# BRIDGING THE GAP:

## What Affordable, Uncapped Internet Means for Digital Inclusion

By:
Samantha Schartman-Cycyk
and
Katherine Messier

mobilebeacon®
*4G Internet Access. 4 Nonprofits. 4 Less.*

# AUTHOR BIOS

## Samantha Schartman-Cycyk

Samantha Schartman-Cycyk is an incorporating board member and Research Director of the CYC Institute, a nonprofit devoted to the advocacy of digital equity through research and partnerships with technology advocates in the Northeast Ohio region and beyond. She was also Assistant Director for Connect Your Community 2.0, a collaborative that conducted a 19-million-dollar federal stimulus grant project responsible for connecting over 25,000 residents throughout a 5-state region, a former member of the NTIA BTOP research advisory group, and an independent data scientist, researcher, project manager and consultant with over 10 years of experience in the technology, education and digital inclusion sectors.

She spends most of her time assisting organizations in refining data collection methods and processes, designing research efforts, conducting data analysis, and managing survey efforts. She holds an MA in Cognitive Science from Case Western Reserve University and her research and writing on the topics of digital inclusion, technology use, cognitive science, and linguistics can be found in several peer-reviewed journals as well as publicly shared by organizations and in policy circles.

## Katherine Messier

Katherine is the founder and Executive Director of Mobile Beacon, an organization that provides high-speed, low-cost, mobile internet access to the anchors of communities: the nonprofits, schools, libraries, and healthcare organizations that provide vital services to millions of Americans every day. Through this broadband service, organizations have an essential tool to fulfill their missions and maximize their philanthropic impact.

Katherine has spearheaded the development of several national initiatives that address the connectivity needs of community anchor institutions and focus on closing the digital divide. She has grown what started as a small "borrow the internet" pilot program in Providence, RI into a well-established hotspot lending platform supporting over 350 public libraries nationwide. Additionally, Katherine launched the first mobile broadband donation program for nonprofits on TechSoup.org and has provided more than 22,000 free 4G devices to 501(c)(3) nonprofits and libraries to further reduce the cost of connectivity. Most recently, Katherine launched a new national initiative, Bridging the Gap, with nonprofit partner PCs for People, to provide affordable home broadband access and refurbished computers to individuals and families below the 200% poverty level.

# CONTENT

# BACKGROUND

Mobile Beacon strengthens communities by providing high-speed, low-cost, mobile internet access to the anchors of communities: the nonprofits, schools, libraries, and healthcare organizations that provide vital services to millions of Americans every day. Through this broadband service, these organizations have an essential tool to fulfill their missions and maximize their philanthropic impact.

People's access to technology has become an important part of every effort to fight hunger, poverty, inequality, and countless other social causes. For example, public libraries loan out 4G mobile hotspots so patrons without internet access at home can "borrow the internet" the same way they can borrow a book. Similarly, schools use this service to provide internet access to students who previously struggled to complete homework assignments due to a lack of connectivity. Thousands of other nonprofits providing resources and services to help people in their communities become self-sufficient are finding innovative ways to connect more families using Mobile Beacon's 4G mobile internet service.

PCs for People, a tax exempt Section 501(c)(3) organization, uses Mobile Beacon's service to advance its mission to close the digital divide by helping individuals and families below the 200% poverty level obtain an affordable computer and get online. PCs for People created "Bridging the Gap" and paired its refurbished computers with the internet service it receives from Mobile Beacon to provide a more holistic digital inclusion offering to its program beneficiaries. PCs for People qualifies Bridging the Gap subscribers for the low-cost computers and internet service to ensure program eligibility standards are met and validates ongoing eligibility every 12–15 months.

# INTRODUCTION

Digital inequality is a persistent challenge in our increasingly online society. Though more content and services continue to be driven online, there are still 34 million Americans without access to technology or connectivity. While there are multiplex barriers to connectivity, the two main drivers that affect a person's ability to participate online are the availability of service and the ability to afford it. With average broadband costs in the United States soaring to $90/month (per a 2013 study by the BBC (Geoghegan, 2013), the price tag for internet access remains out-of-reach for many low-income Americans.

With federal initiatives and telecommunication efforts falling short of addressing the persistent and pervasive digital divide in the United States, Mobile Beacon partnered with PCs for People to create Bridging the Gap, a program that provides affordable, refurbished computers and $10–$13/month uncapped, unthrottled, high-speed mobile broadband service and to low-income individuals and families below the 200% poverty line.[1]

In this report, we investigate who the Bridging the Gap program is reaching, which members of a household are using the internet most (and for what), and whether this program is driving high-value online behaviors such as skills/education acquisition and workforce development outcomes. We also analyze whether the use of data caps by other internet service providers limit the ways low-income subscribers are able to use the internet, and in what new ways they are using the internet since switching to an unlimited data plan. Last, we explore the common pathways that led people to enroll in Bridging the Gap. We also measure program satisfaction and willingness to recommend Bridging the Gap to others.

[1] PCs for People offers Mobile Beacon's internet service to eligible program recipients at $10/month for a 12-month plan, $12.50/month for a 6-month plan, or $13.33/month for a 3-month plan. See https://pcsforpeople.org/recipients/eligibility for details on eligibility.

# KEY FINDINGS

- **73%** of respondents stated that Bridging the Gap provided their first home internet service.
- **94%** reported they now use the internet daily (with 82% reporting to use it for several hours a day).
- While only **17%** of respondents owned a computer prior to enrolling in Bridging the Gap, **39%** obtained a computer at some point during their enrollment.
- **94%** of households whose previous internet service was subject to data caps had access to 8 GB or less of data per month (68% had access to 5 GB or less and 30% had access to 2 GB or less of data per month).
- **60%** of respondents whose previous internet service was subject to a data cap reported difficulty using the service for online classes or homework.
- **22%** said there were online educational activities they were unable to do prior to enrolling in Bridging the Gap due to data caps on their previous service.
- **94%** of parents said having Mobile Beacon's internet service has helped them better support their child(ren) academically.
- **54%** of parents reported their children spend more than 4 hours per week doing homework online.
- **95%** of all respondents with school-age students reported they can now communicate with their child's teachers more often since enrolling in Bridging the Gap.
- **Nearly one-third (32%)** of respondents reported that an adult in their household is currently taking a continuing education class or attending college.
- **24%** said they started taking daily or weekly online classes after signing up for Mobile Beacon's internet service through Bridging the Gap.
- Those reporting to take online classes use a whopping **19 GB** more per month on average than those who do not.
- The median cost-savings for the national Bridging the Gap subscriber base is **$110,646 each month**, or **$1,327,752 every year!**

