

## SUMMARY REPORT

# Health Behaviours of Ontario Secondary School Students during the COVID-19 Pandemic

**Published: May 2024**

This report provides an update to the [summary report](#) published in 2021 on the health behaviours of Ontario secondary school students during the early stages of the COVID-19 pandemic (2020). Re-examining and understanding the impacts of COVID-19 and related restrictions on the health behaviours (e.g., physical activity, screen time, substance use) and mental health of Ontario students can provide important information for schools and relevant stakeholders on programs and supports to offer students during periods of disruption and stress.

## Highlights

- This report presents the experiences of approximately 32,500 secondary students in Ontario from 51 schools that participated in the COMPASS study in the 2020/21 and 2021/22 school years. This report summarizes responses that cover the following 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
  - Coping with COVID-19 and adapting to mitigation strategies
  - Vaccinations
  - School-level programs or policies
- Most students participating in both survey years indicated that they understood COVID-19 transmission and were aware of the recommended ways to prevent it. Almost all students reported adopting or maintaining behaviours to prevent transmission of COVID-19, including avoiding coughing around people and washing their hands more often.
- Many students reported an increase in stress, boredom, loneliness, and anxiety throughout the COVID-19 pandemic. Students responded to this and to other changes or disruptions caused by the closures and re-openings of schools and other public health measures in different ways. Coping mechanisms reported included staying connected with friends online, playing video games, watching TV or movies, and/or surfing the internet/social media.

- More students agreed than disagreed that they would take the vaccination if offered to them prior to its authorization and availability for their age group. The majority of students also expressed positive perceptions about the COVID-19 vaccine.

## Background

The first case of the Coronavirus Disease 2019 (COVID-19) in Ontario was reported on January 25, 2020. On March 22, the World Health Organization (WHO) declared COVID-19 a pandemic. In response, the Ontario government implemented many public health measures to limit the spread of COVID-19 in the province, including measures in public schools. For example, all public schools in Ontario were ordered to close between March 14 and April 5, 2020 (the duration of March break). With no signs of slowing, school boards across Ontario moved the remaining 2020 school year online, with no plans for schools to reopen until the following academic year.

Education policy responses to COVID-19 were inconsistent and varied over the school years. Between March and June 2020, the Government of Ontario instituted province-wide school closures and suspension of face-to-face instruction, with a shift to emergency virtual instruction. Education delivery and public health response measures in the 2020/21 school year varied across the province, and included both province-wide and localized school closures. There were three different models of educational delivery: (1) fully virtual with minimum standards for synchronous and asynchronous instruction; (2) blended virtual and in-person; and (3) in-person with COVID-19 precautions in place (e.g., implementing cohorting measures, quadmester scheduling, and general cancellations of extracurriculars and athletics). Individual schools and classes also experienced localized closures during both full or partial school reopening during the 2020/21 school year, depending on the epidemiology of COVID-19 cases in the local community and school. Ontario led the country as the province with the longest in-person elementary and secondary school closures due to COVID-19.<sup>1</sup>

Beginning in fall of 2020, the Ontario Ministry of Education required school boards to offer full-time virtual learning as an option for all students in elementary and secondary schools.<sup>2</sup> Having this option added to the complexity of the shifts between in-person and virtual learning through the 2020/21 and 2021/22 school years.<sup>2</sup> Blended virtual and in-person learning remained a common mode of learning in the 2021/22 school year, with 27% of elementary schools and 47% of secondary schools using this teaching model.<sup>2</sup> Schools continued to face disruptions and uncertainties well into 2022, with staffing challenges and growing need for additional mental health supports for students.<sup>2</sup> At this time, preliminary research on the impact of the pandemic on education was beginning to shed light on the growing inequalities and potential long-term effects on Ontario students.<sup>2</sup>

The COVID-19 vaccine was approved and became available to those aged 12–17 years on May 23, 2021,<sup>3</sup> while those aged 5–11 years did not have vaccines available until November 23, 2021.<sup>4</sup> There was no COVID-19 vaccination mandate for Ontario public school students.<sup>5</sup>

While community-based public health measures (e.g., physical distancing, mask requirements, vaccinations, school closures) were important for mitigating community transmission of COVID-19, they can have unintended impacts on children and their families. These can include loss of education and lack of access to school-based programs and services. Beyond academics, schools play a vital role in delivering supports for social-emotional and physical health and well-being (e.g., breakfast programs, dental screening, mental health supports) and are pivotal in preventing, detecting and responding to child maltreatment.<sup>1,6</sup> School closures and transitions to virtual learning reduced or eliminated opportunities to observe risks, and provide supports and interventions.<sup>1,6</sup>

## Purpose

This report presents an overview of the school-related pandemic effects on physical and mental health and health behaviours of Ontario youth in the 2020/21 and 2021/22 school year. The results only reflect the experiences of students that participated in the online COMPASS survey and the school administrators that participated in the online COMPASS School Policies and Practices questionnaire during those school years, and are not necessarily representative of the reality of all students and schools across Ontario. For information on the early impacts of COVID-19 on the physical and mental health and health behaviours of Ontario youth (in early 2020), please see the [first summary report](#)<sup>7</sup>.

## The COMPASS Study

The COMPASS study is a prospective cohort study led by researchers at the University of Waterloo ([compass.uwaterloo.ca](https://compass.uwaterloo.ca)) that annually collects longitudinal student- and school-level data from a large sample of Ontario students in grades 9 to 12 and the secondary schools they attend. The study is also conducted in Alberta, British Columbia, Quebec, and Prince Edward Island (PEI). The primary objective of COMPASS is to guide and continually improve youth prevention research and practice. Prior to COVID-19, student-level data collection occurred during class time using paper-based questionnaires. Due to school closures, data collection moved to an online platform and student- and school-level data continue to be collected online. Only school boards within Ontario that use active-information passive-consent parental permission protocols were eligible for participation. All students attending participating schools were eligible to participate, but participation was not required.<sup>8</sup>

## Methods

Students were asked a number of questions on the COMPASS Survey in 2020/21 and 2021/22 with the following preamble: “the following questions deal with the COVID-19 pandemic. We are interested to know how you feel about this situation and what effects it is having on your daily life.” Questions asked about COVID-19 were based on the understanding of COVID-19 (e.g., routes of transmission, methods of prevention) at the time, and covered the following 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
5. Coping with COVID-19 and adapting to school closures and other mitigation strategies
6. COVID-19 vaccines

In addition to the COMPASS Student questionnaire, school administrators filled out the School Policies and Practices Questionnaire (SPP), a school-level questionnaire of existing school policies and programs as they pertain to student health. The SPP is administered annually at the same time as the student questionnaire, with the goal of evaluating changes made to existing policies, programs, and resources over time and their impacts on student health behaviours and outcomes. The SPP was modified in 2020 to include questions about COVID-19.

