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Do Space Tech Pack Program Evaluation: Improving Digital Access and Equity

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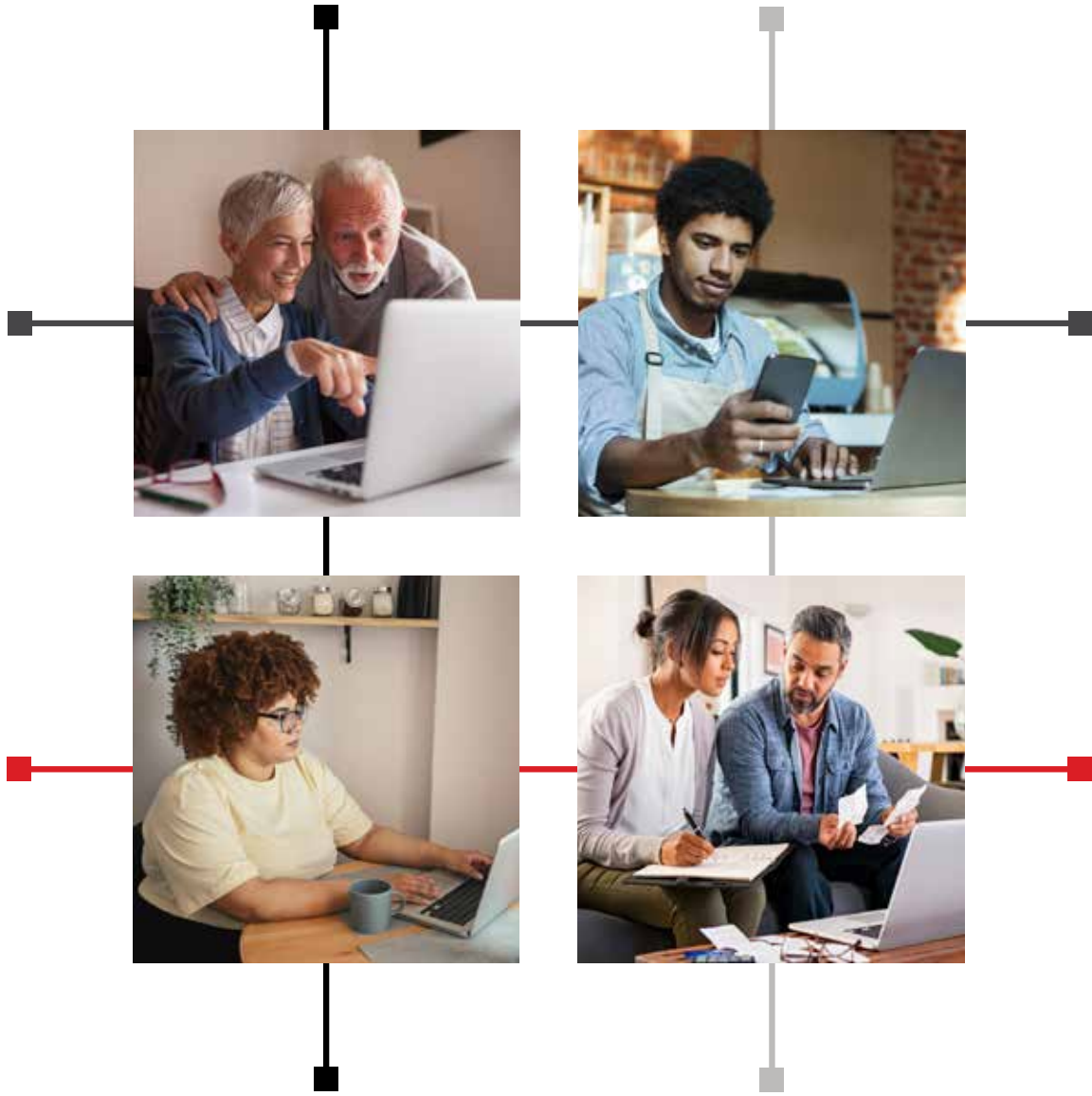
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Do Space Tech Pack Program Evaluation

Improving Digital Access and Equity



UNIVERSITY OF NEBRASKA AT OMAHA
CENTER FOR PUBLIC
AFFAIRS RESEARCH



EXECUTIVE SUMMARY

The Do Space Library received funding from the Emergency Connectivity Fund from the Federal Communications Commission to conduct the Tech Pack Program in Omaha, Nebraska, between June 30, 2022 to June 29, 2023. As part of the Tech Pack Program, 945 Omaha residents received a computing device and free internet access for one year. Along with this infrastructure, they received computer basics training and technology tutoring. This innovative program directly addresses the challenges experienced by those without access. In the city of Omaha, Nebraska, according to data from the U.S. Census Bureau's American Community Survey for 2021, over 9,000 households (4.6%) do not have a computer or smart device and over 18,000 households (9.0%) do not have an internet subscription of any kind. The Tech Pack Program alleviated this challenge for one year for some of these households.

Do Space partnered with the Center for Public Affairs Research (CPAR) at the University of Nebraska at Omaha to evaluate the Tech Pack Program. An online application to the program and three surveys were administered to track participation and outcomes from the program.

The survey demonstrates that participants used the Tech Pack Program for work related purposes (17% - 19%); household related activities like paying bills, banking, ordering groceries, or shopping for the households (20% - 22%); getting news and participating in local activities (21% - 23%); creating or fostering relationships with family and friends (14% - 15%); and practicing computing and internet skills (23% - 26%). Over the course of the program many participants became more comfortable using digital devices, navigating the internet, and becoming familiar with computer and internet related terms.

A range of questions about the economic security of participants also show that over the course of the program positive gains were made. Respondents reported feeling more in control of their economic future, having stronger economic support networks, and financial situations getting better. One participant shared about the program, "...it has given me a path to my dream career." Additionally, respondents reported increasingly using the Tech Pack Program to support their health and well-being, including accessing information about cultural events (46% - 55%), learning new skills (42% - 48%), accessing financial services (55% - 61%), and getting health information not related to COVID-19 (52% - 57%), as just some examples.

By the last survey, over 65% reported that participating in the program improved their life "a great deal." Tech Pack Program participants were quick to share their gratitude and satisfaction with the program. Their quotes and open-ended responses demonstrate the overwhelming and positive impact of the Tech Pack Program.

Overall, the findings suggest that providing individuals with digital devices and teaching them useful technological skills enables greater opportunity for long-term success. To fully participate in our society, we recognize that digital access and equity is essential. Not only does digital equity ensure access to basic resources critical to social, economic, and physical well-being, but digital equity also enhances the creation of social capital and promotes economic security. This innovative and straightforward program resulting in improvements in the lives of its participants is a model for future programming to overcome the digital divide.

Report Prepared By

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BACKGROUND ON THE STUDY

In an effort to raise awareness about digital equity needs in Omaha, Do Space partnered with the Center for Public Affairs Research (CPAR) at the University of Nebraska at Omaha to evaluate its Tech Pack Program. Do Space developed the Tech Pack Program as a means to support digital equity in Omaha by distributing laptops and Wi-Fi hotspots to 945 Omaha residents. As part of the Tech Pack Program, participants received free internet access for one year, free computer basics training, and technology tutoring. Support for the Tech Pack Program was provided by the Emergency Connectivity Fund from the Federal Communications Commission. CPAR began its partnership with Do Space in May 2022 to assist staff in developing an online application for prospective Tech Pack Program participants and continued this partnership through summer 2023 to provide external evaluation and assess overall program impact.

This study provides a longitudinal evaluation of the Do Space Tech Pack Program from June 30, 2022 to June 29, 2023. In order to fully participate in our society, we recognize that digital access and equity is essential. Not only does digital equity ensure access to basic resources critical to social, economic, and physical well-being, but digital equity also enhances the creation of social capital and promotes economic security. CPAR was proud to partner with Do Space to raise awareness of the barriers and opportunities that exist related to digital equity in the Omaha metro area.

A brief explanation of the disparities associated with digital equity – or inequity – follows, along with an explanation of the study’s methodology. Then, a summary of the study’s findings is provided.

The Digital Divide and Improving Digital Equity

Disparities in access to reliable internet services have become generically known as the **digital divide**, a “gap between those who have affordable access, skills, and support to effectively engage online and those who do not” (National Digital Inclusion Alliance, NDIA, n/d). In the U.S., the digital divide disproportionately affects people of color, people with disabilities, and the elderly, as well as those living in low-income households and/or in rural areas (Atske & Perrin, 2021, Perrin & Atske, 2021; Vogels, 2021; NDIA, n/d). The consequences of digital inequality are manifold, as the digital divide exacerbates other inequalities and prevents opportunities in education, healthcare, civic engagement, and the workforce, among other domains of life (Norris, 2001; Mossberger et al., 2003; Ochillo 2022).

Previous research by Siefer and Callahan (2020) differentiates between broadband access and broadband connection, using the “three A’s” to frame discussions of digital equity: availability, access, adoption.

Availability || Infrastructure that enables broadband construction, activation, and maintenance.

Access || Affordability, speed, and how widespread the coverage is for how many residents and whether the characteristics of residents (such as age or income) adversely affects their ability to use the services.

Adoption || Being equipped with digital literacy and the ability to have services set up and usable at home and on a mobile device, knowing how to use each service on each device when needed and how to resume service after an interruption.

General barriers to access include the cost of monthly service for both computers and smartphones, user knowledge of available services and program, and existing or planned infrastructure. Hardware, software, and quality internet service must all come together in confluence for individuals and communities to fulfill their digital needs. Quality in service is comprised of speed both upstream – for sending or uploading content – and downstream – for receiving or downloading content.

While broadband access in rural areas tends to dominate digital equity discussions in Nebraska, many people in urban areas do not have equitable digital access. An analysis conducted by the National Digital Inclusion Alliance concluded that, “there are millions more people living in households with no broadband in big cities and urban counties than there are in the most rural and underserved counties” (Siefer & Callahan, 2020, p. 4). Previous research from Reisdorf et al. (2022) suggest that deficient social infrastructure, resulting from unaffordable, inaccessible, or low-quality broadband in some urban areas “contributes to a widening of the divide between advantaged and disadvantaged populations” (p. 300).

METHODOLOGY

CPAR’s partnership with Do Space progressed in two parts: 1) logistical support managing the Tech Pack Program application process, and 2) program evaluation of the Tech Pack Program.

CPAR researchers worked closely with Do Space staff to develop the application questions, which included a mix of demographic and digital access questions. The application was developed using Qualtrics Survey Software through CPAR, with an anonymous link provided to Do Space for promotion and recruitment activities. CPAR provided Do Space with access to participant applications for final review. Do Space was responsible for the distribution of Chromebooks and hotspots and ensuring participants completed program requirements.

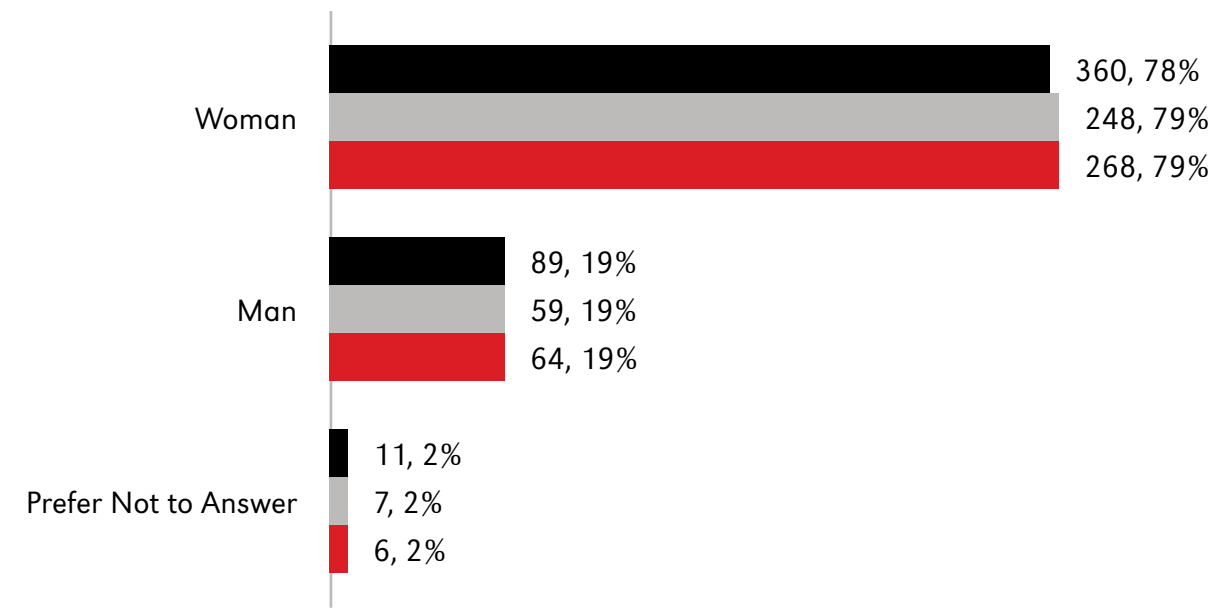
Given that the Tech Pack Program occurred for one year, a longitudinal program evaluation was conducted. CPAR researchers used Qualtrics Survey Software and developed the survey evaluation instrument based on academic literature and best practices related to digital equity. The survey instrument was designed to be consistent across all three surveys through the duration of the Tech Pack Program to compare participants responses over time and analyze program impacts. The surveys were administered in October 2022, February 2023, and May 2023. Each survey was open for at least three full weeks to garner as many responses from participants as possible. Survey 1 received 528 total responses, Survey 2 received 335 total responses, and Survey 3 received 377 total responses. It should be noted that not all respondents answered all questions, so the frequency of responses will vary from question to question.

DEMOGRAPHICS

This section provides an overview of participant demographics for those in the Tech Pack Program. Topics include traditional demographic questions such as gender, age, race and ethnicity, educational attainment, and household income.

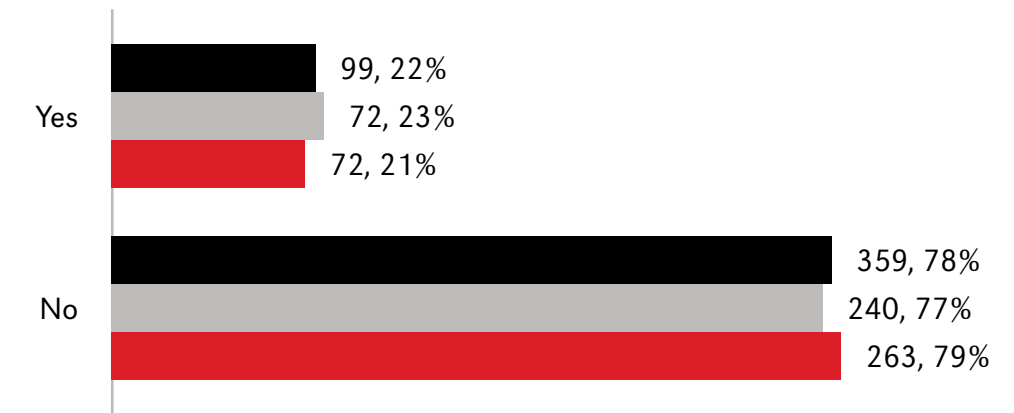
How would you describe your gender?

Survey 1 Survey 2 Survey 3



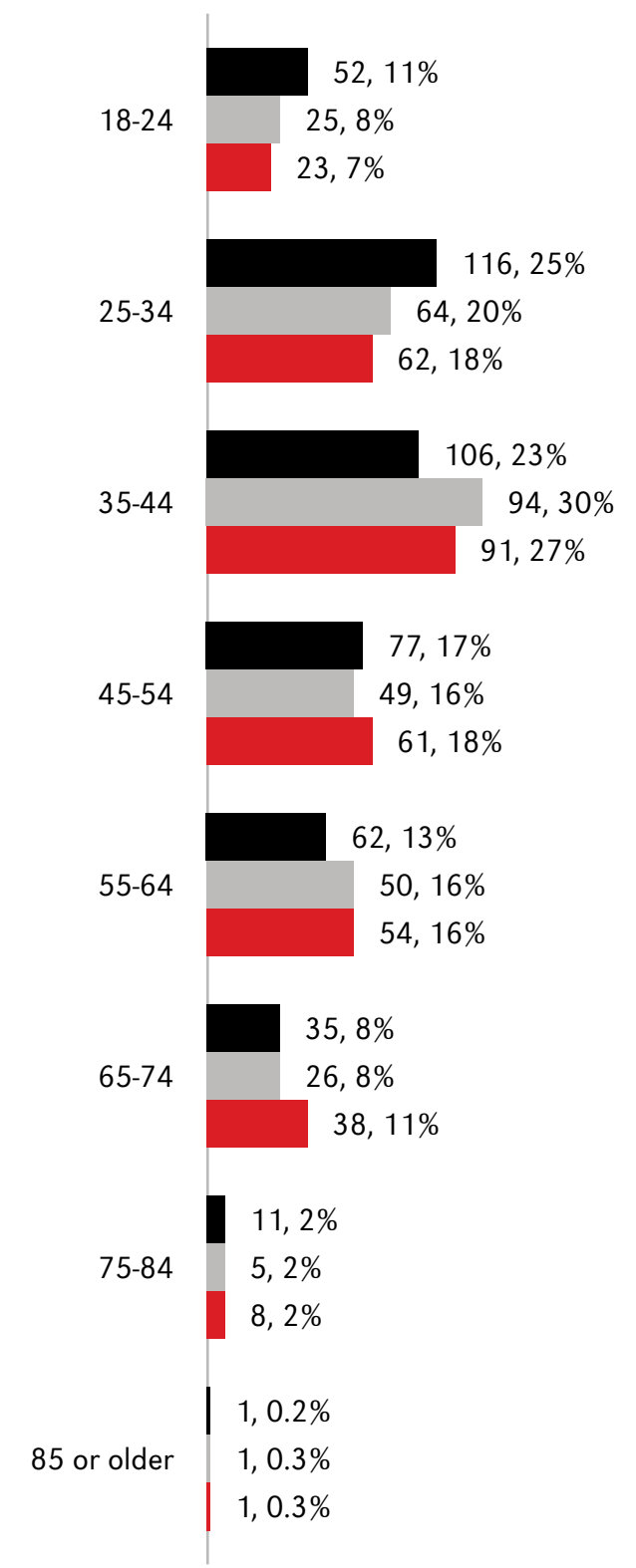
Are you a person with a disability?

Survey 1 Survey 2 Survey 3



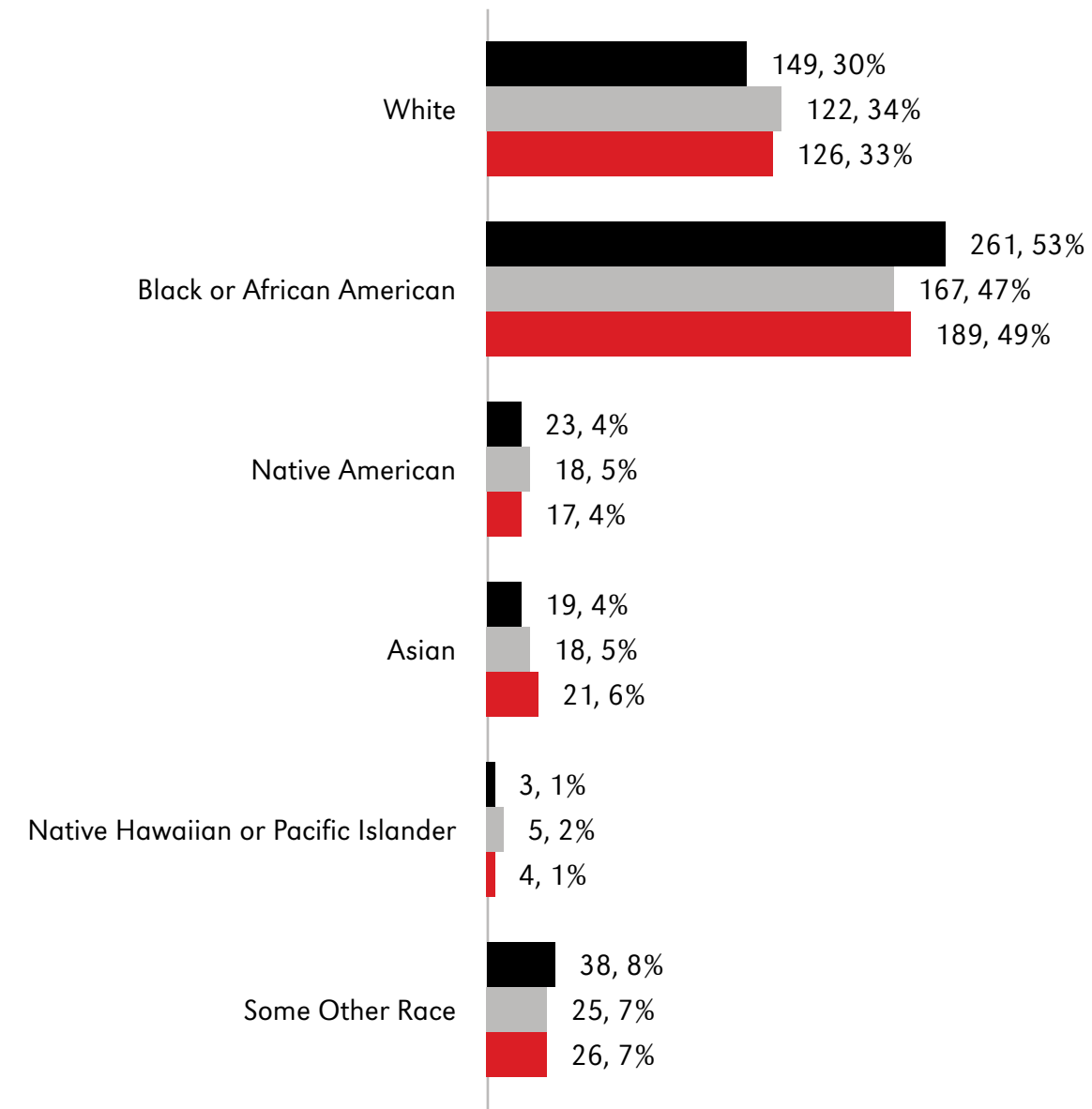
What is your age?

Survey 1 Survey 2 Survey 3



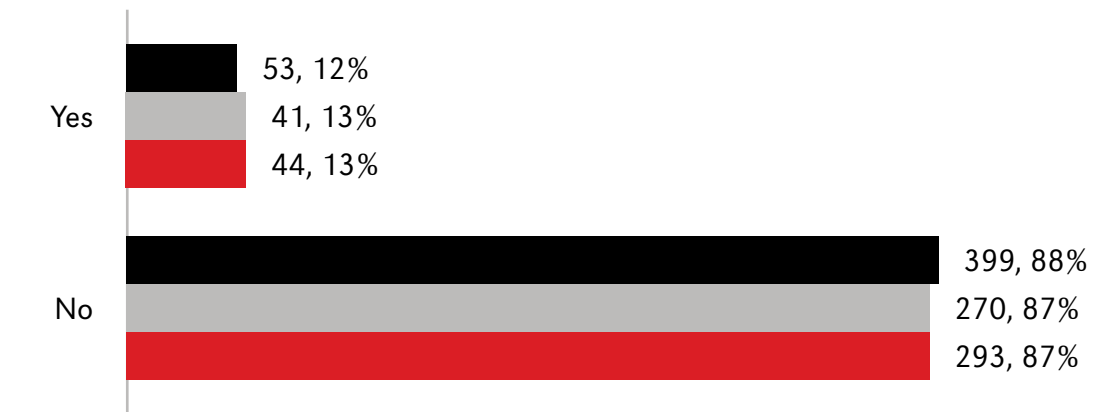
How do you describe your race? Select all that apply.

Survey 1 Survey 2 Survey 3



Are you Latino/a/x?

