Impact of the Coronavirus Pandemic on the Elementary and Secondary Education System

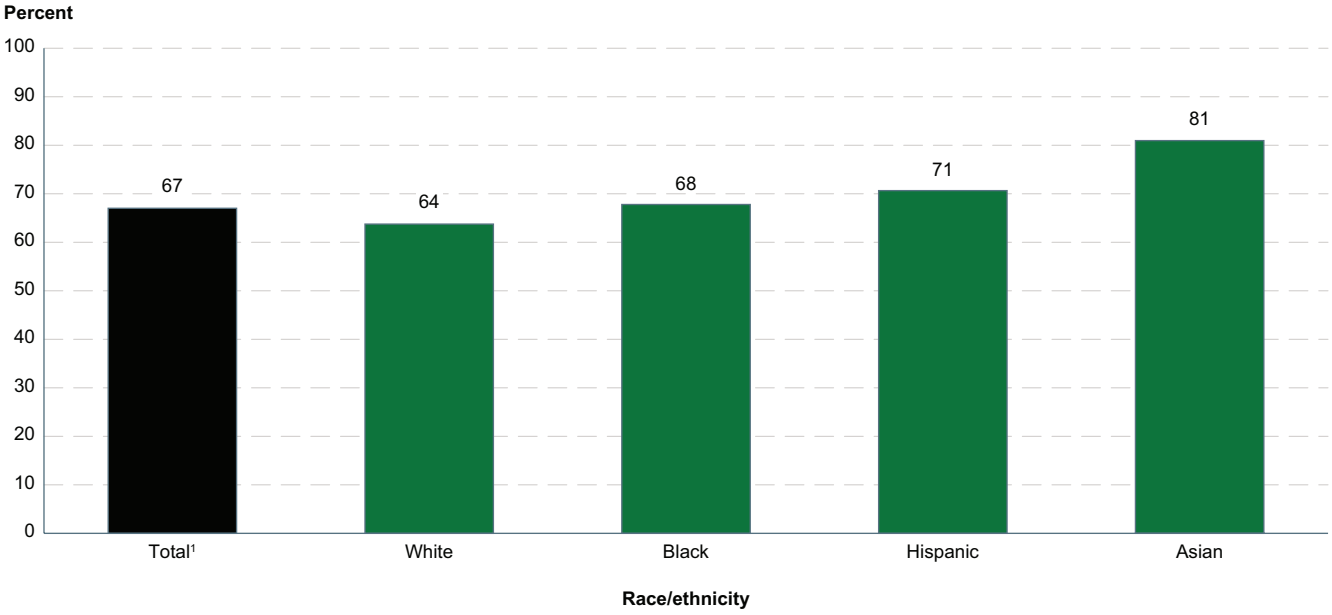
In September 2020, among adults who had children under age 18 enrolled in a public or private school, 67 percent reported that classes had moved to a distance learning format using online resources and 59 percent reported that computers were provided by the children's school or school district.

The emergence of the coronavirus pandemic brought major disruptions to American society. Health systems were stressed,[1] millions of jobs were lost,[2] businesses were shuttered,[3] and many schools were closed.[4] The traditional elementary and secondary education structure, which typically emphasizes an interactive in-person classroom environment, quickly transitioned to online education programs in the spring of 2020 in an effort to mitigate the spread of the coronavirus. Although online programs have enabled educational activities to continue while schools have been physically closed, concerns have been raised about whether inequities in access to these online programs could exacerbate gaps in student performance that existed prior to the pandemic.[5,6] Studies of household internet access have revealed that lower income students typically have lower levels of home access to the internet (see indicator Children's Internet Access at Home). Similarly, findings from 2019 National Assessment of Educational Progress (NAEP) showed that the percentages of students with digital tools available at home greatly varied by socioeconomic status, locale, and state.[7]