The sample included 32,400 students from 51 schools. In 2020/21, 36% students reported in-person learning, 33% students reported virtual learning, and 31% students reported blended learning. In 2021/22, 89% of students reported in-person learning, 7% of students reported virtual learning, and 4% of students reported blended learning. The participation rate was 44% in 2020/21 and 54% in 2021/22, with variations in participation rates across and within schools due to differences in engagement strategies, communication about the survey, and whether schools scheduled and offered class time to administer the survey. Participation rates for in-class COMPASS survey administration pre-COVID were approximately 80%, and in the first wave of the pandemic online survey participation was 21%. Approximately 50% of the students that participated in both 2020/21 and 2021/22 were female (52% and 50%, respectively). There was nearly equal representation of students from across all grades in both 2020/21 and 2021/22 (29% in grade 9, 27% in grade 10, 23% in grade 11, 21% in grade 12 in 2020/21; 29% in grade 9, 28% in grade 10, 24% in grade 11, 19% in grade 12 in 2021/22). Fifty administrators completed the SPP in 2020/21, while 51 completed the SPP in 2021/22.

## Results

The results presented in this report are based on the participating students' and administrators' answers to questions related to COVID-19 on the online COMPASS student questionnaire and SPP for the 2020/21 and 2021/22 school years.

### Knowledge of COVID-19 and Preventative Measures

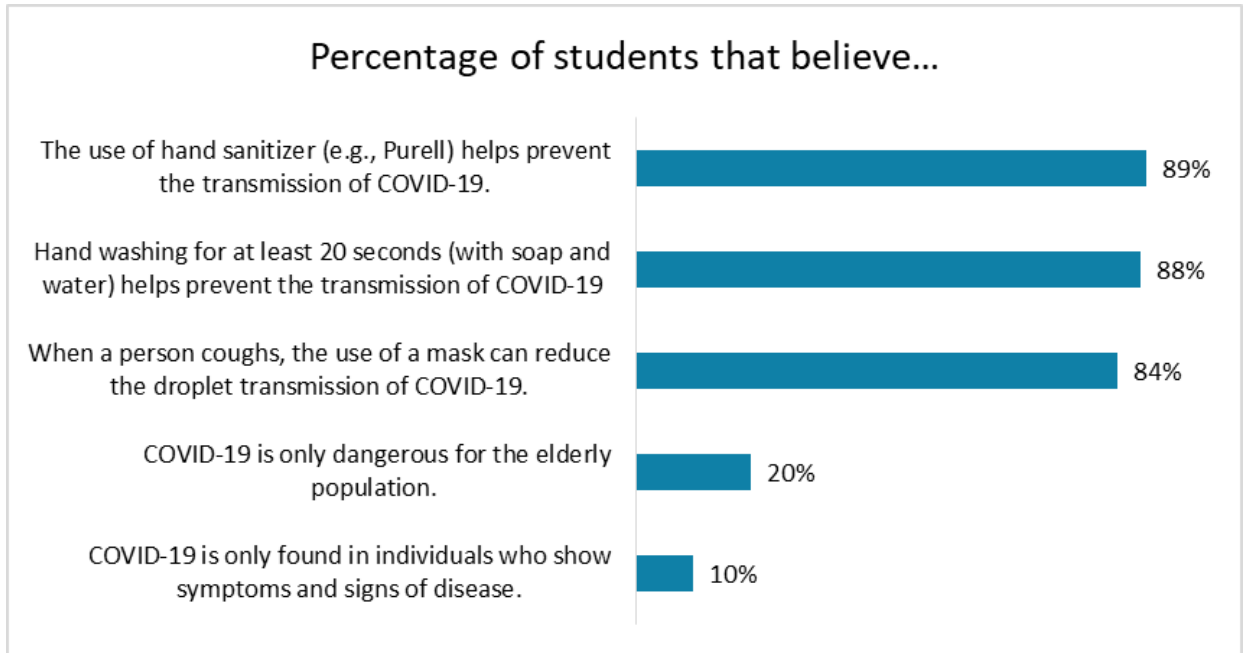
Students were asked about their knowledge of COVID-19 and the strategies and measures implemented to prevent its spread. Students indicated which statements about COVID-19 they thought to be true, and ranked how true certain statements about COVID-19 were for them at the time of the survey. They were also asked to indicate where they get their information and news about COVID-19.

Based on responses to the survey, most participating students understood COVID-19 transmission and ways to prevent it (Figure 1). The majority of students indicated the following to be true:

- that **use of hand sanitizer** (e.g., Purell) helps prevent the transmission of COVID-19 (89%)
- that **hand-washing** for at least 20 seconds (with soap and water) helps prevent transmission of COVID-19 (88%)
- that when a person coughs, the **use of a mask** can reduce droplet transmission of COVID-19 (84%)

