
When the Home Becomes the Place of K-12 Education: How COVID-19 is Challenging the Education and Digital Divide

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Key Findings

- On the national level, higher-income households were more likely to receive devices or internet from their school districts than people of lower incomes.
- Additionally, on the national level, lower-income groups generally showed more instability in the source of devices/internet.
- In the Riverside-San Bernardino-Ontario MSA, Blacks, Hispanics, and those who identify as two or more races, generally showed more instability in the sources of their devices and internet, thus resulting in a digital divide between both income levels and races.
- The Riverside-San Bernardino-Ontario MSA typically ranked in the bottom half of our analyses, meaning that it generally had fewer respondents paying for their own internet and devices.
- The digital divide between races and income levels is particularly important for Riverside and San Bernardino Counties due to the regions' high minority populations. This could contribute to further disparities in the education of minorities, especially considering the rising housing instability during 2020.
- Because of COVID-19 and distanced learning, housing and education are remarkably linked. The high education and high housing instability caused by the pandemic will likely negatively affect the long term educational development of minority communities in the two County region.

Introduction

The COVID-19 pandemic, which has resulted in an era of school closures and stay-at-home orders, has equally created the largest disruption in the history of education, affecting about 1.6 billion students across the globe.¹ Distanced learning, an exhaustive reality for many parents, has become the new normal, putting students without consistent internet access or a stable living situation at tremendous risk for falling behind or dropping out of school. Because many lower- and middle-income students lack the support to continue with their education, the pandemic is expected to exacerbate and expand the already large inequality in educational opportunities. The negative educational effects of COVID-19, including higher dropout rates and learning disparities, are unlikely to be resolved within the next academic year, and will likely affect the economy well into the future.²

In this report, we examine education data from the United States Census Bureau's Household Pulse Survey for the period of April 23rd to July 21st. Specifically, we analyzed households' sources (E.g. provided by a child's school or parents) of digital device and internet for K-12 education for the 15 most populous Metropolitan Statistical Areas (MSAs) in the U.S. with special focus on the three major MSAs in the state of California, namely, San Francisco-Oakland-Berkeley MSA, Riverside-San Bernardino-Ontario MSA, and Los Angeles-Long Beach-Anaheim MSA. Differences by race are additionally considered. Finally, we examine the connections between housing stability, access to education and development. While the sources of a child's internet and devices for educational purposes are not perfect metrics for accessibility to education or quality of education, they provide key insights into the educational dynamic in communities. Maintaining a high-quality education will continue to ensure a higher quality of life and promote sustainable educational development at all levels of education. Because the home is now a place of learning, working, and living, the stability of home and family life is critically important to children.

¹ "Education during COVID-19 and Beyond." United Nations.

² Dorn, Emma, Bryan Hancock, Jimmy Sarakatsannis, and Ellen Viruleg. COVID-19 and Student Learning in the United States.

Data & Methodology

Our main data source is the Household Pulse Survey (HPS), a weekly survey designed for providing near real-time data on the socioeconomic impacts of the COVID-19 crisis on U.S. households. The HPS is one of the U.S. Census Bureau's experimental data products and is specifically designed in response to COVID-19 in collaboration with five federal agencies to ask a wide range of questions spanning from employment status, to food security, consumption, health, and education disruption. The survey commenced on April 23, 2020 and originally was expected to collect data for 12 weeks, but was extended into a Phase 2. Aggregate statistics are disseminated at both national and state levels, while they are also produced for the 15 most populous MSAs. The Census Bureau releases the aggregated data tables as well as microdata files (as Public Use File (PUF)) containing individual responses on a weekly basis, allowing users to delve further into the details provided by the survey and address specific research questions. There were two related questions from the HPS survey that we did not utilize for this report: "How often is a computer or other digital device available to children for educational purposes?" and "How often is the Internet available to children for educational purposes?"

For the report, we analyze data from Week 11 (July 9-14) of the HPS survey. Figures 1-7 visualize how K-12 children in selected MSAs received internet service and devices for educational purposes. In order to uncover possible racial and class disparities in the sources of devices/internet available for educational purposes, we calculate the percentages for each response for the household income and race characteristics. Next, we discuss trends that can be seen in our results, as well as possible explanations for these results. We then link our results to relevant legislation and government programs throughout the period.

