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Parents with Disabilities' Household Access to Educational Devices and Internet During the COVID-19 Pandemic

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COVID-19 school closures made household access to educational devices and the internet crucial to maintaining educational milestones. While researchers have studied technology needs of students with disabilities, less attention has been given to how households with adults with disabilities living with school-age children access educational devices and the internet. This impacts student learning outcomes because parents often support students in remote learning. This study used 2021 *Household Pulse Survey* data (April to July) to determine the extent to which adults (parents; n = 7,238) with disabilities' households had access to educational devices and internet access for school-aged children, including compared to adults without disabilities (n = 64,046). Among adults who lived with school-age children, adults with disabilities were significantly less likely than adults without disabilities to have a computer and internet available for educational purposes. There were also sociodemographic differences in access among adults with disabilities themselves: adults with hearing, vision, and/or cognitive disabilities; adults with disabilities with household incomes below $100,000; households with more than one child; and households where a child attended

private school were less likely to have computers/digital devices and internet available. Findings suggest that parental disability status may be a potential criterion in expanding household access to technology and internet, which in turn may improve outcomes for school-aged children in these households.

Keywords: parents with disabilities, COVID-19, online learning, technology access, internet access, K-12 learners

PARENTS WITH DISABILITIES' HOUSEHOLD ACCESS TO EDUCATIONAL DEVICES AND INTERNET DURING THE COVID-19 PANDEMIC

The COVID-19 pandemic has highlighted many disparities related to accessing essential services, including education. School closures and remote learning have led to widespread disruption for kindergarten-grade 12 (K-12) age children and adolescents (Engzell et al., 2021; Eyles et al., 2020; Gupta & Jawanda, 2020; Van Lancker & Parolin, 2020), underreported child maltreatment allegations (Baron, Goldstein & Wallace, 2020), and decreased human capital (Fernald, Li & Ochse, 2021; Fuchs-Schündeln et al., 2020). Lack of access to internet and educational devices may be a factor in how much children are impacted by COVID-19 educational disruptions (Bacher-Hicks et al., 2021). More broadly, access to broadband internet may impact families' ability to obtain housing, food, education, and income (Benda et al., 2020; Early & Hernandez, 2021). COVID-19 also required parents to increase their role in remote learning (Garbe et al., 2020; Sonnenschein et al., 2021). Understanding how adults (parents) with disabilities living with school-age children access educational technology and the internet is significant for the K-12 educational context because it may impact K-12 learning experiences and outcomes. Additionally, understanding more about the distribution of internet and educational device access during the COVID-19 pandemic may provide more context for future educational practice and policy. This paper, using data from the United States Census Bureau *Household Pulse Survey*, explores adults with disabilities living with school-age children's access to internet and educational devices, casting light on a previously understudied locus of disparity.

LITERATURE REVIEW

Remote Schooling

While remote schooling has increasingly become a viable possibility as technology and internet access has expanded, the relationship between academic outcomes and household device access has been unsettled (Baron et al., 2020).This relationship may be significant as research has suggested that internet and education device household access extends beyond academic outcomes to preparation for careers in the digital economy (Bauer, et al., 2020). Vigdor and colleagues (2014) found that home computer use actually *decreased* reading and mathematics test scores. More recently, a study of students from 15 European Union countries also demonstrated a significant relationship between using computers "intensely" for homework and test scores (Agasisti et al., 2020).

Other studies found positive associations between household computer use and academic student outcomes (Fairlie et al., 2010). In a later study, Fairlie and Robinson found no effect of household computer use on academic outcomes (2013). These varied study results, along with a growing recognition of technology as a part of daily life, led to further research in this area. For instance, in 2018, the National Center for Education Statistics (NCES) produced a commissioned report detailing students' access to educational technology outside the classroom. Overall, they found that *moderate* internet use, as distinct from heavy use or lack of access, was associated with higher academic outcomes (KewalRamani et al., 2018). Bauer and colleagues also found differences in academic outcomes between the type of internet-enabled devices; students who had fast home internet services had higher test scores than students who only had access to a cell phone (Bauer et al., 2020). These results take on new significance considering the impacts of the COVID-19 pandemic, which required a wholesale shift in the way educational material was delivered. Access to technology became a necessity as schools shifted to remote learning environments, often for the entire 2020-2021 school year.

Evidence shows that though U.S. school closures were widespread during COVID-19, the closures' negative impacts were distributed unevenly, with existing wealth, racial and educational gaps becoming wider (Catalano et al., 2021; Hawrilenko et al., 2021). For instance, an April 2020 Pew Research poll found that 40% of low-income parents stated that they needed to access public WiFi networks for their children to complete homework and 43% reported that their children needed to complete their homework on a cell phone (Vogels et al., 2020). In one study using *Understanding America* survey data, researchers found that access to the internet for educational

purposes was high overall, with the overall percentage increase from 85% in April 2020 to 95% in October 2020. Differences between household income, racial, and urbanity remained but lessened over time, with Black families less likely to have access to technology and internet and more likely to share devices (Haderlein et al., 2021). Full time virtual schooling is not considered ideal (Bueno, 2020), yet even as schools return to in-person instruction, educational technology will continue to be utilized. If current inequities in access are not addressed, however, technology-based learning could deepen existing disparities (Korkmaz & Toraman, 2020; Winter et al., 2021). While these findings have been valuable contributions to the challenges to ensuring equitable access to educational devices and the internet, they have not included disability as a demographic element.