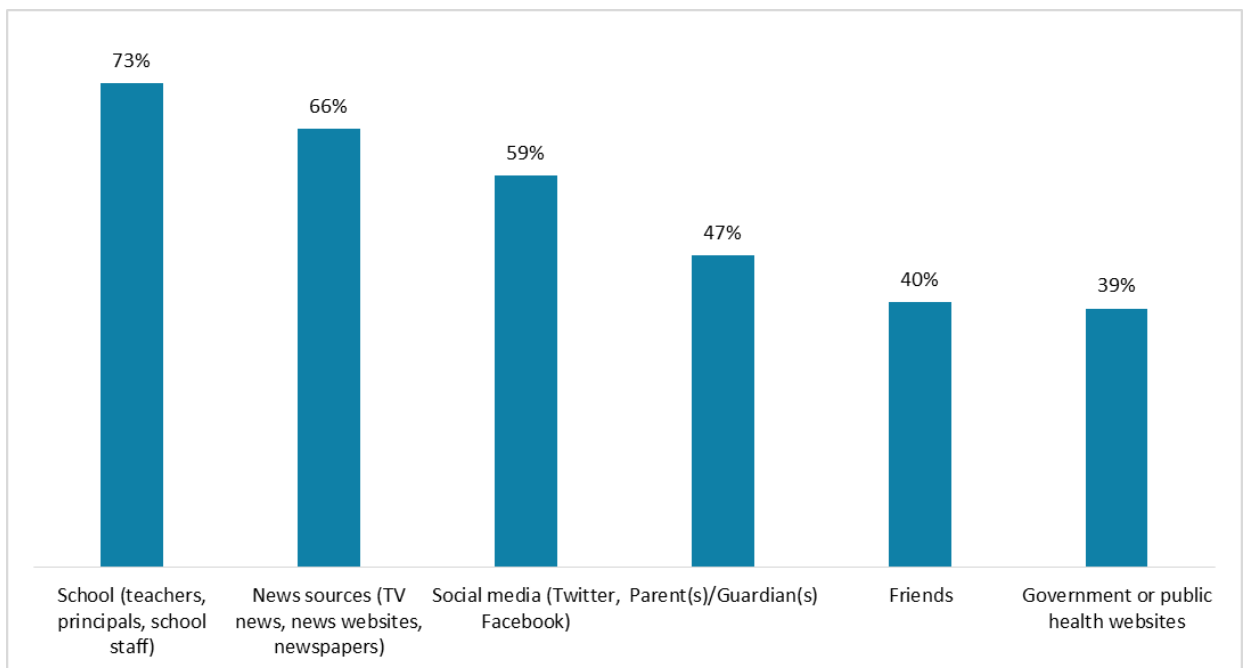
Almost all students were aware that individuals could have asymptomatic COVID-19 infection, with 1 in 10 students reporting that they believed COVID-19 was found only in individuals showing symptoms and signs of disease. Similarly, most students understood the risk of COVID-19 overall, with 1 in 5 believing COVID-19 was only dangerous for the elderly population.

**Figure 1: Understanding of COVID-19 among Ontario students in 2020/21**



In 2020/21, most students reported receiving their information and news about COVID-19 from their school (teachers, principals, other school staff), news sources (TV news, news websites, newspapers), or on social media (Twitter, Facebook, etc.) (Figure 2). Only 12% of students indicated trying to limit their exposure to information and news about COVID-19.

**Figure 2: Source of COVID-19 Information and/or news for Ontario students in 2020/21**



## Adoption of Recommended COVID-19 Preventative Measures

Students were asked about whether they followed the recommended measures to prevent transmission of COVID-19 in the 2020/21 COMPASS survey. Response options included “always,” “sometimes,” and “never.” Results presented are combined for students that responded “always” or “sometimes.” Almost all students reported that they adopted or continued to follow the measures to prevent transmission of COVID-19 (Figure 3), while most reported discussing measures to prevent infection or what to do in case of infection.

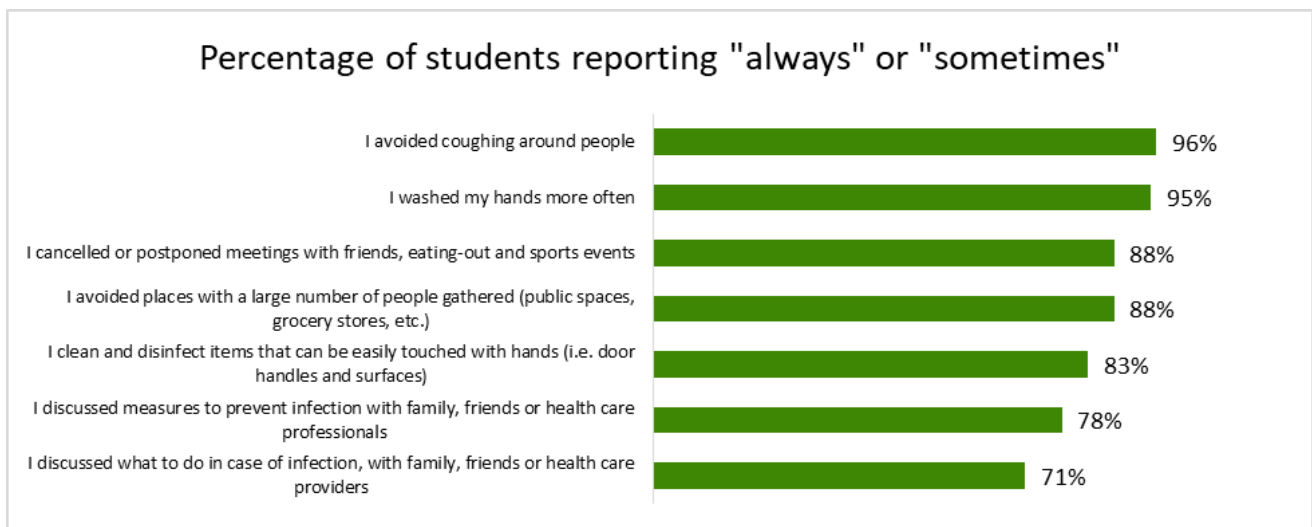
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Almost all students reported that they avoided coughing around people (96%) and washing their hands more often (95%).