Discussion

Figure 1 shows the percentage of households that receive computers and/or technological devices from their child's school for educational purposes by MSA. The graph also includes households which self-provide computers for educational purposes. For the Riverside-San Bernardino-Ontario MSA, self-providing computers for education is well below the national average, and ranks 13th out of 15 for the most populous MSAs. While the San Francisco-Oakland-Berkeley MSA is about average nationally, the Los Angeles-Long Beach-Anaheim MSA is also well below average, ranking 12th out of the 15 most populous MSAs, thus indicating a southern/northern Californian divide in terms of self-providing computers for educational purposes. This measure also indicates that many Californian households receive computers for their child's education.

As part of the survey, respondents were permitted to select multiple options. For example, respondents can choose two options if they provide computers for their children, and also get technology from their child's school. Therefore, this graph, and the rest of this report's graphs, responses may equal more than 1.0 or 100%.

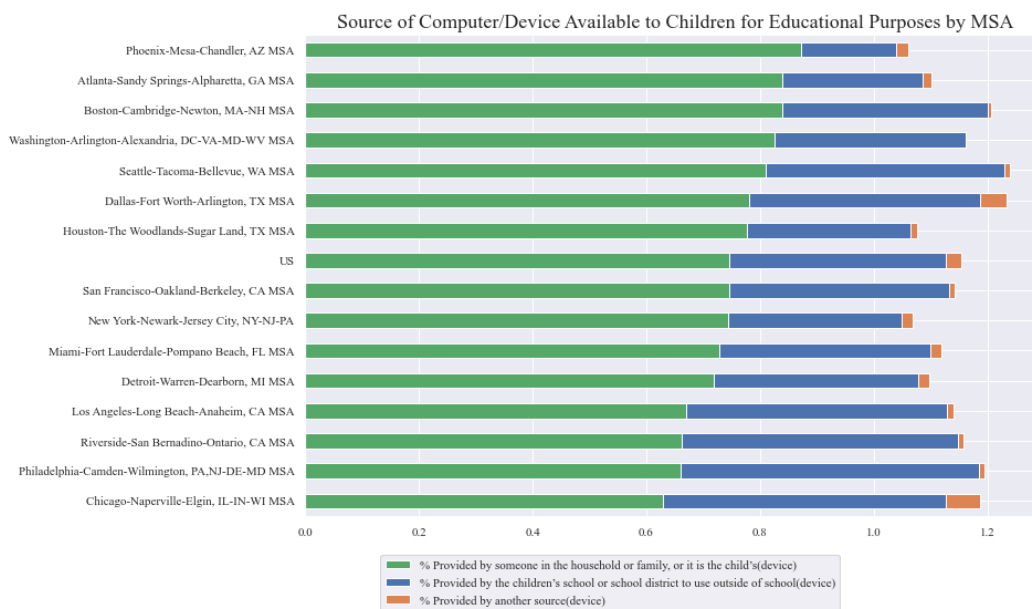


Figure 1: Source of Computer/Device Available to Children for Educational Purposes by MSA

Figure 2 displays the source of internet access to children for educational purposes. This figure displays an alarming trend: an overreliance on self-providing internet access for educational purposes. Although internet access and Wi-Fi are ubiquitous across the United States, low-income students, especially those who have experienced employment loss in their family, may face hardships in maintaining internet access. Students in more rural areas of the country may also have difficulty sustaining internet access and risk falling behind their fellow classmates. Each of the three surveyed metropolitan areas in California is well below the national average, but not by a statistically significant amount.

