

SUMMARY REPORT

(ARCHIVED) Health Behaviours of Ontario Secondary School Students during Wave 1 of the COVID-19 Pandemic

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Highlights

- In March 2020, school boards across Ontario moved all learning online, and were not set to reopen for in-person attendance for the remainder of the academic year.
- Examining the impact that the COVID-19 restrictions had on the health behaviours of Ontario youth, specifically physical activity, screen time, dietary patterns and substance use, can provide important information for schools on programs and supports to offer students during periods of disruption (e.g. prohibiting in-person attendance at school).
- This report presents the experiences of approximately 3100 secondary students in Ontario that participated in the COMPASS Study, after schools were closed. This report summarizes responses that cover the following five areas:
 - Knowledge of COVID-19;
 - Degree of adoption of recommended preventative measures;
 - Feelings and concerns related to COVID-19;
 - Consequences of COVID-19 on well-being, substance use and mental health; and
 - Coping with COVID-19 and adapting to school closures and other mitigation strategies
- Most participating students indicated that they understood COVID-19 transmission and ways to prevent it. Almost all students reported adopting new behaviours to prevent the transmission of COVID-19. Students reported compliance with public health measures and recommendations, and changes to their health behaviours, routine and mental health.

- Students responded to the changes and disruptions caused by the school closures and other public health measures in different ways. The most common coping mechanisms that students reported included spending time with family, exercising, staying connected with friends online, playing video games, and studying or working on school work. Some students reported increased feelings of loneliness, boredom, stress and anxiety during the COVID-19 pandemic.

Background

The first case of Coronavirus Disease 2019 (COVID-19) in Ontario was reported on January 25, 2020.¹ On March 11, the World Health Organization (WHO) declared the outbreak of COVID-19 a pandemic.² The Ontario government subsequently implemented several public health measures to limit the spread of COVID-19 in the province. On March 12, 2020, the Government of Ontario ordered all public schools in the province to close between March 14 and April 5 (the duration of March break).³ Soon after, Canada implemented border measures and Ontarians were encouraged not to visit those in long-term care residences.³ Further, a state of emergency was declared on March 17, 2020 which was followed by the implementation of several public health measures including the prohibition of public events with over 50 people, and the closure of indoor recreation facilities, libraries, private schools, daycares, theatres, concert venues, bars and restaurants.⁴ In response, school boards across Ontario moved all learning online, and were not set to reopen for in-person attendance for the remainder of the academic year.⁴

Community-based public health measures (e.g., physical distancing, mask wearing, school closures) in response to COVID-19 have unintended negative effects on children and their families.⁵ These negative effects include loss of education, lack of access to school-based programs and services, and changes to behaviours and emotions such as decreased physical activity and increased sedentary behaviour, change in diet, and various mental health concerns.⁵ By understanding compliance with public health measures among youth, we might better understand some of the factors influencing COVID-19 incidence and the impacts of these measures. Insight into the knowledge and beliefs that underpin compliance with public health measures can help to inform COVID-19 education and prevention efforts among youth. Further, examining the impact that the COVID-19 restrictions had on the health behaviours of Ontario youth, specifically physical activity, screen time, dietary patterns, and substance use, can provide important information for schools on programs and supports to offer students during periods of disruption (e.g. prohibiting in-person attendance at school).

Purpose

This report presents an overview of the results obtained from secondary schools in Ontario participating in the COMPASS study. The results only reflect the experiences of students that participated in the online COMPASS survey, and are not necessarily representative of the reality of all schools and students across Ontario.