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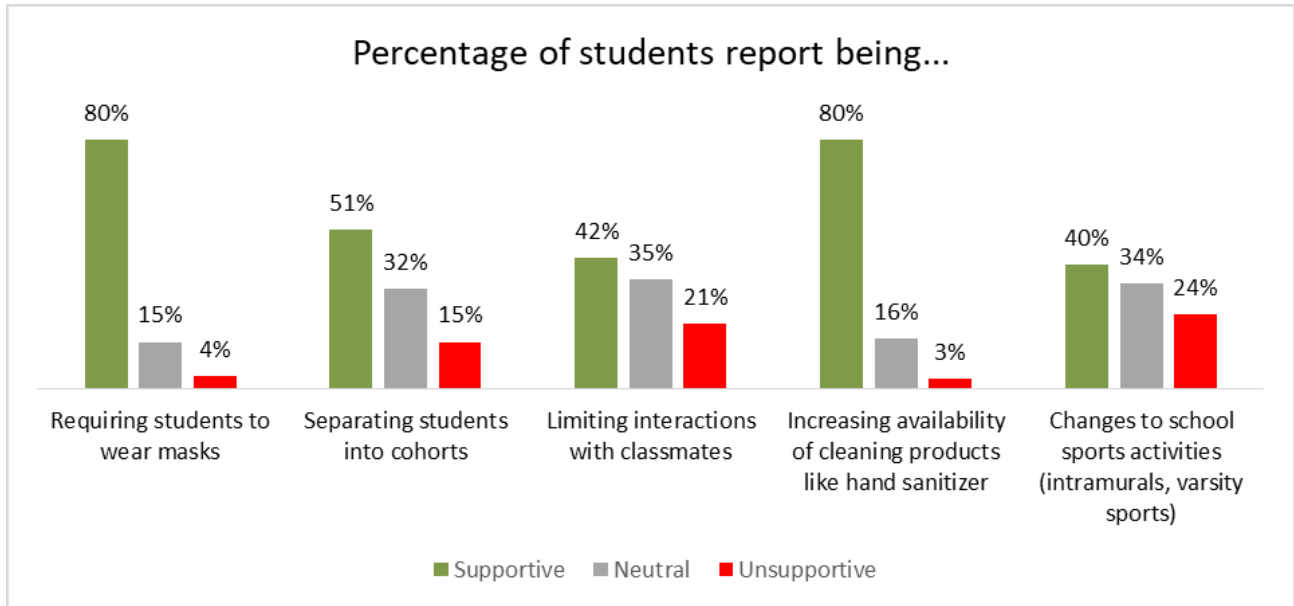
In 2020/21, students were asked about how seriously they were taking rules laid out by the government to reduce the spread of COVID-19. Over half indicated that they take them very seriously (e.g., I wear a mask where I am supposed to, I do not go within 2 metres of most people; 61%). Only 3% of students reported not taking the rules seriously (“I go out when I want to, I visit whomever I want, I do not worry about staying 2 metres away from people”).

**Figure 3: Adoption of COVID-19 Prevention Measures among Students in Ontario in 2020/21**



Students were also asked how supportive they were of the safety precautions at their school to protect against COVID-19 (only in the 2020/21 survey). Most students (80%) were supportive of both mask requirements and an increased availability of cleaning products (e.g., hand sanitizer). Half or just less than half of students were supportive of separating students into cohorts (51%), limiting interactions with their classmates (42%), or the changes made to school sports activities, like intramurals or varsity sports (40%).

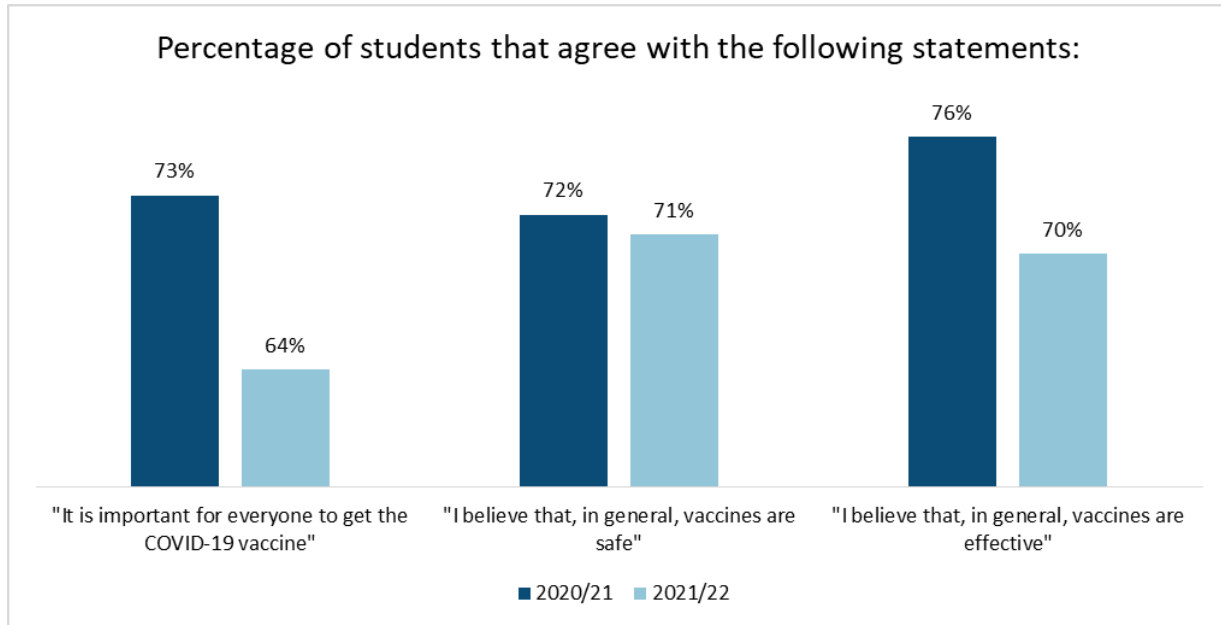
**Figure 4: Support of COVID-19 Safety Precautions at School among Students in Ontario in 2020/21**



## Vaccines

Prior to the COVID-19 vaccine authorization and availability (i.e., during 2020/21), 72% of students agreed or strongly agreed that if a vaccine against COVID-19 was offered to them, they would take it. After its authorization, in 2021/22, 49% of students agreed or strongly agreed that they would take a vaccine against COVID-19 if it was offered to them. When asked about a third vaccine, 49% of students indicated that they strongly agreed or agreed that they would take it, while 18% disagreed or strongly disagreed that they would take it. Students were also asked about their opinions about the COVID-19 vaccine and vaccines in general (see Figure 5). Most students expressed positive perceptions about the COVID-19 vaccine and vaccines more generally, though the proportion of positive responses decreased between 2020/21 and 2021/22.