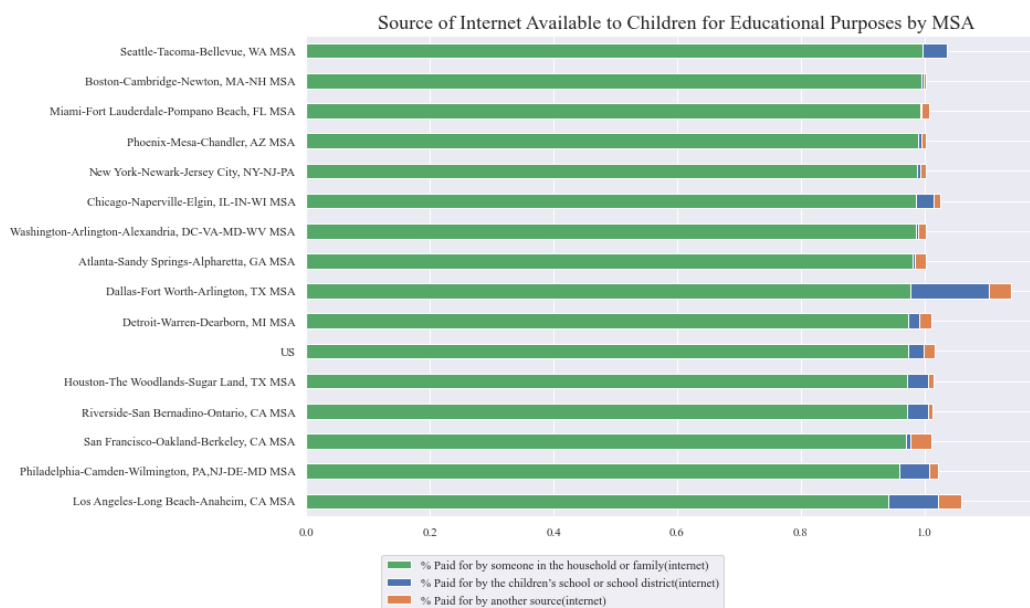


Figure 2: Source of Internet Available to Children for Educational Purposes by MSA

These two measures, computer availability and internet access, while not perfect metrics, can be taken as indicators of access to education and general academic support. Based on the first measure, Californian MSAs have taken steps toward ensuring computers are available for distanced learning. Typically, these programs take the form of laptop lending and hotspot wireless internet for students who need a computer and/or Wi-Fi. These programs are relatively standard in the Inland Region: both the Riverside Unified School District and the San Bernardino City Unified School offer such programs. But these statistics may indicate an overreliance on technology from outside sources which, if programs are discontinued or cut back, could lead to a larger gap in education attainment between races or income groups.

Figure 3 shows the source of computers/devices available to children by income in the Riverside-San Bernardino-Ontario MSA. Surprisingly, every income category in the Riverside MSA takes advantage of programs providing educational computers/devices for their children. Although using computers/devices provided by the school is relatively universal, lower-income groups tend to rely on school devices more than those in the upper-income category. For example, in the \$25,000 – \$49,999 income categories, more households receive devices from their child's school than do not, whereas in upper-income categories the converse is true. For households that make less than \$25,000 a year, the reliance on school provided devices seems to decrease, however this could be due to a smaller sample size.

