



COVID-19 Pandemic: School Closures and the Online Preparedness of Children

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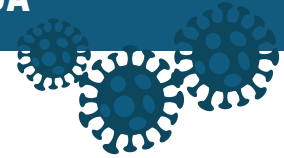
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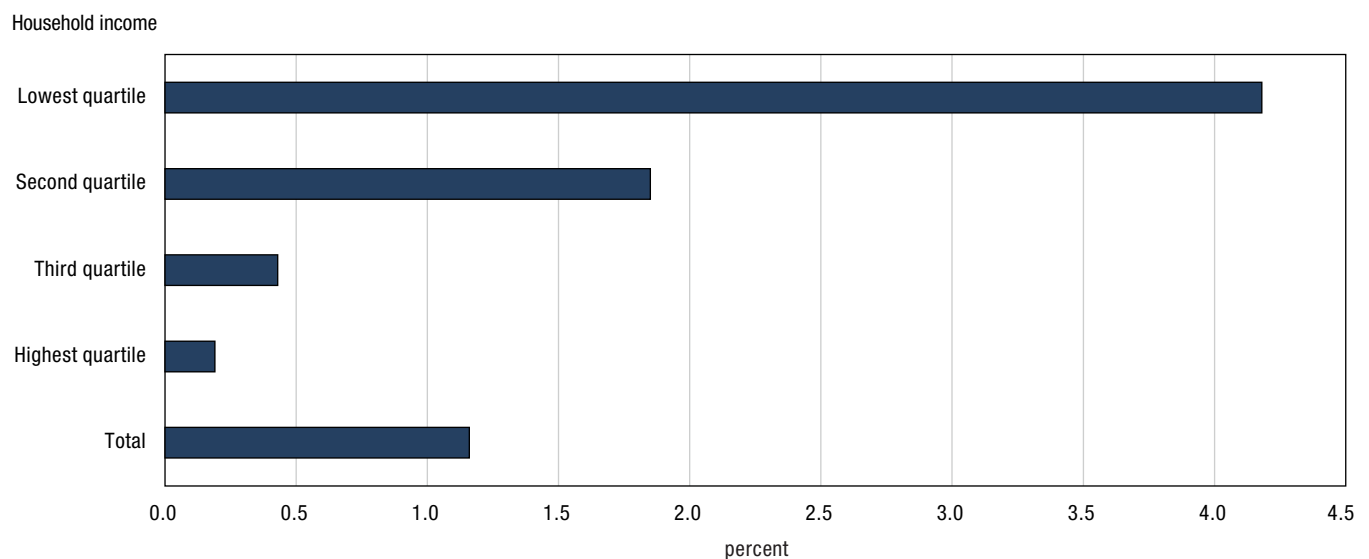


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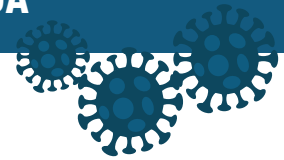


How will school closures amid the COVID-19 pandemic affect the academic progress of children? Although it is too early to assess the full impact, governments have begun to offer online learning resources to continue to support learning, and the online preparedness of students can be examined. While only 1.2% of households with children do not have access to the internet at home, the figure is somewhat higher for households in the bottom 25% of the income distribution—4.2%—than for households in the top 25% of the distribution—0.2% (Chart 1).

Chart 1
Percentage of households with children under age 18 who have no home internet



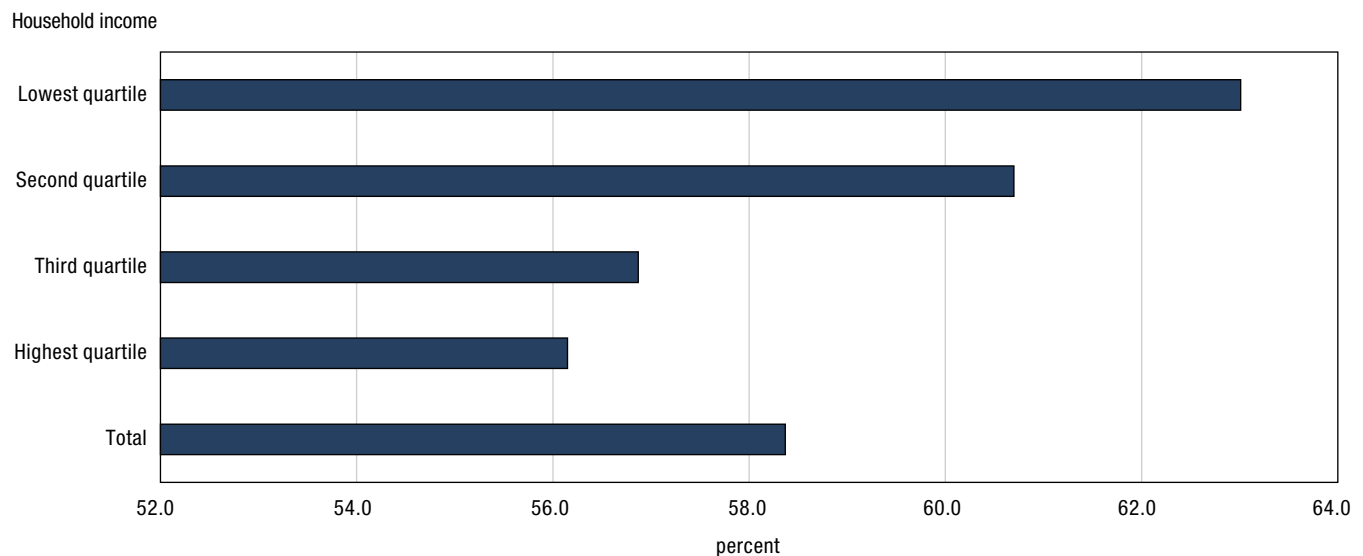
Source: Statistics Canada, Canadian Internet Use Survey, 2018.



