionnaire do not differentiate between weekday and weekend electronic device use, which are known to differ in youth.[32] The cross-sectional design of the CHSCY and the bivariate analyses for this report prevent identification of causal relationships. The data for this 2019 CHSCY were collected over a five-month period; it is possible that seasonal variations in electronic device use impacted frequency measurements. Finally, the indicator of parents' knowledge of youths' online activities was self-reported by youth, so might not be an accurate representation of parents' true knowledge of what their children are doing online.

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

ELECTRONIC DEVICE USE FREQUENCY VARIABLES

EDV_015 – Social networking – frequency

- How often do you go online for the following activities? Social networking e.g., Facebook, Instagram, Twitter

- Self-reported by youth ages 12-17 years

- Six categories: constantly, several times a day, once a day, weekly, less than weekly, never

- Collapsed categories into three levels: several times a day or constantly, once a day to less than weekly, and never

EDV_020 – Video/Instant messaging – frequency

- How often do you go online for the following activities? Video or instant messaging e.g., WhatsApp, Snapchat, or FaceTime

- Self-reported by youth ages 12-17 years

- Six categories: constantly, several times a day, once a day, weekly, less than weekly, never

- Collapsed categories into three levels: several times a day or constantly, once a day to less than weekly, and never

EDV_025 – Online gaming – frequency

- How often do you go online for the following activities? Online gaming e.g., League of Legends, Minecraft, or World of Warcraft

- Self-reported by youth ages 12-17 years

- Six categories: constantly, several times a day, once a day, weekly, less than weekly, never

- Collapsed categories into three levels: several times a day or constantly, once a day to less than weekly, and never

EDV_60 – Parents knowledge of youth's online activities – frequency

- How often do your parents know what you are doing online?

- Self-reported by youth ages 12-17 years

- Four categories: never, sometimes, often, always

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.

- 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). Because Indigenous identity is included in these analyses as a separate variable, we excluded respondents who answered 'yes' to Indigenous identity (who are otherwise automatically included in the White/Non-racialized category, as per Statistics Canada methods).

- Indigenous identity (First Nations, Inuit or Métis) was defined as 'Yes' or 'No'

- Immigration status (child) 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 8.2 Enterprise Guide was used to conduct all statistical analysis. Bivariate analyses was conducted between the covariates and electronic device use.

- Statistics Canada approved guidelines were used to report outcomes. Estimates based on fewer than 10 observations with the characteristic of interest or fewer than 20 observations in the domain were suppressed. Estimates with enough observations were then assessed for quality based on coefficient of variation (CV). Estimates with CVs less than 0.15 were reported without warnings. Estimates with CVs between 0.15 and 0.35 were reported with warnings to interpret

- with caution. Estimates with CVs over 0.35 were suppressed due to extreme sampling variability resulting in unacceptable data quality

- To test for prevalence differences across sociodemographic variables, Rao-Scott Chi-Square were performed with differences considered significant at p<0.05. When there was a significant difference detected by Rao-Scott Chi-Square, 95% CIs were compared to test for differences between specific groups with non-overlapping confidence intervals considered significantly different.

- To test for prevalence differences between Ontario and sub-Ontario geographies, 95% CIs were compared. Where a sub-Ontario (e.g., PHU level) estimates had non-overlapping confidence intervals compared to the Ontario estimate, it was considered significantly different.

- All PROC SURVEY commands used with bootstrap replications (n=1,000) and survey weights provided by Statistics Canada.

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