# DATA METHODS AND ORGANIZATION

For this survey, we drew a random sample of 2,930 Bridging the Gap subscribers in the Twin Cities who had signed up for Mobile Beacon's unlimited 4G mobile broadband service through Bridging the Gap. From this, 415 survey responses were collected between December 2016 and January 2017. Follow-up included three callbacks to non-responding numbers, unless a hard refusal was given. Designed by the authors, the survey was administered in English and conducted by past digital inclusion training program participants who received specialized workforce training through the Ashbury Senior Community Computer Center (ASC3) in Cleveland, Ohio. The survey was administered using VOIP phone lines in a CATI lab setting and responses were digitally recorded by our trained representatives using a computer-programmed interface. The scientifically designed survey meets all criteria for statistical significance within less than a ±5% margin for the population and can thus be generalized to represent the whole of Bridging the Gap's national subscriber base.

This report is organized into six sections. In ***Section I***, we look at the demographics of our sample population and assess their access to technology in the home and the degree to which technology is integrated into their lives. In ***Section II***, we measure the impact of Mobile Beacon's mobile broadband service on educational and parent engagement outcomes. ***Section III*** compares respondents' experiences with previous internet providers to the unlimited service they now receive through Bridging the Gap. We also quantify the reported cost savings and analyze the impact of data caps on various online activities. ***Section IV*** quantifies the different types of activities and amount of time Bridging the Gap subscribers are spending online for each activity. ***Section V*** highlights key differences in the amount of data used by those reporting specific regular online activities. Lastly, in ***Section VI***, we take a brief look at respondents' level of satisfaction with Bridging the Gap and the pathways that initially led respondents to the program.

# I: BRIDGING THE GAP SUBSCRIBER PROFILE

## Participant Demographics

To enroll in Bridging the Gap, individuals must demonstrate their annual household income is below the 200% poverty level, or that they are currently enrolled in an income-based government assistance program. Below are the published 2017 federal poverty guidelines as well as the Bridging the Gap income eligibility criteria.

| 2017 POVERTY GUIDELINES FOR THE 48 CONTIGUOUS STATES AND THE DISTRICT OF COLUMBIA (U.S. Department of Health & Human Services, n.d.) | | BRIDGING THE GAP 2017 INCOME ELIGIBILITY STANDARDS |
|---|---|---|
| *For families/households with more than 8 persons, add $4,180 for each additional person.* | | |
| Household Size | Maximum Income for federal poverty qualification | Max Allowable Income |
| 1 | $12,060 | $24,120 |
| 2 | $16,240 | $32,480 |
| 3 | $20,420 | $40,840 |
| 4 | $24,600 | $49,200 |
| 5 | $28,780 | $57,560 |
| 6 | $32,960 | $65,920 |
| 7 | $37,140 | $74,280 |
| 8 | $41,320 | $82,640 |

*Figure 1*

The average reported income by Bridging the Gap subscribers is $23,228 per year, which is nearly the 200% poverty level for a single-person household. (U.S. Department of Health & Human Services, n.d.) Additionally, participants were asked about their employment status at the time of enrolling in this program and only 50% were employed at that time.

The low reported household income and high unemployment rate of participants underscores the need for affordable internet access. A 2015 poll by Pew Research (Puzzanghera, 2015) found that "among Americans who have looked for work in the last two years, 79% utilized online resources in their most recent job search. Additionally, 34% said these online resources were the most important tool available to them."

*Figure 2* below shows the breakdown of household sizes reported by Bridging the Gap subscribers. 56% of all respondents live alone or with one other person. When asked the number of children living in the household, 41% of all two-person households reported to have school-aged children, making these single-parent homes.[2] Additionally, 45% of all respondents reported having children at home and 90% of these children are of school-age. This finding establishes that families are well represented in the sample. Comparing the representation of the survey sample to the general population, Bridging the Gap subscribers are 16% more likely to be parents [and 17% more likely to be single parents][3] than the average American (Jonathan Vespa, 2013).[4]