Using data from the 2020 Household Pulse Survey (HPS),[8] this spotlight discusses how children's access to technology and distance learning programs at home has changed during the pandemic. The HPS is conducted by the Census Bureau with seven other federal statistical agency partners, including the National Center for Education Statistics (NCES). The HPS has provided weekly or biweekly national and state estimates since April 23, 2020, when data collection began. The survey gathers information from adults about their employment status, spending patterns, food security, housing, mental health, access to health care, transportation, and household educational activities. This spotlight focuses on adults 18 years old and over who had children under age 18 in the home[9] enrolled in school. It provides a comparison between April 2020 (when HPS data collection began near the beginning of the pandemic) and September 2020 (near the beginning of the 2020-21 school year) on three topics: classes that had moved to a distance learning format using online resources, availability of computers and internet access to children for educational purposes, and schools or school districts as providers of computers and internet. Findings related to September 2020 are also presented by racial/ethnic group and household income level.

According to HPS data, 52 million adults had children under age 18 in the home enrolled in school in September 2020 (i.e., coinciding with the September 2 to September 14 data collection).[10] Overall, 89 percent of these adults reported that classes for their children were affected in some way by the pandemic and two-thirds (67 percent) reported that classes for their children had moved to a distance learning format using online resources.[11] By comparison, in April 2020 (i.e., coinciding with the April 23 to May 5 data collection) nearly all adults reported that their children's classes were affected by the pandemic (99.6 percent) and a higher percentage reported that their children's classes had moved to a distance learning format using online resources (72 percent).[12]

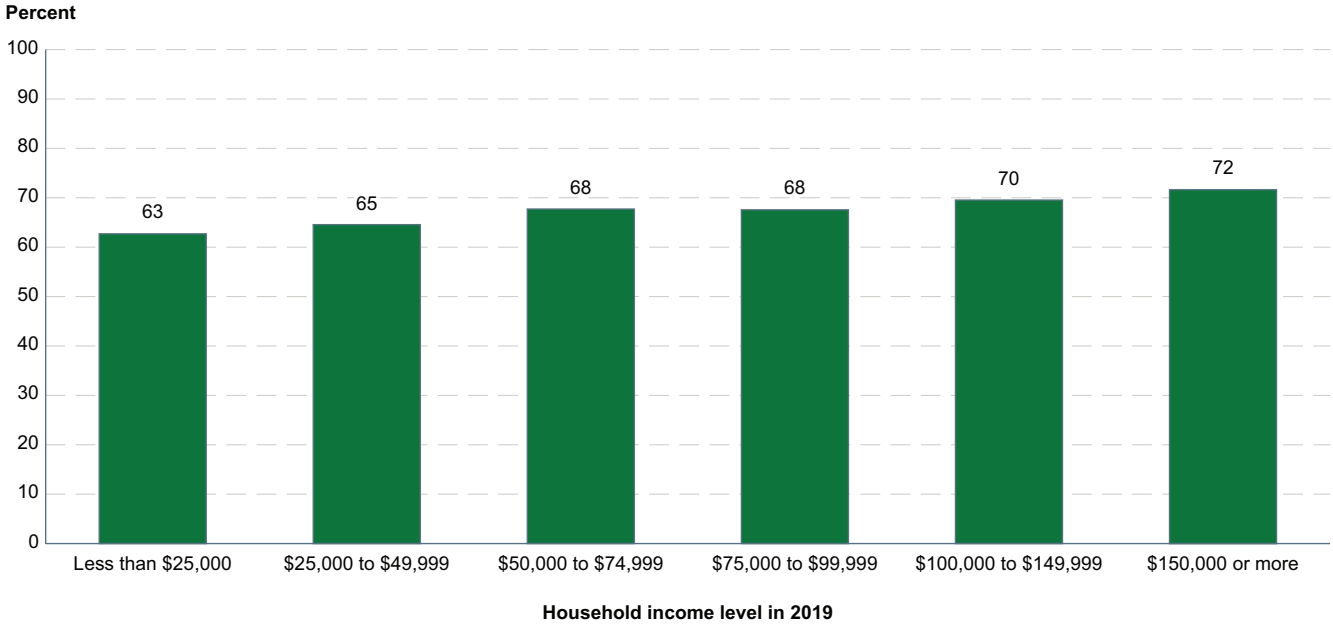
Figure 1. Among adults 18 years old and over who had children under age 18 in the home enrolled in school, percentage reporting that classes for children had moved to a distance learning format using online resources, by race/ethnicity: September 2 to 14, 2020