Survey 1 Survey 2 Survey 3



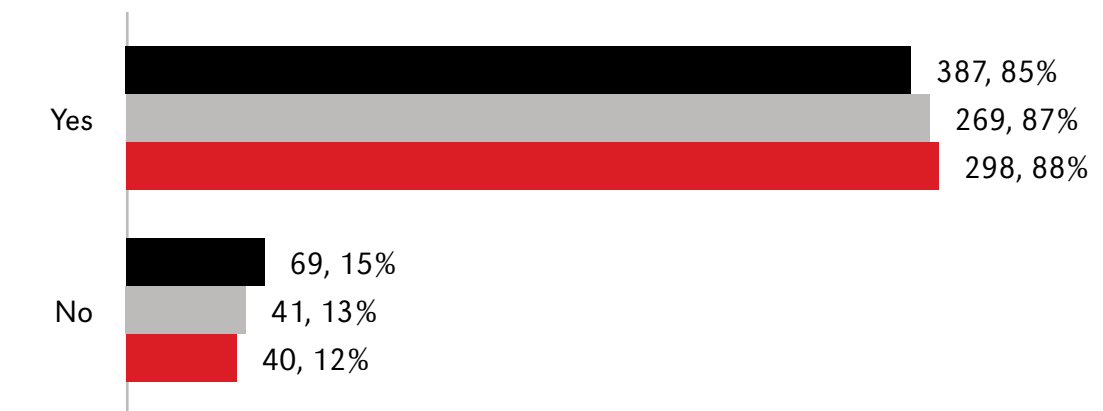
Are you a person with refugee status?

Survey 1 Survey 2 Survey 3



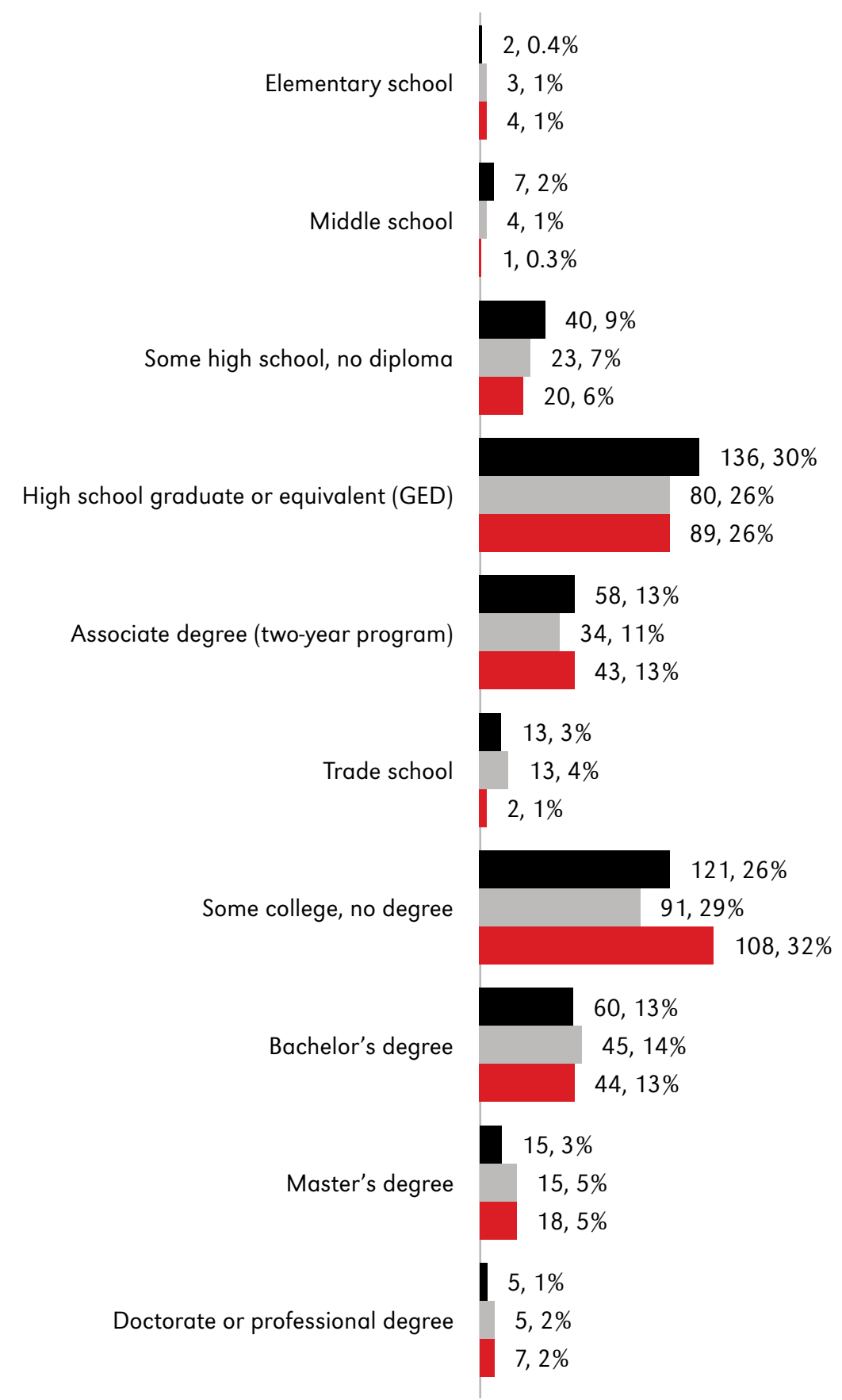
Is English your first language?

Survey 1 Survey 2 Survey 3



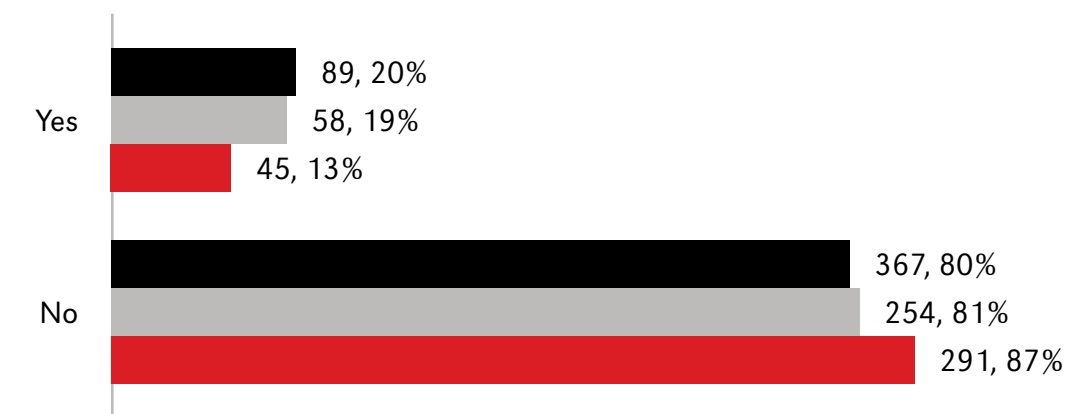
What is the highest level of education that you have completed?

Survey 1 Survey 2 Survey 3



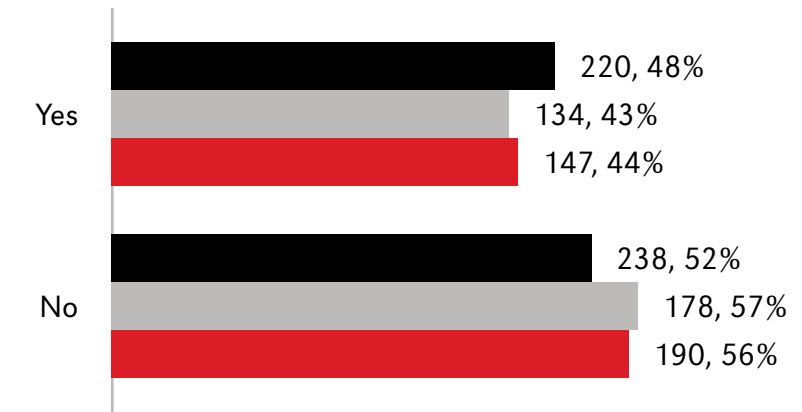
Did either of your parents complete a bachelor's degree?

Survey 1 Survey 2 Survey 3

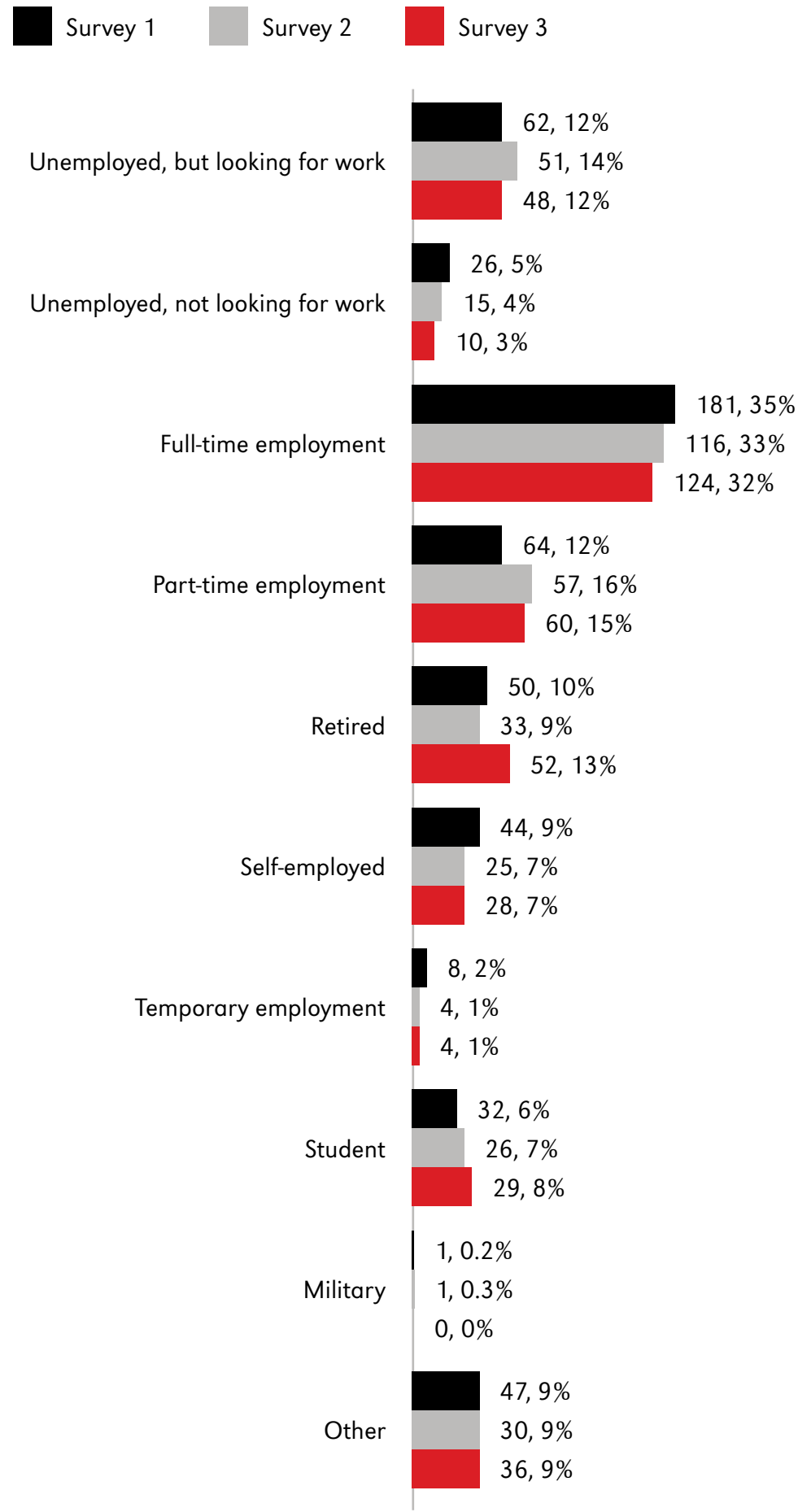


Does someone in your household work full-time, year-round?

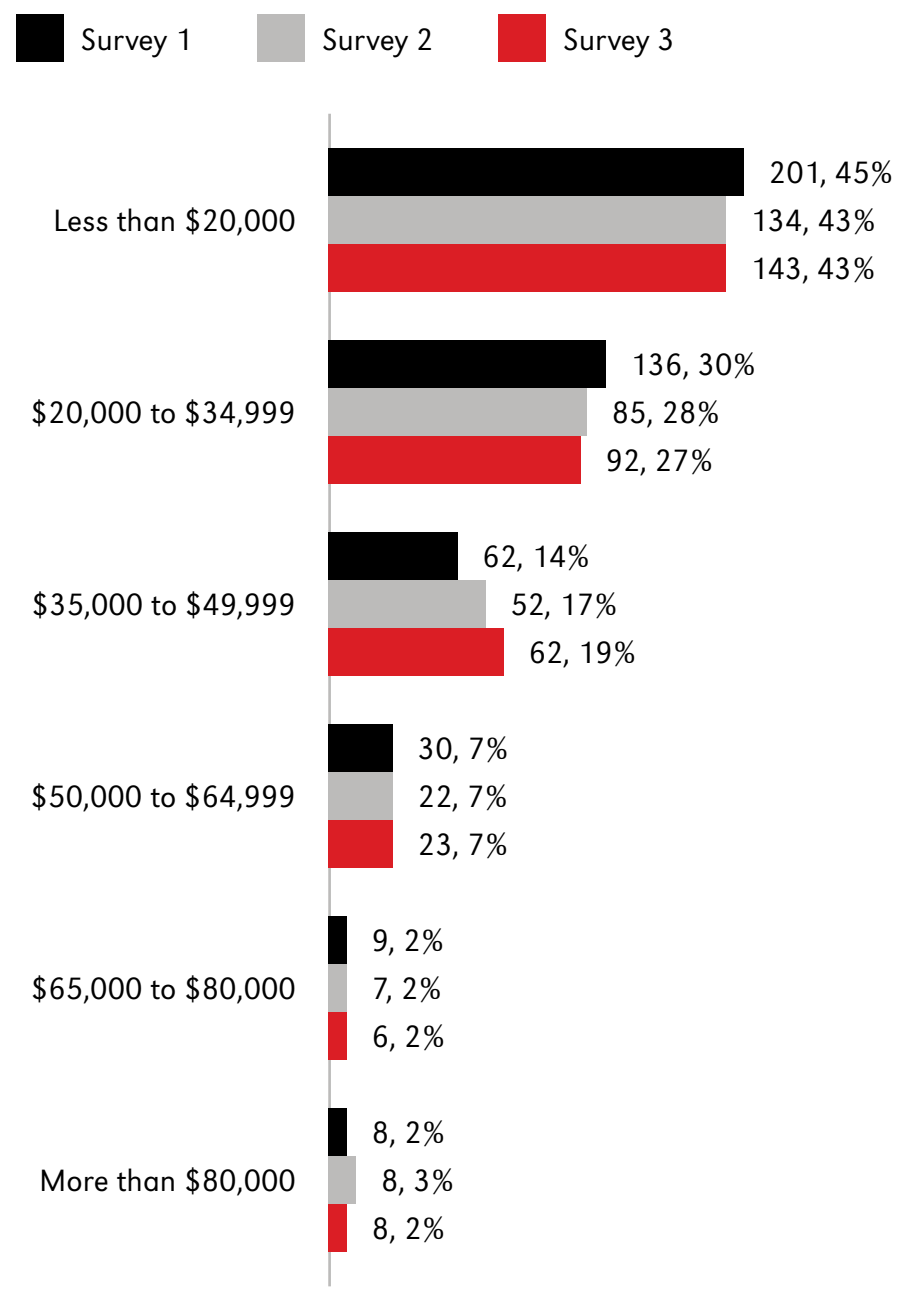
Survey 1 Survey 2 Survey 3



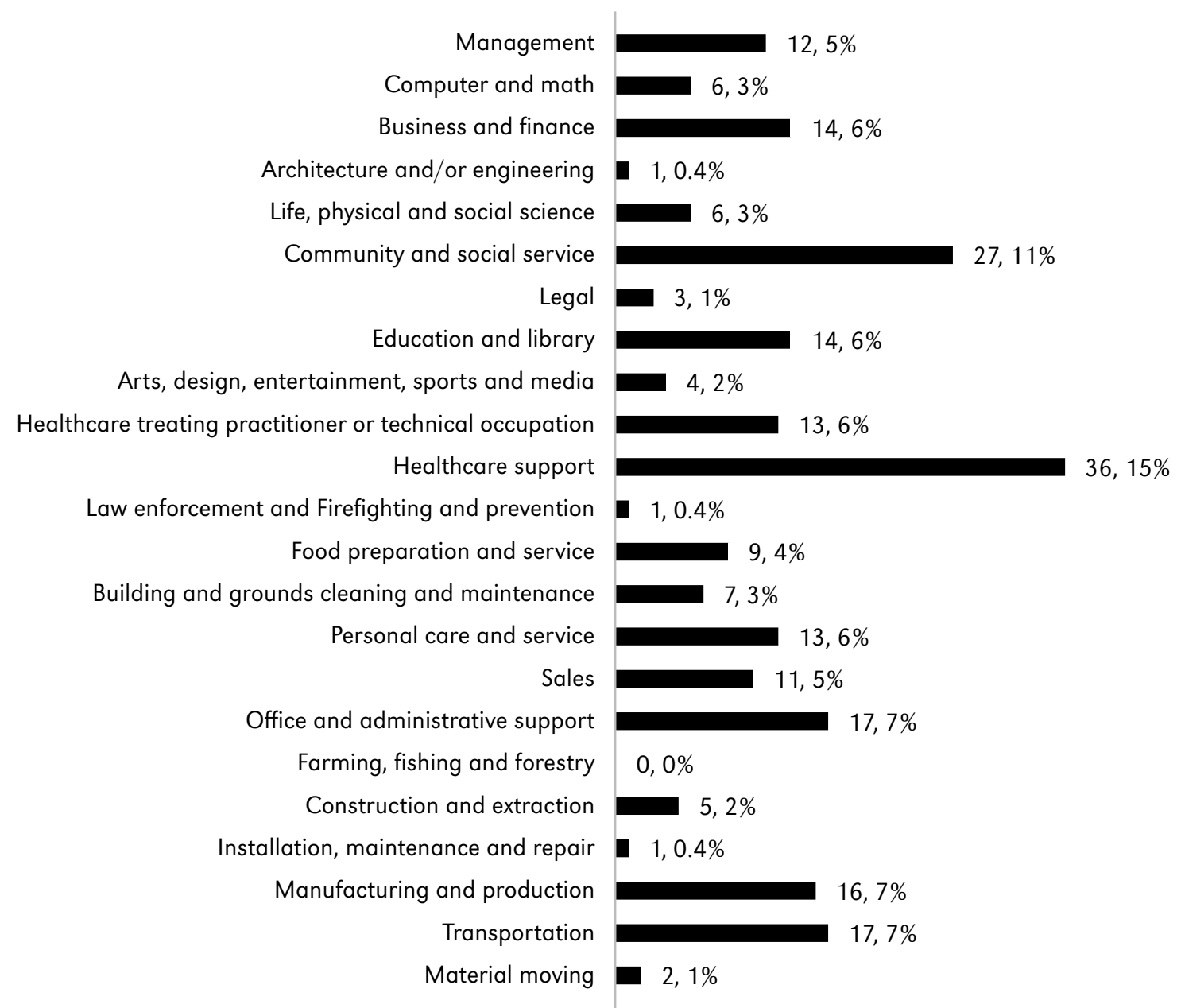
Which best describes your current work status? Select all that apply.



What is your annual household income including all members of the household that earn an income?



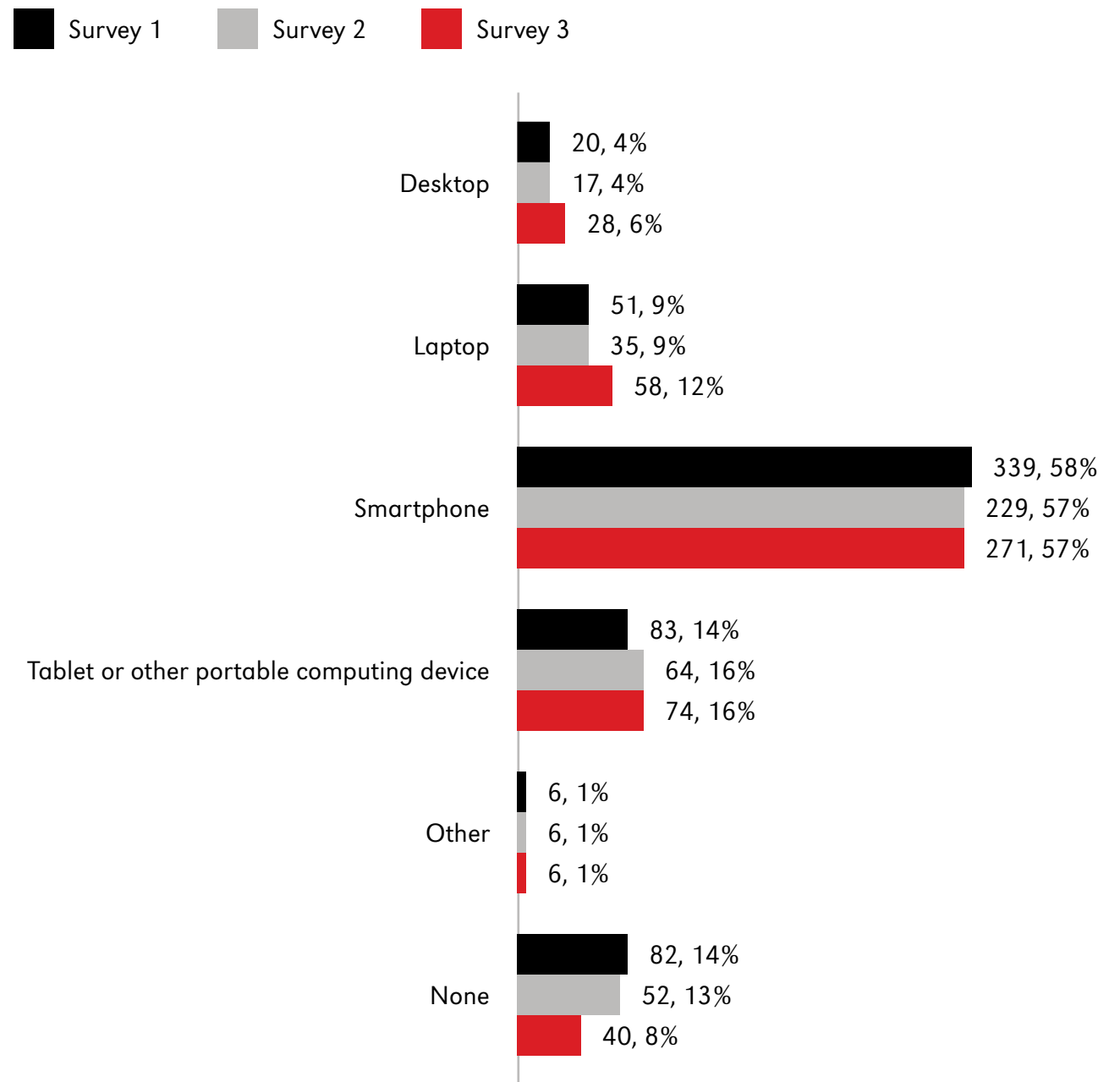
If you are currently employed, which of these groups best describe your current occupation? (Responses from Survey 3.)