The COMPASS Study

The COMPASS study is a prospective cohort study, led by researchers at the University of Waterloo (compass.uwaterloo.ca) that collects longitudinal data from a large sample of secondary schools and students in grades 9 to 12 that attend those schools in Ontario. The study is also conducted in Alberta, British Columbia and Quebec. The primary objective of COMPASS is to guide and continually improve youth prevention research and practice. Data collection typically occurs during class time using paper-based questionnaires. The results presented in this report; however, are based on data collected in

Ontario during April and May 2020, using an online survey during a period of school closure to reduce transmission of COVID-19 in Ontario. The study methodology was adapted to include questions on COVID-19 to better understand the impact of the pandemic on students, and to assist educators, school stakeholders, and public health to understand students' needs in this different context.^{6,7}

Methods

There were eleven questions related to COVID-19 added to the online COMPASS questionnaire, with the following preamble: "The following questions deal with the COVID-19 pandemic. COVID-19 is the infectious disease that is currently active in Canada and globally and is the reason why governments in Canada have introduced policies designed to promote social/physical distancing (e.g., closing schools, closing certain workplaces, banning large gatherings, telling people to stay home, advising people to stay two metres apart, etc.). We are interested to know how you feel about this situation and what effects it is having on your daily life."

The COVID-19 portion of the questionnaire included eleven questions, and this report summarizes responses that cover the following five areas:

1. Knowledge of COVID-19;
2. Degree of adoption of recommended preventative measures;
3. Feelings and concerns related to COVID-19;
4. Consequences of COVID-19 on well-being, substance use and mental health; and
5. Coping with COVID-19 and adapting to school closures and other mitigation strategies

The sample included 3,105 students from 20 schools. The participation rate was 21.3%, with large variations in participation rates across schools (range: 5.4% - 63.3%) due to differences in school-student communication and student engagement strategies. Typical participation rates for in-class COMPASS survey administration are ~80%; as a result of this lower participation, results were weighted to reflect within-school age and gender distributions of respondents according to 2018-19 COMPASS participation. The responses to the online questionnaire summarized in this report were provided by students between April and May 2020. Responses might not be reflective of students' current experiences, given the changes to public health measures and restrictions, and given that most Ontario secondary students have since returned to school (in-person and/or virtually) for the 2020-21 academic year.

Results

The results presented in this report are based on the participating students' answers to questions related to COVID-19 on the modified, online COMPASS questionnaire.

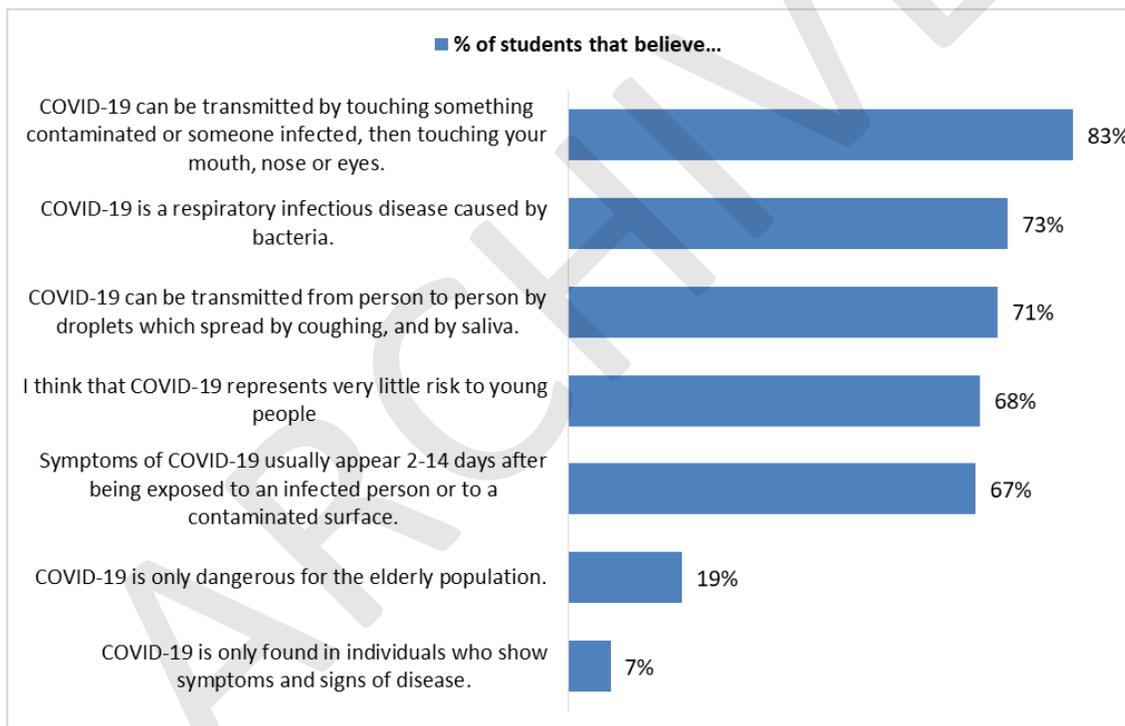
Knowledge of COVID-19 and Preventative Measures