[1] Total includes other racial/ethnic groups not separately shown.
NOTE: Race categories exclude persons of Hispanic ethnicity. Data in this figure are considered experimental and do not meet NCES standards for response rates. The survey question refers to enrollment at any time during the 2020–21 school year.
SOURCE: U.S. Department of Commerce, Bureau of the Census, Household Pulse Survey, collection period of September 2 to 14, 2020. See *Digest of Education Statistics 2020*, table 218.80.

The percentage of adults reporting that classes for their children had moved to a distance learning format using online resources varied across racial/ethnic groups. In September 2020, the percentage was highest for Asian adults (81 percent), followed by Hispanic and Black adults (71 and 68 percent, respectively), and lowest for White adults (64 percent).

Figure 2. Among adults 18 years old and over who had children under age 18 in the home enrolled in school, percentage reporting that classes for children had moved to a distance learning format using online resources, by income level: September 2 to 14, 2020

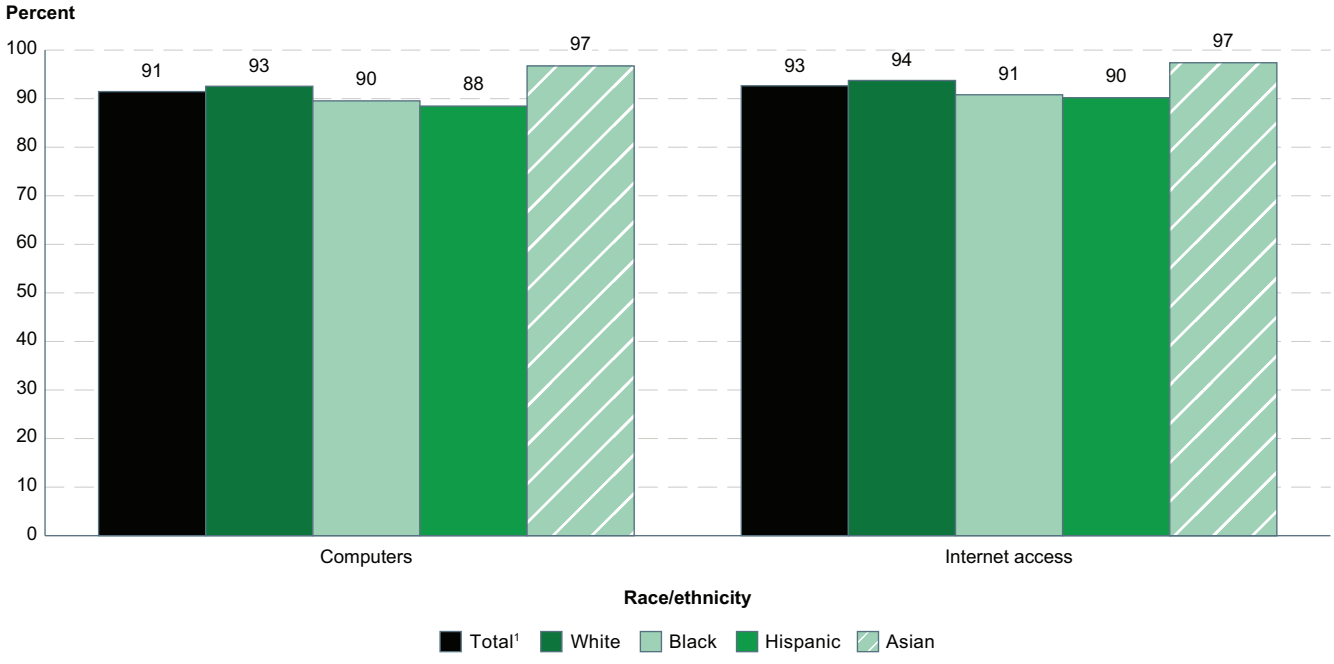


NOTE: Although rounded numbers are displayed, the figures are based on unrounded data. Data in this figure are considered experimental and do not meet NCES standards for response rates. The survey question refers to enrollment at any time during the 2020–21 school year.