ACCESS TO AND USAGE OF COMPUTING DEVICES AND INTERNET

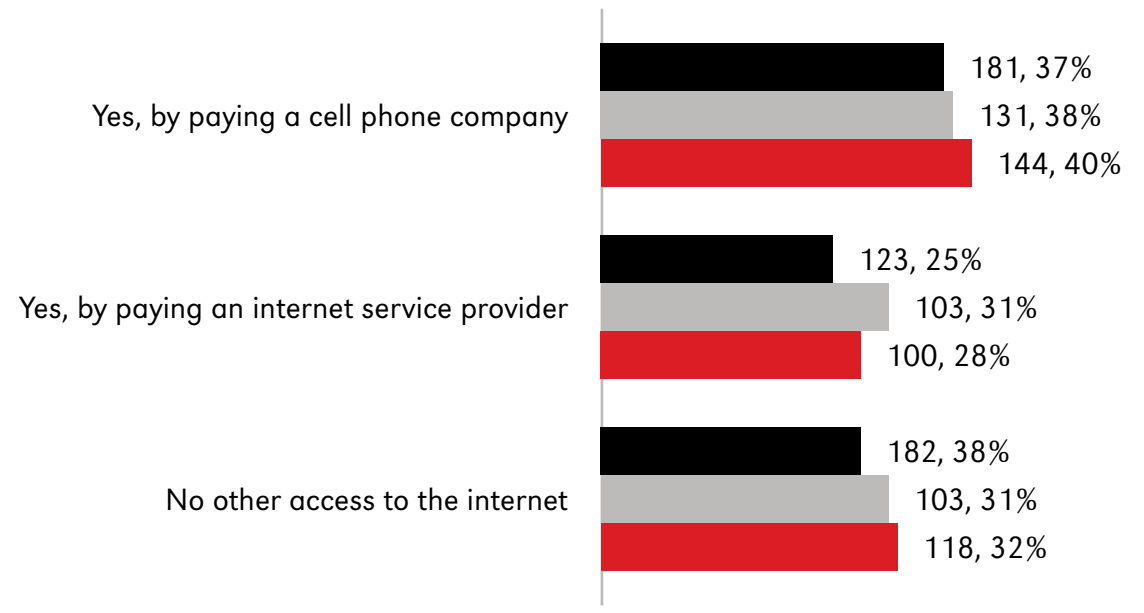
The purpose of questions in this section is to better understand participants' access and usage of computing devices and the internet. Questions were designed to ask participants about how they were using the laptops and internet service provided by Do Space. This section also assesses participants' comfortability with using computing devices and internet-related items.

Not including the laptop provided by Do Space, do you or anyone in your household own any of the following?



Not including the internet service provided by Do Space, do you or anyone in your household have access to the internet? Select all that apply.

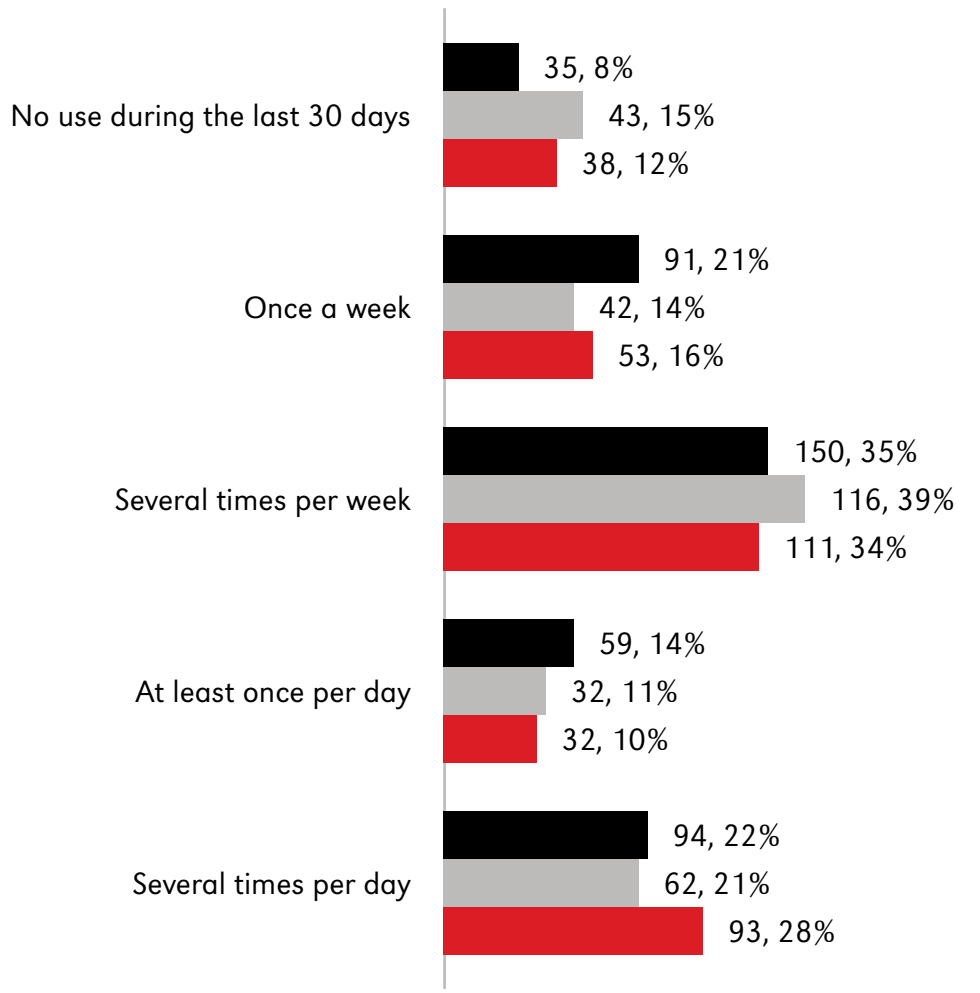
Survey 1 Survey 2 Survey 3



“ The Tech Pack Program was a life saver as far as work. You don't have to worry about missing work ever. It was essential for me. ”

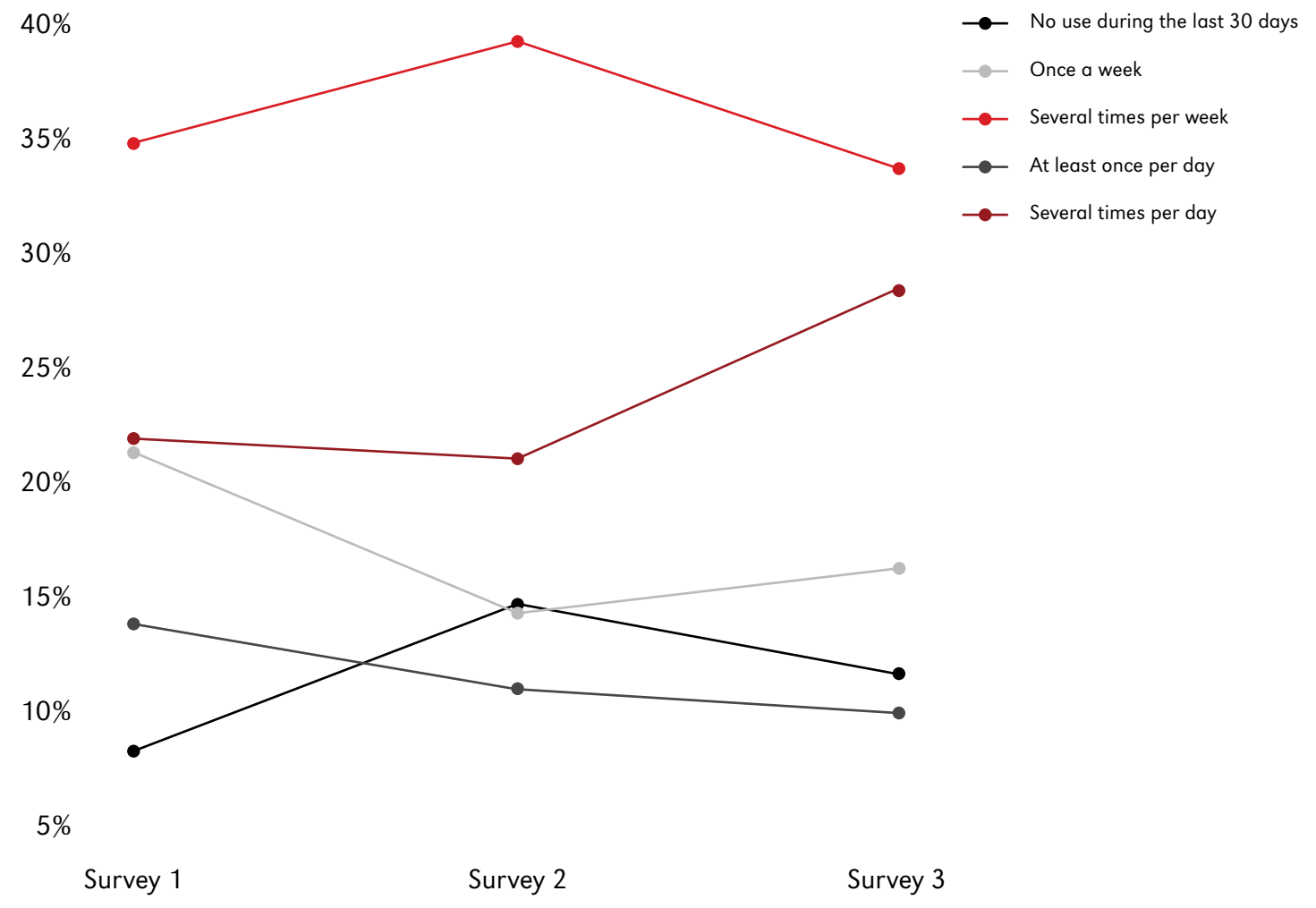
In the last month, approximately how many times have you used the laptop provided by Do Space to access the internet?

Survey 1 Survey 2 Survey 3

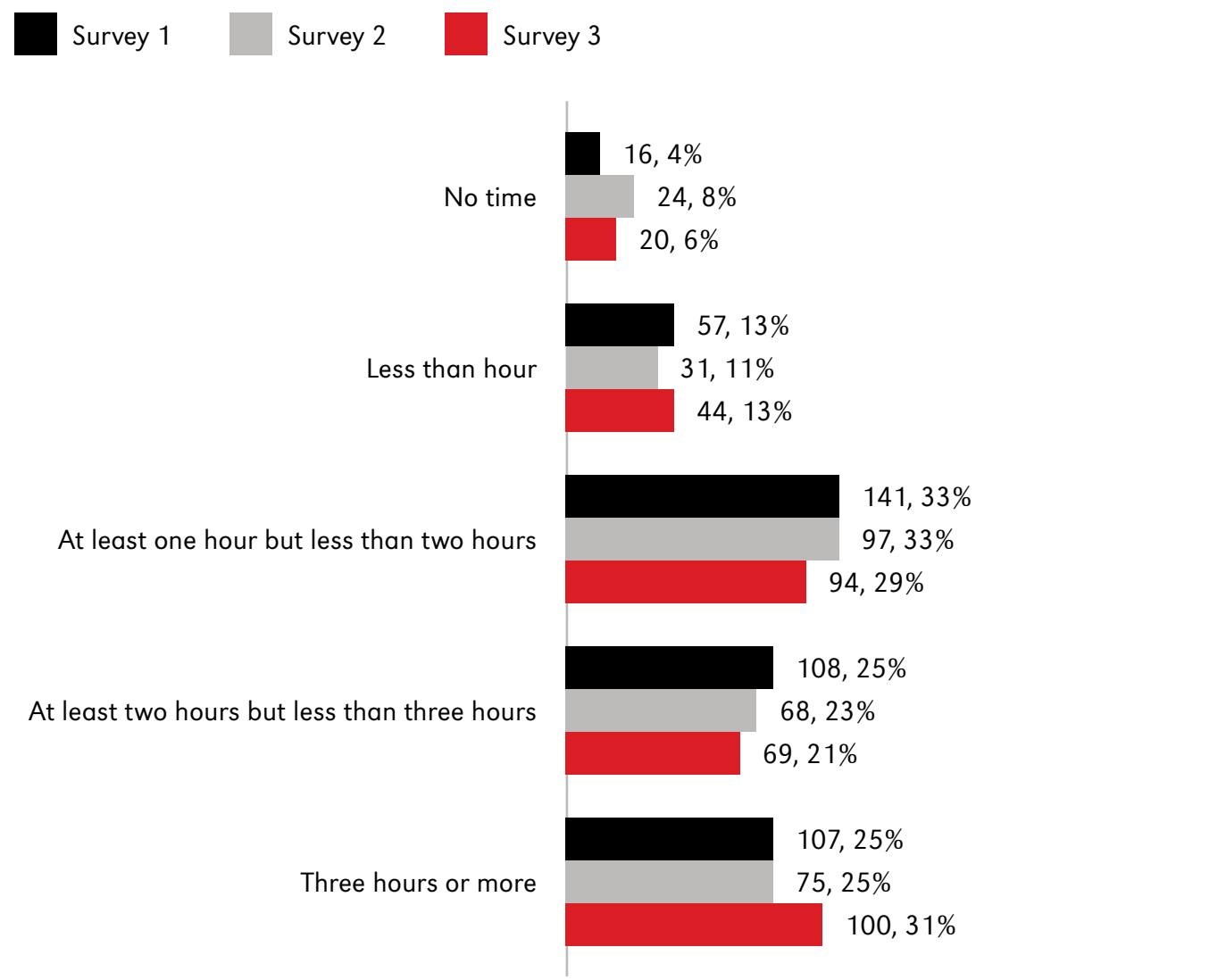




Change Over Time: In the last month, approximately how many times have you used the laptop provided by Do Space to access the internet?

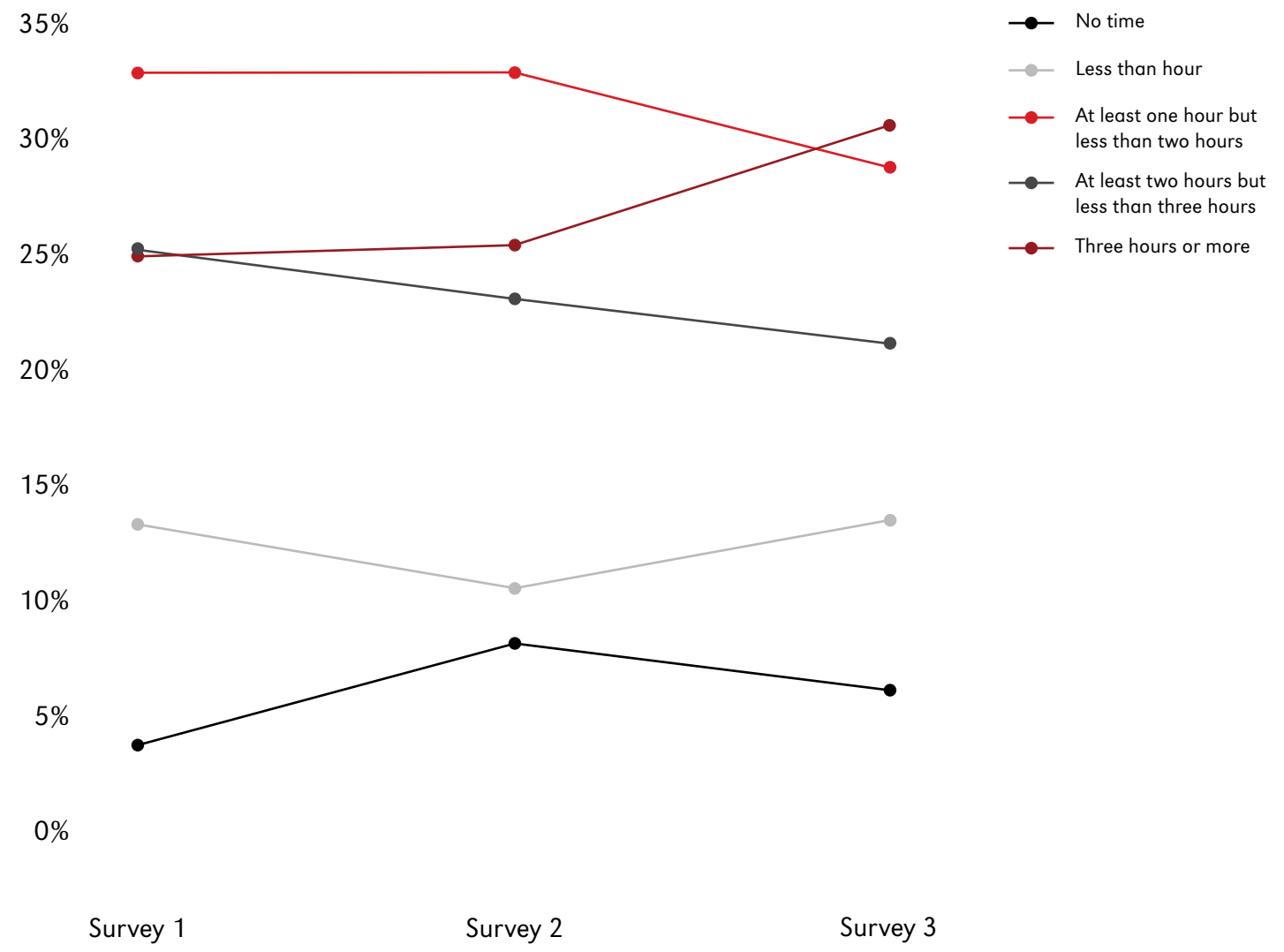


In the last month, approximately how much time do you spend using the equipment each time you use it?

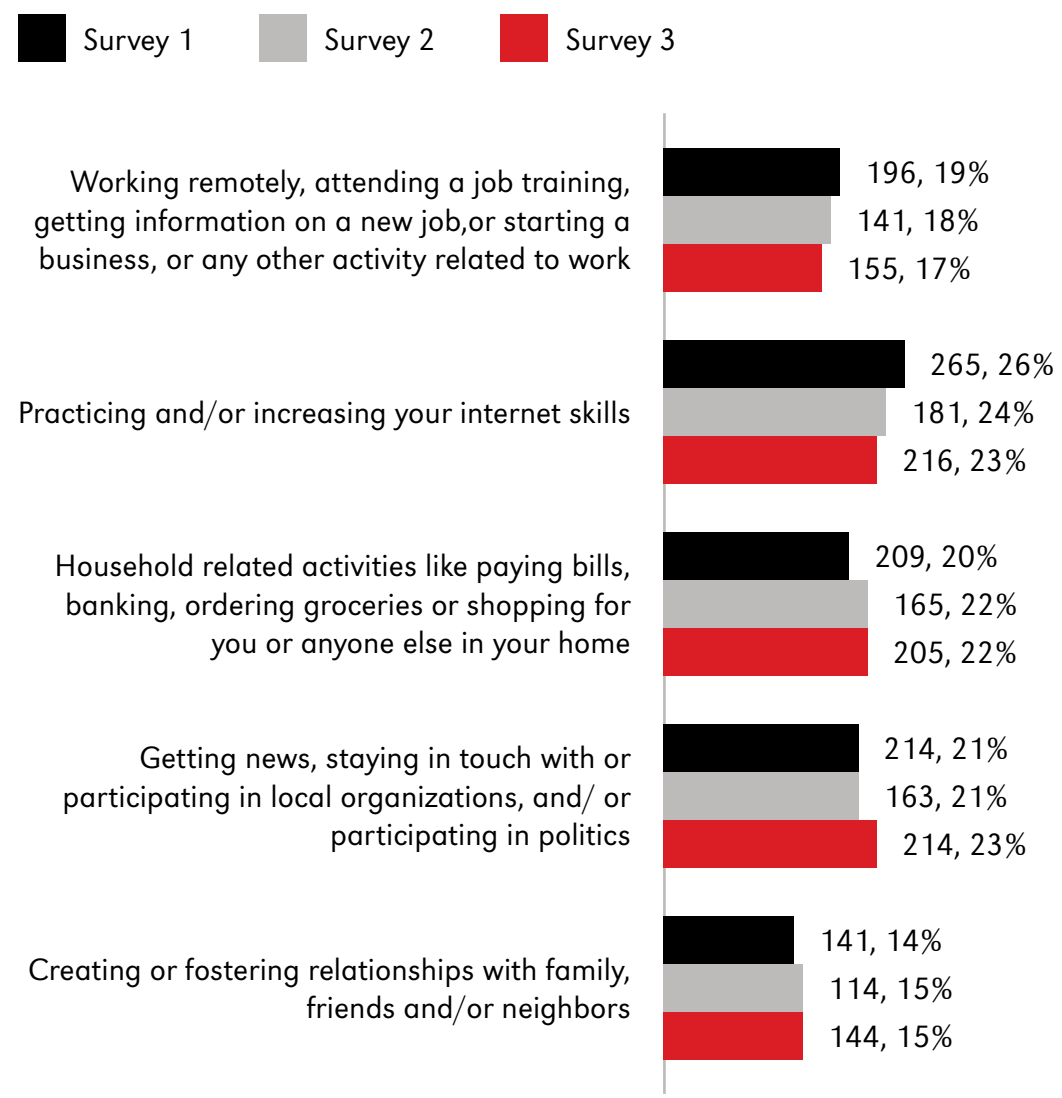




Change Over Time: In the last month, approximately how much time do you spend using the equipment each time you use it?

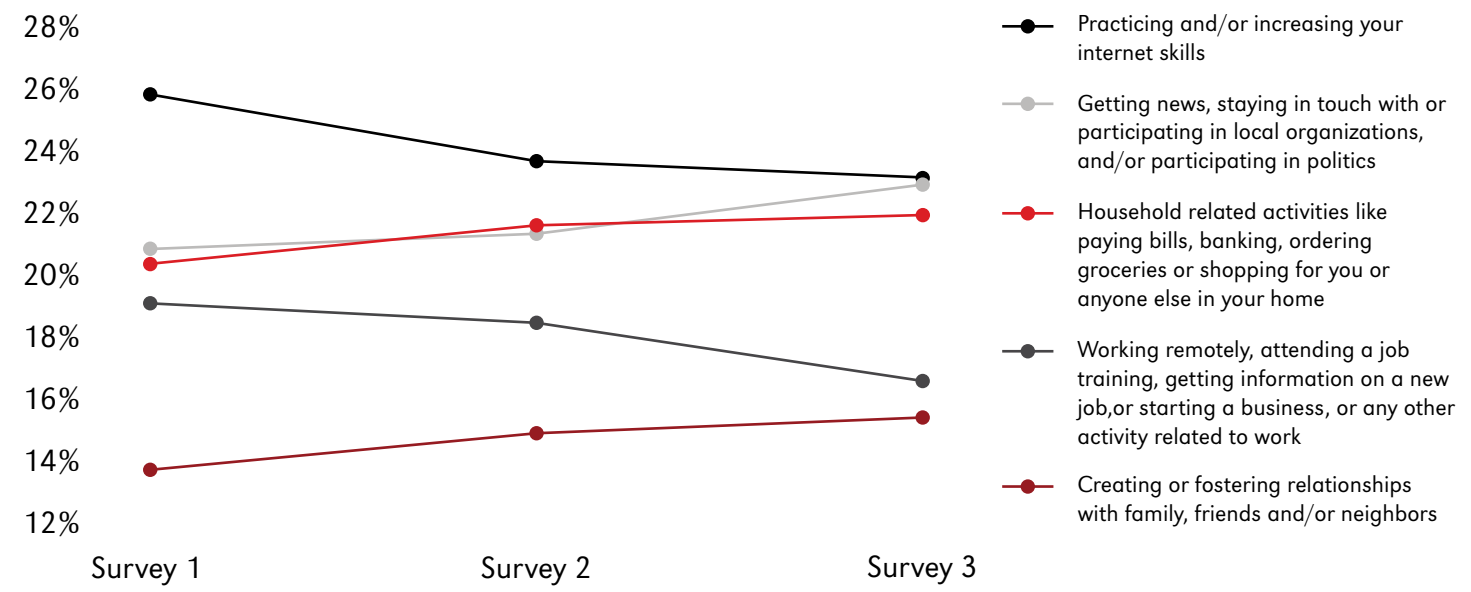


Have you used the internet on the device for any of the following? Select all that apply.