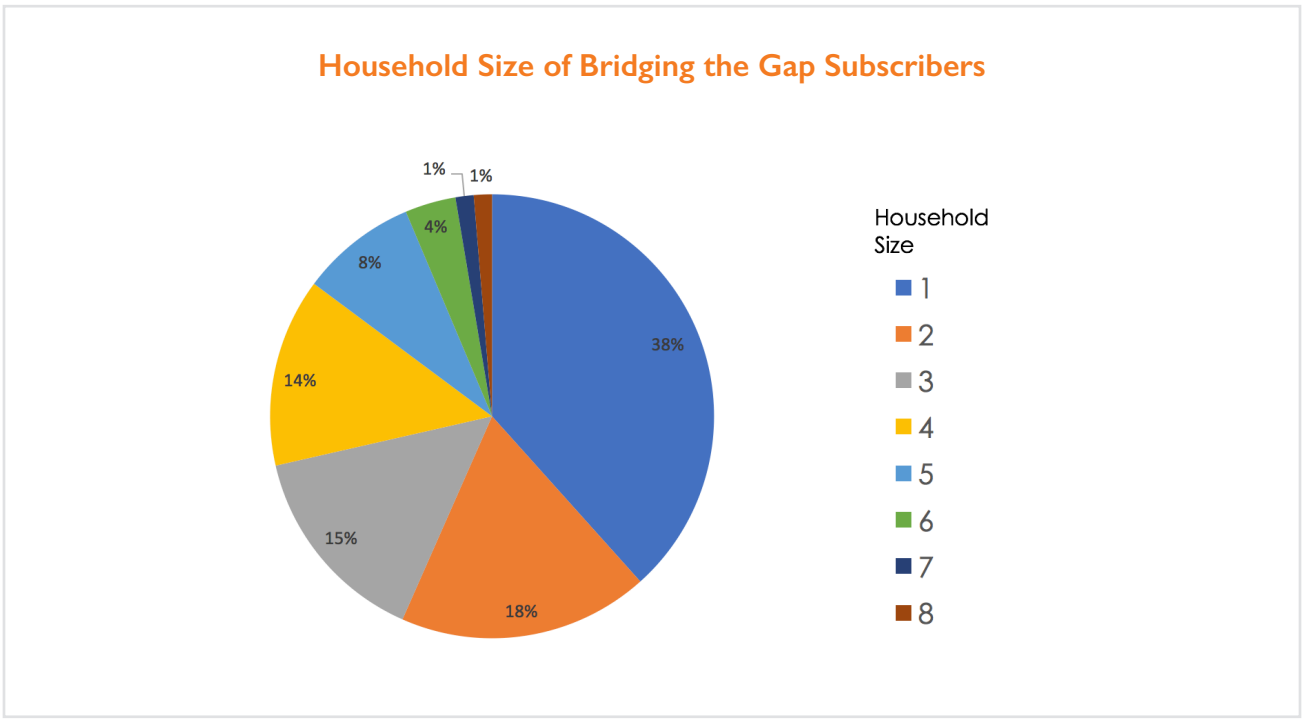


*Figure 2*

## Level of Access to Technology

National digital inclusion research has highlighted the link between poverty and a lack of access to home broadband. A 2013 report of the American Community Survey states that 32% of households with income below federal poverty lines lack home internet access (U.S. Census Bureau, 2014). However, internet access is only one part of the equation; individuals must also have internet-capable devices to make use of the service. At the time of enrollment in Bridging the Gap, 83% of respondents said they did not previously own a PC. 39% of respondents obtained a computer through the Bridging the Gap program at some time during their enrollment, 15% within the first 30 days. However, as of the time of our survey, 100% of respondents reported having one or more internet-capable devices[5] at home, which they use to access their Mobile Beacon internet service. ***Figure 3*** provides the breakdown of the specified number of internet-capable devices in Bridging the Gap households.

[2] 11% of all U.S. households are single parent homes (Jonathan Vespa, 2013)

[3] According to the 2012 ACS by the U.S. Census, 5% of all family households are single-parent homes. This contrasts sharply with our data that shows 22% of respondents to be single-parents.

[4] 29% of U.S. households contain a school-aged child (Jonathan Vespa, 2013)

[5] For the purpose of this survey, "internet-capable devices" were defined as computers, tablets, smartphones, and/or smart TVs.

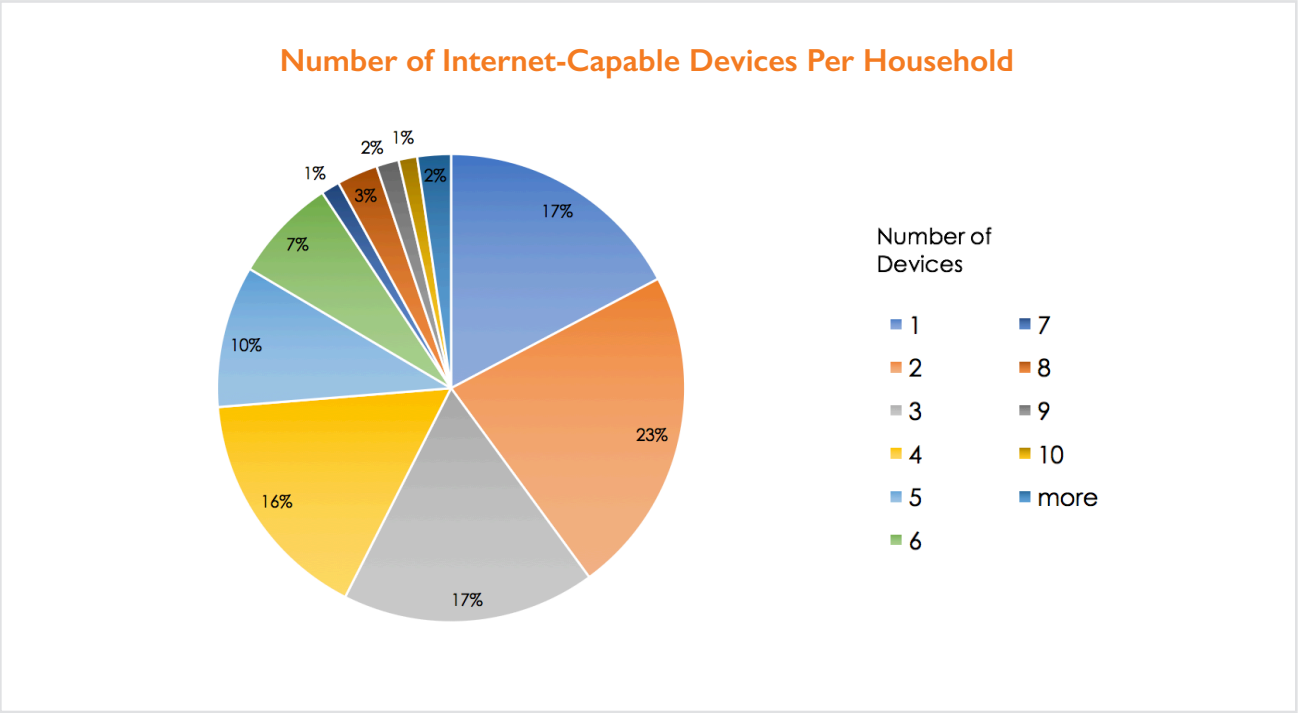


*Figure 3*

Overall, 389 survey respondents reported owning a total of 1,357 devices. This indicates that Bridging the Gap households have, on average, 3.5 devices each. 11% of these devices were obtained through the Bridging the Gap program. These findings indicate that either respondents acquired additional computers/devices on their own (independent of the Bridging the Gap program), or that they had alternative internet-capable devices that were not accounted for at the time of enrollment. Future research could inquire further into what types of devices this population owns and if their enrollment in Bridging the Gap spurred the acquisition of new internet-capable devices.

## Level of Technology Integration in Daily Life

So far, we have seen that most Bridging the Gap subscribers live at or below the 200% federal poverty line, and have at least one device that can access the internet. Additionally, a large percentage have school-aged children, with a significant portion of these (22%) being supported by single parents. Additional questions were asked to determine the extent to which Mobile Beacon's internet service is used as part of their daily lives.