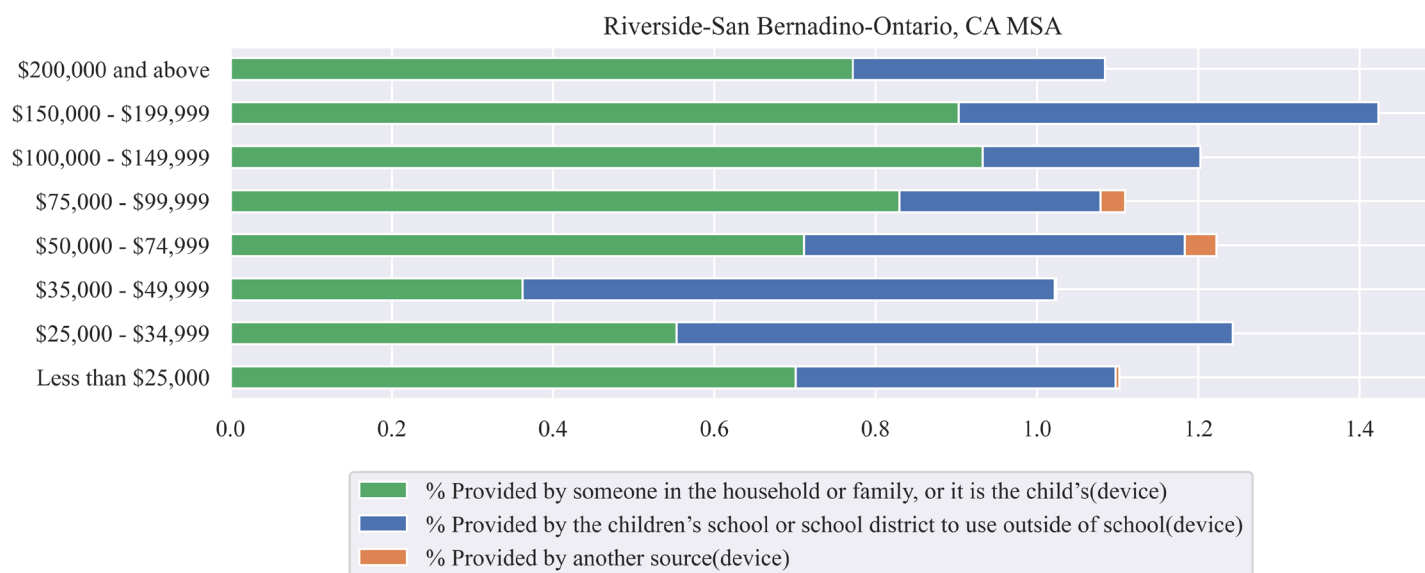


Figure 3: Source of Computer/Device Available to Children for Educational Purposes by Income in the Riverside-San Bernardino-Ontario MSA

Figure 4 shows the sources of computers/devices available to children for educational purposes in the United States. Nationally, the statistics for internet access for children's education are similar; every income group receives computers/devices from their child's school. However, nationally, households seem to be less dependent on outside sources for educational devices when compared with the Riverside-San Bernardino-Ontario MSA. In the lower-income categories, especially between \$25,000 – \$49,999 the Riverside MSA relies more heavily on devices from a child's school, than those income categories nationally.

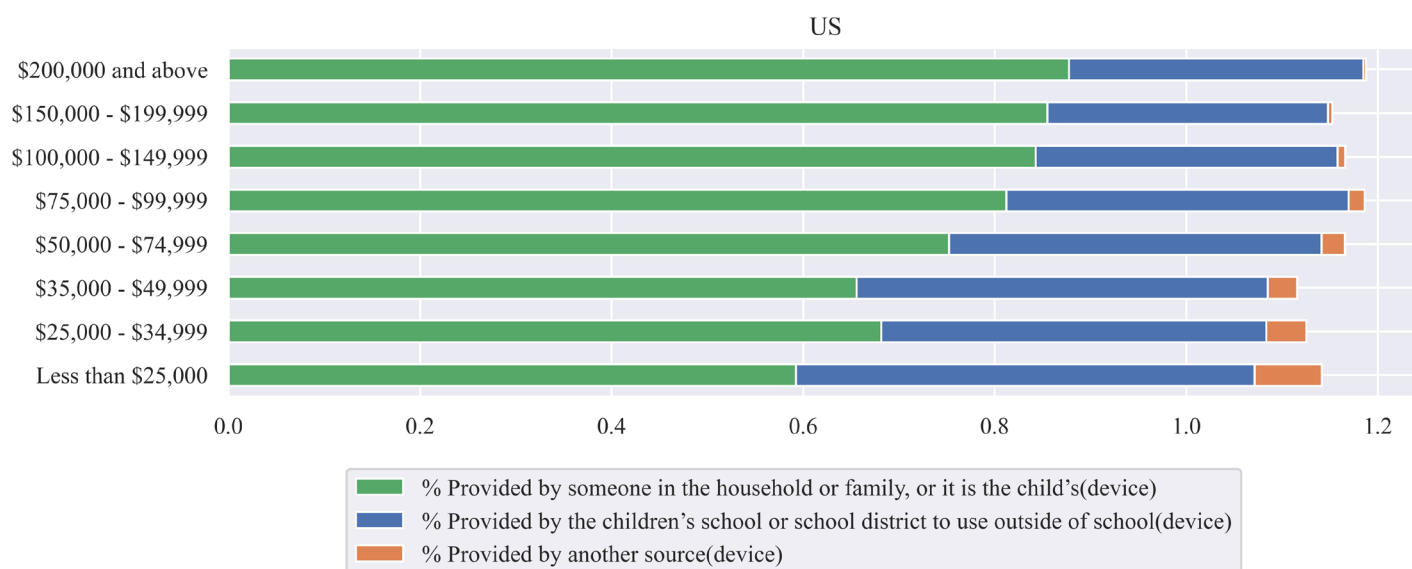


Figure 4: Source of Computer/Device Available to Children for Educational Purposes by Income in the United States

Race is an important dimension in terms of access to education and education attainment. Past research on education and its connection to race have found that educational outcomes for minority children are highly dependent

on equal access to key educational resources.³ Unequal access to technology and Wi-Fi highlights the “digital divide” between races and income groups. A survey of Los Angeles’s lower-income neighborhoods, which have high minority populations, conducted by the Partnership for Los Angeles Schools found that 20% of students do not have access to a computer for assignments, and 16% do not have access to Wi-Fi.⁴ Our analysis of California’s three most populous areas confirms this divide.