Students were asked about their knowledge of COVID-19 and the strategies and measures to prevent its spread (by indicating which statements about COVID-19 they thought to be true, and ranking how true certain statements about COVID-19 were for them at the time of the survey). They were also asked about where they were getting information and news about COVID-19.

Most students indicated the following to be true: that **hand washing** for at least 20 seconds (with soap and water) helps prevent the transmission of COVID-19 (88%), that the use of **hand sanitizer** (e.g., Purell) helps prevent the transmission of COVID-19 (83%), and that when a person coughs, the use of a **mask** can reduce the droplet transmission of COVID-19 (82%).

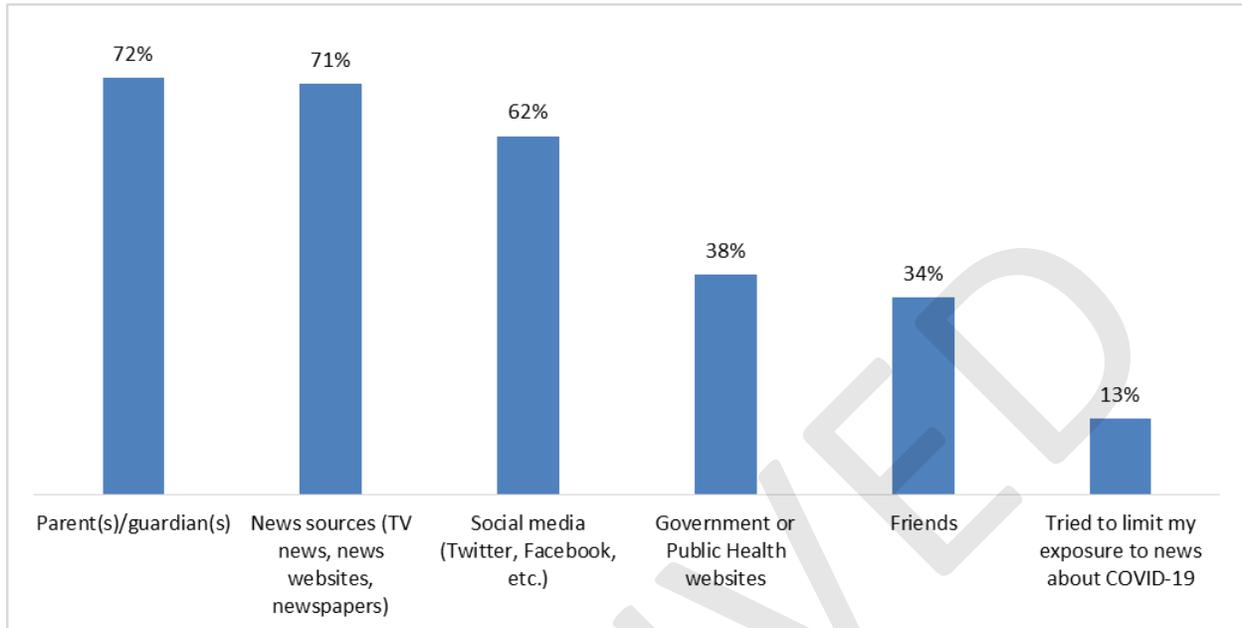
Most participating students indicated that they understood COVID-19 transmission and ways to prevent it (see Figure 1). Regarding COVID-19 risk perception, over two-thirds of the students (68%) believed that COVID-19 presented very little risk to young people, and 19% believed that COVID-19 was only dangerous for the elderly population. Nearly all students were aware that individuals could have an asymptomatic COVID-19 infection, with just 7% reporting that they believed COVID-19 is only found in individuals that show symptoms and signs of the disease.