*Figure 4* illustrates the amount of time Bridging the Gap subscribers reported using their Mobile Beacon internet service. As shown, most respondents use this internet service extensively. 82% reported spending several hours each day online and another 12% reported using the internet daily, but for shorter durations. Only 6% of respondents reported using the internet less than daily.

*"Low-income families should have low cost internet. Can't do anything without internet."*

– Bridging the Gap subscriber

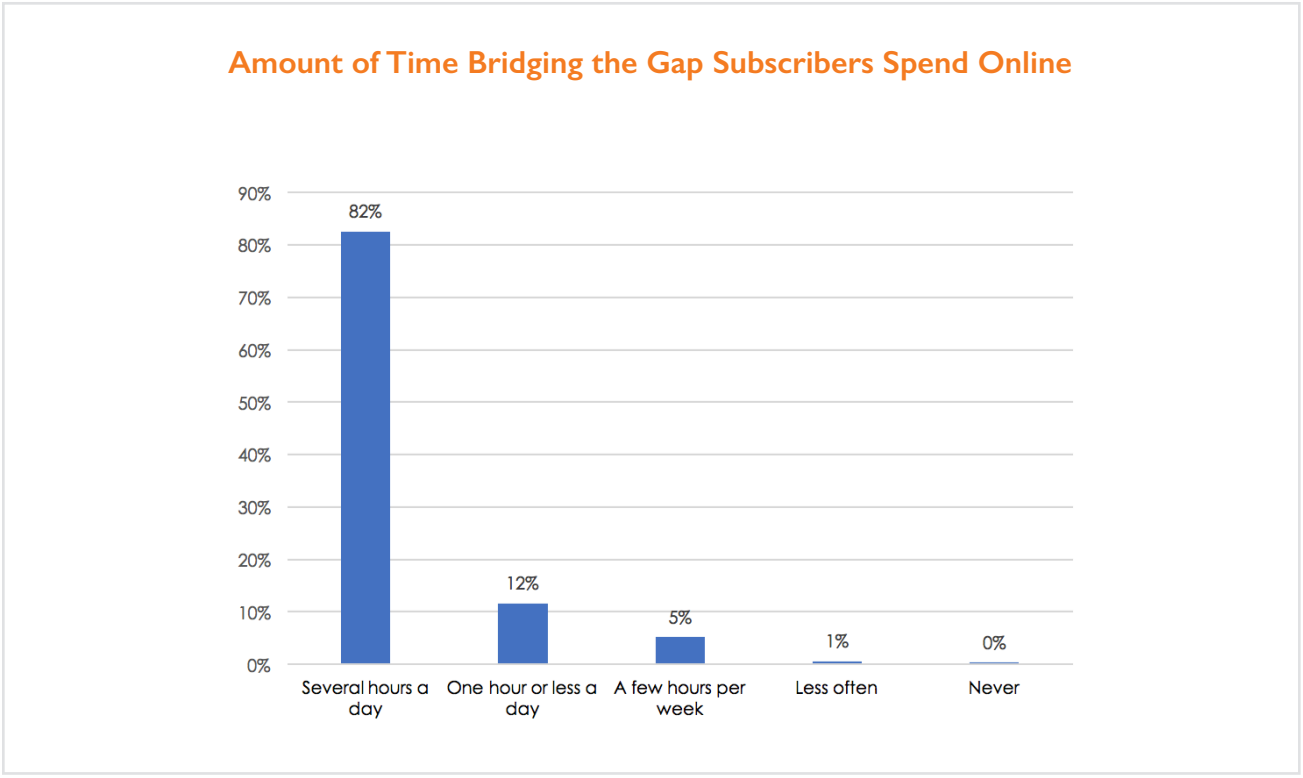


*Figure 4*

When asked who in their household uses the internet most, 41% of respondents living with a school-aged child said adults/parents are the primary users, 48% said that all members of the household use it equally, and 12% reported the service is primarily used by the children in the home. This shows that in 60% of households containing a school-aged child, the child (or children) are equal or primary users of the internet. Furthermore, as is further explored in the next section, parents' use of the internet in support of children's academic achievement is significant.

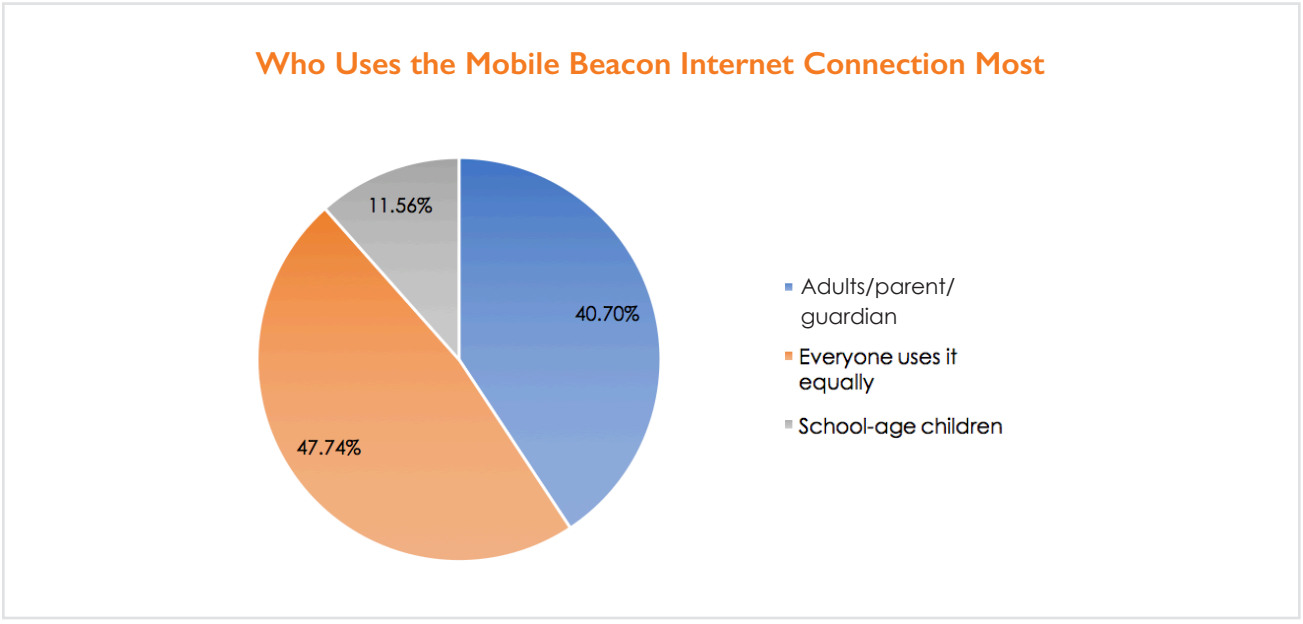


*Figure 5*

Another unique aspect of Mobile Beacon's internet service compared to other subsidized home broadband programs is that the service is mobile. The combination of mobility and unlimited data allows Bridging the Gap subscribers to integrate connectivity more significantly into their everyday lives. They can be online "anytime/anywhere" without worrying about data caps or overage fees.