Figures 5, 6, and 7 show the sources of technological devices available to children for educational purposes in the Riverside-San Bernardino-Ontario MSA, San Francisco-Oakland-Berkeley MSA, and the Los Angeles-Long Beach-Anaheim MSA, respectively. The digital divide is apparent in each MSA, but is most pronounced in the Riverside-San Bernardino-Ontario MSA particularly among Hispanic groups. Almost 50% of children of Hispanic origin in the Riverside-San Bernardino-Ontario MSA rely on their school district for access to a computer for educational purposes. Those who identify as two or more races, have commensurately high rates of reliance on outside technology. This is in contrast to non-Hispanic Whites, and Asians, who overwhelmingly have devices provided to them by people in their households.

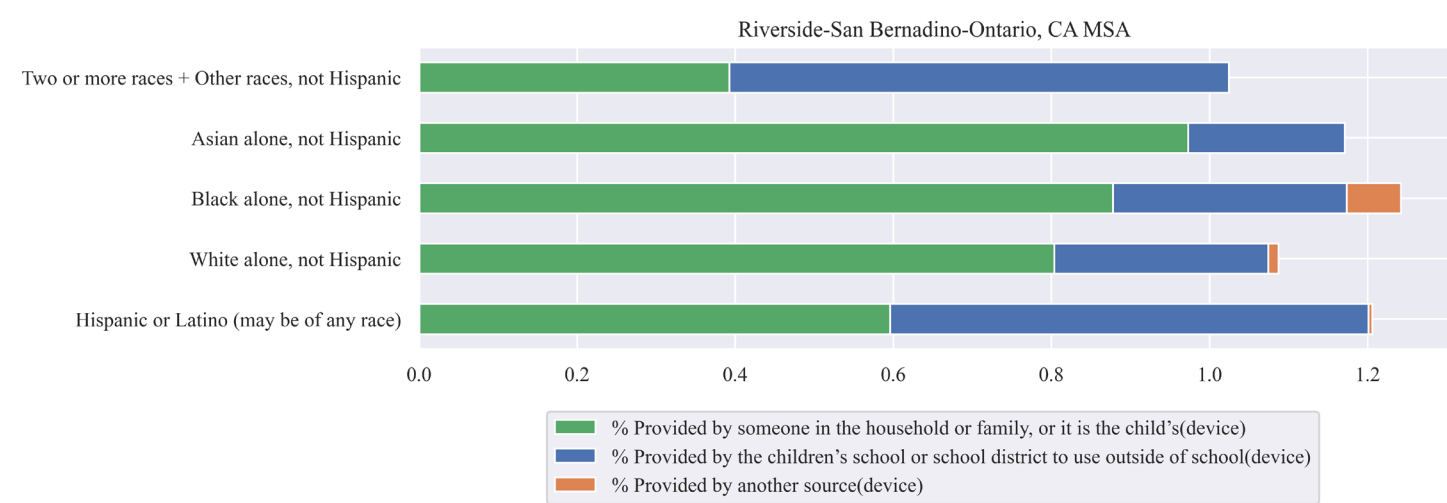


Figure 5: Source of Computer/Device Available to Children for Educational Purposes by Race in the Riverside-San Bernardino-Ontario MSA

Figure 6 presents the data from the San Francisco-Oakland-Berkeley MSA. The data paints a similar picture to that of the Riverside-San Bernardino-Ontario MSA: children of minority origin (multiple races, Black, Hispanic) all rely on outside sources for access to distanced learning materials than their non-minority or model minority counterparts. Although, based on this dataset, those who identify as Black in the San Francisco MSA are more likely to rely on outside sources for materials than in the Riverside-San Bernardino-Ontario MSA.

³ Darling-Hammond, Linda. “Unequal Opportunity: Race and Education.” Brookings.

⁴ “Education during COVID-19 and Beyond.” United Nations.