Parental Involvement in Remote Learning

During the COVID-19 pandemic, parents who worked from home increased engagement and support in their children's learning due to the remote nature of K-12 education (Carrell Moore, 2022; Garbe et al., 2020). Specifically, as Budhrani and colleagues (2021) found, parents increased their engagement with digital classroom administration, including helping their children navigate learning management systems (LMS) sites and other URLs, downloading and uploading documents, and assisting with education-related accessories such as headphones. However, though parental role expectations changed rapidly because of COVID-19 school closures, many parents were not able to sustain engagement and support needed for online learning (Aslan et al., 2022; An et al., 2022). This literature is valuable in that it provides nuanced understandings of parental experiences supporting their K-12 children during COVID-19 online learning. While some studies have explored parental experiences of supporting students with disabilities (see Ortiz et al., 2021; Rice & Ortiz, 2022), there is a gap in understanding how parents with disabilities experience this phenomenon.

Parents with Disabilities and Disparities

There are over 40 million people with disabilities in the United States, and 50% of people with disabilities are of parenting age (18-64) (U.S Census Bureau, 2020). People with disabilities are just as likely to be parents as people without disabilities (Horner-Johnson et al., 2016; Kaplan et al., 2019; National Council on Disability, 2015). Yet parents with disabilities experience a number of disparities related to their parental status, including disproportionately increased child welfare system involvement (Booth et al., 2005; Kaplan et al., 2019), discriminatory attitudes towards parents with disabilities (Albert & Powell, 2021), and increased social isolation (DeZelar

& Lightfoot, 2019; Llewellyn & Hindmarsh, 2015). In a report prepared by the nonprofit organization Save the Children, 33% of parents with disabilities surveyed reported that their children did not have access to learning materials during COVID-19, compared to 20% of parents without disabilities (Orsander, 2021).

Families where disability is present often report disparities in income, healthcare access and technology access (Amezcua et al., 2021; Ault et al., 2013; Choi & DiNitto, 2013; Kaye, 2019; Khanlou et al., 2021; Matin et al., 2021; Walls & Dowler, 2015). The COVID-19 pandemic contributed to existing disparities in accessing basic needs for adults with disabilities. For instance, the National Council on Independent Living (NCIL) conducted a needs assessment during the early months of COVID-19, revealing that increased social isolation made household access to technology even more vital (Kennedy et al., 2021). By focusing on household access to the internet and educational devices, we can further illuminate how COVID-19 has impacted people with disabilities.

In addition, research has suggested a "disability digital divide" where individuals are less likely to have access to the internet and computers (Dobransky & Hargittai, 2006; Vicente & López, 2010). In the time since these studies were conducted, however, household internet and device access has expanded, meaning that it is important to update understandings of how households with adults with disabilities access internet and devices. Still further, internet and device access has been increasingly understood as associated with positive public health outcomes (Benda et al., 2020). For these reasons, the aim of this study was to examine parents with disabilities' access to computers and internet for their children's educational purposes during the pandemic, including how this differed from parents without disabilities. United States Census Bureau *Household Pulse* data was analyzed from 7,238 adults with disabilities who lived with school-age children and 64,046 adults without disabilities who lived with school-age children.

METHODS

Data and Participants

Data for this study came from the United States Census Bureau (2021) *Household Pulse Survey*. The Census Bureau administered the *Pulse* survey to examine the impact of the COVID-19 pandemic in the United States. Between April 14, 2021, and July 5, 2021, 425,460 unduplicated people (18+) completed the survey. The Census Bureau used the following four questions to determine which participants had disabilities: (a) Do you have difficulty

seeing, even when wearing glasses?; (b) Do you have difficulty hearing, even when using a hearing aid?; (c) Do you have difficulty remembering or concentrating?; and (d) Do you have difficulty walking or climbing stairs? According to the Census Bureau (2020), people that answered "Yes – a lot of difficulty" and "cannot do at all" were considered to have the applicable disability for each question. In total, 38,512 adults in the sample had disabilities.

The *Pulse* survey also asked participants: "During the school year that started in the Fall of 2020, how many children in this household were enrolled in kindergarten through 12th grade or grade equivalent?" In the present study, this question was used to exclude adults with disabilities who did not have school-age children in public or private school in their household. This process resulted in a final sample of 7,238 adults with disabilities who lived with 12,724 children in private or public K-12 schools. The comparison group was 64,046 adults without disabilities who lived with 110,945 children in private or public K-12 schools. In order to reflect population demographics and compensate for nonresponses, all data were then weighted via SPSS27 complex samples using the frequency-person weights provided by the United States Census Bureau (2021).