The number of internet-enabled devices available within the household could also affect learning opportunities, given increased internet demand from siblings and parents who may be working from home. Overall, 58.4% of households that had internet access had less than one device per household member (Chart 2). Among households in the lowest income quartile, 63.0% had less than one device for each household member compared to 56.2% of households in the highest income quartile.

Chart 2

Percentage of households with children under age 18 who have less than one internet-enabled device per household member



Source: Statistics Canada, Canadian Internet Use Survey, 2018.

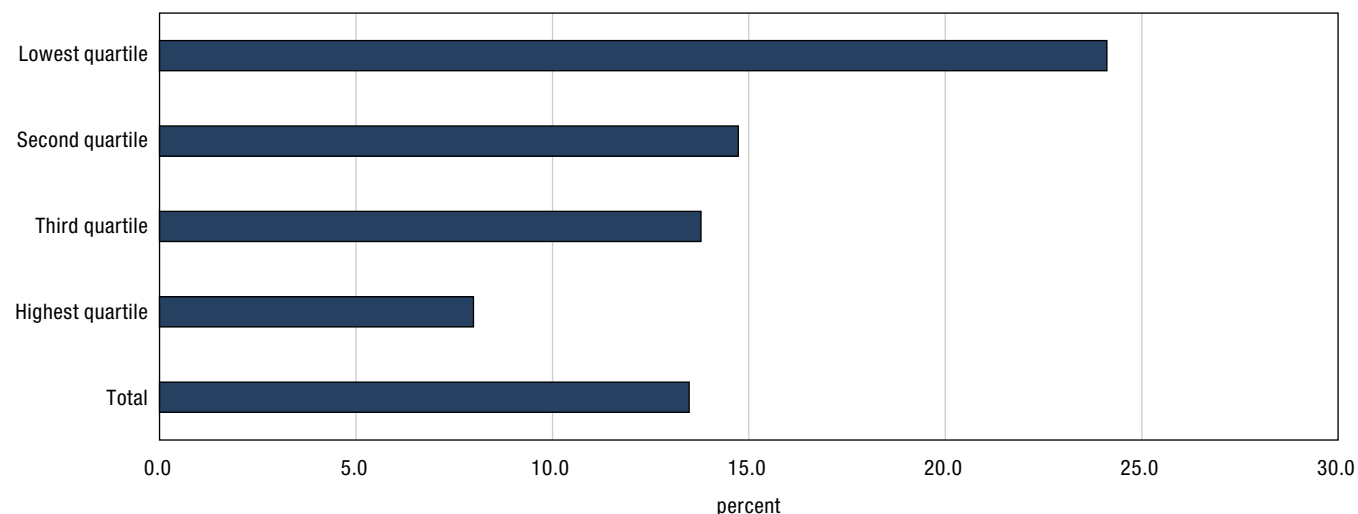
The type of devices that are available to students within their homes can also affect the quality of their online learning activities. Although mobile devices such as smartphones, tablets, and ebook readers are often seen as a means to encourage independent learning, they are primarily designed for receiving information rather than producing information. Chart 3 shows that nearly one-quarter (24.1%) of households in the lowest income quartile reported using only mobile devices for accessing the internet, three times higher than the share among households in the highest income quartile (8.0%). Households in the lowest quartile were also significantly more likely to use only mobile devices to access the internet than those in the second and third income quartiles (14.7% and 13.8%, respectively).



Chart 3

Percentage of households with children under age 18 who only use a mobile device to access the internet

Household income

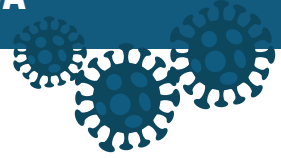


Source: Statistics Canada, Canadian Internet Use Survey, 2018.

With schools being closed, some students may experience limitations in using online learning resources. In these instances, students may receive less overall instructional time. An earlier Statistics Canada study (Frenette 2008) found that students who received one less year of instruction performed about 5% more poorly on standardized tests in reading, mathematics, and science. In particular, the academic performance of youth from the bottom half of the parental income distribution performed worse in these subjects with one less year of schooling than their counterparts in the top half of the income distribution.

Methodology

This article is based on two data sources. First, the Canadian Internet Use Survey (CIUS) of 2018 contains information on access to the internet at home, as well as the number and types of devices used to access the internet. Only households with children under the age of 18 are examined. Second, the article discusses an earlier study by Statistics Canada (Frenette 2008) in light of the current school closures. That study estimated the relationship between instructional time and performance on standardized reading, mathematics, and science tests by comparing children who were born just before and just after school entry cut-off dates. These students were essentially the same age, but some had received one less year of schooling (and spent one additional year at home in early childhood) simply because they were born slightly later.



Notes

This article is a condensed version of a longer study (Frenette, Frank, and Deng, 2020). The following sources were referenced:

Frenette, M. 2008. *The Returns to Schooling on Academic Performance: Evidence from Large Samples around School Entry Cut-off Dates*. Catalogue no. 11F0019M no. 317. Ottawa: Statistics Canada.

Frenette, M., K. Frank, and Z. Deng. 2020. *School Closures and the Online Preparedness of Children during the COVID-19 Pandemic*. Catalogue no. 11-626-X no. 103. Ottawa: Statistics Canada.