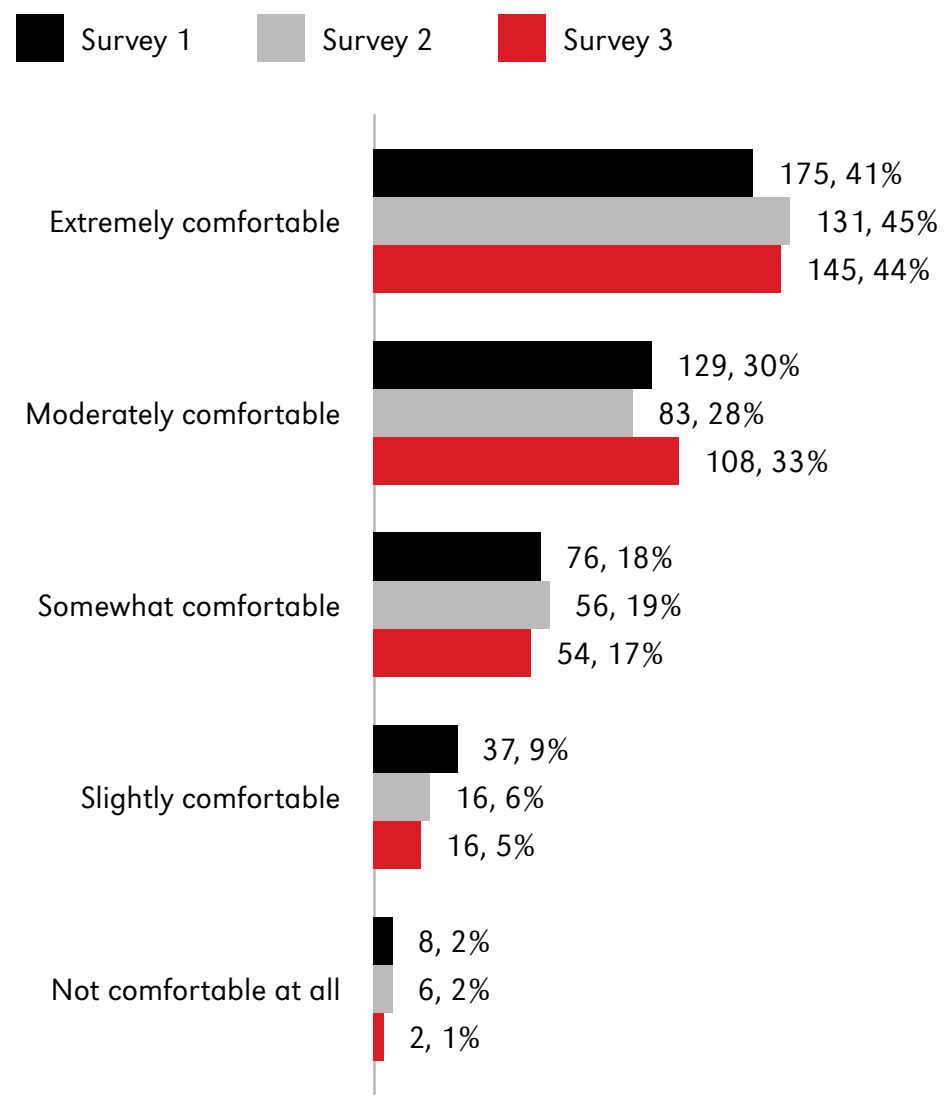


Change Over Time: Have you used the internet on the device for any of the following? Select all that apply.



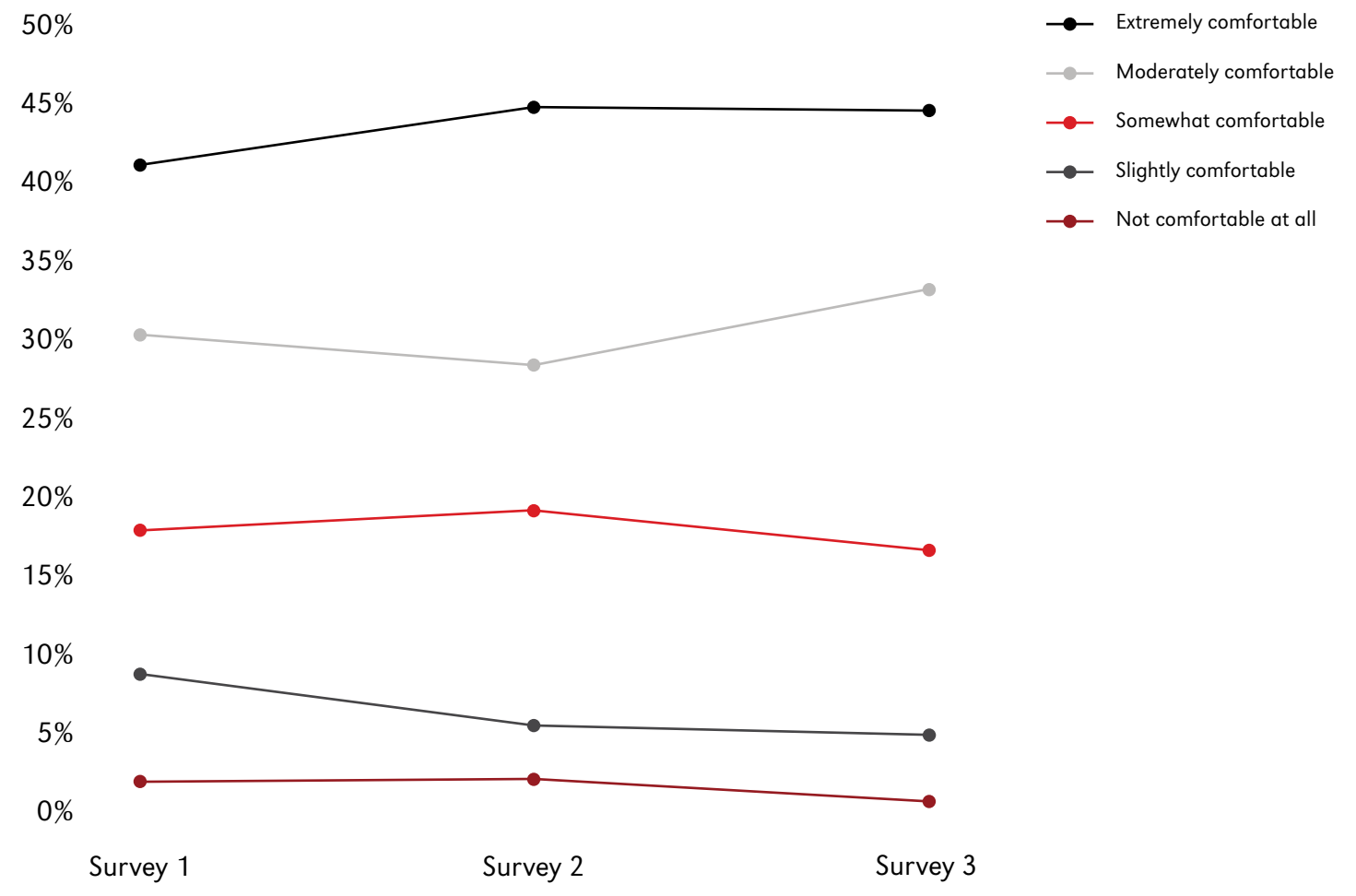
“ The laptop itself provided people with the opportunity to learn at their own pace. ”

In general, how comfortable do you feel using digital devices like smartphones, tablets, laptops, etc.?

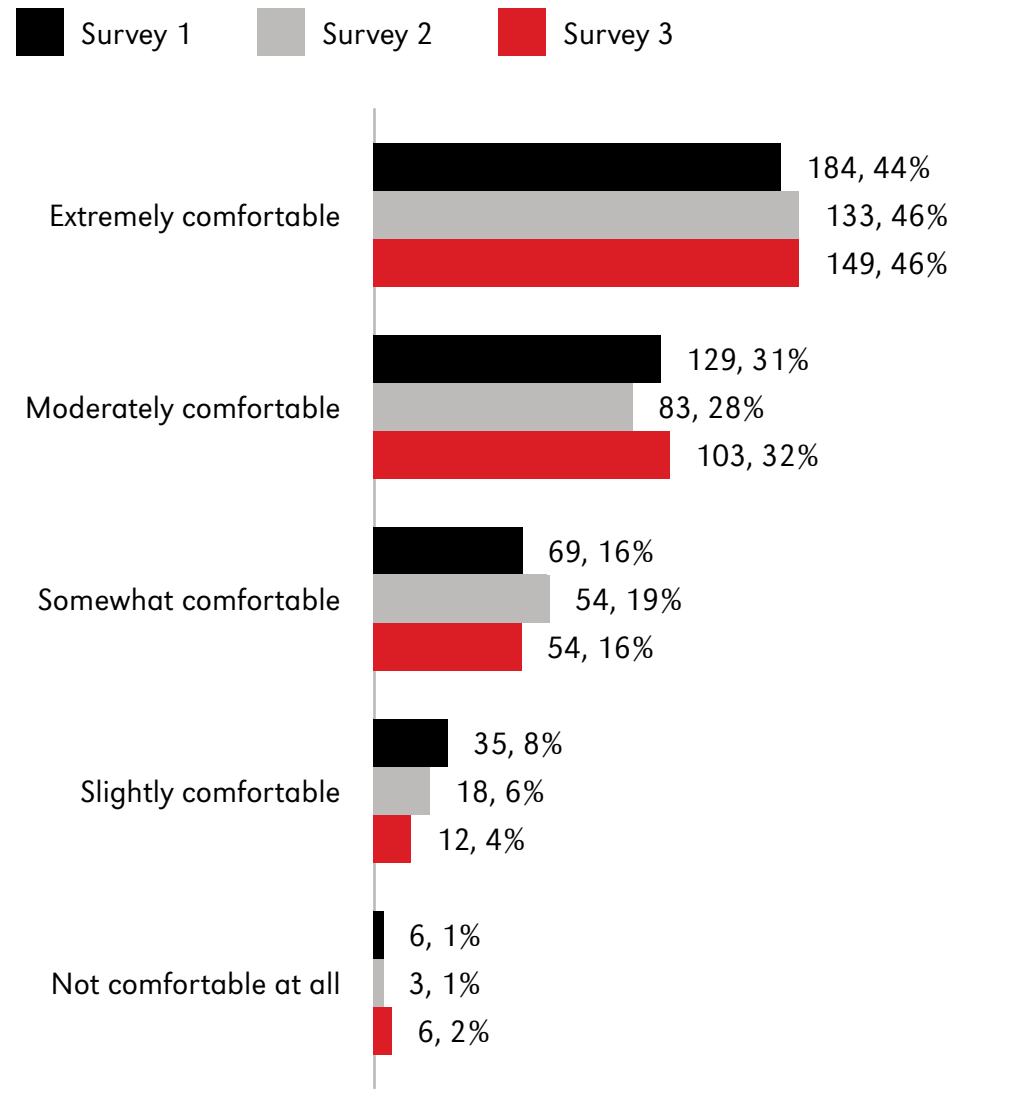




Change Over Time: In general, how comfortable do you feel using digital devices like smartphones, tablets, laptops, etc.?

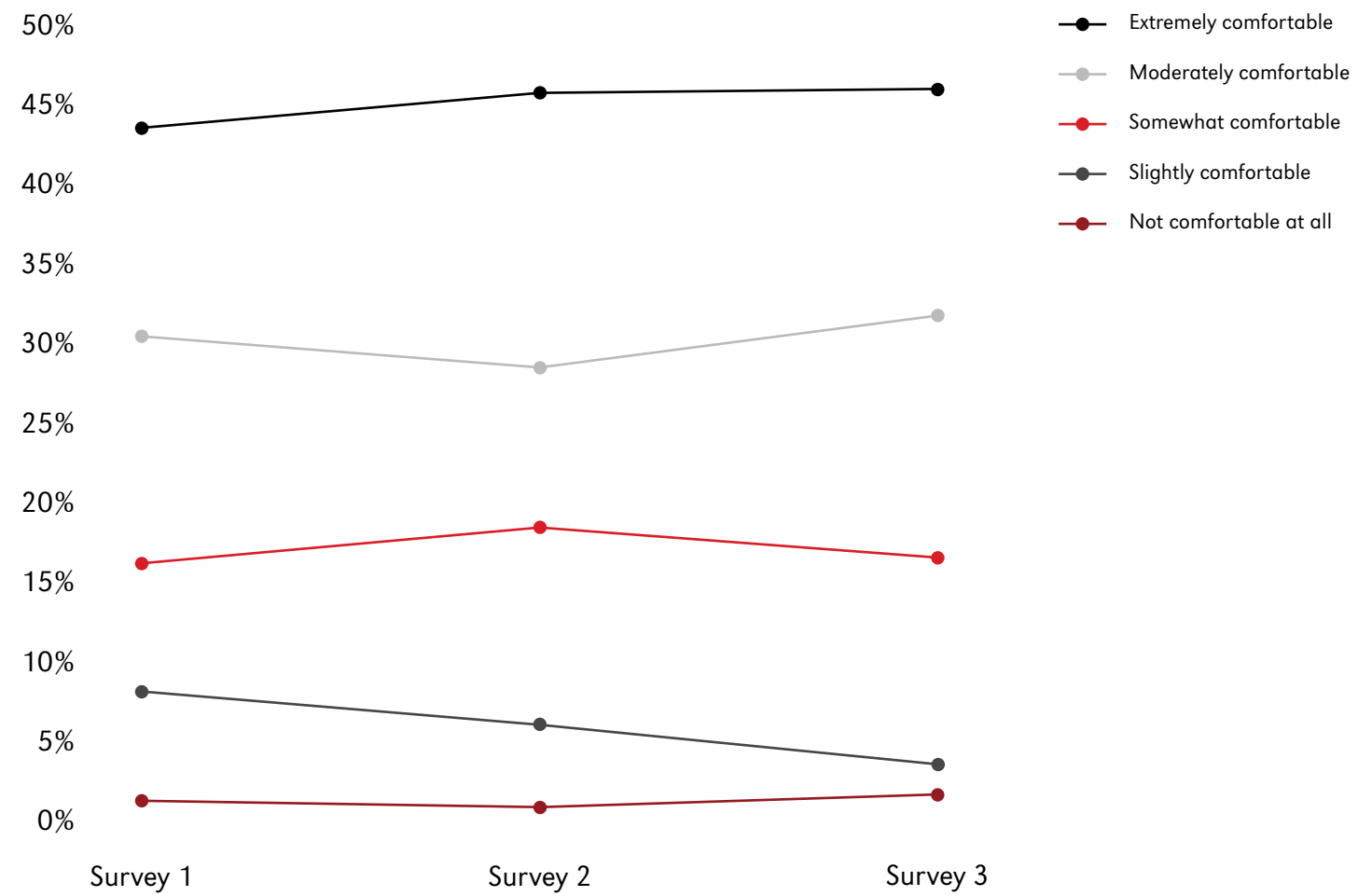


How comfortable do you feel navigating the internet?

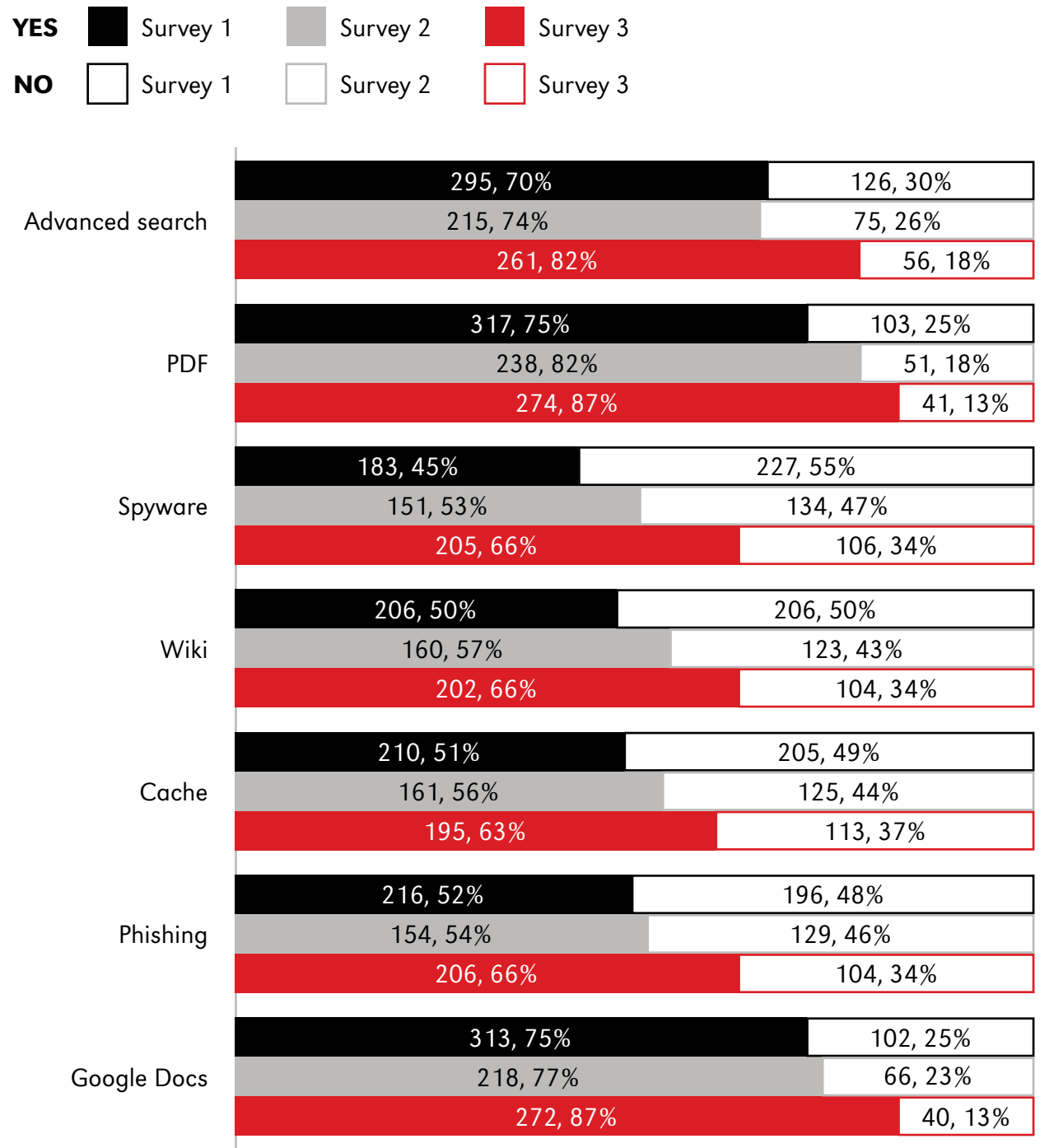




Change Over Time: How comfortable do you feel navigating the internet?

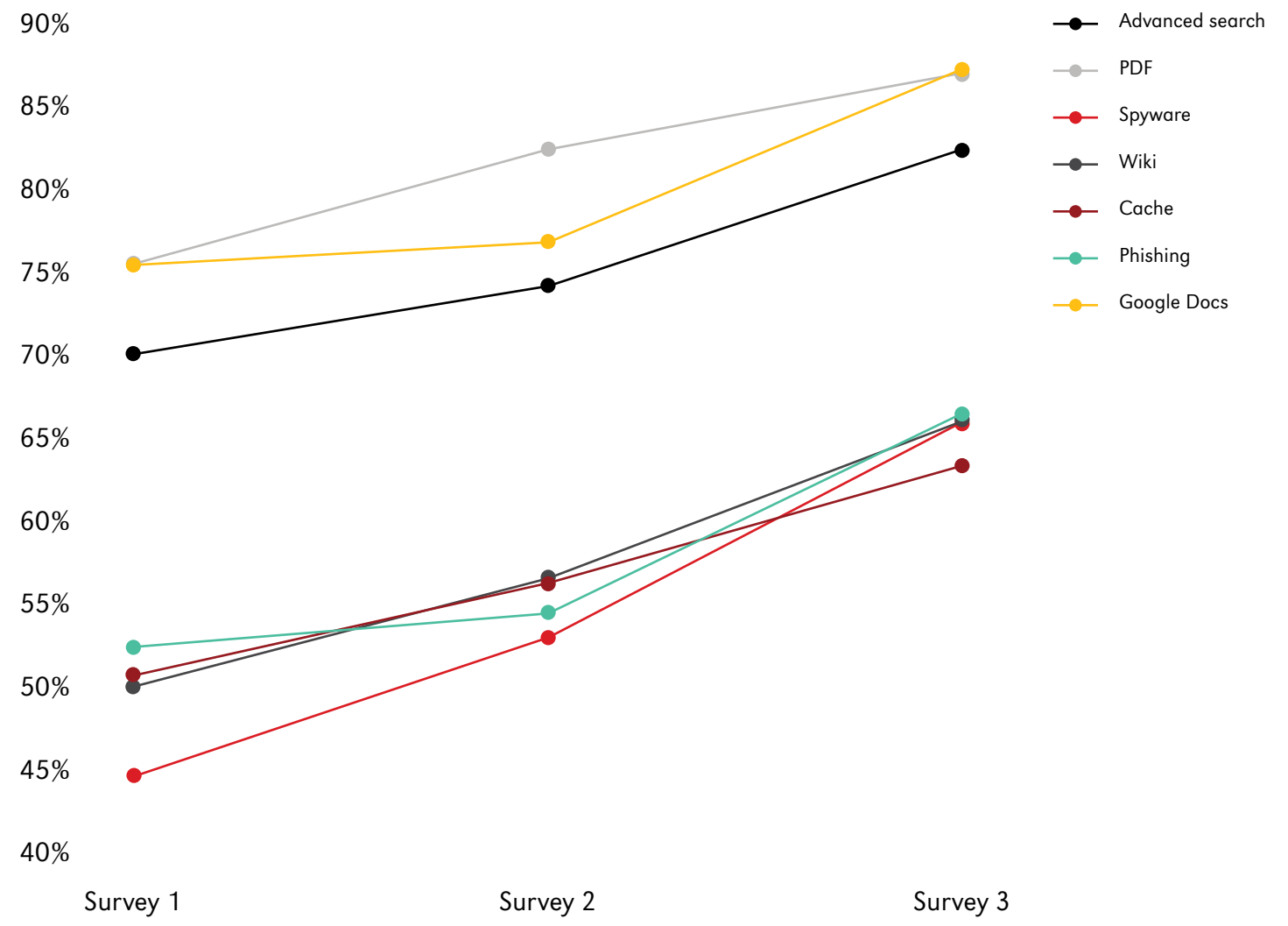


Are you familiar with the following computer and internet-related items?

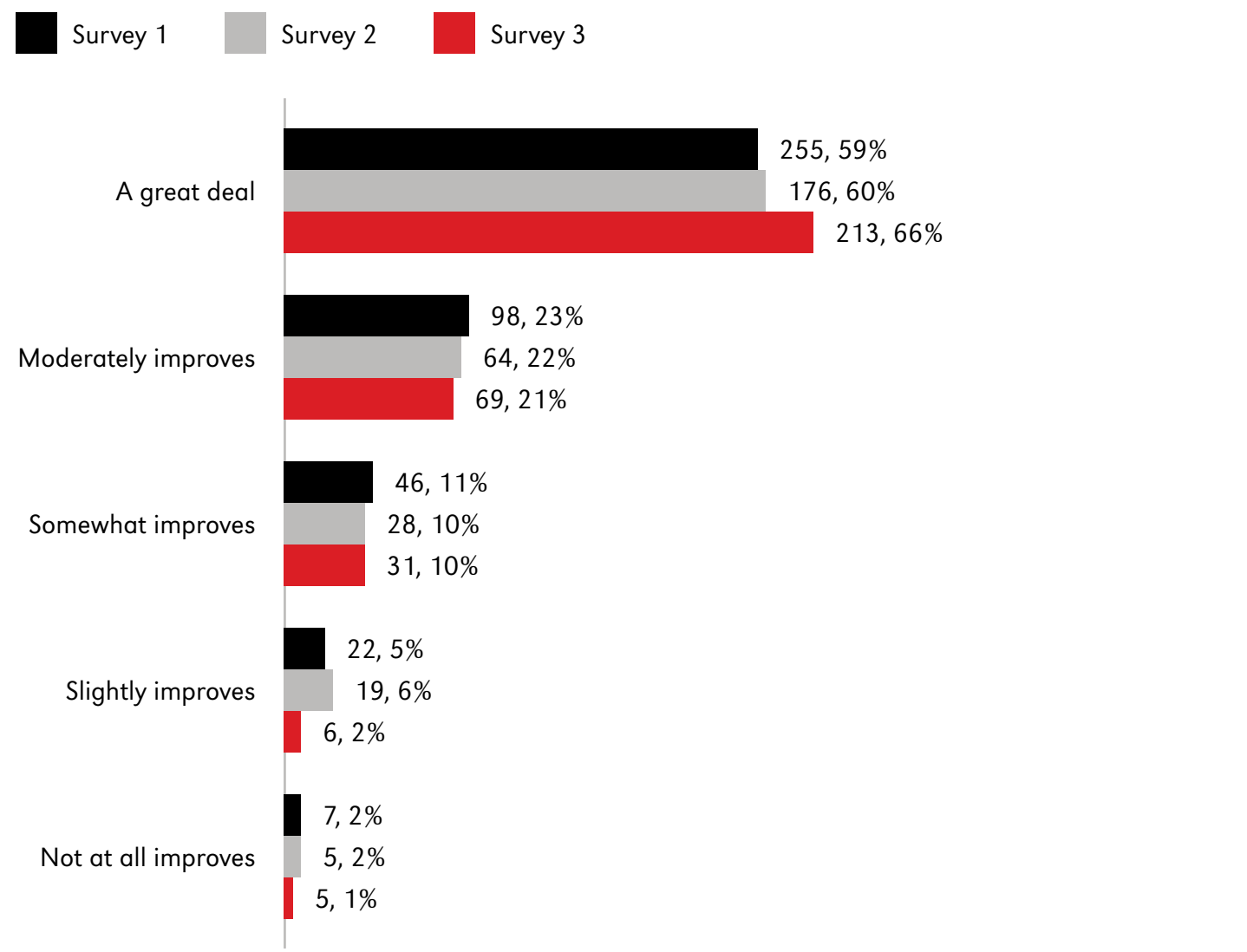




Change Over Time, Yes Responses: Are you familiar with the following computer and internet-related items?