**Figure 5: Opinions about COVID-19 Vaccines and Vaccines in General among Students in Ontario in 2020/21 and 2021/22**



## Feelings and Concerns Related to COVID-19

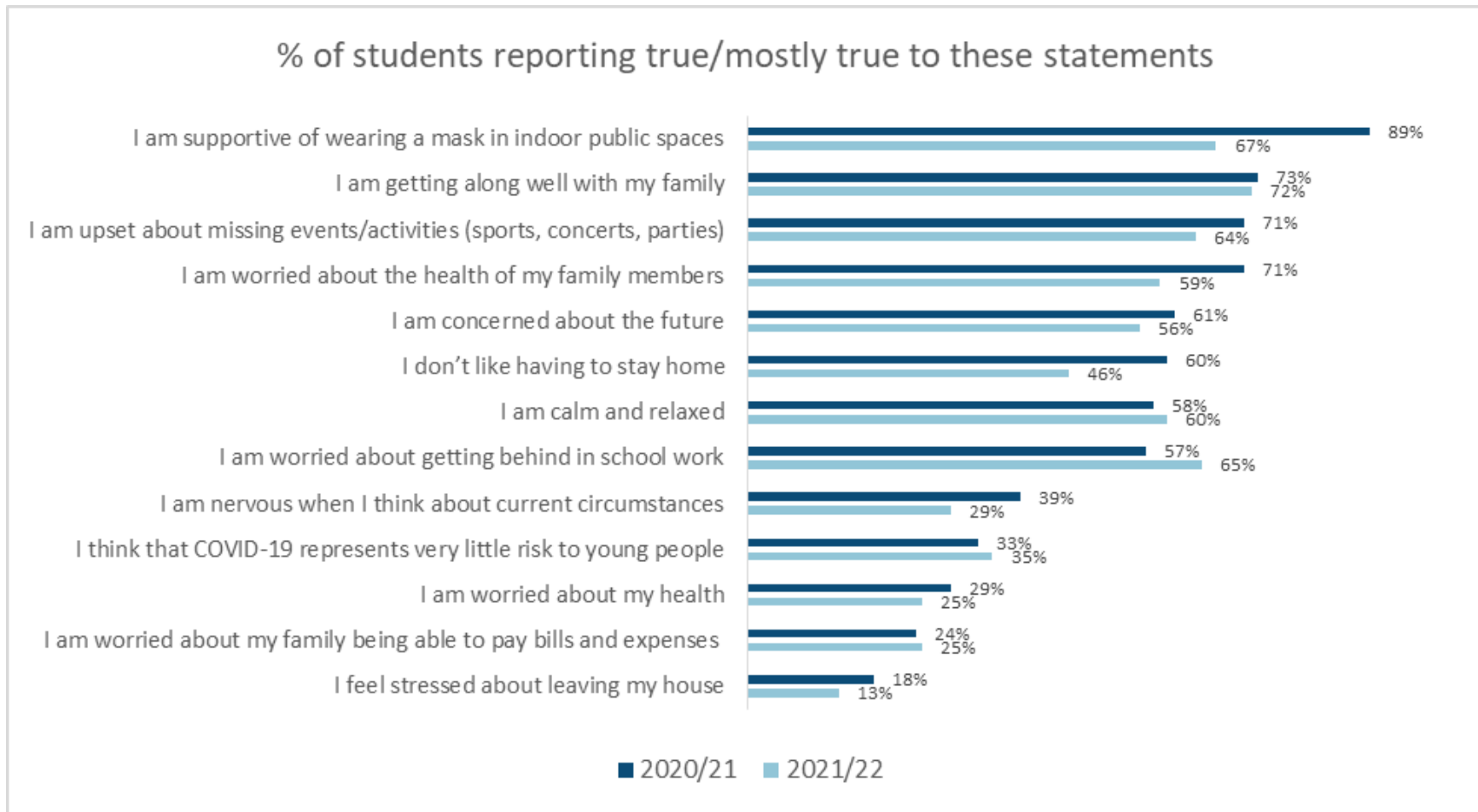
In both the 2020/21 and 2021/22 surveys, students were asked about their feelings and levels of concern about COVID-19 (true; mostly true; neutral/I don't know; mostly false, false). Figure 6 presents the proportion of students that responded "mostly true" or "true" to statements related to their feelings and concerns about COVID-19 in both 2020/21 and 2021/22. In 2020/21, nearly 37% of students reported feeling nervous when thinking about current circumstances, while in 2021/22, 28% of students reported feeling nervous about current circumstances. About one in every four students reported being worried about their family's ability to pay bills and expenses during this time. In both survey years, over half of students reported concern about the future (61% and 56% in 2020/21 and 2021/22, respectively) and feeling worried about getting behind in school work (57% and 65%). Despite this concern for the future, more than half of participating students reported feeling calm and relaxed.

In both school years, just over 70% of participating students reported getting along with their family. While 60% of students in 2020/21 and 46% of students in 2021/22 indicated that they did not like having to stay home, 18% in 2020/21 and 13% in 2021/22 felt stressed about leaving the house. In 2020/21, 71% of students reported being upset about missing events/activities (i.e., sports, concerts, parties), whereas fewer students (64%) reported feeling similarly upset about missing events/activities in 2021/22.

In the 2020/21 school year, nearly 90% of students were supportive of wearing a mask in indoor public spaces while fewer students (67%) felt the same level of support for wearing masks in indoor public spaces in the 2021/22 school year. In 2020/21, more than two-thirds of students reported feeling worried about the health of their family members (71%), and 29% were worried about their own health. In 2021/22, 59% of students were worried about the health of their family members and 25% were worried about their own health. About one-third felt that COVID-19 represents little very little risk to young people.