Variables

The *Pulse* survey asked adults who lived with children who enrolled in K-12 public or private school (children with other types of schooling were not asked these questions) during the Fall 2020-Spring 2021 school year the following questions about technology: (a) How often is a computer or other digital device available to children for educational purposes? (Answer options: always available; usually available; sometimes available; rarely available; never available); (b) How often is the internet available to children for educational purposes? (Answer options: always available; usually available; sometimes available; rarely available; never available); and (c) Are internet services in your home…? (Answer options (could select multiple payment methods): paid for by the children's school or school district; paid for by someone in the household or family; paid for by another source; not available in my home). These three questions were used as the dependent variables (DVs) in this study.

Research Questions

The research questions that guided this study are:

1. Are there significant differences in educational device access for parents of school-age children between adults with and without disabilities?

2. Are there significant differences in educational internet access for parents of school-age children between adults with and without disabilities?
3. Among adults with disabilities living with school-age children, how are sociodemographic variables related to educational devices and internet access?
4. How do adults with disabilities living with school-age children pay for household internet access that can be used for educational purposes?

Analysis

Descriptive statistics were run related to adults with disabilities' computer and internet access for the education of children in their household. Next, complex samples ordinal logistic regression and binary logistic regression models were used to compare differences in computer and internet access for children's educational purposes (DVs in separate models) among adults with and without disabilities (independent variable (IV)), while controlling for all socio-demographics. Finally, complex samples of ordinal logistic regression and binary logistic regression models were used to explore sociodemographic (IV) differences in computer and internet access for children's educational purposes (DVs) among adults with disabilities.

RESULTS

Sample Description

The average age of the adults with disabilities in this study was 44.6 years old (SE = 0.5; Table 1). Of the adults with disabilities, 54.2% had cognitive disabilities, 32.4% had mobility disabilities, 30.7% had visual disabilities, and 15.1% had hearing disabilities. The majority of adults with disabilities were female (67.9%), White (71.4%), did not have a Hispanic ethnicity (76.7%), and were currently married (52.0%). Almost half (45.2%) of adults with disabilities had a high school education or less. More than half (53.0%) of adults with disabilities had household incomes (2019; before taxes) of less than $50,000. The most common forms of health insurance/coverage among adults with disabilities were: through current/former employer of self/family (53.2%); Medicaid (38.1%); and, purchased directly through provider (19.9%). Adults with disabilities lived with an average of 1.9 school age children (SE = 0.03); children in their households most commonly attended public school (91.4%), with fewer attending private school (5.5%) or a combination of public and private school for different children

in the household (3.1%). The demographics of the comparison group, persons without disabilities, are also presented in Table 1. Compared to adults without disabilities, adults with disabilities were: older; more female; more people of color; more Hispanic ethnicity; had less education; less frequently currently married; had lower household incomes; less likely to be insured through a current/former employer and more likely to be insured through Medicare, Medicaid, TRICARE or other military health care, Veteran Affairs, the Indian Health Service, and 'other;' lived with more children; and more likely to have household children in public school.

Research Question 1 Results: Availability of Computers

In this study, 70.2% of adults with disabilities said a computer/digital device was *always available* to the children in their household for educational purposes during the COVID-19 pandemic (Table 2), 18.2% said a computer/digital device was *usually* available, 7.4% *sometimes* available, 1.6% *rarely* available, and 2.6% *never* available. However, adults with disabilities were significantly less likely to have computers/digital devices available than adults without disabilities were during the pandemic, regardless of their socio-demographics (OR = 1.62, CI [1.41, 1.85]).

Research Question 2 Results: Availability of Internet

Slightly more than half of adults with disabilities (65.6%) said the internet was *alway*s available to the children in their household for educational purposes during the pandemic (Table 2), while fewer reported it was *usually* available (21.9%), *sometimes* available (8.2%), *rarely* available (2.5%), or *never* available (1.9%). Regardless of socio-demographics, adults with disabilities were significantly less likely to have the internet available for children's educational purposes than adults without disabilities were (OR = 1.93, CI [1.69, 2.20]).

Research Question 3 Results: Subgroup Differences in Device and Internet Access Among Adults with Disabilities

There were differences in the availability of computers/digital devices among people with disabilities according to a complex sample's ordinal logistic regression (Table 3). The following groups of adults with disabilities living with school age children were less likely to have computers/digital devices available: people with visual disability (OR = 1.90, CI [1.48, 2.44]); people with hearing disabilities (OR = 1.55, CI [1.11, 2.15]); people with cognitive disabilities (OR = 1.75, CI [1.35, 2.26]); people with household incomes of less than $100,000 (ORs ranged from 1.92-2.87); households where children attended private school (OR = 2.07, CI [1.39, 309]);

households with more school age children (OR = 1.49, CI [1.36, 1.65]). Conversely, the following groups of adults with disabilities living with school age children were more likely to have computers/digital devices available: females (OR = 0.76, CI [0.58, 0.98]); Asian people (OR = 0.27, CI [0.08, 0.95]); people with employer insurance (OR = 0.73, CI [0.58, 0.93]); and, people who received Medicaid (OR = 0.70, CI [0.54, 0.91]).