SOURCE: U.S. Department of Commerce, Bureau of the Census, Household Pulse Survey, collection period of September 2 to 14, 2020. See *Digest of Education Statistics 2020*, table 218.80.

The percentage of adults reporting that classes for their children had moved to a distance learning format using online resources also varied across households with different levels of 2019 income. In September 2020, the percentage of adults reporting distance learning was higher for those with a 2019 household income of $150,000 or more (72 percent) than for adults in the four household income levels under $100,000 (ranging from 63 to 68 percent). In addition, the percentage of adults with a household income of $100,000 to $149,999 (70 percent) was higher than the percentages of adults with a household income of less than $25,000 (63 percent) and $25,000 to $49,999 (65 percent).

In September 2020, some 91 percent of adults reported that computers were always or usually available to children for educational purposes, compared with 88 percent in April 2020. Additionally, 93 percent of adults reported in September 2020 that internet access was always or usually available to children for educational purposes, compared with 91 percent in April 2020.

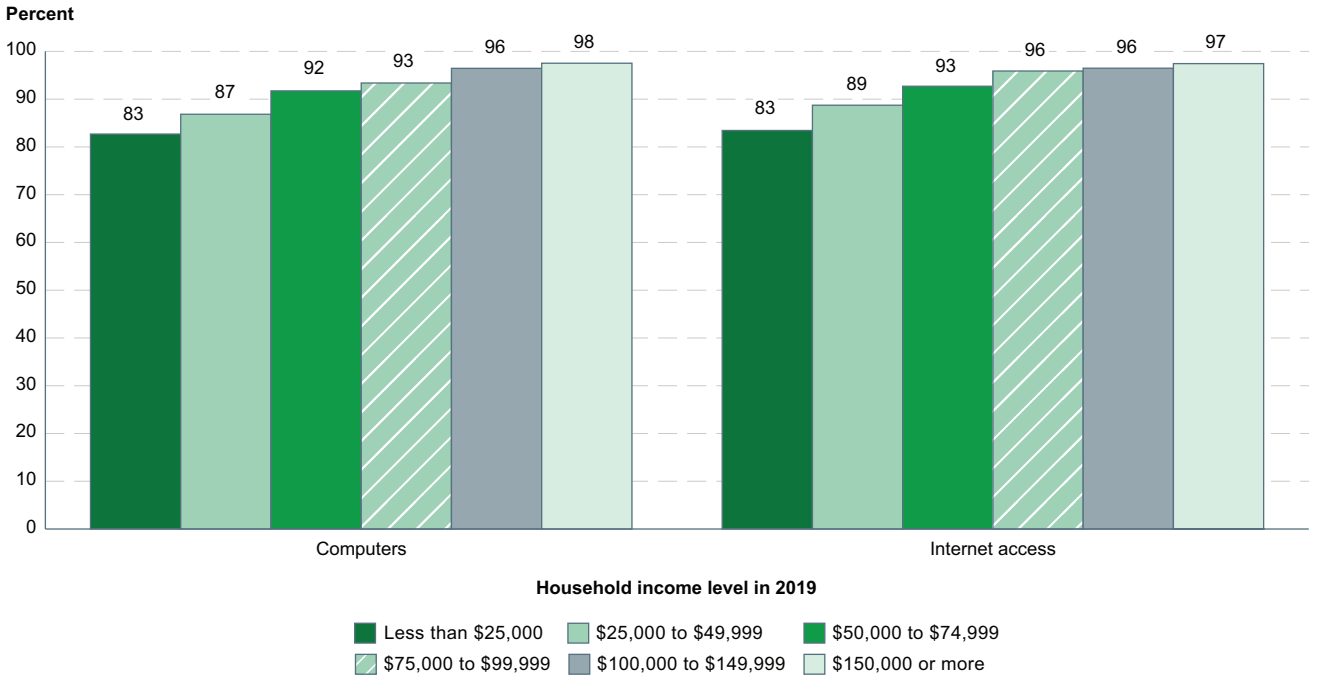
Figure 3. Among adults 18 years old and over who had children under age 18 in the home enrolled in school, percentage reporting that computers and internet access were always or usually available to children for educational purposes, by race/ethnicity: September 2 to 14, 2020