**Figure 6: Feelings and Concerns Related to COVID-19 among Students in Ontario in 2020/21 and 2021/22**



## Perceived Impacts of the Pandemic on Well-being, Substance Use and Health Behaviours

In both the 2020/21 and 2021/22 COMPASS surveys, students were asked about how their lives changed due to COVID-19, specifically regarding their well-being, mental health, substance use, and other health behaviours. Students were asked about increases in various emotions (e.g., loneliness), behaviours (e.g., time spent surfing the internet), and activities (e.g., exercise) due to the pandemic, with response options of “increased,” “stayed the same/not applicable,” or “decreased.”

More than 50% of female students reported an increase in stress, boredom, loneliness, and anxiety in both 2020/21 and 2021/22.

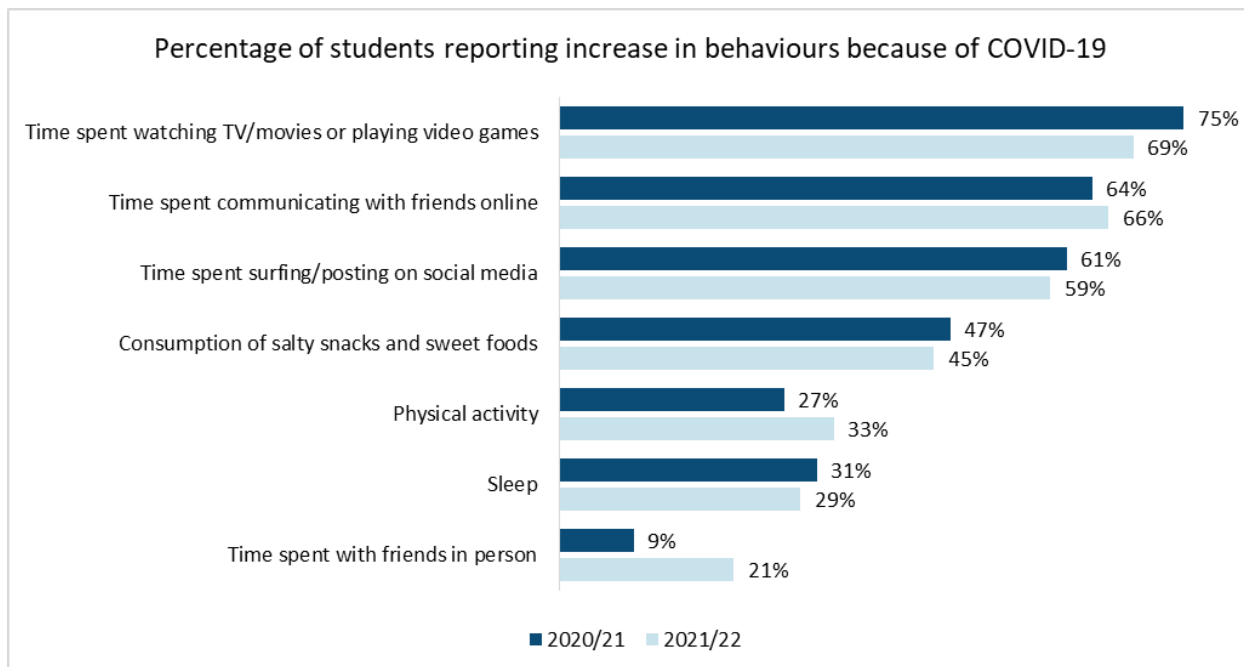
There were clear differences between males and females in their feelings of stress, boredom, loneliness and anxiety, with more females than males reporting increases due to COVID-19 in both waves.

**Figure 7: Student Reports of Increases in Stress (A), Boredom (B), Loneliness (C) and Anxiety (D) due to COVID-19, by Sex**



In both survey years, most students reported an increase in their time spent watching TV/movies or playing video games, communicating with their friends online, and surfing/posting on social media because of COVID-19. There was a notable decrease in students that reported an increase in sleep among in 2020/21 compared to 2021/22, while conversely, more students reported an increase in physical activity in 2021/22 than 2020/21. Figure 8 displays the proportion of students that reported changes in specific behaviours as a result of the COVID-19 pandemic.

**Figure 8: Reported Student Health Behaviours Attributable to COVID-19 in 2020/21 and 2021/22**



Only a small proportion of students reported an increase in their use of substances due to the COVID-19 pandemic:

- 13% reported an increase in alcohol consumption in 2020/21, compared to 16% in 2021/22
- 10% reported increased vaping in 2020/21, compared to 12% in 2021/22
- 10% reported increased cannabis use in 2020/21, compared to 12% in 2021/22
- 3% reported increased cigarette use in 2020/21, compared to 4% in 2021/22

### Coping during the COVID-19 Pandemic

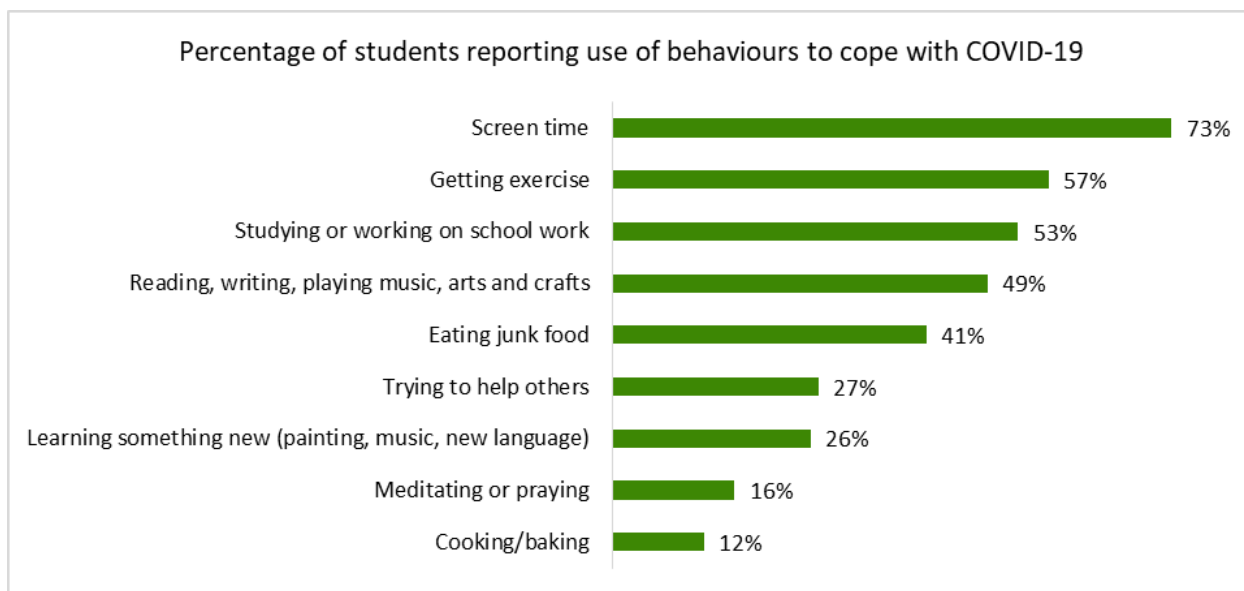
Students were asked about some of the ways that they coped with changes and restrictions related to the COVID-19 pandemic in the 2020/21 school year. Similar to the survey conducted in the spring of 2020 (and described in the [2020 report](#)), the two most frequently reported coping mechanisms included staying connected with friends online (79%) and playing video games, watching TV or movies, and/or surfing the internet/social media (73%).