There were also differences in internet access among adults with disabilities (Table 4). The following groups of adults with disabilities living with school age children were less likely to have internet available for the educational purposes of children in their household: people with visual disabilities (OR = 1.90, CI [1.47, 2.45]); people with hearing disabilities (OR = 2.09, CI [1.49, 2.92]); people with cognitive disabilities (OR = 1.83, CI [1.41, 2.38]); people with mobility disabilities (OR = 1.92, CI [1.45, 2.54]); people with household incomes of less than $100,000 (ORs range from 1.54-1.84); and people who lived with more school age children (OR = 1.40, CI [1.27, 1.55]).

Research Question 4 Results: Paying for Internet Services

In terms of how their home internet services were paid for, 93.0% of adults with disabilities said internet services were paid by someone in their household or family, 3.0% said internet services were paid for by the children's school or school district, and 2.2% said internet services were paid for by another source. In addition, 3.4% of adults with disabilities reported not having internet available in their home.

Controlling for all socio-demographics, compared to adults without disabilities, adults with disabilities were 1.54 times (OR = 0.65, CI [0.49, 0.86]) less likely to have their internet services be paid by someone in the household or family. Adults with disabilities were also 2.70 times (CI [1.64, 4.42]) more likely not to have internet services available in their home at all compared to adults without disabilities. There were no significant differences between adults with and without disabilities in terms of internet being paid for by the children's school/school district or by another source.

Among adults with disabilities, Black people, Hispanic people, people receiving services from TRICARE or other military health care, and people who lived with more children were all more likely to have internet services paid for by the children's school or school district (Table 5). For example, controlling for all other variables, adults with disabilities covered by TRICARE or other military health care were 2.05 times (CI [1.02, 4.12]) more likely to have internet services paid for by the children's school or school district than adults with disabilities not covered by TRICARE or other military health care.

Adults with disabilities who were Black, another race or multiracial, had household incomes of less than $35,000, purchased health insurance directly from a provider, were covered by TRICARE or other military health care, and lived with more children were less likely to have their internet services paid for by someone in the household or family than people with disabilities that did not fall into these groups. For example, controlling for all other variables, adults with disabilities who from 'another' race or were multiracial were 2.0 times (OR = 0.50, CI [0.26, 0.94]) less likely than White adults with disabilities to have their internet services paid for by someone in their household or family.

The following groups of adults with disabilities were less likely to have their internet services paid for by another source: females; high school graduates (or equivalent); currently married people; and people with household incomes of $35,000-$49,999. Meanwhile, people covered by TRICARE or other military health care, and the Indian Health Service were more likely to have their internet services paid for by another source. For example, adults with disabilities who received health care coverage from the Indian Health Service were 2.98 times (CI [1.08, 8.24]) more likely to have their internet services paid for by another source than adults with disabilities not covered by the Indian Health Service.

Finally, the following groups of people with disabilities were more likely to not have internet services available in their home at all: people with hearing disabilities; people with cognitive disabilities; people with mobility disabilities; people who were another race or multiracial; high school graduates (or equivalent); people who were divorced; people who were separated; people with lower household incomes; people who purchased health insurance directly from providers; and, people covered by TRICARE or other military health care. For example, controlling for all other variables, adults with disabilities with household incomes of less than $25,000 were 53.55 times (CI [8.16, 351.38]) more likely to not have internet in their home compared to adults with disabilities with household incomes of more than $100,000.

DISCUSSION

This study's findings reflect a growing interest in investigating the contours of how having a parent with a disability may impact access to the internet and computers or devices for educational purposes for school-age children. While the COVID-19 pandemic forced many students into remote schooling, the growth of the educational technology industry indicates that use of educational technology will only increase. This study found that regardless of socioeconomic status or other sociodemographic variables,

parents with disabilities were less likely to have computers or educational devices in their household, as well as less likely to have internet access in their household. When looking further at differences among parents with disabilities, the following factors were often correlated with lower likelihood of computer and internet access: being 'another' race or multiracial; having a high school education; being divorced or separated; having a household income below $100,000; having private insurance or TRICARE; having children in private school; and having more school age children. This study suggests that some parents with disabilities, particularly those from the aforementioned groups, often experience a stark disparity in accessing the internet and computers or digital devices.

This study takes a unique approach to understanding the role of disability during the pandemic and in educational settings; typically, studies focus on students with disabilities themselves, rather than the adults they live with. This family systems approach views disability status as a social determinant of health (Amezcua et al., 2021; Frier, Barnett, Devine, & Barker, 2018; Froehlich-Grobe, Douglas, Ochoa, & Betts, 2021) and also understands disability as a relational identity that impacts family systems (Canary, 2008; Ferguson, 2001). That is, household disability impacts not only the individual with the disability, but the people that the individual has a relationship with as well. For instance, emerging research indicates that while parents with disabilities experience disparities in accessing a number of supports, they also may be reluctant to ask for additional support or help, fearing that requesting help would be seen as lacking parental competence (Albert & Powell, 2021; DeZelar & Lightfoot, 2019). The example of disparities in household internet access demonstrate how disability-related inequities may impact school-age children of parents with disabilities.