[1] Total includes other racial/ethnic groups not separately shown.
NOTE: Race categories exclude persons of Hispanic ethnicity. Although rounded numbers are displayed, the figures are based on unrounded data. Data in this figure are considered experimental and do not meet NCES standards for response rates. The survey question refers to enrollment at any time during the 2020–21 school year.
SOURCE: U.S. Department of Commerce, Bureau of the Census, Household Pulse Survey, collection period of September 2 to 14, 2020. See *Digest of Education Statistics 2020*, table 218.85.

Both the percentage of adults reporting that computers were always or usually available to children for educational purposes and the percentage reporting that internet access was always or usually available to children for educational purposes varied across racial/ethnic groups. For example, in September 2020, the percentage of adults reporting that computers were always or usually available for educational purposes was highest for Asian adults (97 percent), followed by White adults (93 percent), and lower for Black and Hispanic adults (90 and 88 percent, respectively). The same pattern was observed for internet access.

Figure 4. Among adults 18 years old and over who had children under age 18 in the home enrolled in school, percentage reporting that computers and internet access were always or usually available to children for educational purposes, by income level: September 2 to 14, 2020

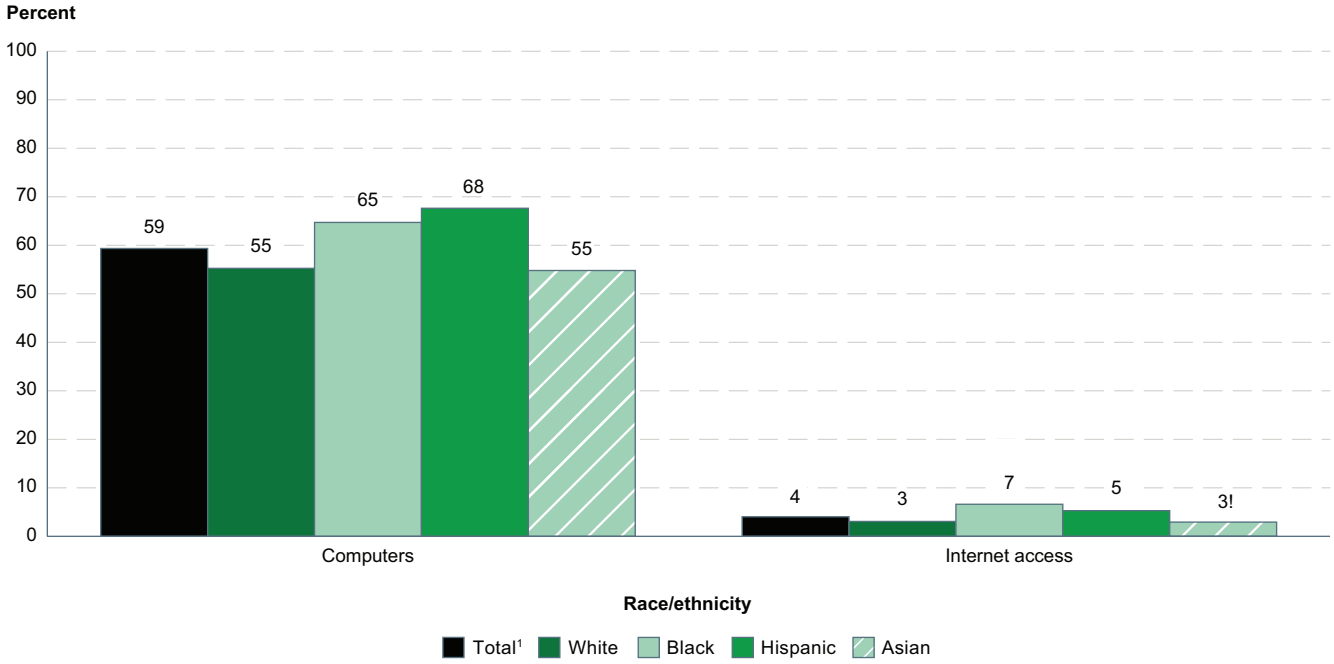


NOTE: Although rounded numbers are displayed, the figures are based on unrounded data. Data in this figure are considered experimental and do not meet NCES standards for response rates. The survey question refers to enrollment at any time during the 2020–21 school year.