Figure 1. Understanding of COVID-19 among Students Participating in the Online COMPASS Questionnaire in Ontario



The most common sources of information and news about COVID-19 among the students was their parent(s) or guardian(s), news sources (e.g., television news, news websites, or newspapers), and social media (e.g., Twitter, Facebook) (see Figure 2). Only 13% of students reported that they were trying to limit their exposure to information and news about COVID-19.

Figure 2. Source of COVID-19 Information and/or news for Students Participating in the Online COMPASS Survey



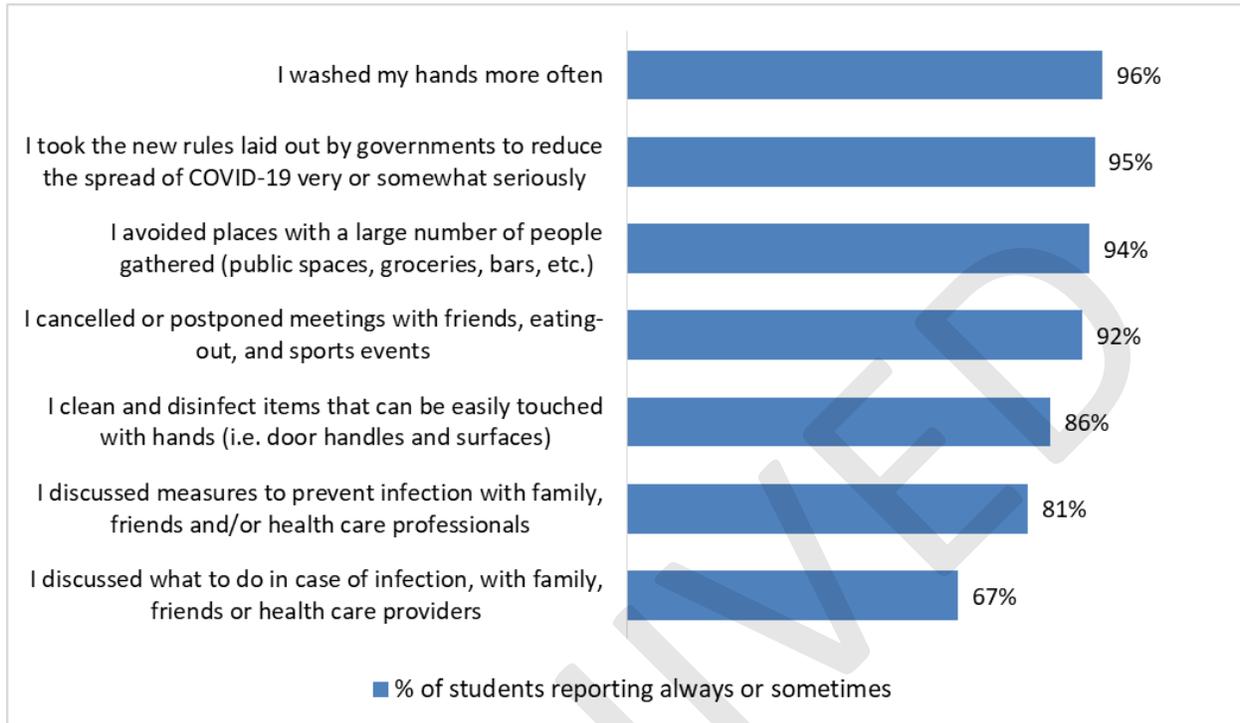
Adoption of Recommended COVID-19 Preventative Measures

Students were asked about whether or not they followed the recommended measures to prevent transmission of COVID-19. Response options included “always,” “sometimes,” and “never.” The results below are combined for students that responded “always” or “sometimes.”