Practice and Policy Implications

Increasing disability-focused parental support programs, such as the Parent-Centered Planning (PCP) program, may help parents with disabilities increase social support and participation (DeZelar & Lightfoot, 2019). Another way to support parents with disabilities is to include disability status as an eligibility component for internet access support programs, which may facilitate increased access to educational devices. One example of a policy that could positively impact parents with disabilities and their families is the Affordable Connectivity Program (ACP). ACP is a new federal program that offers reduced internet service rates and a one-time discount on devices such as a computer or tablet. ACP eligibility is currently limited to those who use Medicaid, SNAP, SSI, WIC, Federal Public Housing Assistance, Veterans Pension or Survivor Benefits, Tribal TANF, Tribal Head Start,

Bureau of Indian Affairs General Assistance, Food Distribution Program on Indian Reservation, or those whose income is at or below 200% of the Federal Poverty Line. The ACP may benefit some parents with disabilities, especially as this study's findings demonstrate that when households that include parents with disabilities make $25,000 per year or less, they are much less likely to have internet and computer access. However, including disability status as an eligibility factor for ACP may increase equitable internet access for these families.

A related concern is that K-12 students typically access LMS through the internet and educational devices for their remote-based schoolwork. It is important that these systems be accessible. Otherwise, students who live with an adult with a disability may face additional learning barriers. Challenges in accessing educational content can be exacerbated if the household does not have good access to internet or educational devices and if the LMS utilized is not accessible to the adult, limiting their opportunities to work with and support at-home learning. For instance, the Office for Civil Rights within the United States Department of Education also said they had resolved over 1,000 digital access cases in three years, demonstrating that online education accessibility is an ongoing issue that should be addressed. In response to this and other issues, in June 2022, the U.S. Department of Education suggested that it would increase online learning platform compliance to make online learning experiences more accessible for both students and parents with disabilities (Americans with Disabilities Act National Network, 2022). These events demonstrate that ongoing attention to accessibility at a household level is needed.

Finally, this study's findings support previous research that indicates that disability is not experienced equally, but rather that disability status may co-occur with other variables such as socioeconomic status. Understanding the relationship between household educational device and internet access, parental disability status and other sociodemographic factors may lead to new programs that center familial disability as a facet of student support. For instance, educators developing community schools and wraparound services may observe and measure parental disability status in order to more fully support students.

Limitations and Future Research

There were limitations to this study. The first is that the definition of disability only includes four functional categories. There are likely other disabilities included in the survey which may or may not be included in the study's definition of disability. Secondly, the Pulse survey did not include urbanicity as a variable. Previous research has shown that rural areas have significantly less access to broadband internet than suburban or urban areas (Curtis et al., 2021). Adding urbanicity as a survey variable in future

research would expand on the utility of internet access prevalence and disparities. It was also not possible to differentiate device type that was used in each household. Accessing the internet on a mobile device is often a different experience than accessing the internet on a desktop computer, especially when using learning management systems. This warrants additional studies.

Finally, in this dataset, it was not possible to separate out parents with disabilities living with a school-age child from other adults with disabilities living with the school-age child. It was not possible to determine if, or how, the adult was related to the school-age child. Because people with disabilities are parents or caregivers at the same rate as people without disabilities, we assumed that adults with disabilities were parents or caregivers for the school-age children living with them. Thus, it was not possible to capture differences and nuances depending on how involved the adult with a disability was with the school-age child. As additional studies that explore the role of COVID-19 and education emerge, it is important to include disability-related differences, both for students with disabilities and parents with disabilities. Qualitative studies could add more context and depth to the experiences of parents and students with disabilities in accessing the internet and educational devices at home.

CONCLUSION

This study used national survey data from the Household Pulse survey to understand adults with disabilities' household access to internet and educational devices for school-age children living in their household. This study's findings add to the growing conceptualization of parents with disabilities as a group that may experience disparities in accessing needed services and support within their households (Albert & Powell, 2021; Lightfoot et al., 2018). Such disparities may be more difficult to reduce because of a societal stigma related to parenting with a disability. This study also demonstrated that overall, parents with disabilities have less access to household educational devices and the internet. This may impact K-12 learners and may be a factor to consider for family-school partnerships, community schooling, and wraparound service provision.

DECLARATIONS

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Ethic board permission/human subjects approval for this work was granted from University of Nevada, Reno.