40% of Bridging the Gap subscribers reported using their internet service outside the home, while the remaining 60% prefer using their "beacon" as a fixed home broadband service. For those using the internet outside the home, we asked where they use it most.

*Figure 6* shows the most common places where Mobile Beacon's service is used outside the home. Over 45% of respondents said the number one reason for using Mobile Beacon's service outside of the home was to have connectivity while commuting. The other most commonly reported locations for using the mobile service are at work (20%), public spaces (16%), and a family or friend's home (9%).

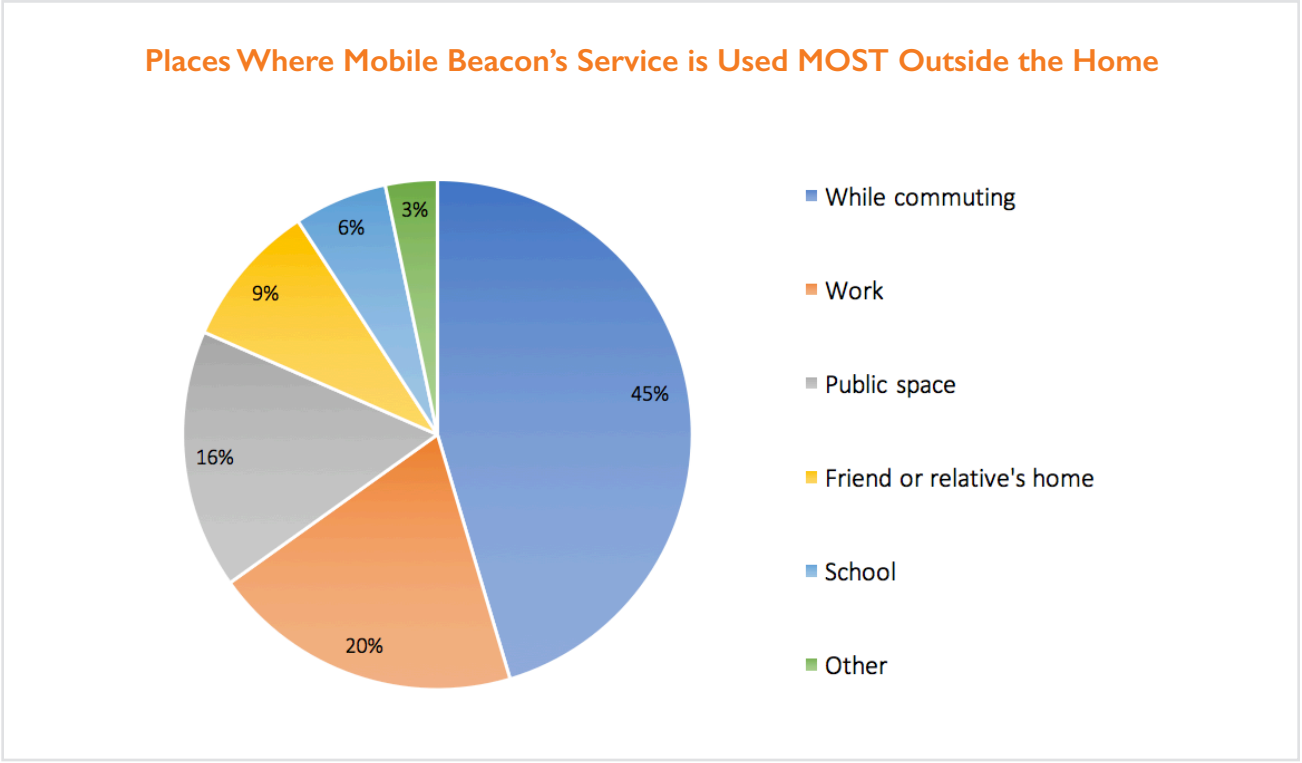


*Figure 6*

# II: MOBILE BEACON AS AN EDUCATIONAL RESOURCE FOR PARENTS AND STUDENTS

Today, most students across the country are expected to research topics online, write papers, and create presentations using computers and the internet. A lack of internet access at home makes completing these tasks much more difficult. According to a recent study from the Hispanic Heritage Foundation, Family Online Safety Institute and My College Options, nearly 50% of students said they had been unable to complete a homework assignment due to not having access to the internet or a computer (Mclaughlin, 2016). On top of that, 42% of students reported receiving a lower grade on an assignment because they did not have access to the internet.

The implications of this are great given that 73% of Bridging the Gap subscribers did not have a previous internet service and 40% have at least one school-age child living at home. Additionally, the type of internet connection and amount of data included each month are important factors. As shown later in this report (***Figure 14***), 60% of respondents that previously had an internet service with a data cap reported difficulty using that service for online classes and homework.

*"I used to have to go to different places to do homework. Now I can do it at home."*

– Bridging the Gap subscriber

Low-income adults also find it difficult to accommodate traditional college schedules or afford tuition rates, making continuing education a larger struggle than if they could access online course offerings at home. Bridging the Gap makes broadband access more equitable by providing all members of a household with the ability to use the internet for all of their needs. This survey investigated whether Bridging the Gap subscribers are using Mobile Beacon's internet service to support their individual or family's educational needs, and, if so, what they are doing now that they were unable to do previously.

## Student Use of Mobile Beacon's Internet Service

We asked parents of school-aged children if their child(ren) used Mobile Beacon's internet service to engage in school-related activities; 88% said yes. But how much time do they spend doing schoolwork online? ***Figure 7*** (below) shows the breakdown of time spent online for educational activities.