Almost all students reported adopting new behaviours to prevent the transmission of COVID-19 (Figure 3). Most reported that they discussed measures to prevent infection or what to do in case of infection with their families, friends, or health care providers.

Students reported washing their hands more often (96%), avoiding places where a large number of people gather (94%), and cancelling or postponing meetings with friends, eating-out, and sporting events (92%).

Figure 3. Adoption of COVID-19 Preventative Measures among Students Participating in the Online COMPASS Questionnaire in Ontario



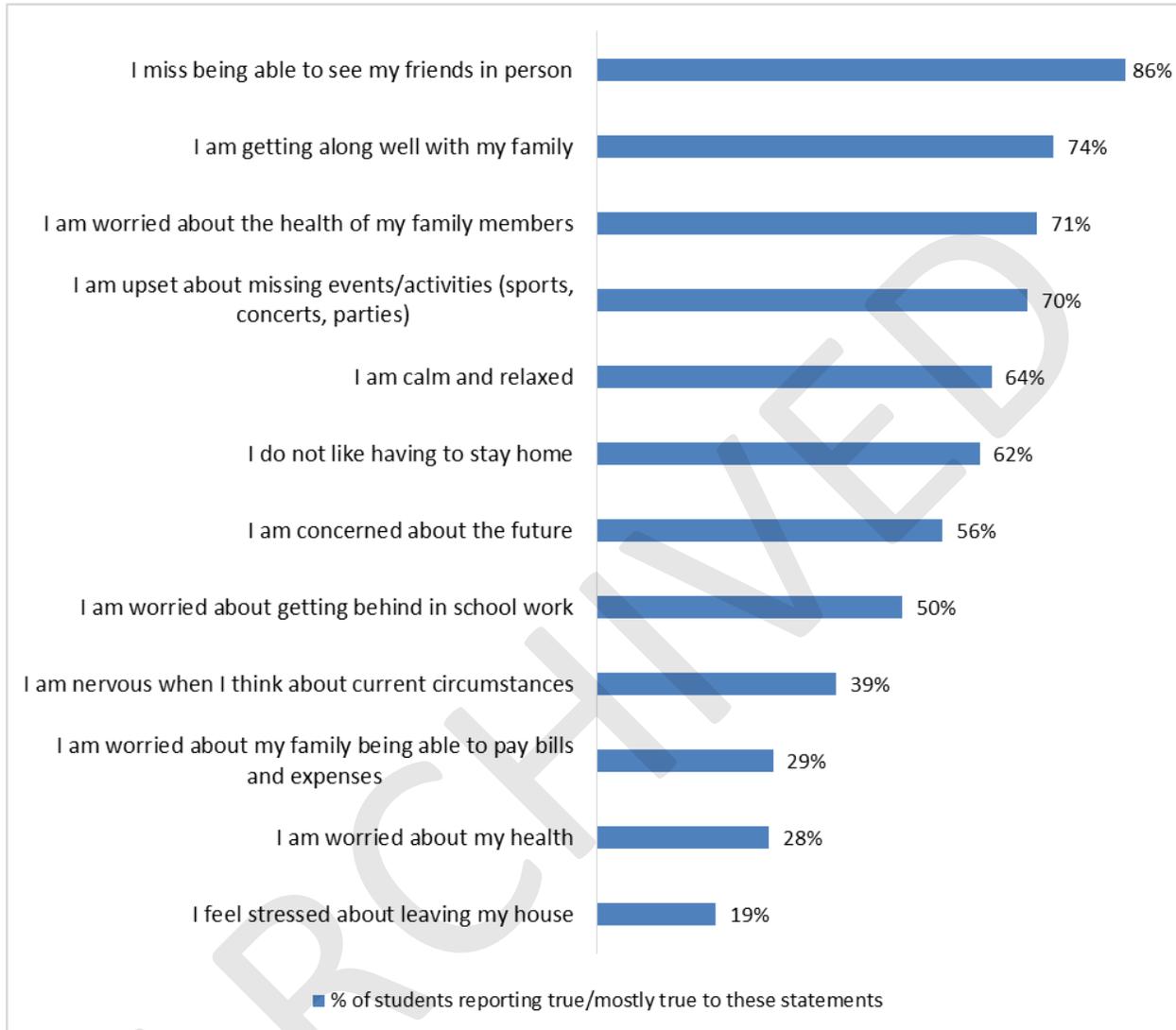
Feelings and Concerns Related to COVID-19