SOURCE: U.S. Department of Commerce, Bureau of the Census, Household Pulse Survey, collection period of September 2 to 14, 2020. See *Digest of Education Statistics 2020*, table 218.85.

The percentage of adults reporting that computers were always or usually available to children for educational purposes and the percentage reporting that internet access was always or usually available to children for educational purposes also varied across 2019 household income levels. In general, the percentage of adults who reported that these resources were always or usually available increased with household income. For example, in September 2020, the percentage of adults reporting that computers were always or usually available was highest for the two household income levels at or above $100,000 (96 percent for $100,000 to $149,999 and 98 percent for $150,000 or more), followed by the two household income levels between $50,000 and $99,999 (92 percent for $50,000 to $74,999 and 93 percent for $75,000 to $99,999), and lowest for the two household income levels below $50,000 (83 percent for less than $25,000 and 87 percent for $25,000 to $49,999). Similarly, the percentage of adults reporting that internet access was always or usually available was higher for the three household income levels at or above $75,000 (ranging from 96 to 97 percent) than for the three household income levels below $75,000 (ranging from 83 to 93 percent).

In September 2020, some 59 percent of adults reported at that time that computers were provided by the children's school or school district, which was higher than the corresponding percentage (39 percent). Some 4 percent of adults reported in September 2020 that internet access was paid for by the children's school or school district, which was also higher than the corresponding percentage in April 2020 (2 percent).