To note, the question asked was not the amount of time students spend on homework; rather, it was the amount of time each student spends online doing work for school. A recent survey of teachers (University of Phoenix College of Education, 2014) found that most high school and middle school teachers give in excess of three hours of homework each week. With students taking five or more classes each day, this can add up to over 17 hours each week per student.

Using census data for the Twin Cities, MN (where survey respondents live), we can extrapolate the potential scale of this impact. In the Twin Cities, the combined number of households below poverty guidelines is 22,111 and 25% of households have children under 18 years of age living at or below the federal poverty level (U.S. Census Bureau, 2015). This equates to 5,528 households. If we apply the median trends shown in ***Figure 7*** to this population, we can estimate the total median hours of 33,859 spent online per week engaging in school-related activities. This translates to 1,411 days or almost 4 full years.

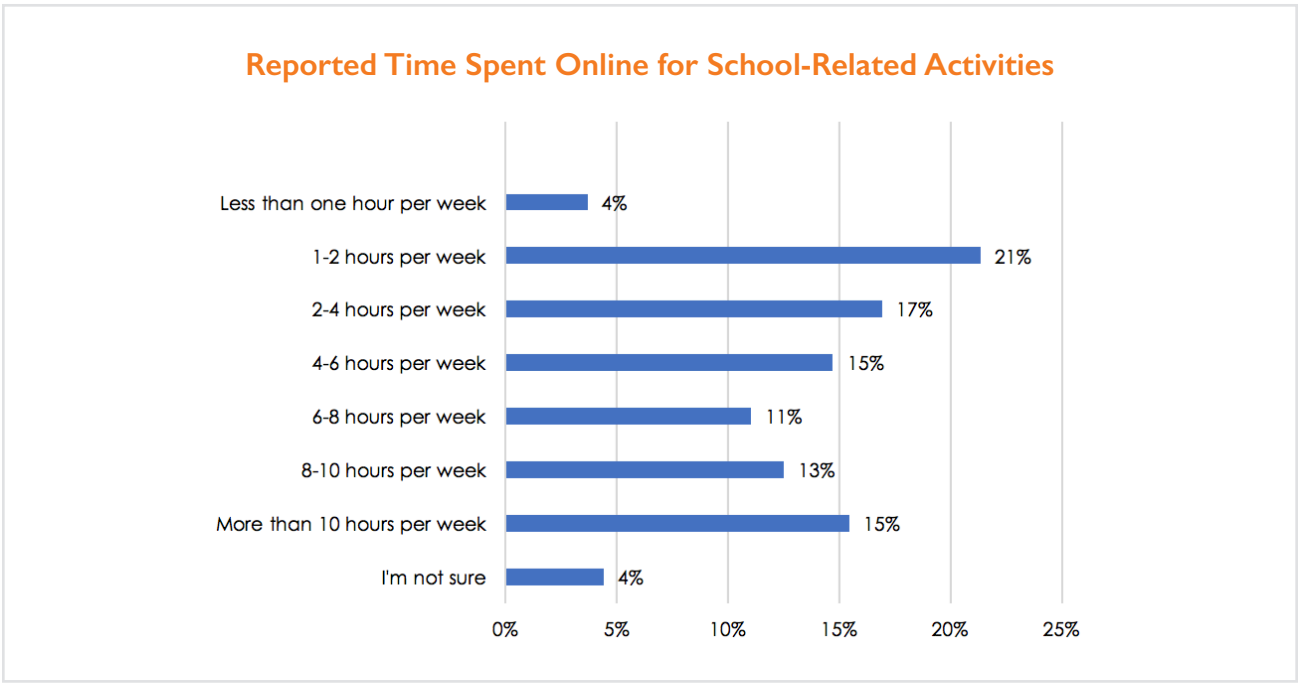


*Figure 7*

This research shows that K–12 students are not the only ones relying on Mobile Beacon's internet service to support their educational needs. A whopping 32% (or a full one-third) of respondents reported that an adult in their household is currently taking a continuing education class or attending college. With the demands of college coursework being greater than that of K–12 students (NSSE , n.d.), these findings underscore the relationship between affordable home internet access and expanded educational opportunities, particularly for low-income Americans.

## Bridging the Gap as a Parent Engagement Tool

Knowing that "parental involvement is associated with higher student achievement outcomes" (Jeynes, 2005), we asked parents/guardians if the addition of home internet access has helped them support their child's academic journey. Overwhelmingly, 94% of all parents said yes (***Figure 8***). When the remaining 6% were asked why they did not find the internet service helpful in this way, 88% said they did not have the internet service long enough to use it for parent engagement purposes.

To dig deeper into how having home internet access is helping parents better support their children's education, we asked parents what the main benefits have been. ***Figure 9*** (below) demonstrates that the main benefits of home internet access for goes far beyond just providing access to the child. While it is true that home access is necessary for students to be competitive academically, parent and family engagement advocates have touted the need for a holistic system of support for the family unit (Jeynes, 2005). This assertion is supported by the findings in ***Figure 9*** that show 88% of parents are using Mobile Beacon's internet service to research their child's homework to provide better support for their child.

*"I can find all the portals for homework. And I can use the internet to teach [my] child English."*