Students were asked about their level of concern about COVID-19; overall, 62% of students reported feeling somewhat concerned while 18% of students reported feeling very concerned. Figure below presents the proportion of students that responded “mostly true” or “true” to the statements related to their feelings and concerns about COVID-19.

Most students (86%) reported that they missed being able to see their friends in-person. More than two-thirds of the students reported feeling worried about the health of their family members (71%). A similar proportion (70%) reported feeling upset about missing events or activities (e.g., sports, concerts, parties). Over half of the students reported concern about the future (56%) and half of the students (50%) reported concern about getting behind in school work. Nearly one-third (29%) reported being worried about their family being able to pay bills and expenses.

While 74% of students reported that they were getting along well with their family, 62% reported that they did not like having to stay home. Nearly two-thirds of the students reported that they were feeling calm and relaxed (64%), but over half reported concern for the future (56%).

Figure 4. Feelings and Concerns Related to COVID-19 among Students Participating in the Online COMPASS Survey



Consequences of the COVID-19 Pandemic on Well-being, Substance Use and Health Behaviours

Students were asked about how their lives changed due to COVID-19, specifically regarding their well-being and mental health, substance use, and health behaviours. This included asking students about increases in various emotions (e.g., stress) and activities (e.g., screen time, exercise) with response options of “increased,” “stayed the same/not applicable,” or “decreased.”

Most students reported an increase in their time spent watching TV/movies, playing video games, and/or surfing/posting on social media (86%), and communicating with their friends online (59%). Close to

Students reported an increase in boredom (73%), loneliness (55%), stress (43%) and anxiety (38%).

half of the students reported an increase in their time spent sleeping (46%) and less than half time spent being physically active (32%).

Few students reported an increase in their use of substances during the COVID-19 pandemic:

- 10% increased their alcohol consumption
- 6% increased their cannabis use
- 5% increased their vaping
- 2% increased their cigarette smoking

Coping during the COVID-19 Pandemic

Students were asked about some of the ways that they coped with the changes and restrictions related to the COVID-19 pandemic. The two most frequently reported coping mechanisms included staying connected with friends online (79%) and playing video games, watching TV or movies, and/or surfing the internet/social media (76%).

Only a small proportion of students reported using substances to cope with changes and restrictions related to the COVID-19 pandemic. Below is the proportion of students who reported using the following substances to cope during the COVID-19 pandemic:

- 7% reported drinking alcohol
- 6% reported using cannabis
- 5% reported vaping
- 2% reported smoking cigarettes

Only 4% of students reported that they connected with mental health professionals to cope during the first wave of COVID-19.

Close to two-thirds of students reported other ways that they coped with COVID-19 restrictions, including studying or working on school work (68%), exercising (e.g., getting outside for a walk, bike ride, working out at home) (67%), and spending time with family (e.g., playing games, eating meals together, hanging out) (61%). Less than half of participating students reported keeping to a regular schedule (e.g., waking up, eating meals, and going to bed around the same time as usual) (39%). Finally, only 4% of students reported connecting with a mental health professional to help cope with the COVID-19 pandemic.