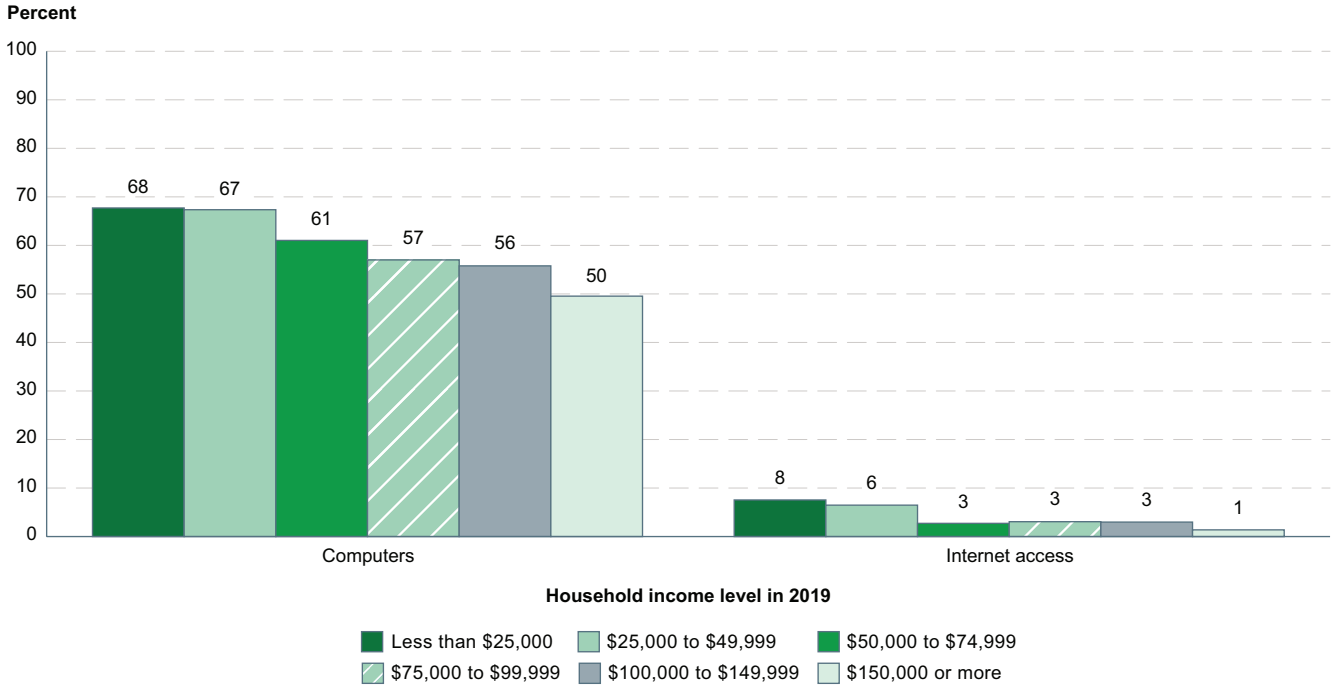
Figure 5. Among adults 18 years old and over who had children under 18 in the home enrolled in school, percentage reporting that computers were provided and internet access was paid for by schools or school districts, by race/ethnicity: September 2 to 14, 2020



! Interpret data with caution. The coefficient of variation (CV) for this estimate is between 30 and 50 percent.
[1] Total includes other racial/ethnic groups not separately shown.
NOTE: Race categories exclude persons of Hispanic ethnicity. Although rounded numbers are displayed, the figures are based on unrounded data. Data in this figure are considered experimental and do not meet NCES standards for response rates. The survey question refers to enrollment at any time during the 2020–21 school year.
SOURCE: U.S. Department of Commerce, Bureau of the Census, Household Pulse Survey, collection period of September 2 to 14, 2020. See *Digest of Education Statistics 202*0, table 218.90.

The percentage of adults reporting that their children's school or school district provided computers and the percentage reporting that their children's school or school district paid for internet access varied across racial/ethnic groups. In September 2020, the percentages of adults who reported that their children's school or school district provided computers were higher for Hispanic adults (68 percent) and Black adults (65 percent) than for White and Asian adults (55 percent each). The percentage of adults who reported that internet access was paid for by their children's school or school district was also higher for Black adults (7 percent) than for White and Asian adults (3 percent each). However, the percentage of Hispanic adults (5 percent) who reported that internet access was paid for was not measurably different from the percentage for any other racial/ethnic group.

Figure 6. Among adults 18 years old and over who had children under 18 in the home enrolled in school, percentage reporting that computers were provided and internet access was paid for by schools or school districts, by income level: September 2 to 14, 2020



NOTE: Although rounded numbers are displayed, the figures are based on unrounded data. Data in this figure are considered experimental and do not meet NCES standards for response rates. The survey question refers to enrollment at any time during the 2020–21 school year.
SOURCE: U.S. Department of Commerce, Bureau of the Census, Household Pulse Survey, collection period of September 2 to 14, 2020. See *Digest of Education Statistics 2020*, table 218.90.

In September 2020, both the percentage of adults reporting that their children's school or school district provided computers and the percentage reporting that their children's school or school district paid for internet access were generally higher for those with lower 2019 household incomes. For example, the percentages of adults reporting that internet access was paid for by their children's school or school district were highest for those in the two bottom household income levels (8 percent for less than $25,000 and 6 percent for $25,000 to $49,999), while the percentage was lowest for those with a household income of $150,000 or more (1 percent).