Table 1
Demographics

Characteristic	% Adult with disabilities living with school age children	% Adults without disabilities living with school age children	p
Age (M (SE))	44.6 (0.5)	43.4 (0.1)	0.02
Disabilities			
Visual disability			
Yes	30.7%	n/a	n/a
No	69.3%	n/a	
Hearing disability			
Yes	15.1%	n/a	n/a
No	84.9%	n/a	
Cognitive disability			
Yes	54.2%	n/a	n/a
No	45.8%	n/a	
Mobility disability			
Yes	32.4%	n/a	n/a
No	67.6%	n/a	
Sex			
Female	67.9%	55.1%	<0.001
Male	32.1%	44.9%	
Race			
White, alone	71.4%	73.9%	<0.001
Black, alone	13.9%	12.7%	
Asian, alone	3.7%	6.9%	
Another race alone, or multiracial	10.9%	6.5%	
Ethnicity: Hispanic			
Not Hispanic	76.7%	79.6%	0.02
Hispanic	23.3%	20.4%	

Table 1, *Continued*

Highest level of education			
Less than high school graduate or equivalent	12.0%	8.4%	<0.001
High school graduate or equivalent	33.2%	27.1%	
Some college	24.1%	20.1%	
Associate degree	11.9%	10.1%	
Bachelor's degree	10.1%	17.8%	
Graduate degree	8.6%	16.5%	
Marital status			
Now married	52.0%	68.1%	<0.001
Widowed	4.1%	2.1%	
Divorced	15.8%	9.7%	
Separated	4.2%	2.6%	
Never married	23.9%	17.5%	
Household income (2019; before taxes)			
Less than $25,000	24.4%	11.3%	<0.001
$25,000 - $34,999	14.9%	10.2%	
$35,000 - $49,999	13.7%	10.9%	
$50,000 - $74,999	17.4%	16.4%	
$75,000 - $99,999	11.7%	13.5%	
$100,000+	17.9%	37.6%	
Health insurance/coverage			
Through current/former employer of self/ family			
Yes	53.2%	69.4%	<0.001
No	46.8%	30.6%	
Purchased directly from company			
Yes	19.9%	18.4%	0.15
No	80.1%	81.6%	
Medicare			
Yes	18.1%	7.9%	<0.001
No	81.9%	92.1%	
Medicaid			
Yes	38.1%	19.6%	<0.001
No	61.9%	80.4%	

Table 1, *Continued*

TRICARE or other military health care			
Yes	5.4%	3.7%	<0.001
No	94.6%	96.3%	
Veteran Affairs health care			
Yes	7.6%	3.6%	<0.001
No	92.4%	96.4%	
Indian Health Service			
Yes	2.8%	0.8%	<0.001
No	97.2%	99.2%	
Other			
Yes	7.3%	4.5%	<0.001
No	92.7%	95.5%	
Type of school for children in household			
Public	91.4%	88.6%	<0.001
Private	5.5%	8.6%	
Both public and private	3.1%	2.8%	
Number of school-age children in household (M (SE))	1.9 (0.03)	1.8 (0.01)	0.002

Note. All data are weighted.

Table 2
Descriptive Statistics

Variable	% (weighted; unadjusted)			95% CI for OR	
	Adult with disabilities living with school age children	Adults without disabilities living with school age children	OR	LL	UL
How often is a computer or other digital device available to children for educational purposes?					
Always available	70.2%	82.0%			
Usually available	18.2%	13.0%			
Sometimes available	7.4%	3.4%	1.62***	1.41	1.85
Rarely available	1.6%	0.9%			
Never available	2.6%	0.7%			
How often is the Internet available to children for educational purposes?					
Always available	65.6%	81.9%			
Usually available	21.9%	13.5%			
Sometimes available	8.2%	3.1%	1.93***	1.69	2.20
Rarely available	2.5%	0.8%			
Never available	1.9%	0.7%			
Internet services in your home:					
Paid for by the children's school or school district					
Yes	3.0%	2.4%	0.90	0.66	1.24
No	97.0%	97.6%	ref	ref	ref
Paid for by someone in the household or family					
Yes	93.0%	96.7%	0.65**	0.49	0.86
No	7.0%	3.3%	ref	ref	ref
Paid for by another source					
Yes	2.2%	1.3%	1.31	0.91	1.89
No	97.8%	98.7%	ref	ref	ref
Not available in my home					
Yes	3.4%	0.8%	2.70***	1.64	4.42
No	96.6%	99.2%	ref	ref	ref

Note. *p<0.05. **p<0.01. ***p<0.001. Models control for all sociodemographics.

Table 3

Adult with Disabilities Living with School Age Children: Availability of Computer/Digital Device for Children for Educational Purposes