Discussion

At the time of the survey (April and May 2020), students participating in COMPASS had a good understanding of COVID-19 and the recommended measures to prevent its spread. Most were aware that it is possible to have COVID-19 without experiencing symptoms, understood the main modes of transmission, and the effective ways to protect themselves from infection. Students reported adopting government-mandated measures, such as the avoidance of busy/crowded places and the cancellation of group-hangouts. They also reported washing their hands more often, disinfecting frequently touched surfaces or objects, and talking to their families and friends about COVID-19.

Students were more worried about the health of their family members and their progress in school, than they were about their own health. While most students were not worried about their own health and perceived themselves to be at a low risk for COVID-19, they mostly understood the risk of asymptomatic cases and that COVID-19 is particularly dangerous for the elderly population. A concern for the health of their families, and the knowledge of asymptomatic cases and risk to older populations may help to explain why the majority of students reported adopting the recommended measures to reduce the transmission of COVID-19.

Overall, school closures and other public health measures affected the lives of students that participated in the online COMPASS questionnaire. Students reported changes to their behaviours and routines (e.g., more screen time, difficulty maintaining a regular sleep schedule). However, students responded to the changes and disruptions caused by the school closures and other public health measures in different ways. The most common coping mechanisms that students reported included spending time with family, exercising, staying connected with friends online, playing video games, and studying or working on school work. Some students reported increased feelings of loneliness, boredom, stress and anxiety during the COVID-19 pandemic. However, only a small proportion of students reported connecting with a mental health professional to help cope with changes related to the COVID-19 pandemic which may be explained by students having increased access to these supports through in-person attendance at school.

Limitations

The data presented in this report are not representative of all students in Ontario. The COMPASS study is administered in school boards across Ontario that agree to participate in the study. After the school closures in March 2020, only some schools agreed to participate online. Given that COMPASS is not a representative study, and participation in the study also changed during COVID-19, there are likely to be groups that are under and over represented by the sample presented in this report.

Additionally, the results in this report are from the COMPASS survey administered in April and May 2020, the first wave of the COVID-19 pandemic. Given that public health measures and public information about COVID-19 has been constantly evolving, the results presented in this report might not be reflective of the current knowledge, behaviours, concerns and feelings of students in Ontario.

An Equity-informed Approach

Most of the public health measures and recommendations of interest to this survey were implemented at a provincial and national level. The provincial and national scale of these measures may have had a disproportionate impact on marginalized and racialized groups that have been more severely affected by COVID-19.^{8,9} Numerous factors contribute to the disproportionate impact of COVID-19, many of them rooted in structural factors such as systemic racism, discrimination and stigma.

This report explored knowledge and uptake of public health measures among Ontario students participating in the online COMPASS survey. The uptake of public health measures; however, is known to be difficult in equity-seeking communities because of work conditions (e.g., in-person, essential workers) and residential arrangements (e.g., multi-generational households).^{8,9} Centralized responses to COVID-19 must be accompanied by local interventions that consider equity and high-priority neighbourhoods or communities that are disproportionately affected by COVID-19 and the restrictions.⁸

Conclusion

This report provides insight into the knowledge, beliefs, and behaviours of Ontario students who participated in the online COMPASS Study, during wave one of the COVID-19 pandemic. This report highlights the impacts that COVID-19 related public health measures and restrictions had on students in Ontario. Students reported compliance with public health measures and recommendations, and changes to their health behaviours, routine, and mental health. Despite a large proportion of students reporting changes to their mental health, a low proportion reported seeking support from a mental health professional at the time of data collection. It is possible that students only access to these types of supports through in-person attendance at school, or that they choose not to seek support at all.

Insight into the knowledge, adoption of preventative measures, and changes to health behaviours and mental health during a period of disruption (e.g., school closures due to COVID-19) can inform future programs and supports offered to students during future periods of disruptions or school closure. Emergency preparedness planning for periods of disruption, as a result of public health emergencies, can use these insights to inform supports for students. Public health agencies and school boards might consider planning innovative mitigation strategies to support students as they continue to cope with COVID-19 and school closures.