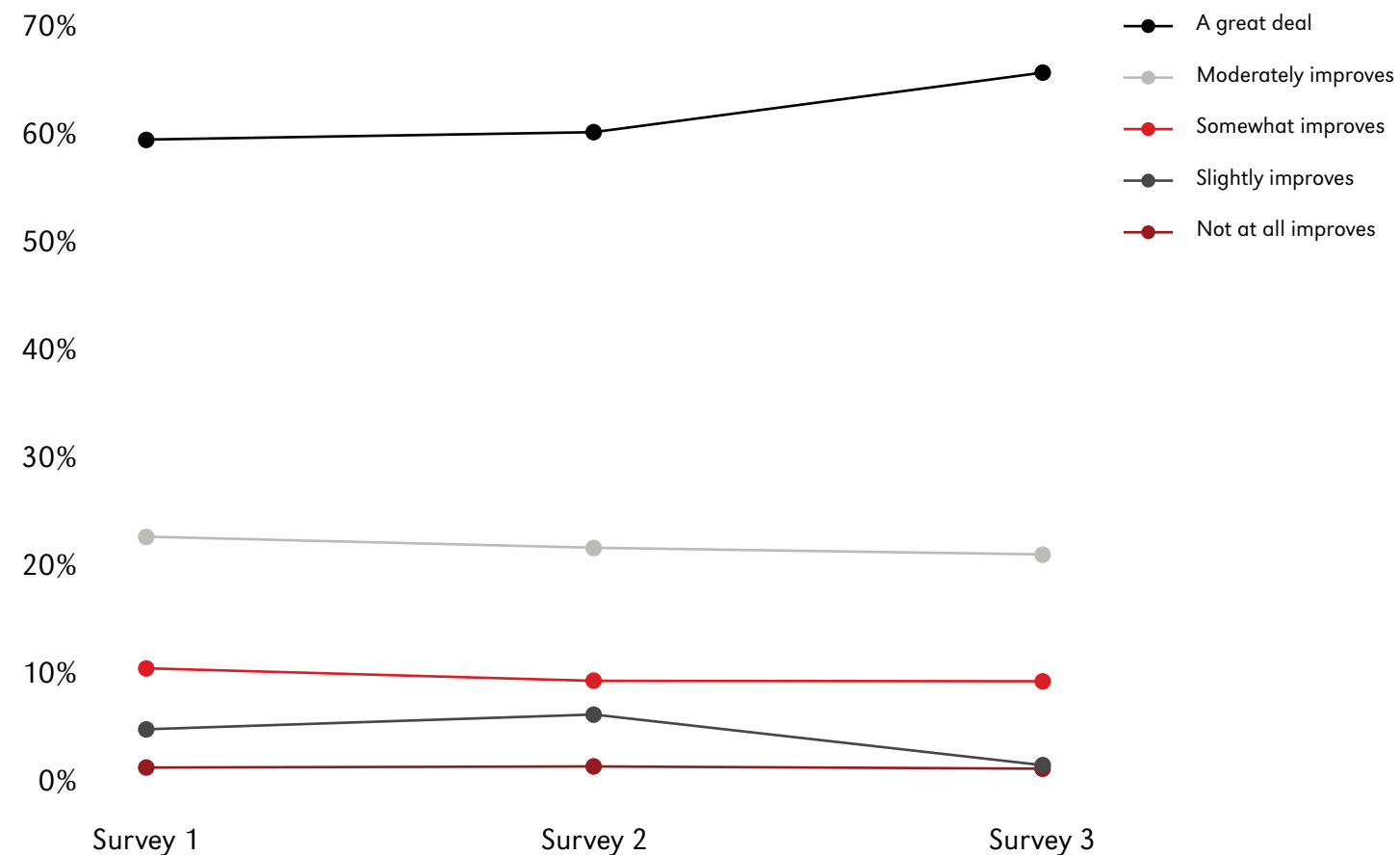


We know you have only had access to the device for a short time, but would you say it improves your life?





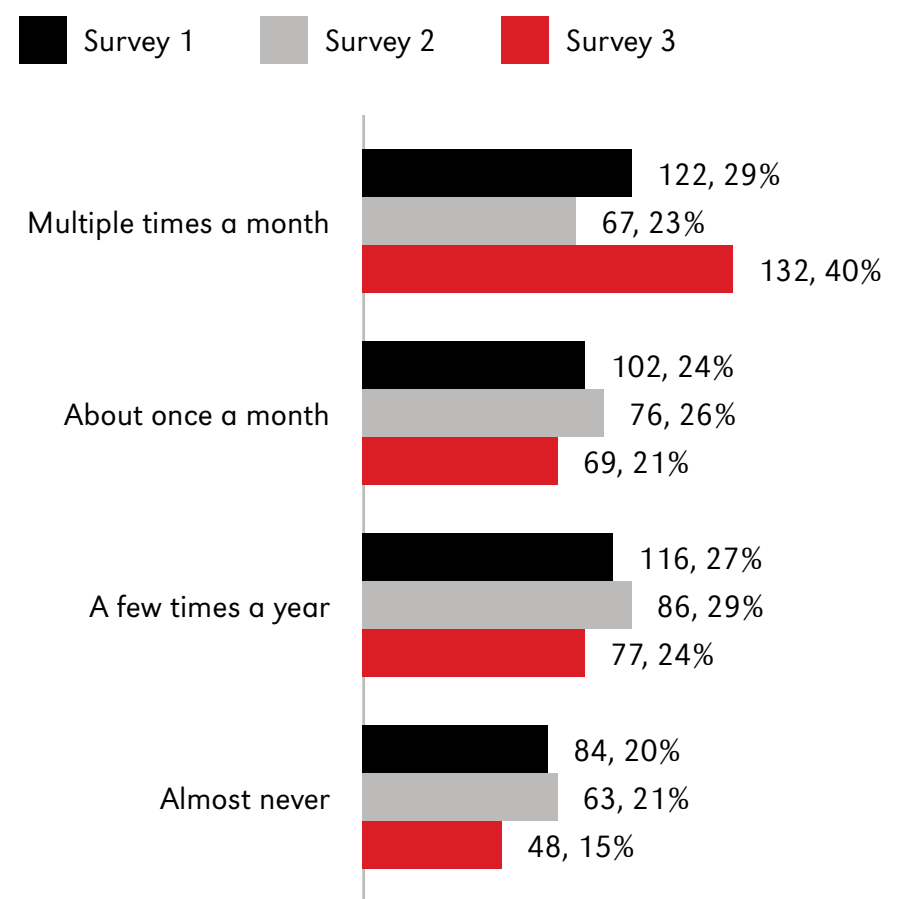
Change Over Time: We know you have only had access to the device for a short time, but would you say it improves your life?



USAGE OF COMPUTING DEVICES FOR CAPITAL ENHANCING PURPOSES

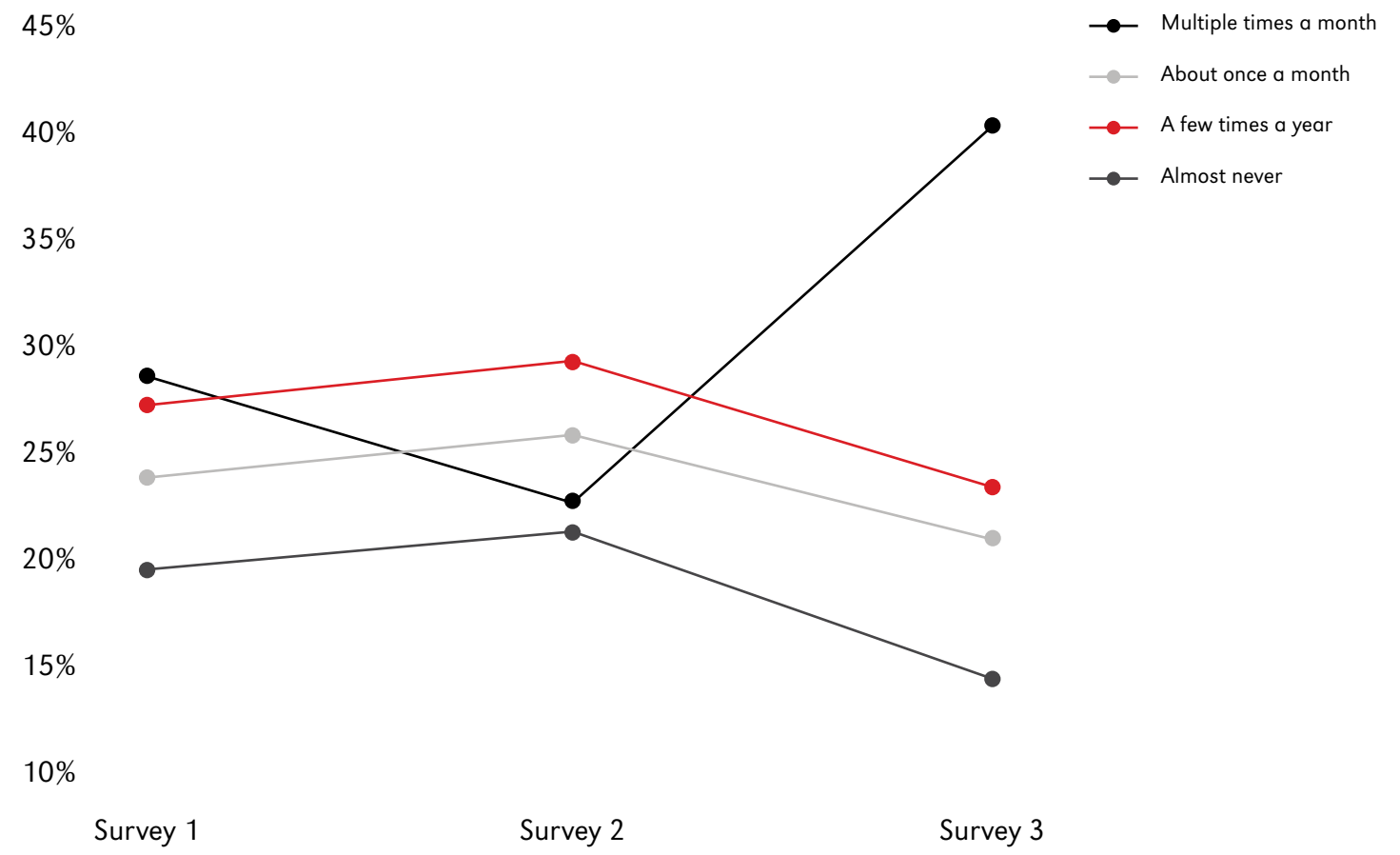
This section builds on participants' previous responses to gain a deeper understanding of how participants are using the computing devices and internet specifically for capital enhancing purposes. These might include getting a job, joining a local community organization, connecting with family and friends, or enrolling in an education program or learning new skills.

How often do you get together with people outside of your household to do something positive for your community? Some examples of getting together to do something positive include volunteering, or donating money or time.

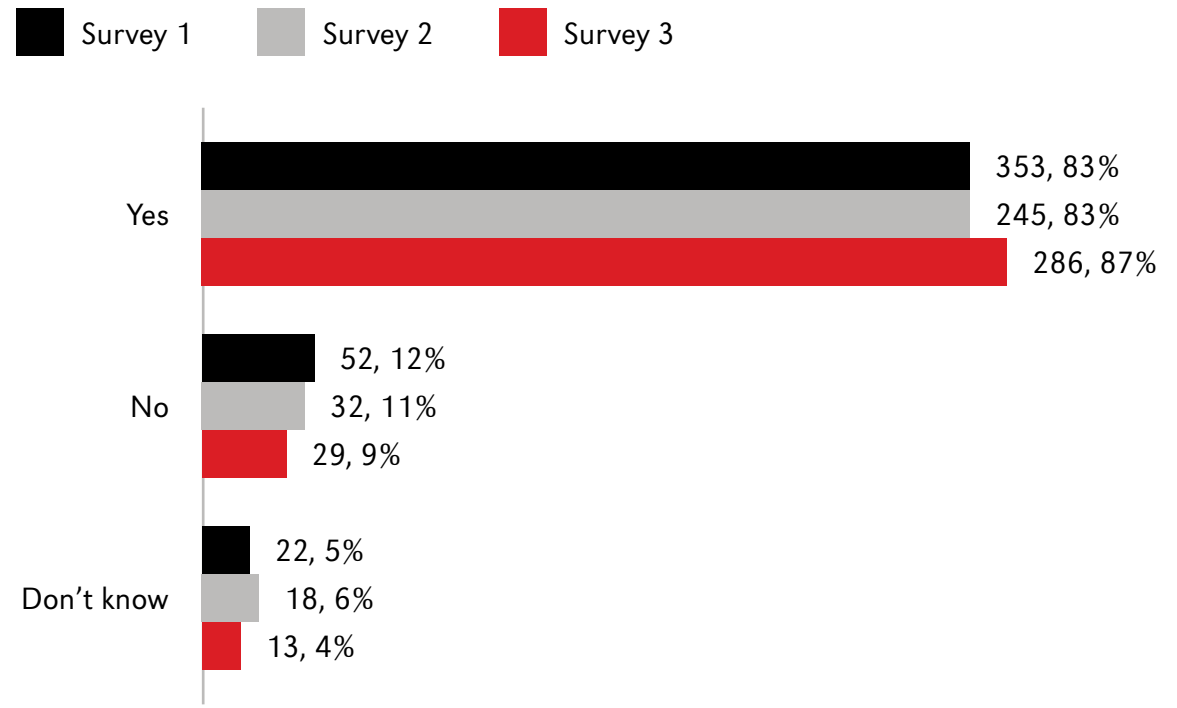




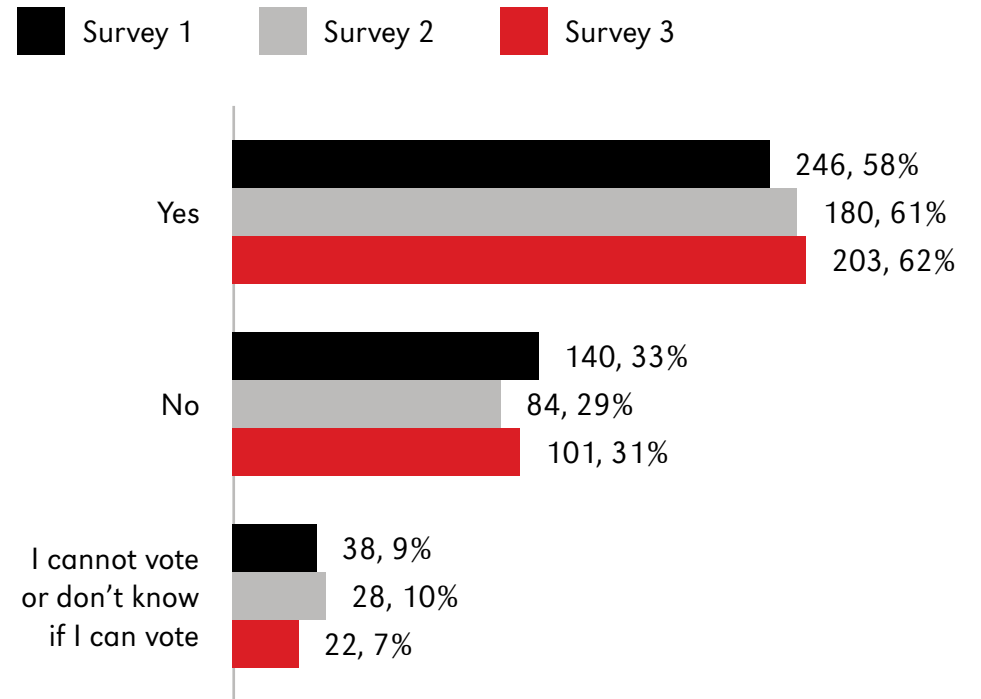
Change Over Time: How often do you get together with people outside of your household to do something positive for your community?



Are you able to vote in local, state, and federal elections in the United States?



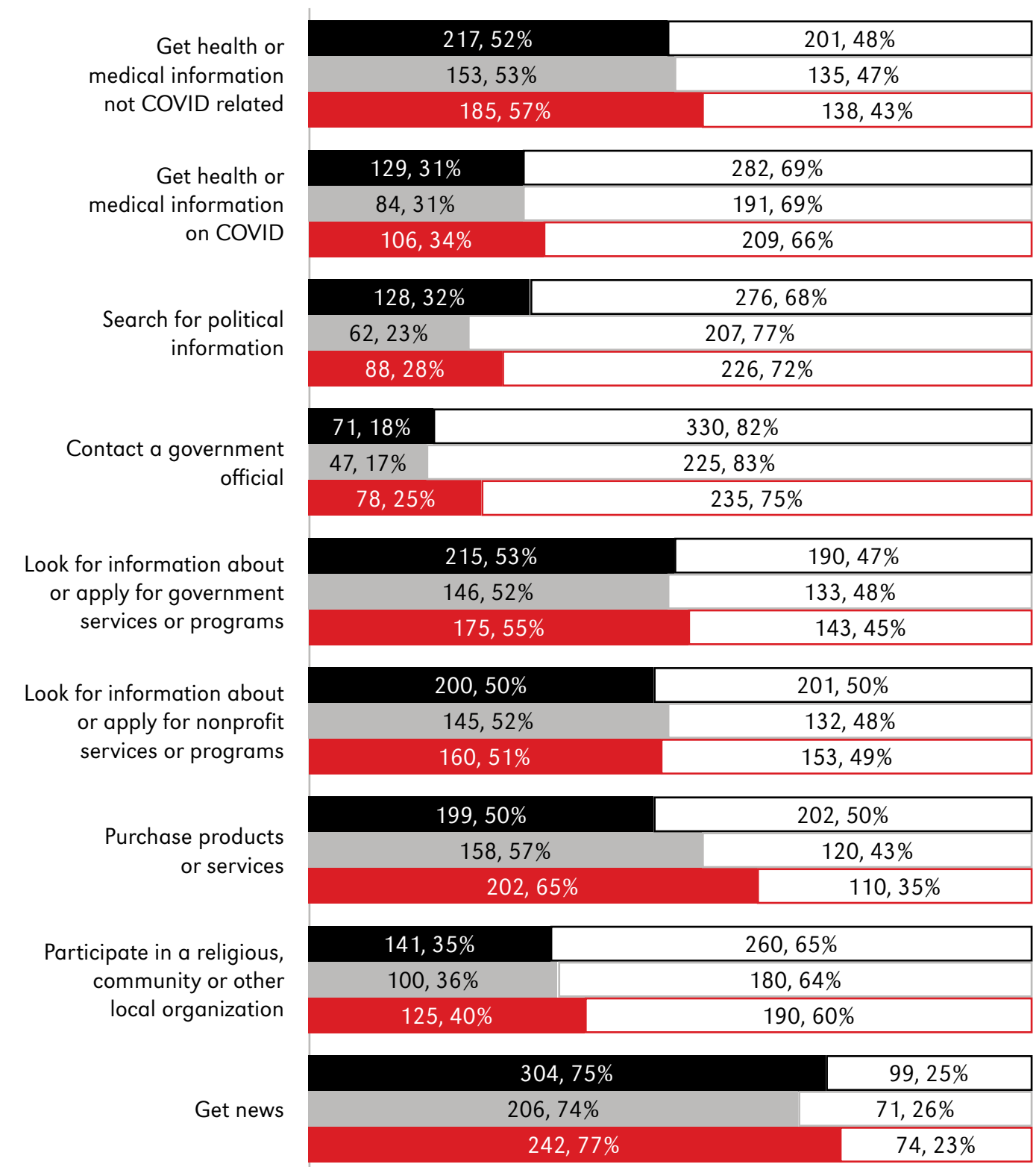
If you can vote, did you vote in the last presidential election?



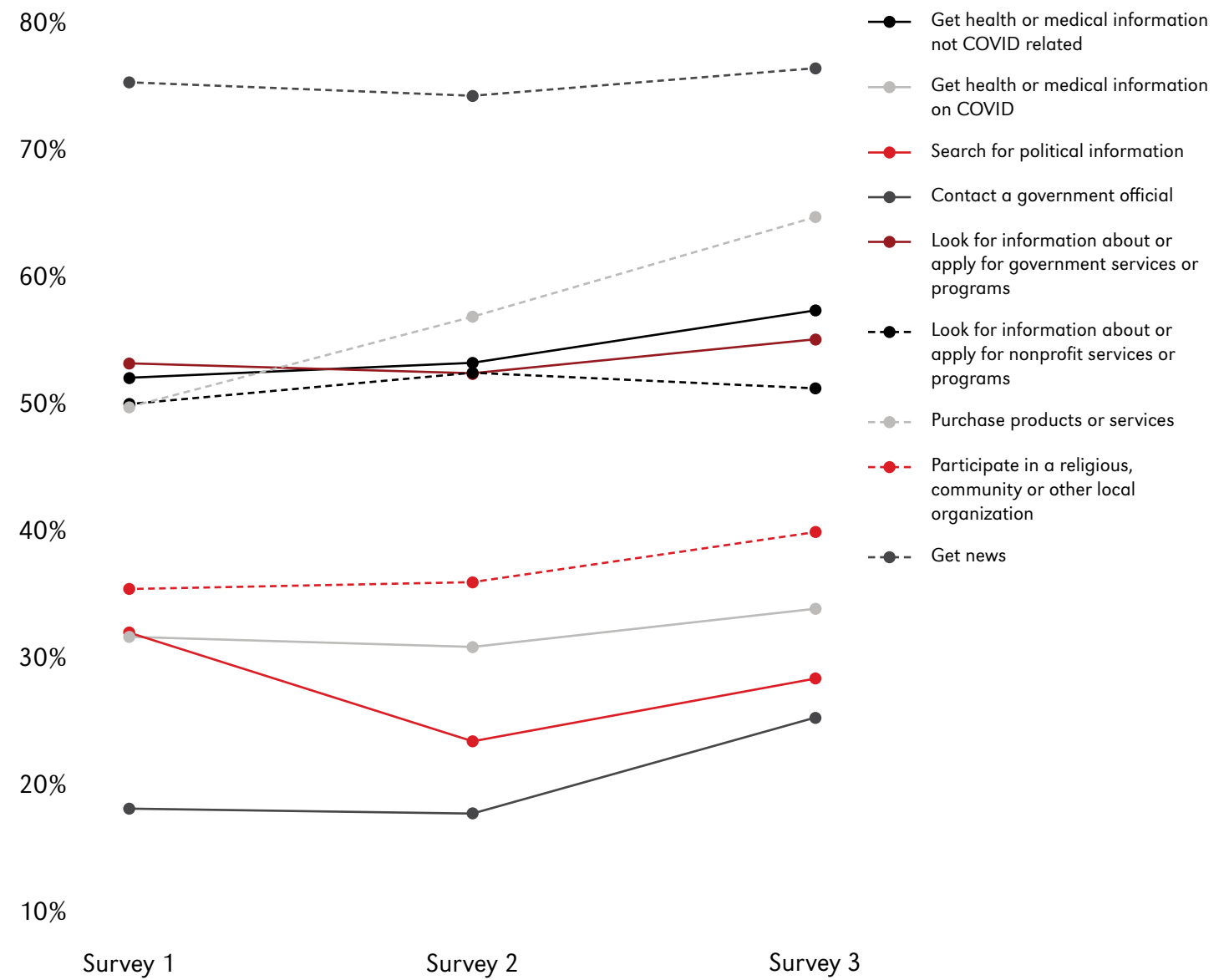
In the last month, have you used the internet for any of the following?