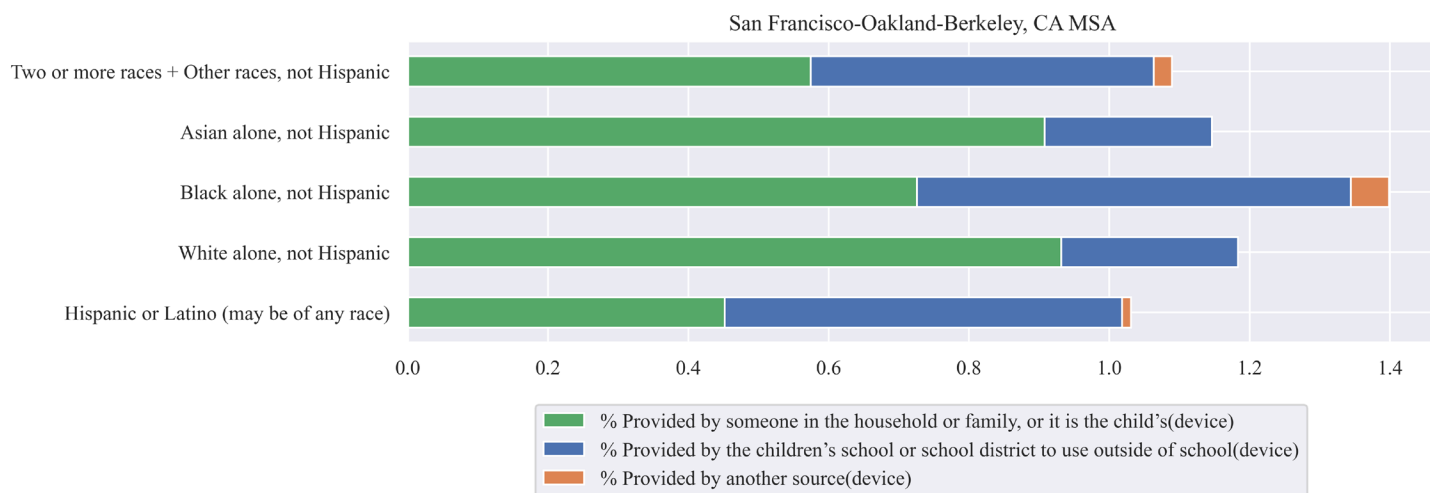


Figure 6: Source of Computer/Device Available to Children for Educational Purposes by Race in the San Francisco-Oakland-Berkeley MSA

In the Los Angeles-Long Beach-Anaheim MSA, there is a smaller range of reliance on outside technology. Asian and White households generally provide devices to their children for educational purposes more than other racial groups. But, White and Asian groups also have more access to digital device provided by a child's school or school district, when compared to San Francisco and Riverside.