		95% CI	
Variable	OR	LL	UL
Visual disability (ref: no)	1.90***	1.48	2.44
Hearing disability (ref: no)	1.55**	1.11	2.15
Cognitive disability (ref: no)	1.75***	1.35	2.26
Mobility disability (ref: no)	1.24	0.95	1.63
Sex: female (ref: male)	0.76*	0.58	0.98
Race (ref: White alone)			
Black, alone	0.97	0.71	1.31
Asian, alone	0.27*	0.08	0.95
Another race alone, or multiracial	1.07	0.75	1.53
Ethnicity: Hispanic (ref: not Hispanic)	0.94	0.70	1.25
Highest level of education (ref: graduate degree)			
Less than high school graduate or equivalent	1.31	0.73	2.35
High school graduate or equivalent	1.10	0.75	1.61
Some college	0.77	0.54	1.11
Associate's degree	0.96	0.64	1.44
Bachelor's degree	0.97	0.69	1.38
Marital status (ref: never married)			
Now married	0.76	0.53	1.07
Widowed	0.70	0.33	1.52
Divorced	1.07	0.74	1.55
Separated	0.73	0.42	1.25
Household income (ref: $100,000+)			
Less than $25,000	2.87***	1.78	4.64
$25,000 - $34,999	2.66***	1.70	4.14
$35,000 - $49,999	2.13***	1.39	3.28
$50,000 - $74,999	1.92**	1.27	2.92
$75,000 - $99,999	2.28***	1.43	3.61

Table 3, Continued

Health insurance/coverage			
Through current/former employer of self/family (ref: no)	0.73**	0.58	0.93
Purchased directly from company (ref: no)	1.27	0.96	1.67
Medicare (ref: no)	0.88	0.64	1.21
Medicaid (ref: no)	0.70**	0.54	0.91
TRICARE or other military health care (ref: no)	0.72	0.40	1.30
Veteran Affairs health care (ref: no)	1.01	0.60	1.68
Indian Health Service (ref: no)	1.52	0.63	3.67
Other (ref: no)	0.93	0.57	1.50
Type of school for children (ref: public)			
Private	2.07***	1.39	3.09
Both public and private	1.23	0.55	2.76
Age	1.01	1.00	1.02
Number of school-age children in household	1.49***	1.36	1.65

Note. *p<0.05. **p<0.01. ***p<0.001. All data are weighted.

Table 4

Adult with Disabilities Living with School Age Children: Availability of Internet for Children for Educational Purposes

		95% CI	
Variable	OR	LL	UL
Visual disability (ref: no)	1.90***	1.47	2.45
Hearing disability (ref: no)	2.09***	1.49	2.92
Cognitive disability (ref: no)	1.83***	1.41	2.38
Mobility disability (ref: no)	1.92***	1.45	2.54
Sex: female (ref: male)	1.10	0.84	1.44
Race (ref: White alone)			
Black, alone	1.33	0.98	1.81
Asian, alone	1.49	0.69	3.19
Another race alone, or multiracial	1.23	0.84	1.78
Ethnicity: Hispanic (ref: not Hispanic)	1.08	0.80	1.45

Table 4, *Continued*

Highest level of education (ref: graduate degree)			
Less than high school graduate or equivalent	1.66	0.93	2.98
High school graduate or equivalent	1.41	0.99	2.03
Some college	1.10	0.78	1.55
Associate's degree	1.11	0.76	1.60
Bachelor's degree	0.98	0.71	1.36
Marital status (ref: never married)			
Now married	0.71	0.51	1.00
Widowed	0.88	0.43	1.81
Divorced	0.99	0.69	1.41
Separated	1.10	0.66	1.85
Household income (ref: $100,000+)			
Less than $25,000	1.84*	1.14	2.96
$25,000 - $34,999	1.81**	1.17	2.81
$35,000 - $49,999	1.56*	1.00	2.43
$50,000 - $74,999	1.54*	1.02	2.31
$75,000 - $99,999	1.60*	1.04	2.47
Health insurance/coverage			
Through current/former employer of self/family (ref: no)	0.86	0.67	1.12
Purchased directly from company (ref: no)	1.22	0.91	1.63
Medicare (ref: no)	0.84	0.59	1.19
Medicaid (ref: no)	0.91	0.69	1.18
TRICARE or other military health care (ref: no)	1.48	0.70	3.15
Veteran Affairs health care (ref: no)	0.84	0.42	1.69
Indian Health Service (ref: no)	1.33	0.44	4.00
Other (ref: no)	0.84	0.46	1.55
Type of school for children (ref: public)			
Private	1.02	0.63	1.66
Both public and private	0.99	0.34	2.84
Age	1.01	0.99	1.02
Number of school-age children in household	1.40***	1.27	1.55

Note. *$p<0.05$. **$p<0.01$. ***$p<0.001$. All data are weighted.

Table 5

Adult with Disabilities Living with School Age Children: Internet Services in the Home