YES ■ Survey 1 ■ Survey 2 ■ Survey 3

NO □ Survey 1 □ Survey 2 □ Survey 3

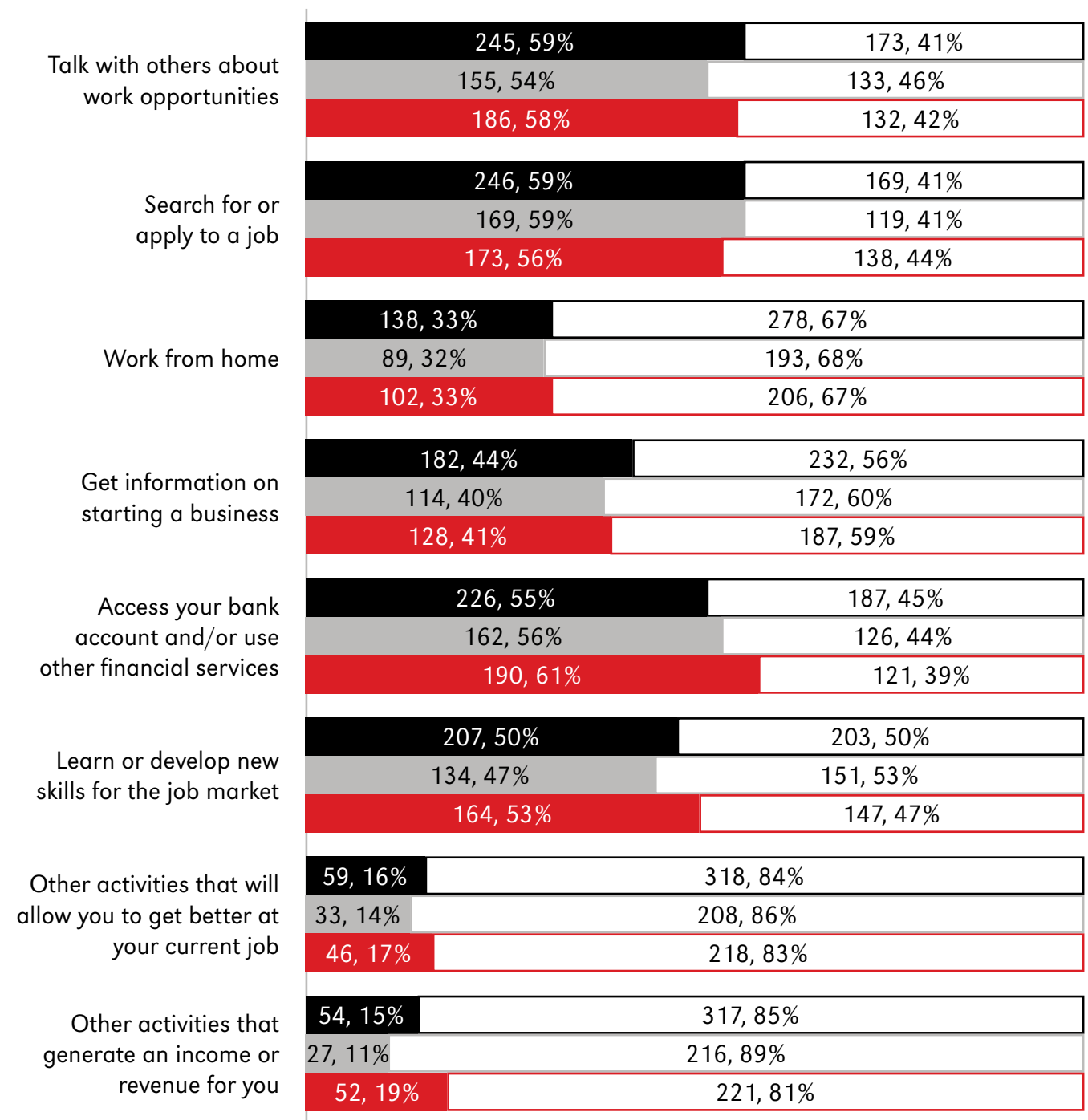


Change Over Time, Yes Responses: In the last month, have you used the internet for any of the following?

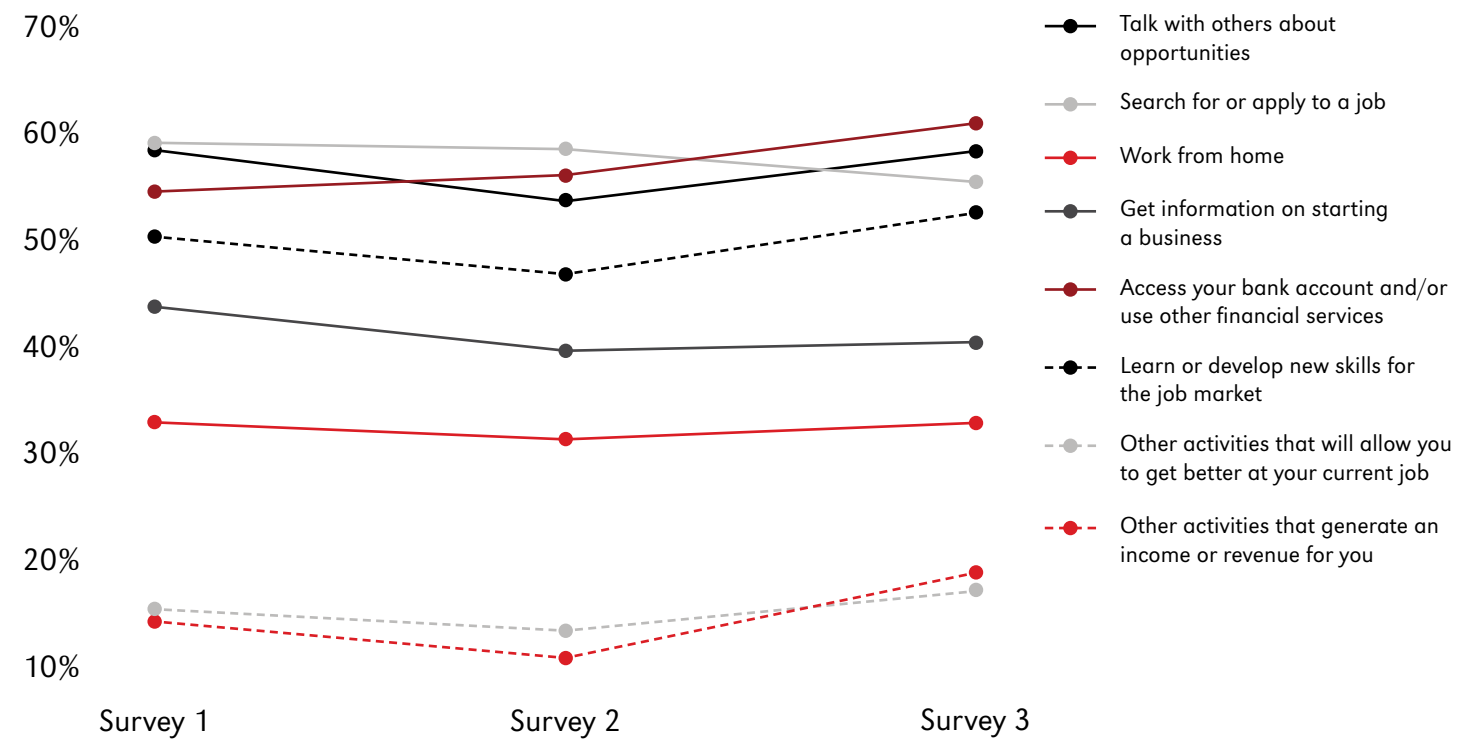


In the last month, have you used the internet for any of the following?

YES ■ Survey 1 ■ Survey 2 ■ Survey 3
NO □ Survey 1 □ Survey 2 □ Survey 3

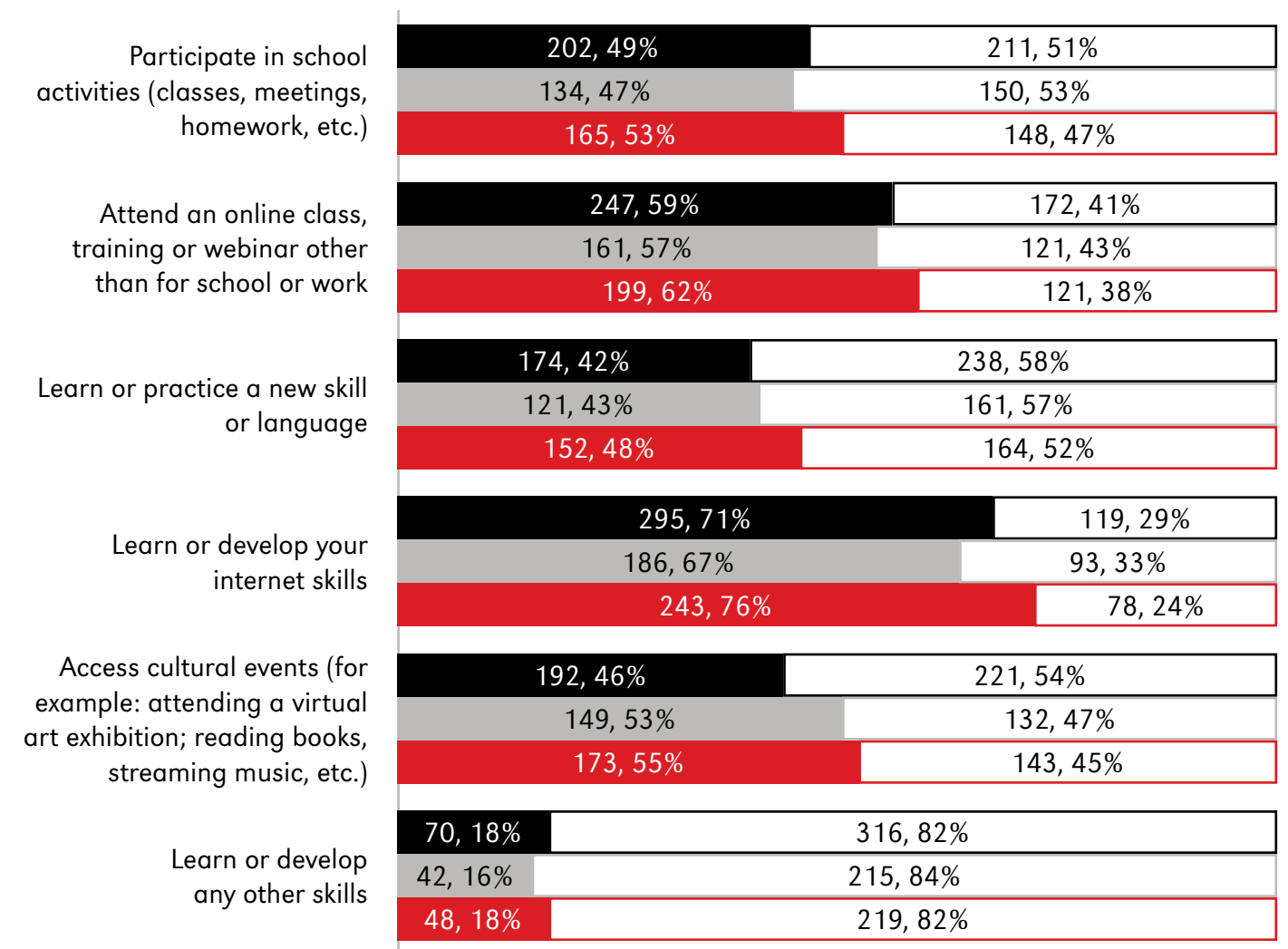


Change Over Time, Yes Responses: In the last month, have you used the internet for any of the following?

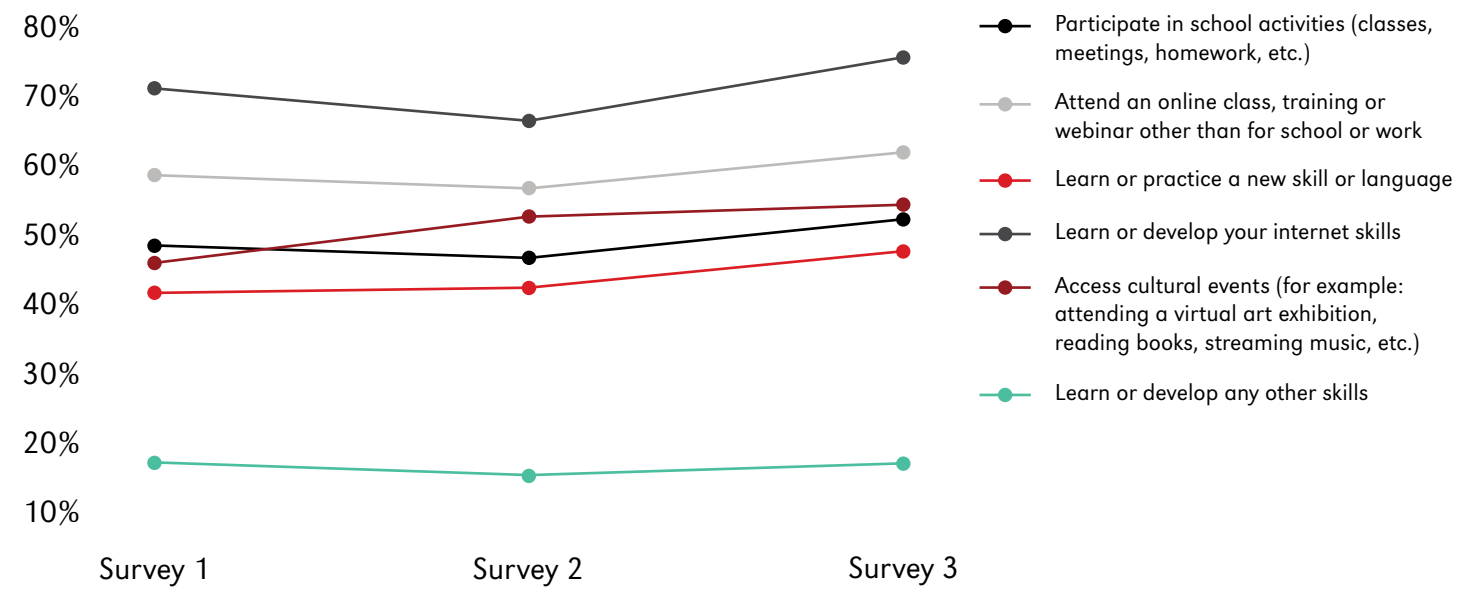


In the last month, have you used the internet for any of the following?

YES ■ Survey 1 ■ Survey 2 ■ Survey 3
NO □ Survey 1 □ Survey 2 □ Survey 3



Change Over Time, Yes Responses: In the last month, have you used the internet for any of the following?

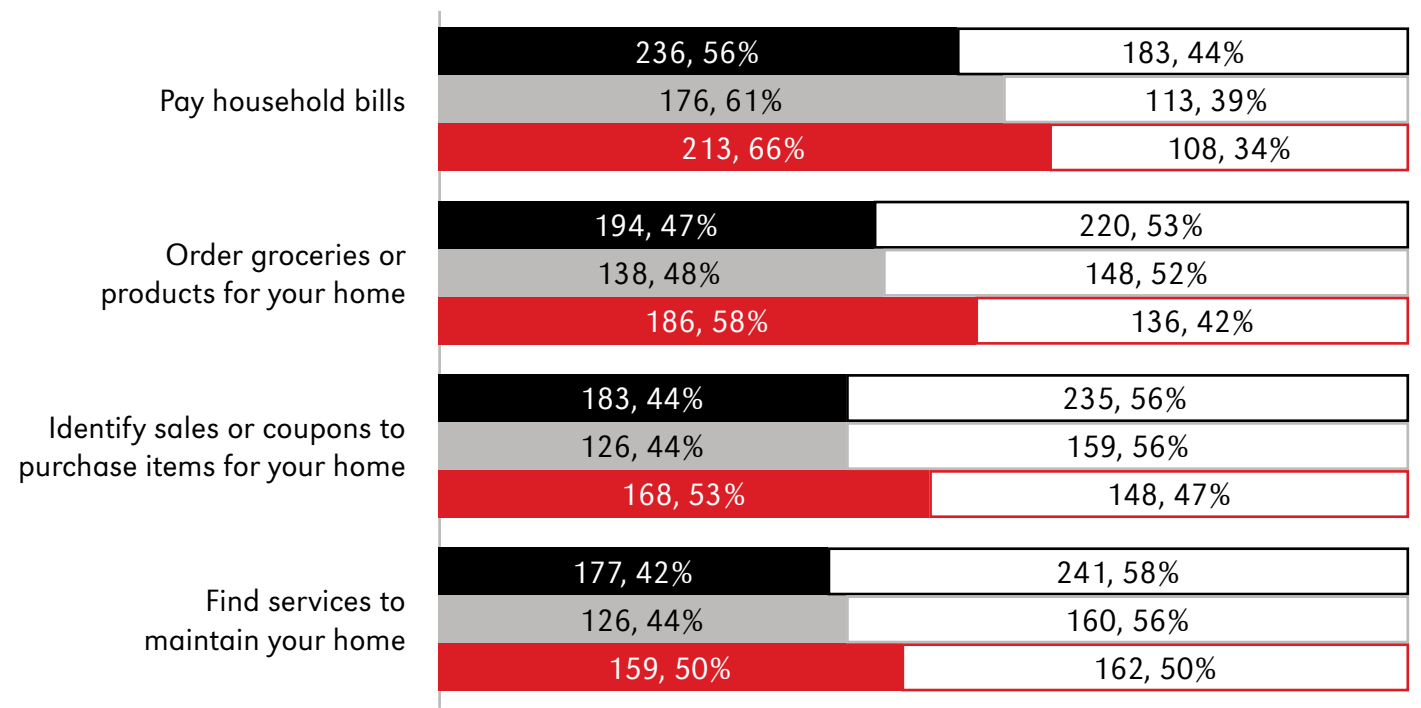


“ [Before the Tech Pack Program] I would come to the library or Do Space to do school work. It was so convenient to do homework from home, and it just saved me ... Free internet was so beneficial. ”

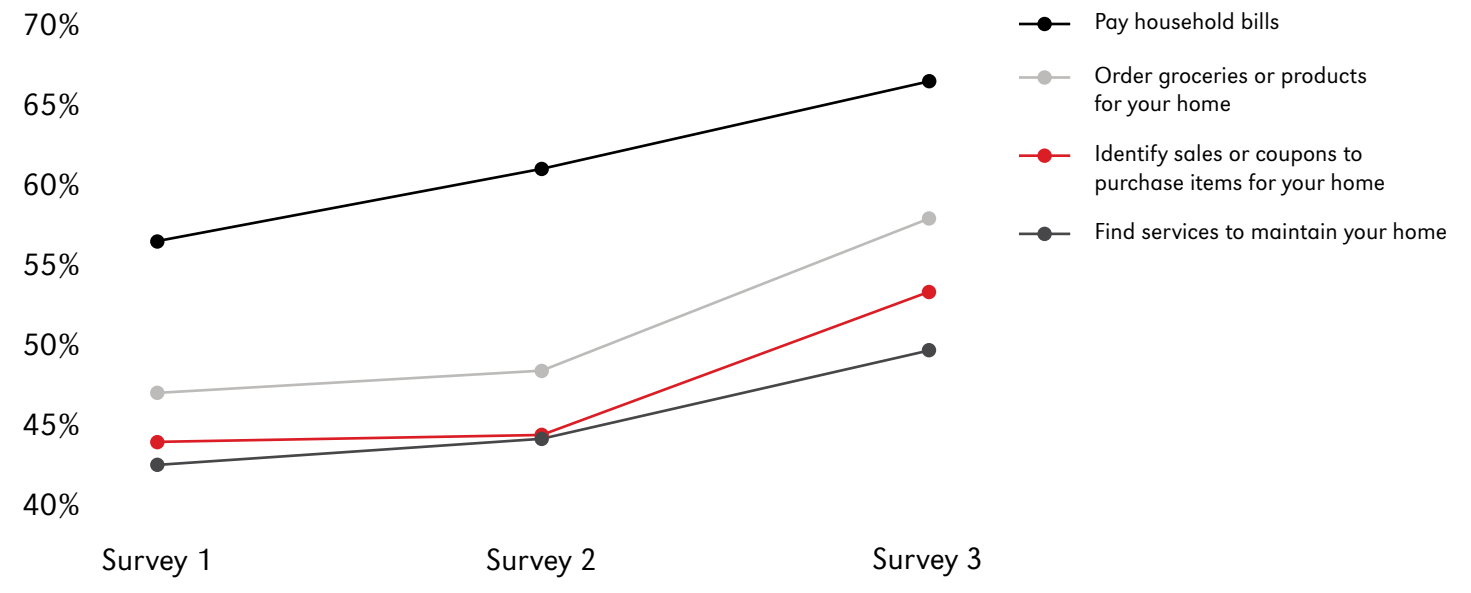
In the last month, have you used the internet for any of the following?

YES ■ Survey 1 ■ Survey 2 ■ Survey 3

NO □ Survey 1 □ Survey 2 □ Survey 3



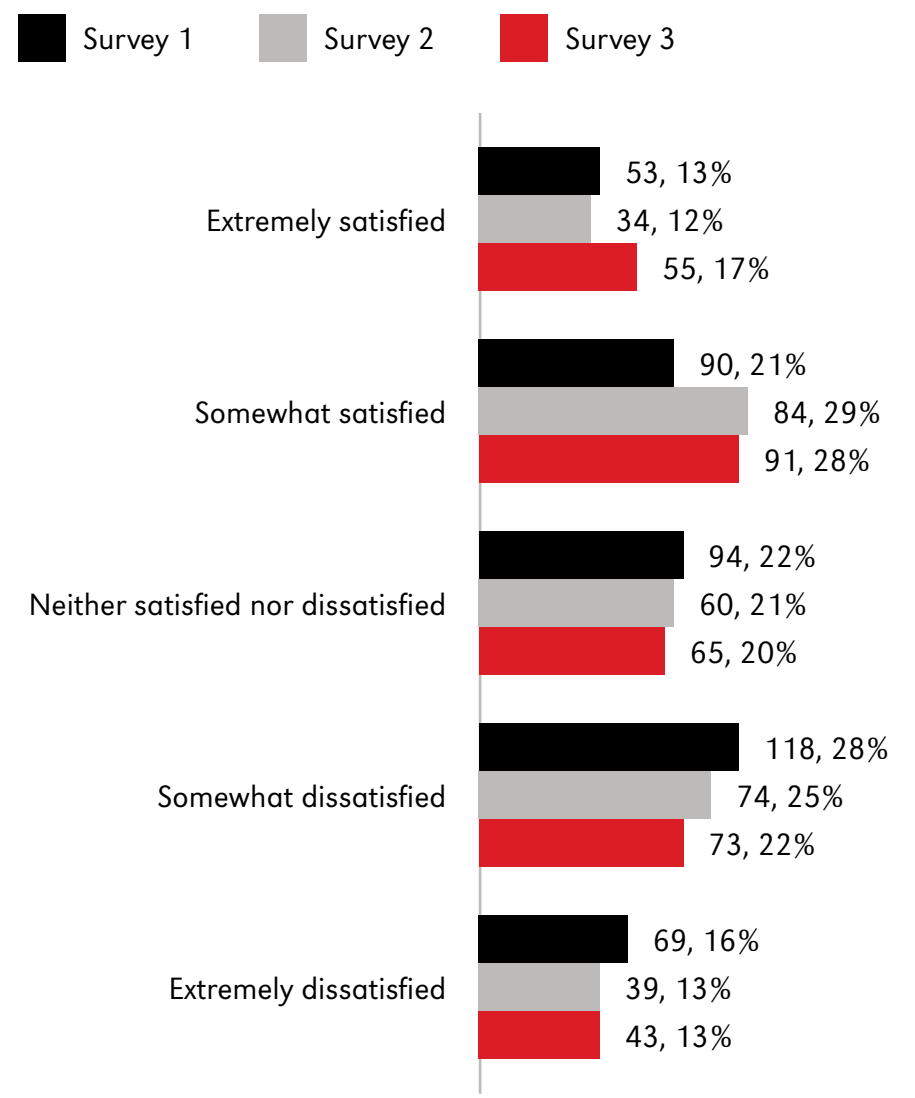
Change Over Time, Yes Responses: In the last month, have you used the internet for any of the following?