Endnotes:

[1] Melvin, S.C., Wiggins, C., Burse, N., Thompson, E., and Monger, M. (2020, July). *The Role of Public Health in COVID-19 Emergency Response Efforts From a Rural Health Perspective* (Preventing Chronic Disease, Vol. 17, E70), Centers for Disease Control and Prevention. Retrieved February 9, 2021, from https://www.cdc.gov/pcd/issues/2020/20_0256.htm#T2_down. Blumenthal, D., Fowler, E.J., Abrams, M., and Collins, S.R. (2020, July). COVID-19—Implications for the Health Care System, *New England Journal of Medicine, 383*, 1438-1488. Retrieved February 9, 2021, from https://www.nejm.org/doi/full/10.1056/nejmsb2021088.

[2] Handwerker, E.W., Meyer, P.B., Piacentini, J., Schultz, M., and Sveikauskas, L. (2020, December). *Employment Recovery in the Wake of the COVID-19 Pandemic* (Monthly Labor Review), U.S. Bureau of Labor Statistics. Retrieved February 9, 2021, from https://www.bls.gov/opub/mlr/2020/article/employment-recovery.htm.

[3] U.S. Bureau of Labor Statistics. (2021, January 27), *Quarterly Data Series on Business Employment Dynamics News Release* (Economic News Release). Retrieved February 9, 2021, from https://www.bls.gov/news.release/cewbd.htm.

[4] Education Week. (2020, March 6). *Map: Coronavirus and School Closures in 2019–2020*. Retrieved February 9, 2021, from https://www.edweek.org/leadership/map-coronavirus-and-school-closures-in-2019-2020/2020/03.

[5] U.S. Department of Education, National Center for Education Statistics, *The Condition of Education 2020*, Reading Performance. Retrieved February 9, 2021, from https://nces.ed.gov/programs/coe/indicator/cnb; and Mathematics Performance. Retrieved February 9, 2021, from https://nces.ed.gov/programs/coe/indicator/cnc.

[6] U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, *Results From the 2019 Mathematics and Reading Assessments at Grade 12*. Retrieved February 9, 2021, from https://www.nationsreportcard.gov/mathematics/supportive_files/2019_infographic_G12_math_reading.pdf.

[7] U.S. Department of Education, National Center for Education Statistics, NAEP PLUS. *Are U.S. Students Prepared to Learn Online When Schools Need to be Closed?* [Blog post]. Retrieved February 9, 2021, from https://nces.ed.gov/nationsreportcard/blog/online_learning.aspx.

[8] The speed of the survey development and the pace of the data collection efforts led to policies and procedures for the experimental HPS that were not always consistent with traditional federal survey operations. For example, the timeline for the surveys meant that opportunities to follow up with nonrespondents were very limited. This has led to response rates of 1 to 10 percent, which are much lower than the typical target response rate set in most federal surveys. While the responses have been statistically adjusted so that they represent the nation and states in terms of geographic distribution, sex, race/ethnicity, age, and educational attainment, the impact of survey bias has not been fully explored.

[9] On average, each household had 1.97 children during the period of September 2 to September 14, 2020.

[10] The survey question refers to enrollment at any time during the 2020–21 school year.

[11] Since this survey is designed to represent adults 18 years old and over, the percentages reflect the responses of adults concerning children under 18 within their households, not the percentages of the students themselves.

[12] About 66 million adults reported that they had children under age 18 in the home enrolled at a public or private school for the period of April 23 to May 5, 2020.

Reference tables: *Digest of Education Statistics 2020*, tables 218.80, 218.85, and 218.90

Related indicators and resources: Children's Internet Access at Home; Impact of the Coronavirus Pandemic on Fall Plans for Postsecondary Education; *Student Access to Digital Learning Resources Outside of the Classroom*

Glossary: Distance education; Household; Private school; Public school or institution; Racial/ethnic group