	Paid for by the children's school or school district (ref: no)			Paid for by someone in the household or family (ref: no)			Paid for by another source (ref: no)			Not available in my home (ref: no)		
		95% CI			95% CI			95% CI			95% CI	
Variable	OR	LL	UL	OR	LL	UL	OR	LL	UL	OR	LL	UL
Visual disability (ref: no)	0.82	0.45	1.47	0.76	0.50	1.16	1.20	0.68	2.10	1.27	0.71	2.27
Hearing disability (ref: no)	0.83	0.37	1.83	0.75	0.44	1.28	1.48	0.72	3.05	2.14*	1.08	4.22
Cognitive disability (ref: no)	0.58	0.31	1.10	0.70	0.43	1.14	1.33	0.71	2.47	3.88***	1.83	8.19
Mobility disability (ref: no)	0.79	0.37	1.70	0.63	0.38	1.03	1.46	0.75	2.85	2.08*	1.12	3.87
Sex: female (ref: male)	1.57	0.88	2.79	1.11	0.69	1.78	0.41**	0.23	0.73	1.29	0.67	2.47
Race (ref: White alone)												
Black, alone	2.54**	1.31	4.93	0.51**	0.31	0.84	1.81	0.92	3.55	1.80	0.84	3.89
Asian, alone	2.24	0.69	7.28	0.76	0.30	1.97	2.65	0.99	7.09	0.18	0.02	1.48
Another race alone, or multiracial	1.92	0.81	4.54	0.50*	0.26	0.94	1.53	0.82	2.87	3.14**	1.34	7.33
Ethnicity: Hispanic (ref: not Hispanic)	2.03*	1.10	3.76	0.69	0.41	1.15	1.40	0.72	2.71	1.17	0.60	2.26
Highest level of education (ref: graduate degree)												
Less than high school graduate or equivalent	0.62	0.17	2.27	0.53	0.22	1.26	1.17	0.31	4.43	2.52	0.85	7.49
High school graduate or equivalent	0.54	0.22	1.37	0.88	0.43	1.82	0.26**	0.10	0.70	3.61*	1.27	10.28
Some college	0.68	0.32	1.45	1.22	0.64	2.34	0.51	0.21	1.22	1.29	0.50	3.35
Associate's degree	0.76	0.31	1.90	1.54	0.64	3.71	0.45	0.14	1.42	1.16	0.33	4.12
Bachelor's degree	0.58	0.22	1.53	1.43	0.67	3.03	0.73	0.29	1.81	0.57	0.15	2.20
Marital status (ref: never married)												
Now married	0.54	0.28	1.04	1.39	0.71	2.75	0.26**	0.09	0.70	1.83	0.67	5.00
Widowed	0.35	0.09	1.37	2.46	0.83	7.28	0.94	0.28	3.17	0.89	0.17	4.74
Divorced	1.34	0.60	3.00	0.57	0.30	1.06	0.85	0.38	1.91	2.61*	1.01	6.78
Separated	0.43	0.12	1.57	0.64	0.28	1.48	0.45	0.12	1.62	4.98**	1.64	15.12

Table 5, *Continued*

Household income (ref: $100,000+)												
Less than $25,000	0.76	0.23	2.49	0.24*	0.07	0.76	1.01	0.37	2.77	53.55***	8.16	351.38
$25,000 - $34,999	0.62	0.21	1.78	0.35*	0.13	0.96	0.66	0.22	1.93	37.66***	6.43	220.47
$35,000 - $49,999	1.41	0.54	3.68	0.44	0.16	1.21	0.18**	0.05	0.61	17.2**	2.86	103.30
$50,000 - $74,999	0.93	0.36	2.46	0.49	0.18	1.36	0.46	0.16	1.35	18.23**	3.21	103.58
$75,000 - $99,999	0.68	0.25	1.88	0.56	0.19	1.64	0.58	0.16	2.07	15.39*	1.69	140.51
Health insurance/ coverage												
Through current/ former employer of												
Self/family (ref: no)	0.82	0.42	1.58	1.00	0.62	1.59	0.55	0.30	1.02	1.10	0.59	2.03
Purchased directly from company (ref: no)	0.95	0.44	2.03	0.57*	0.35	0.90	1.09	0.48	2.51	2.14*	1.17	3.93
Medicare (ref: no)	1.57	0.76	3.26	0.97	0.55	1.71	0.89	0.42	1.88	0.44	0.17	1.18
Medicaid (ref: no)	1.28	0.62	2.65	1.22	0.66	2.25	0.83	0.45	1.51	0.74	0.28	1.97
TRICARE or other military health care (ref: no)	2.05*	1.02	4.12	0.23***	0.10	0.55	3.02*	1.13	8.05	5.61**	1.54	20.44
Veteran Affairs health care (ref: no)	1.36	0.67	2.76	1.98	0.80	4.92	0.26	0.05	1.46	0.24*	0.06	0.93
Indian Health Service (ref: no)	0.62	0.07	5.72	0.53	0.20	1.44	2.98*	1.08	8.24	0.58	0.21	1.62
Other (ref: no)	1.79	0.77	4.18	0.70	0.34	1.44	1.35	0.48	3.79	2.42	0.99	5.93
Type of school for children (ref: public)												
Private	0.93	0.30	2.90	2.17	0.92	5.12	1.21	0.52	2.83	0.26	0.04	1.54
Both public and private	0.74	0.18	3.09	0.66	0.23	1.90	2.23	0.86	5.79	1.35	0.47	3.88
Age	1.02	0.99	1.05	0.99	0.97	1.02	0.99	0.97	1.02	1.01	0.97	1.04
Number of school-age children in household	1.34*	1.06	1.70	0.79*	0.64	0.98	1.29	0.98	1.68	1.28	0.96	1.69

Note. *p<0.05. **p<0.01. ***p<0.001. All data are weighted.

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