– Bridging the Gap subscriber

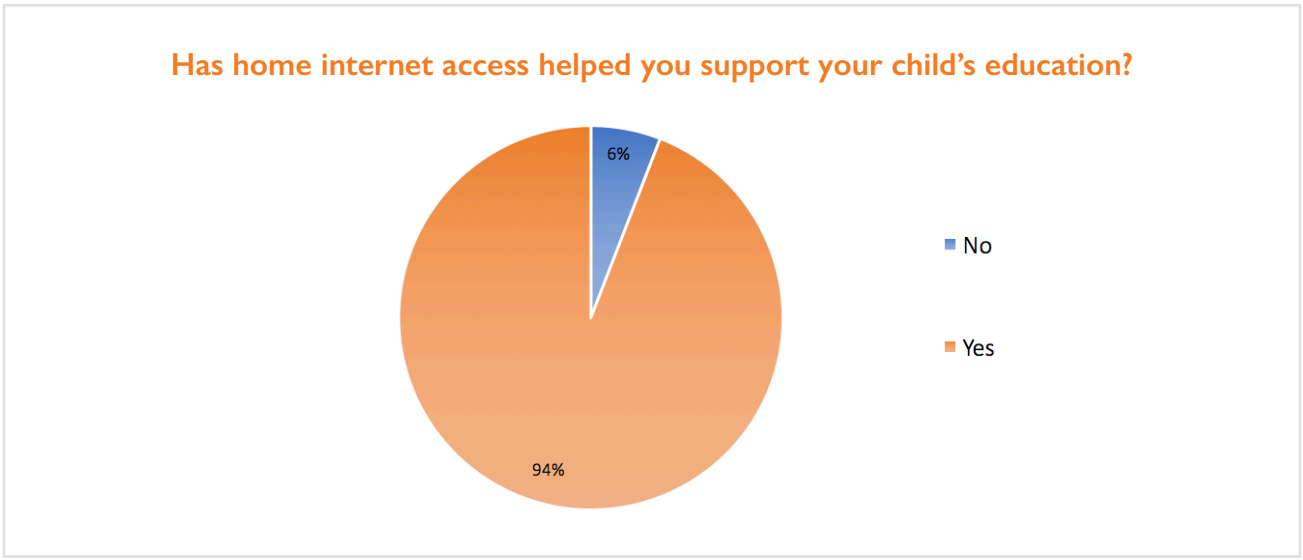


*Figure 8*

Additionally, when we asked Bridging the Gap subscribers if they communicated with their child's teachers or schools online, 82% said they did. Furthermore, when asked if adding Mobile Beacon's service to their home increased their communication with their child's school and teachers, 95% said yes. These findings strongly support the assertion that home internet access is a valuable parent engagement tool.

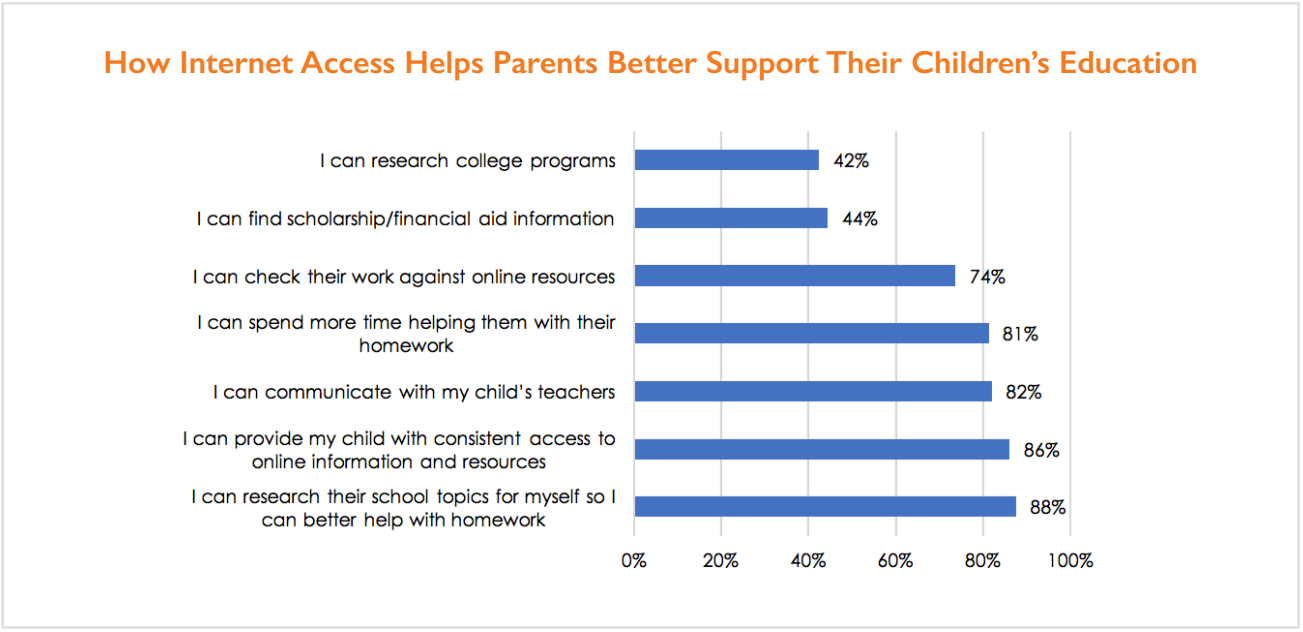


*Figure 9*

Policy leaders advocating for subsidized internet access for low-income families should emphasize the importance of connectivity not just for the student, but for the entire household. If parents and guardians are discouraged or prohibited from using the only source of internet in a household, they will be far more limited in their ability to support their child academically, engage with teachers, or research college or financial aid information.

# III: Respondents' Previous Internet Service Experience Compared to Bridging the Gap

As previously discussed, the Bridging the Gap program directly targets those individuals and families most susceptible to the barriers that create the digital divide (cost and access). When asked if they had an internet plan from a traditional carrier before enrolling in the Bridging the Gap program, only 27% of respondents responded yes. This means that for 73% of respondents, Mobile Beacon was their first home internet service. For those who had a previous internet service, we asked about the differences between their previous service and their current service through Bridging the Gap.