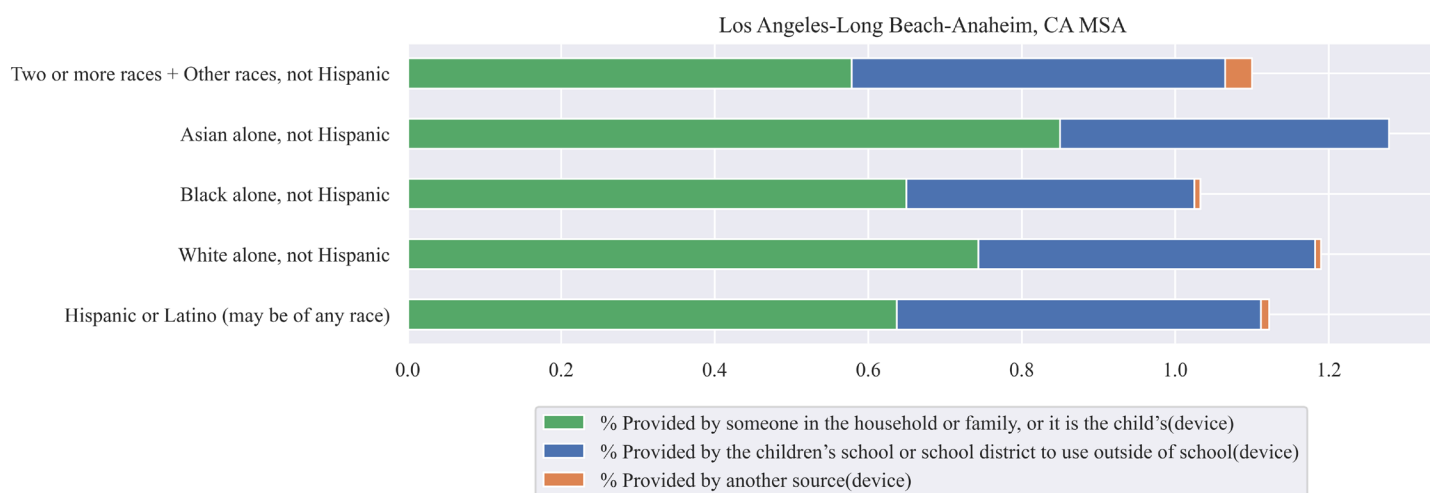


Figure 7: Source of Computer/Device Available to Children for Educational Purposes by Race in the Los Angeles-Long Beach-Anaheim MSA

Implications for Housing, Stability & Development

The digital divide is a burgeoning social issue in both education and housing which is likely to continue throughout the pandemic, and may be exacerbated further because of it. The pandemic has caused additional housing instability for many due to loss of income and employment. An increase in housing instability leads to an increase of hypermobile children – children who have unstable or unaffordable living situations. According to the National Low Income Housing Coalition, “Low-income children who switch schools frequently due to housing instability or homelessness tend to perform less well in school, have learning disabilities and behavioral problems, and are less likely to graduate from high school” . Because housing plays a major role in sustaining or even improving a child’s education, housing and education, especially during COVID, are remarkably linked.

The digital divide in race and income levels is particularly important for Riverside and San Bernardino Counties where Hispanics account for over 50% of the population, and where Blacks account for more than 7%. The digital divide also likely disproportionately affects communities with high minority populations. This could contribute to further disparities in the education of minorities, especially with the rising housing instability during 2020. For example, in ICSD’s previous analysis, “Housing Instability & the COVID-19 Pandemic” – a study of housing instability from April 2020 to June 2020 – found that nationally, Non-Hispanic Black renter households had the lowest percentage of making on-time rental payments (72.4%).

Homelessness, which is an unfortunate result of housing insecurity, has been demonstrated to cause chronic absence from school, with forty percent of homeless students consistently absent from school. The same study also indicated that income and race are both associated with higher chronic absenteeism. Economically disadvantaged students were chronically absent at three times the rate of their higher-income peers (24% and 8%, respectively); 32% of African American students were chronically absent. As we have shown throughout this report, the digital divide coupled with chronic absenteeism can have significant effects on the sustainability of a child’s education. Both high education and high housing instability will likely negatively affect the long term educational development of minority communities in the two County region.

⁵ *A Place to Call Home: The Case for Increased Federal Investments in Affordable Housing*. The National Low Income Housing Coalition

⁶ “San Bernardino County, California; Riverside County, California.” United States Census Bureau.

⁷ Erb-Downward, Jennifer, and Payton Watt. Issue brief. *Missing School, Missing a Home*.

Conclusion

In this report, we used sources of educational devices and internet access as indicators of access to distanced education and educational support. Broadly, we found that the Riverside-San Bernardino-Ontario MSA ranked below average both in self-provided internet, and self-provided education technology when compared with the 15 most populous MSAs in the US. Our analysis also provides evidence for the digital divide among income groups and races. This digital divide may prevent minority and immigrant groups from obtaining and maintaining a quality education during the pandemic. In the Riverside-San Bernardino-Ontario MSA, the income groups affected disproportionately are households who make less than \$50,000 a year; Hispanic households and households of two or more races are also disproportionately affected.

With the prevalence of remote classes across all levels of education, the continuation and expansion of at-home technology programs are important as distanced learning progresses. Research conducted by the Economic Policy Institute showed that online learning during COVID-19 is only effective if students have consistent access to computers and the internet.⁸ The same study also found that the pandemic has put lower-income students at a disadvantage relative to their higher-income peers. Ensuring access to quality education will ensure quality of life and promote sustainable education development at all levels. Now that the home has transitioned from a place of living to a place of learning, working, and living, a stable and safe home is more important than ever before.

⁸ Garcia, Emma, and Elaine Weiss. Rep. *COVID-19 and Student Performance, Equity, and U.S. Education Policy*. Economic Policy Institute.

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