More students reported using substances as a way to cope with changes and restrictions related to the COVID-19 pandemic in the 2020/21 school year than in spring 2020 (beginning of the COVID-19 pandemic):

- 11% reported using alcohol to cope (an increase from 7% in early 2020)
- 10% reported vaping to cope (an increase from 5% in early 2020)
- 9% reported using cannabis to cope (an increase from 6% in early 2020)
- 3% reported smoking cigarettes to cope (an increase from 2% in early 2020)

Some students indicated coping with COVID-19 by spending time alone (68%), with their families (e.g., playing games, eating meals together, hanging out; 58%), with their dog/cat or other pet (50%), or with friends outside (45%). Less than half of students reported keeping to a regular schedule to cope (e.g., waking up, eating meals, and going to bed around the same time as usual; 40%). Students also reported taking part in some other activities as a way to cope with COVID-19 (e.g., cooking/baking, learning something new) (see Figure 9). Only 7% of students reported connecting with a mental health professional to help them cope with the COVID-19 pandemic; this was an increase compared to the 4% of students that reported connecting with a mental health professional in early 2020.

**Figure 9: Reported COVID-19 Pandemic Coping Mechanisms among Students in Ontario during the 2020/21 School Year**



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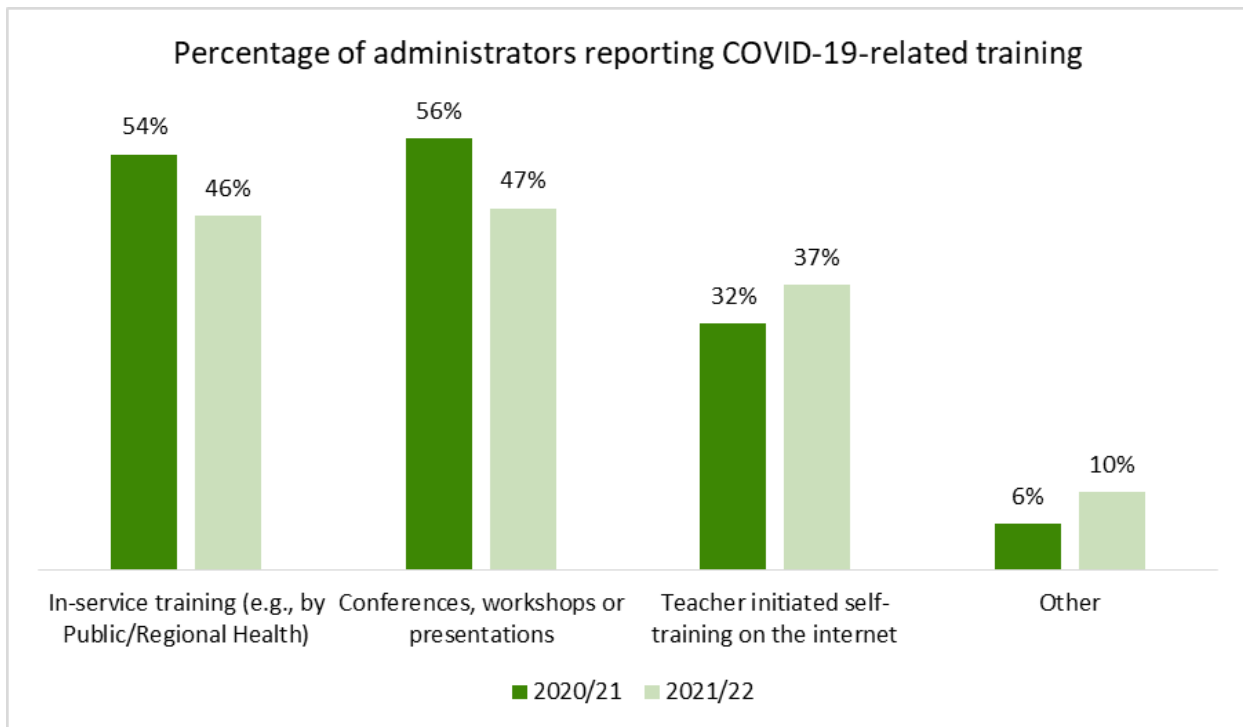
More females reported connecting with mental health professionals (9% versus 4%) and spending time alone to cope with COVID-19 (73% versus 60%) than males.

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## School Policies and Practices

In both 2020/21 and 2021/22, almost all administrators (96% and 94%, respectively) indicated that restrictions due to COVID-19 created barriers and challenges to implementing programs to improve the health of students at their school. Administrators were asked about types of training that staff received related to COVID-19 (see Figure 10 for 2020/21 and 2021/22 responses). Just over half of administrators indicated that staff at their school received in-service training (e.g., by public/regional health) (54%) and conferences, presentations, or workshops (56%) on COVID-19 in 2020/21.