References

1. Government of Ontario. Ontario confirms first case of Wuhan novel coronavirus [Internet]. Toronto, ON: Queen's Printer for Ontario; 2020 [cited 2021 Jan 06]. Available from: <https://news.ontario.ca/en/release/55486/ontario-confirms-first-case-of-wuhan-novel-coronavirus>
2. World Health Organization. WHO Director-General's opening remarks at the media briefing on COVID-19 - 11 March 2020 [Internet]. Geneva: World Health Organization; 2020 [cited 2021 Jan 06]. Available from: <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>
3. Vogel L. COVID-19: a timeline of Canada's first-wave response. CMAJ News [Internet], 2020 Jun 12 [cited 2021 Jan 06]. Available from: <https://cmajnews.com/2020/06/12/coronavirus-1095847/>
4. Ontario. Ministry of the Solicitor General. Report on Ontario's provincial emergency from March 17, 2020 to July 24, 2020 [Internet]. Toronto, ON: Queen's Printer for Ontario; 2020 [cited 2021 Feb 03]. Available from: [https://www.ontario.ca/document/report-ontarios-provincial-emergency-march-17-2020-july-24-2020#:~:text=On%20March%2017%2C%202020%2C%20based,Civil%20Protection%20Act%20\(%20EMCPA%20\)](https://www.ontario.ca/document/report-ontarios-provincial-emergency-march-17-2020-july-24-2020#:~:text=On%20March%2017%2C%202020%2C%20based,Civil%20Protection%20Act%20(%20EMCPA%20))
5. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Negative impacts of community-based public health measures on children, adolescents and families during the COVID-19 pandemic: update [Internet]. Toronto, ON: Queen's Printer for Ontario; 2020 [cited 2021 Feb 03]. Available from: <https://www.publichealthontario.ca/-/media/documents/ncov/he/2021/01/rapid-review-neg-impacts-children-youth-families.pdf?la=en>

6. Leatherdale ST, Brown KS, Carson V, Childs RA, Dubin JA, Elliott SJ, et al. The COMPASS study: a longitudinal hierarchical research platform for evaluating natural experiments related to changes in school-level programs, policies and built environment resources. BMC Public Health. 2014;14(1):331. Available from: <https://doi.org/10.1186/1471-2458-14-331>
7. Reel B, Battista K, Leatherdale ST. COMPASS protocol changes and recruitment for online survey implementation during the COVID-19 pandemic: COMPASS technical report series, volume 7, issue 2: December 2020 [Internet]. Waterloo, ON: University of Waterloo; 2020 [cited 2021 Feb 03]. Available from: <https://uwaterloo.ca/compass-system/publications/compass-protocol-changes-and-recruitment-online-survey>
8. Public Health Agency of Canada; Tam T. From risk to resilience: an equity approach to COVID-19. Ottawa, ON: Her Majesty the Queen in Right of Canada, as represented by the Minister of Health; 2020. Available from: <https://www.canada.ca/content/dam/phac-aspc/documents/corporate/publications/chief-public-health-officer-reports-state-public-health-canada/from-risk-resilience-equity-approach-covid-19/cpho-covid-report-eng.pdf>
9. McKenzie K. Toronto and Peel have reported race-based and socio-demographic data - now we need action [Internet]. Toronto, ON: Wellesley Institute; 2020 [cited 2021 Jan 06]. Available from: <https://www.wellesleyinstitute.com/healthy-communities/toronto-and-peel-have-reported-race-based-and-socio-demographic-data-now-we-need-action/>

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COMPASS System

The COMPASS system is a research platform for evaluating natural experiments and generating practice-based evidence in school-based prevention. The COMPASS system is focused on enabling the timely and robust generation of knowledge and evidence to advance youth health, by building the capacity to integrate research, evaluation, policy, and practice within the Canadian (and international) prevention system. For more information about COMPASS, visit <https://uwaterloo.ca/compass-system/>.

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