ECONOMIC SECURITY

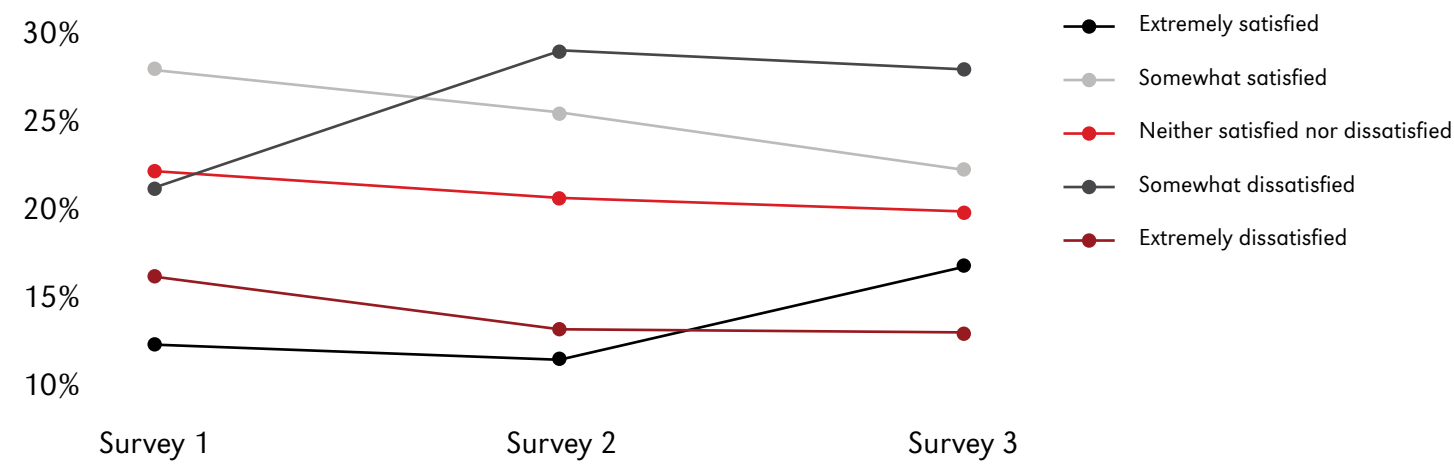
This section takes a closer look at the connection between digital equity and economic security. In particular, participants were asked questions about their current economic condition and hopes for their economic condition in the future. Simply, access to computing devices and the internet can open individuals to additional economic opportunities.

How satisfied are you with your current economic condition?

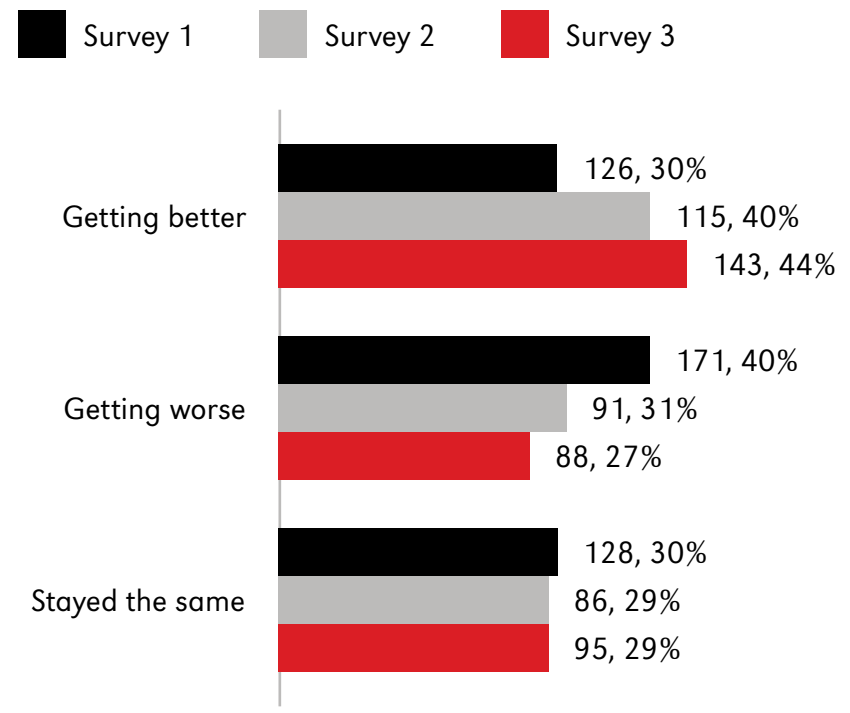




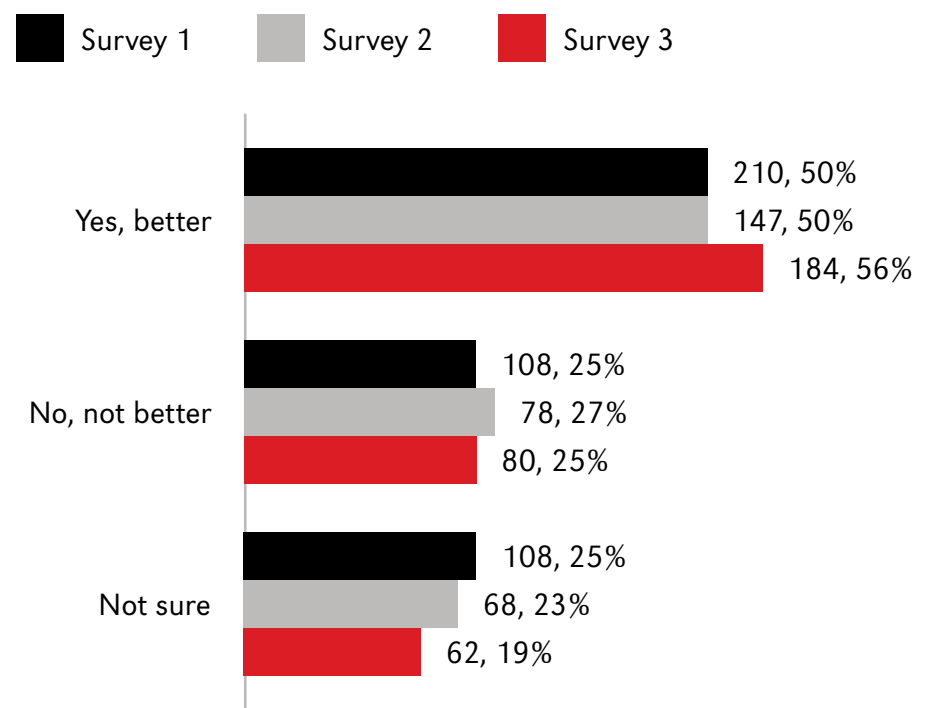
Change Over Time: How satisfied are you with your current economic condition?



Over the past few years, has your financial situation been getting better, getting worse, or has it stayed the same?

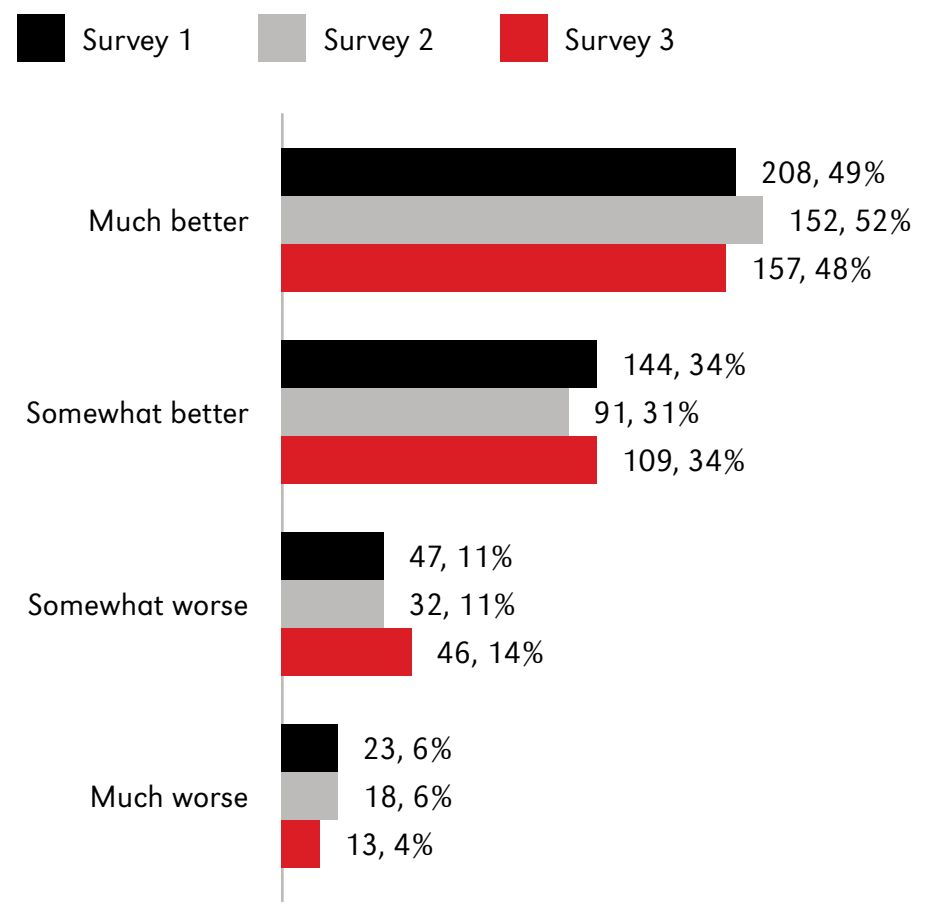


Do you think your life is better today than it was for your parents at the same age as you are now?

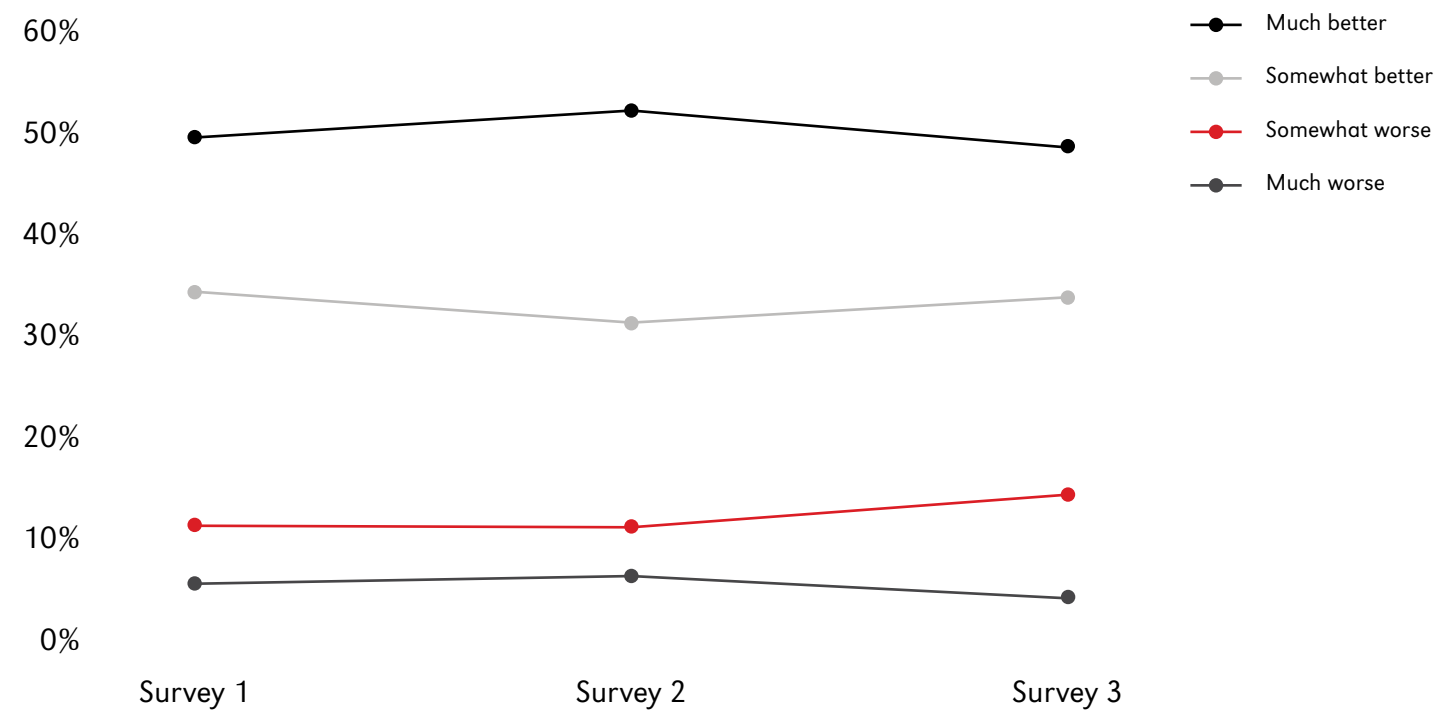


“ Learning how to google, learning how to access Excel, I was able to apply this at work and at home and that was very beneficial. ”

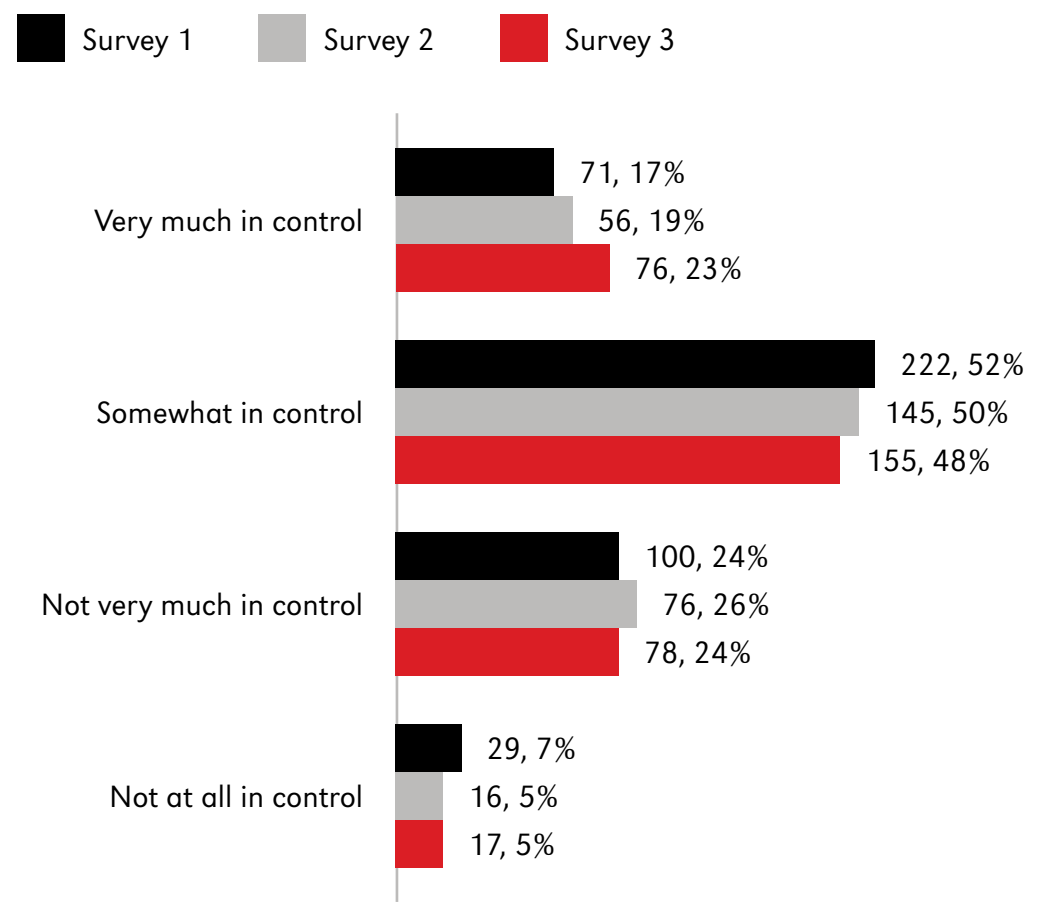
Thinking about ten years from now, do you think your economic circumstances will be better or worse than they are now?



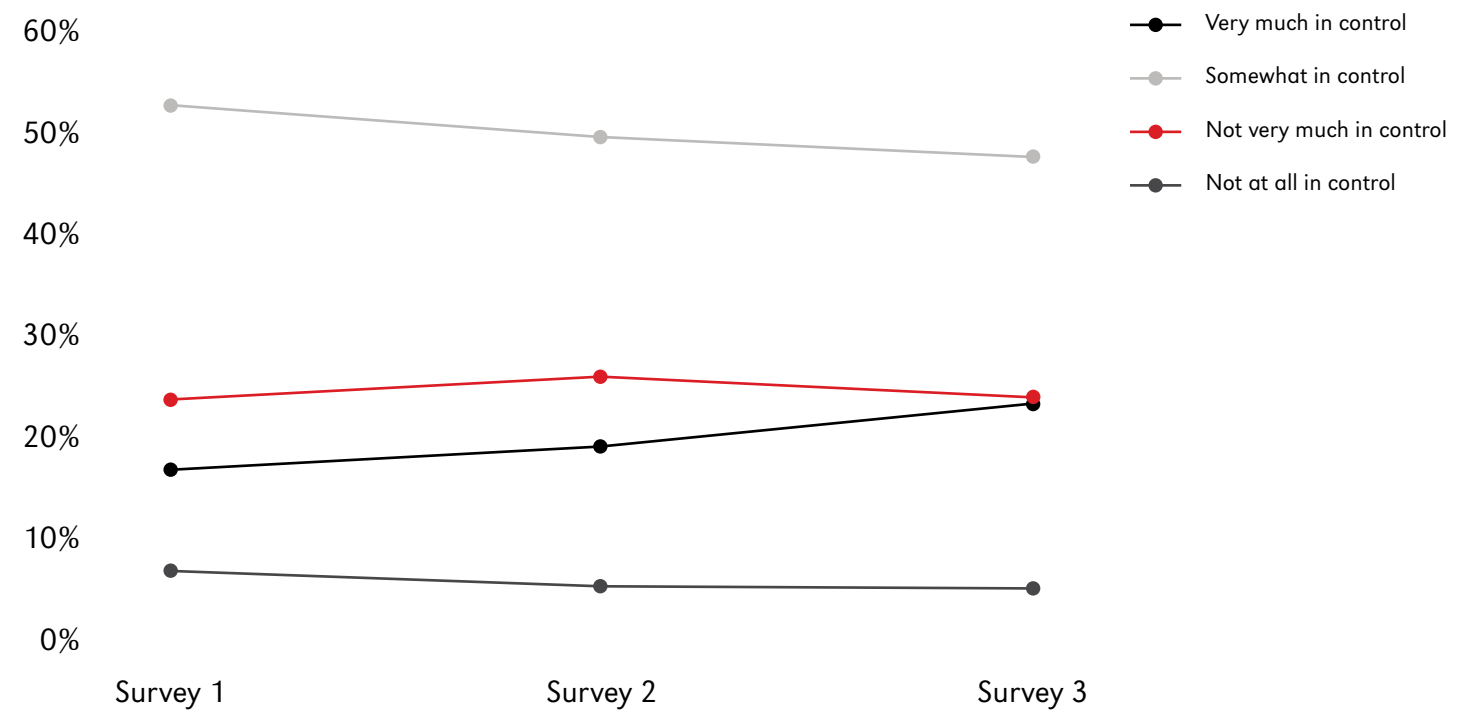
Change Over Time: Thinking about ten years from now, do you think your economic circumstances will be better or worse than they are now?



Thinking about your own personal economic situation today, how in control do you feel?

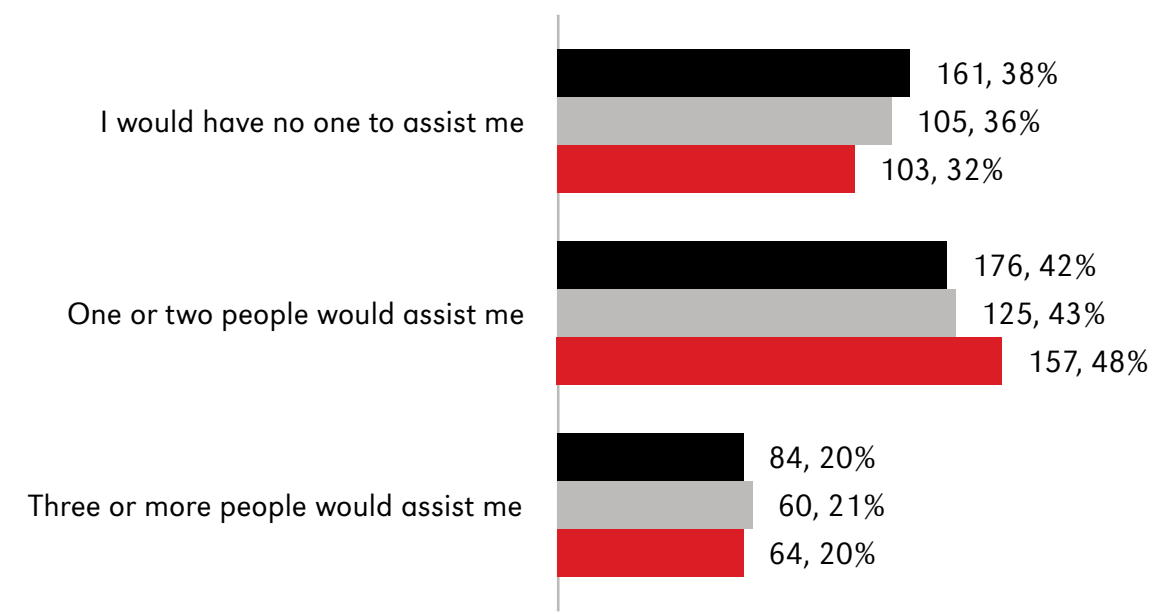


Change Over Time: Thinking about your own personal economic situation today, how in control do you feel?