**Figure 10: Reported Types of COVID-19 Training School Staff Received among School Administrators in Ontario during the 2020/21 and 2021/22 School Years**



## Discussion

Students participating in COMPASS had a general understanding of COVID-19 and the recommended measures being made at the time to prevent its transmission. Most were aware that individuals can have COVID-19 without exhibiting symptoms or signs of disease, understood the main mode of transmission, as well as effective ways to protect themselves from infection (masks, vaccines).

Similar to students' responses in the early stages of COVID-19 (early 2020), TV news, news websites, newspaper, and social media (Twitter, Facebook, etc.) remained two of the top three sources of COVID-19 information for students. However, in the 2020/21 school year, most students reported that they accessed COVID-19 information from their school (teachers, principals, other school staff). It is possible that schools were also a source of COVID-19 information in early 2020, but it was not a response option in the survey. According to the SPP data, more than half of administrators reported receiving COVID-19-related training in 2020/21, through in-service training (e.g., from Public or Regional

Health) or conference, workshop, or presentation attendance. Students reported adopting government mandated measures, including physical distancing and cancelling or postponing gatherings with others outside the home. They also reported avoiding coughing around others and washing their hands more often. While the majority of students were supportive of the safety precautions implemented in their schools to reduce transmission of COVID-19 (e.g., wearing masks, increasing availability of cleaning products), fewer students supported separating students into cohorts, limiting interactions with classmates, and changes made to school sports and extracurricular activities. More students agreed that they would take the vaccination if offered to them prior to its authorization and availability for their age group. While the majority of students expressed positive perceptions about the COVID-19 vaccine, the proportion of positive responses decreased between 2020/21 and 2021/22. As of July 2021, provincial vaccine data showed 65% of youth aged 12- 17 years of age received one dose, with 42% being fully vaccinated (received two doses).<sup>9</sup>

Students continued to express more concern about the health of their family members than their own health in both the 2020/21 and 2021/22 school years. A concern for the health of their families may explain their continued support and willingness (although decreasing over time) for masking in indoor public spaces. Students continued to report concern about the future and about getting behind in school work.

Overall, COVID-19 public health measures continued to affect the lives of the students participating in the COMPASS study. Students coped with changes and disruptions caused by COVID-19 in different ways: many reported spending more time with friends in person and an increase in physical activity in 2021/22 compared to previous years, possibly due to the loosening of restrictions and school policies. Most students reported coping with COVID-19 by spending time alone and/or with family, exercising, studying or working on school work, and with screen time (e.g., watching TV, surfing/posting on social media). Less than half of the participating students reported keeping to a regular schedule (e.g., waking up, eating meals, and going to bed around the same time as usual).

Nearly all school administrators indicated that the COVID-19 public health measures applied to schools in both 2020/21 and 2021/22 school years created barriers and/or challenges to implementing programs to improve the health of students at their schools.

## Limitations

The data presented in this report might not be representative of all students in Ontario since the COMPASS Study is administered in school boards across Ontario that use passive consent protocols and that agree to participate in the study, and students within schools are not required to participate. Participation in this study also changed during COVID-19, with response rates of 44% in 2020/21 and 54% in 2021/22. These response rates are lower than COMPASS typically received prior to the pandemic. School closures impacted the ability to administer the student questionnaire during class time and likely resulted in these lower response rates during the 2020/21 and 2021/22 school years. With lower response rates there is an increased likelihood that some groups will be under and over represented by the sample presented in this report.

COVID-19 related questions were not consistent across each wave of the COMPASS survey with some questions only being asked in a single wave, while others were asked during each wave of the study. Therefore, we are unable to compare all questions across survey years.

Public health measures and information about COVID-19 constantly evolved and changed throughout both of these survey collection periods (2020/21 and 2021/22) and therefore the results presented in this report reflect knowledge, behaviours and concerns and feelings of students in Ontario at the time survey responses were collected.

## 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. This approach may have had a disproportionate impact on marginalized and equity-denied groups that were more severely affected by COVID-19.<sup>10,11</sup> Many factors contribute to the disproportionate impact of COVID-19 and its response measures, many of them rooted in structural factors such as systemic racism, discrimination, and stigma.

This report explored the knowledge, uptake and experiences of COVID-19 public health measures among Ontario students participating in the COMPASS survey in the 2020/21 and 2021/22 school years. The uptake of some public health measures, however, may be more difficult in equity-denied communities because of work conditions (e.g., in-person, essential workers), residential arrangements (e.g., multi-generational households), and access (e.g., healthcare, technology).<sup>10,11</sup> There was also an increased dependence on technology for supports, services and education. The reliance on technology was a barrier for many families raising concerns around equity and access to education and education supports across the province.<sup>2</sup> Centralized responses to COVID-19 and future pandemic responses must be accompanied by local interventions that consider equity and high-priority neighbourhoods or communities that are disproportionately affected by COVID-19 and response measures.<sup>10</sup>

## Conclusion

This report provides insight into the knowledge, beliefs, and behaviours of Ontario students who participated in the online COMPASS Survey during the 2020/21 and 2021/22 school years throughout the COVID-19 pandemic. This report also provides some insight into school administration challenges during this same time period.

This report highlights the impacts that the COVID-19 pandemic and related public health measure and restrictions had on Ontario students. More than half of students reported an increase in mental health symptoms during both 2020/21 and 2021/22 school years. In the 2020/21 school year, students reported a variety of coping strategies (screen time, exercise, focusing on school work), while only a small proportion reported seeking support from a mental health professional. There was an observed increase in students reporting that they connected with mental health professionals to cope during the 2020/21 school year compared to early 2020; this may be the result of periods of in-person and hybrid learning during the 2020/21 school year, coinciding with the lifting of restrictions and increase in access to services.

Insights into COVID-19-related knowledge, adoption of preventative measures, and changes to health behaviours and mental health during a period of disruption and inconsistency (e.g., school closures, re-openings, hybrid learning models) can inform future programs and supports for students during similar periods of disruptions. Emergency preparedness and public health or school health program planning can use these insights to inform supports for students returning to traditional in-person school learning. Local public health agencies and school boards might consider planning innovative strategies and/or tailor school-based programs to support students where they faced the greatest challenges as they transition through pandemic recovery.

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