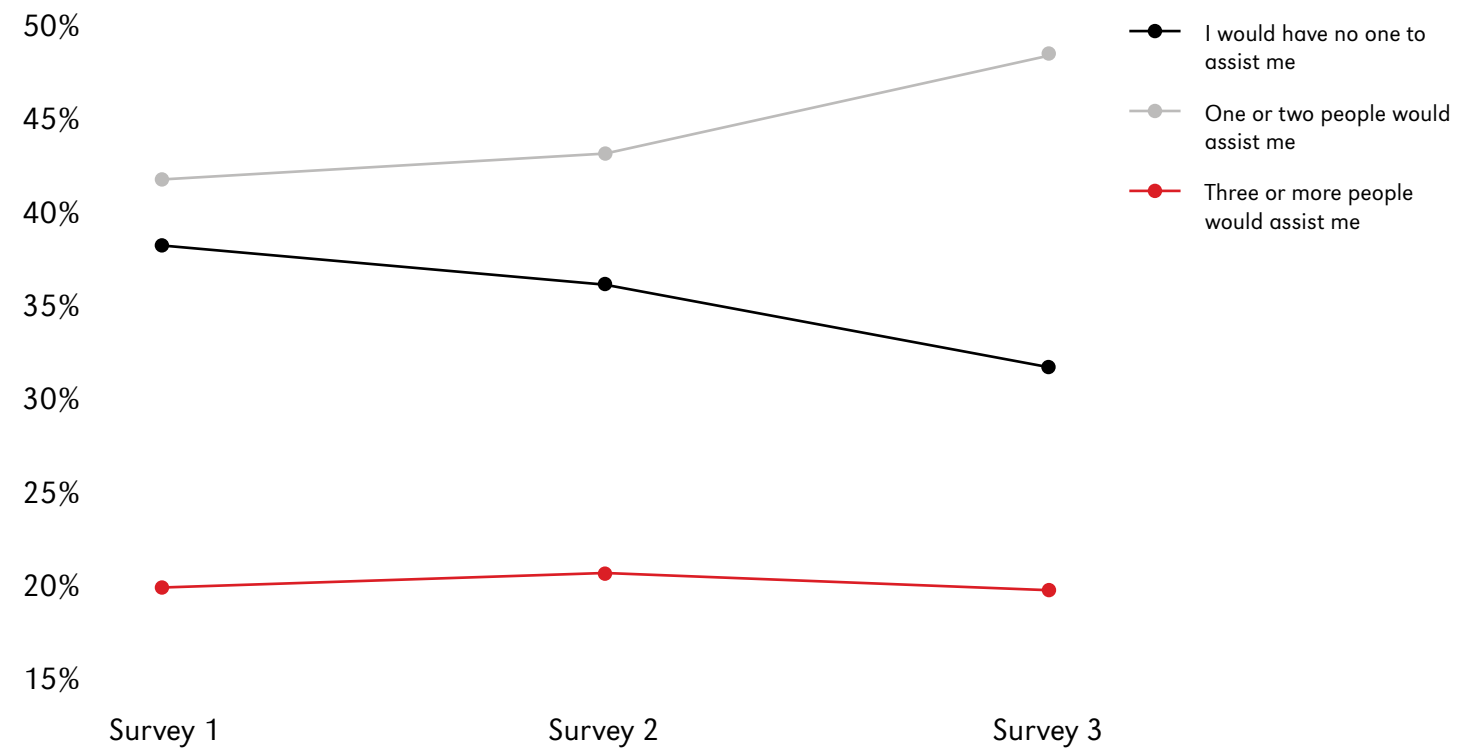


If you suddenly faced a long-term emergency such as the death of a loved one or a health crisis, how many people beyond your immediate household could you turn to who would be willing to assist you?

Survey 1 Survey 2 Survey 3



Change Over Time: If you suddenly faced a long-term emergency such as the death of a loved one or a health crisis, how many people beyond your immediate household could you turn to who would be willing to assist you?



OVERALL IMPACT OF THE TECH PACK PROGRAM

This section assesses the overall impact of the Tech Pack Program for participants through qualitative responses, or participants' own words. The quotes shared below were provided by participants as responses to questions about the program's impact on their household and benefits of the program.

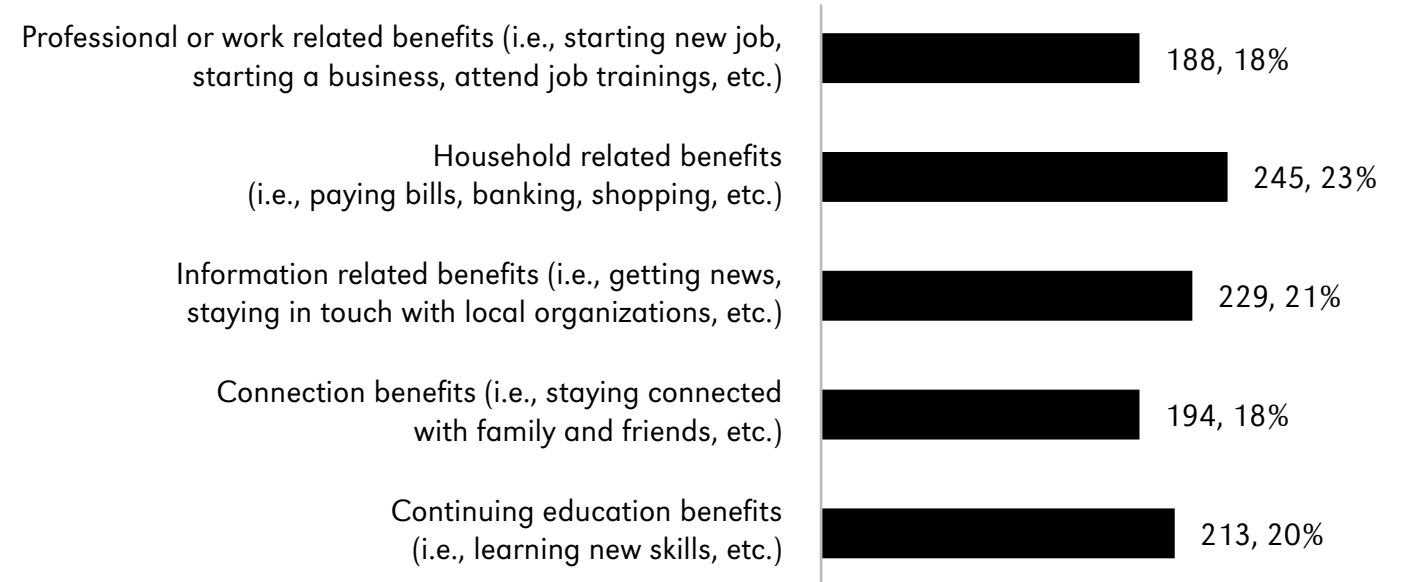
How would you describe the impact of the device on you and/or your household?

Themes in Responses	Participant Quotes
Positive Education Impact Captures how the provision of technology can be transformative in an educational context.	<p><i>"It has given myself and my daughter a way to get our schoolwork done. She also gets to use it as a privilege and play games on it. So that has been a nice incentive for her."</i></p> <p><i>"It's very beneficial and truly a blessing...I use it for school so I don't have to travel all the way on the bus with my two kids to the library."</i></p> <p><i>"Tremendously productive! I started back to school."</i></p>
Work and Career Impact Creating tangible change in work and career circumstances.	<p><i>"As a brand new business owner I am able to participate in trade shows and online training. I can use the laptop to check clients in and out and maintain my salon inventory. I can pay bills from home which has been a godsend since we can't drive at this moment."</i></p> <p><i>"The device allowed me to apply for jobs when I was unemployed for a couple of months this summer."</i></p> <p><i>"I am a licensed nail tech who started [my] business after the pandemic with less than \$100. I have struggled and still struggle to build my business, but this laptop and access to the internet has helped me grow professionally."</i></p>

Themes in Responses Participant Quotes

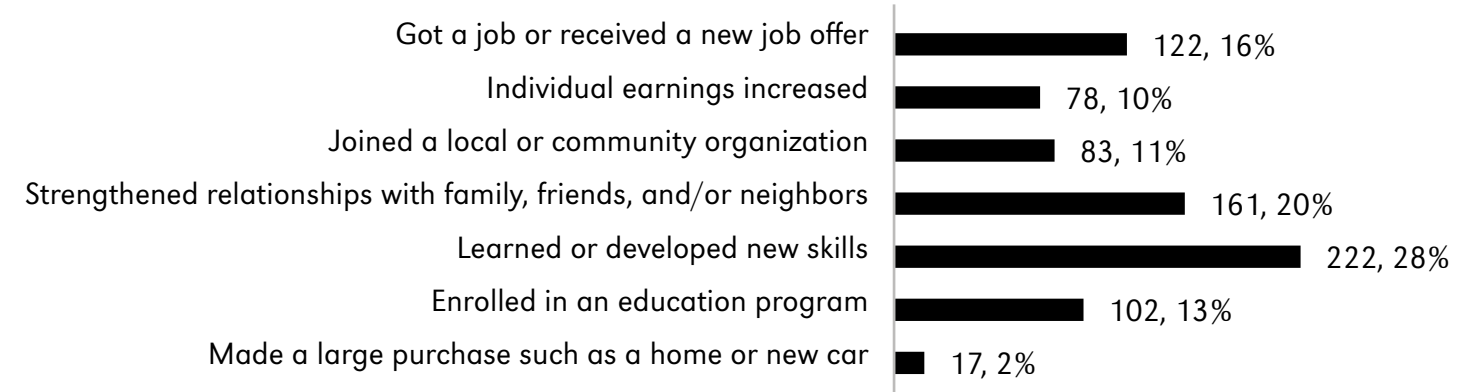
<p>Family and Household Impact Highlights the influence of technology on family life and domestic responsibilities.</p>	<p><i>“Having access and continual connection in a blighted impoverished area, which is known for poor connectivity issues is vital, and especially during no service or poor service when the major ISP disconnects with unscheduled maintenance interruptions. Having the hotspot, for a disabled person with health risks, is vital.”</i></p> <p><i>“It helps my grandchildren. Best impact ever.”</i></p> <p><i>“Having the laptop and free internet access has relieved our finances by \$80 per month which allowed room for more food and gas.”</i></p>
<p>Tech-Enabled Transformation Introducing individuals to new experiences and modern conveniences.</p>	<p><i>“I have become more digitally organized and it has given me a path to my dream career.”</i></p> <p><i>“It’s literally changed mine and my children’s life. I’m forever grateful for this program. I have been able to take training, started a job, homeschool my kids with ease, started school and have been able to start a business.”</i></p> <p><i>“To have accessibility without limits or worries of my personal data being compromised is a blessing.”</i></p>
<p>General Satisfaction and Gratitude Express general satisfaction with the program or device and show gratitude.</p>	<p><i>“It has been a true blessing and an extremely valuable and enjoyable asset.”</i></p> <p><i>“I love this program. What an amazing opportunity!”</i></p> <p><i>“Without this device, the quality of my life would be a lot less.”</i></p>
<p>Program Challenges Explores the downsides or other challenges associated with technology provision.</p>	<p><i>“My device has stopped working.”</i></p> <p><i>“It stresses me out. I cannot do things I wanted to do. Will not print or download apps that could help.”</i></p> <p><i>“The device doesn’t work.”</i></p>

As the Tech Pack Program nears completion, what benefits has the program provided you?



- ■ *“Helped to stabilize continual uninterrupted internet connection in order to operate and implement a national nonprofit and its programs to benefit thousands of disadvantaged persons and populations of communities in the USA.”*
- ■ *“I pay the majority of my bills via the Chromebook, as well as loan payments through my bank and some light shopping for needed household items, food, etc.”*
- ■ *“Reading the news is so incredibly important. Also just a few days ago, I used my Chromebook to win a raffle to a local pet store.”*
- ■ *“Very important for me, especially since my mom was diagnosed with a Level 4 Glioblastoma & has since entered Hospice.”*
- ■ *“I have went back to school because of the laptop and internet. It’s also been a great help to my children who I homeschool and we used the laptop a ton for them as well.”*

In the past year, did any of the following happen to you while involved in the Tech Pack Program? Select all that apply.

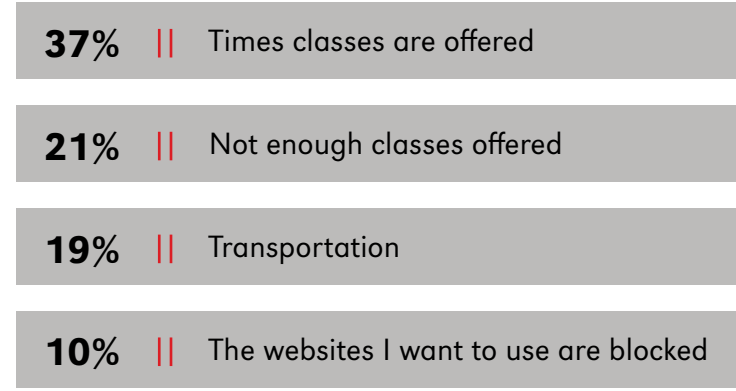


“Expenses are extremely high right now, but the Tech Pack Program cut down the bills so I don’t have to pay. Before I would accumulate occurrences for missing work, now I just log in to work from home. Especially when unexpected things happen, we don’t miss a beat.”

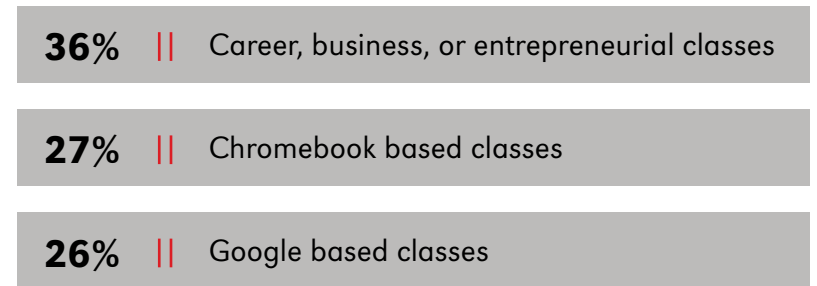
NAVIGATING THE TECH PACK PROGRAM

This section provides information related to the logistics of the Tech Pack Program and offerings from Do Space. These questions were drafted by Do Space staff to be included in each survey in order to address potential barriers participants experienced while enrolled in the Tech Pack Program.

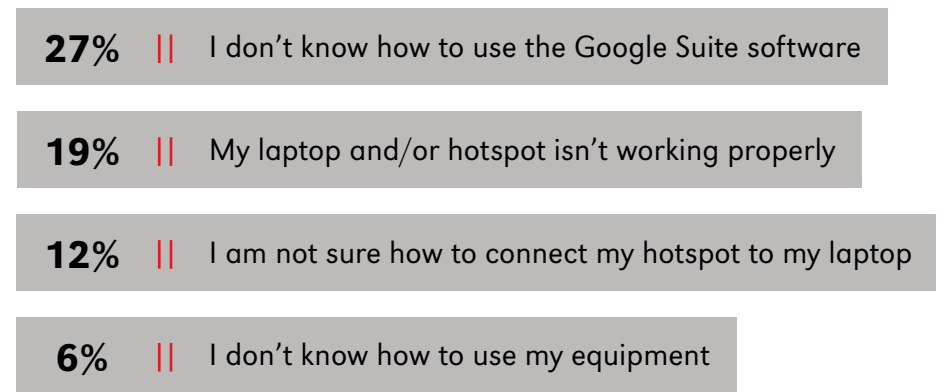
As a Tech Pack participant, what barriers have you faced navigating the program? Select all that apply.



What classes would you like us to offer?

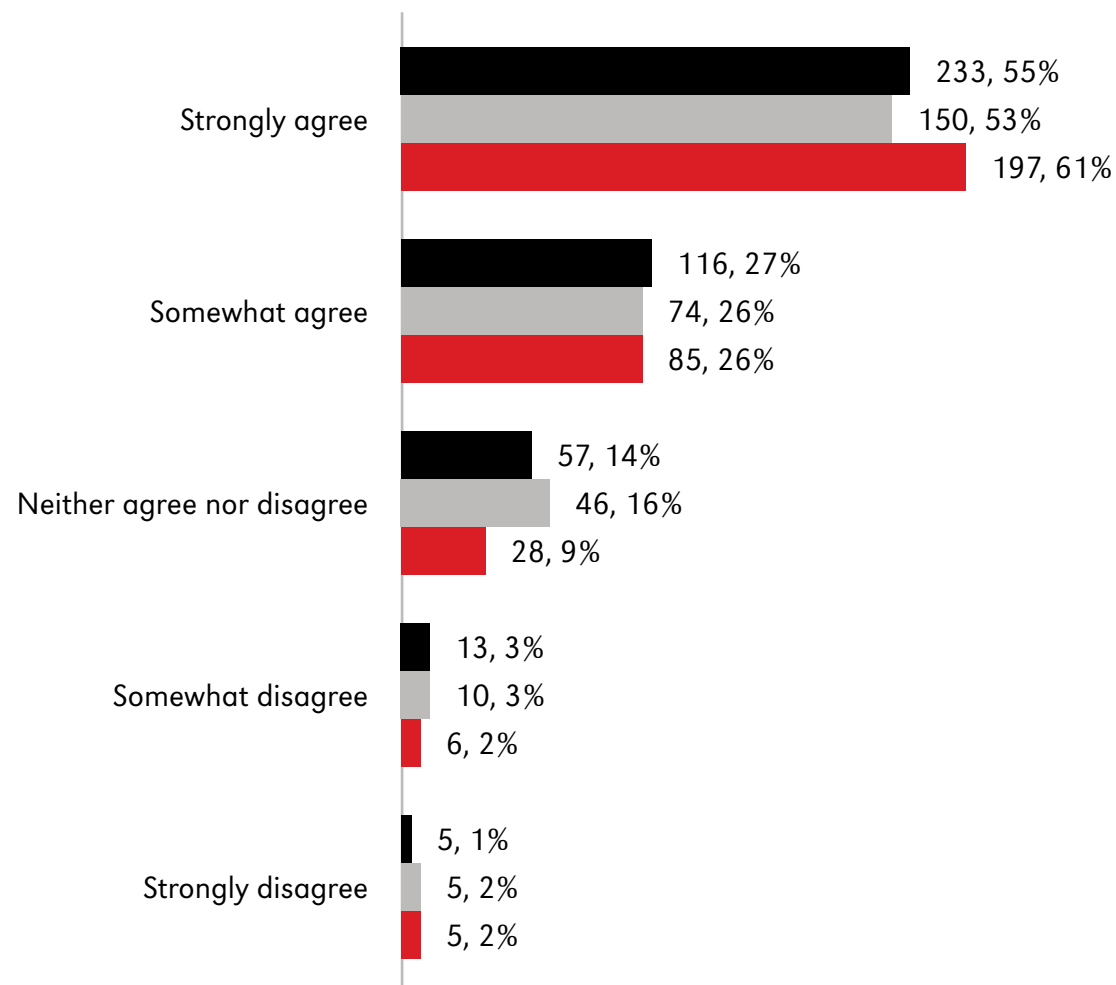


As a Tech Pack participant, what barriers have you faced using the equipment? Select all that apply.



Do you agree or disagree that your participation in the program has been going well?

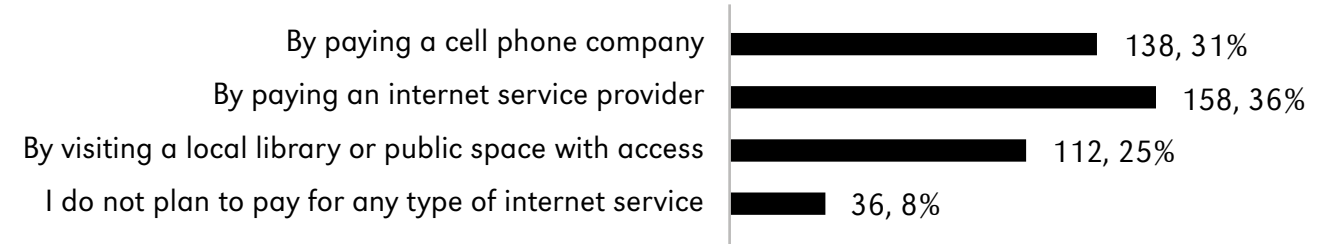
Survey 1
 Survey 2
 Survey 3



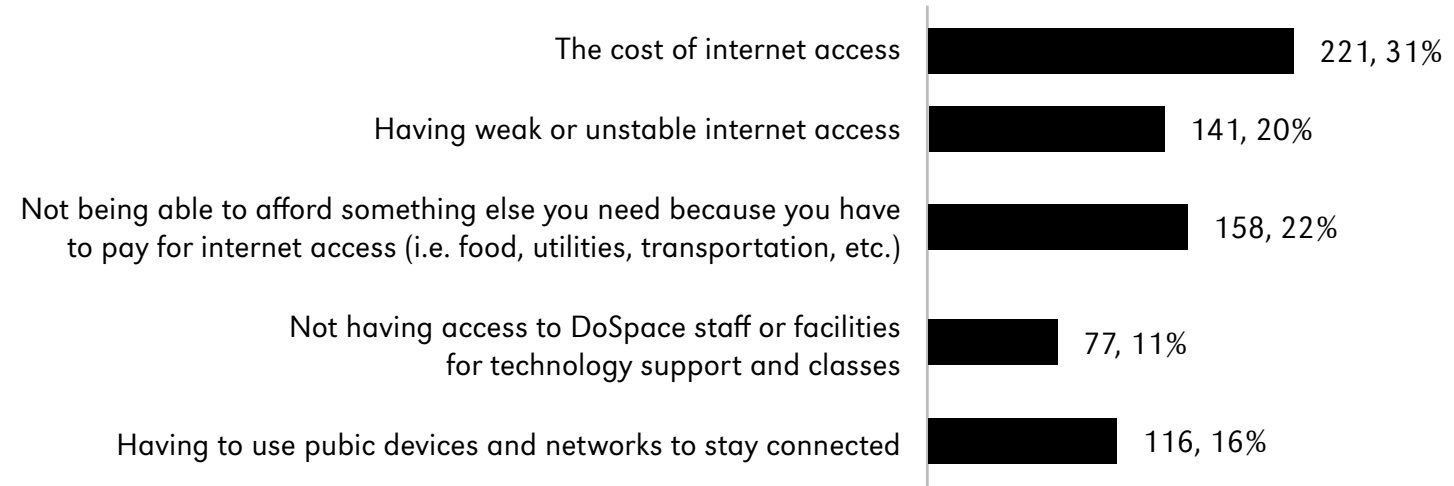
Is there anything else you would like to tell us about your experience with the Tech Pack Program?

Themes in Responses	Participant Quotes
<p>Gratitude and Positive Experience Participants expressed thankfulness and positive sentiments regarding the program.</p>	<p><i>“This program has lifted 1 extra expense off my limited budget and we truly appreciate it.”</i></p> <p><i>“Thank you to anyone and everyone involved in creating and implementing the program.”</i></p> <p><i>“Thank you, graciously. The little laptop changed my life.”</i></p>
<p>Impact on Personal and Professional Development Participants highlighted the program’s role in facilitating personal growth and career development.</p>	<p><i>“Thank you for this opportunity, I’m now currently enrolled in college courses. I can’t thank you all enough! Take care.”</i></p> <p><i>“I learned a lot about Excel in the Excel-erate class series. That was great.”</i></p> <p><i>“I liked this opportunity a lot. It would be nice to have more fun classes catered to adults where we still learn valuable skills. I always see some classes that seem fun, only to realize they’re for kids.”</i></p>
<p>Requests and Suggestions for Improvement Participants offered feedback and suggestions for enhancing the program’s offerings and organization.</p>	<p><i>“I would love for the program to extend its 1-year program to allow those that have ventured into entrepreneurship a little more time to see their work progress with the help of the program.”</i></p> <p><i>“I wish there were more classes available on the weekends.”</i></p> <p><i>“Please offer more classes in the evenings so participants with jobs can fulfill their obligations of 6 classes.”</i></p>
<p>Technical Issues and Challenges Participants reported technical problems and personal challenges that hindered participation.</p>	<p><i>“Some websites I need for school are blocked because of the hotspot which is a bit of an inconvenience for me.”</i></p> <p><i>“The hotspot doesn’t work for me.”</i></p> <p><i>“My laptop doesn’t work.”</i></p>

**At the end of this program, how do you plan to obtain access to the internet?
Select all that apply.**



**At the end of this program, will you be concerned about any of the following?
Select all that apply.**



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