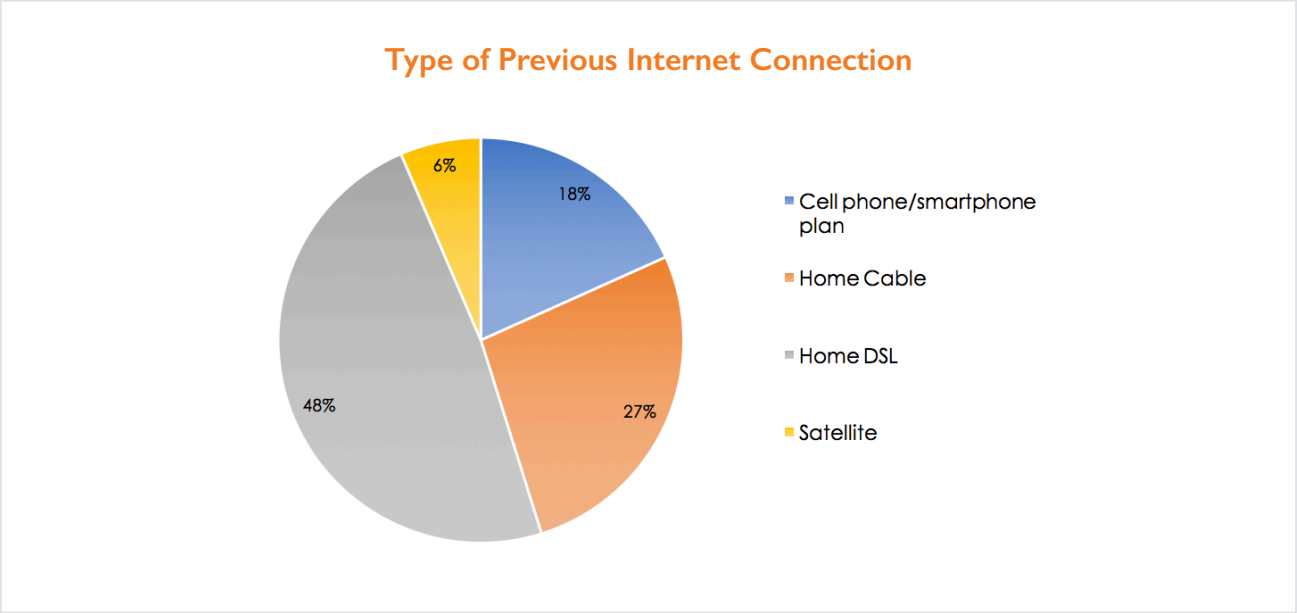


*Figure 10*

As shown in the above chart, 75% of respondents with a previous internet connection had a traditional wireline connection (DSL, Cable). DSL was the most common connection type overall at 48%. Average home DSL speeds are between 1.56 Mbps and 3 Mbps, which is slower than most 4G cellular plans available today. (Mitchell, 2016) Adding in the 18% who previously had a cellular/smartphone data plan, and 66% of all users with a previous internet connection had access to speeds of less than 10 Mbps.[6] This has significant implications for a household because the speed of a connection directly affects the quality of data-intensive applications like HD video or rich multimedia, especially with concurrent users. This means that low-income Americans cannot use the internet for the same things that people who can afford a higher-speed connection can, or, if they do, they will likely experience an inferior level of service.

Next, we asked respondents which ISP they had service through previously and matched that to the reported type of internet connection. The results are below in ***Figure 11***.

[6] State of Mobile Networks: USA (February 2016). Open Signal https://opensignal.com/reports/2016/02/usa/state-of-the-mobile-network/

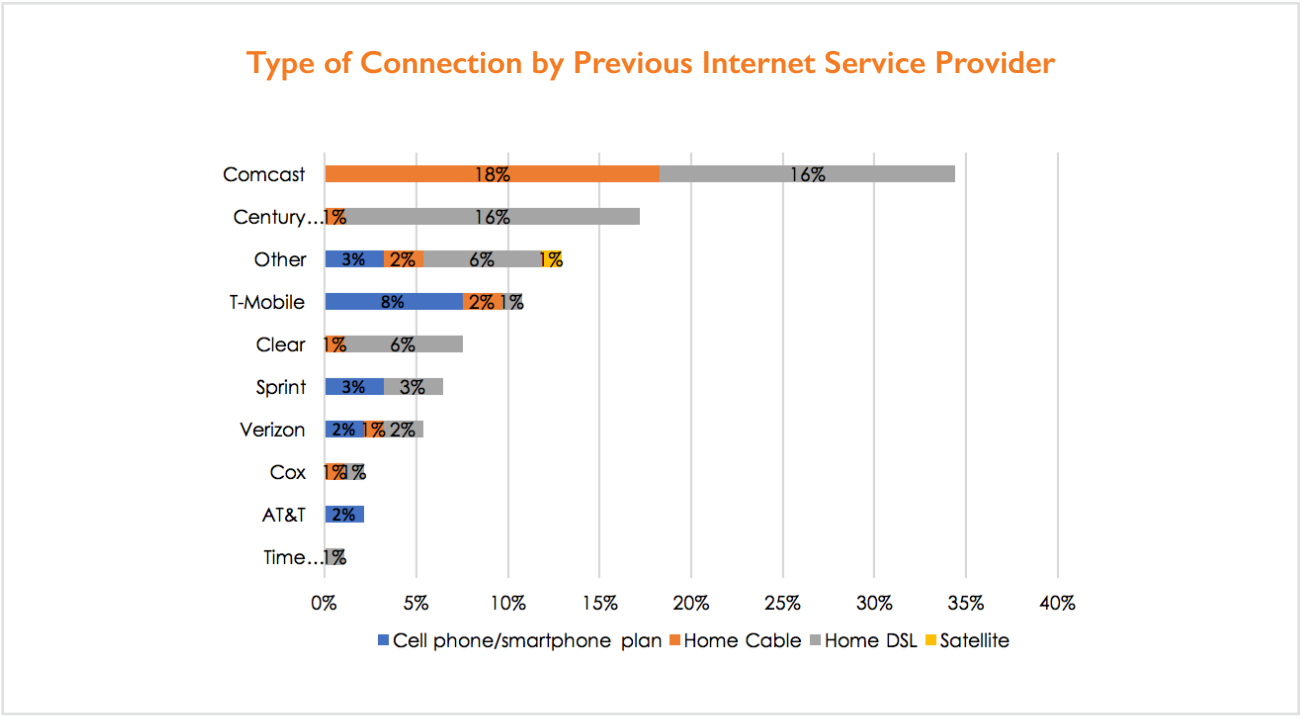


*Figure 11*

***Figure 11*** shows the most commonly-cited previous internet provider was Comcast (34%), followed by Century Link (17%). For those reporting to have been previously subscribed to a traditional wireline service (DSL or Cable), Comcast and CenturyLink account for 63% of all subscriptions. For those who had a cellular/smartphone plan only, T-Mobile was the most commonly cited provider at 41%.

## The Impact of Data Caps

Even more than the speed of an internet connection, the amount of data strongly influences the behavior of a user. This can be the primary factor determining how a user can or cannot use the internet. We asked respondents who had a previous internet service subject to data caps how much data those plans included. ***Figure 12*** provides the breakdown of reported data caps.

As shown in ***Figure 12***, 94% of all respondents without an unlimited data plan reported having a plan that included less than 10 GB per month. 68% had access to 5 GB or less, and 30% had access to 2 GB or less. For many low-income households (13% of U.S. adults (Burger, 2016)), mobile internet/smartphone plan are their sole means of accessing the internet. This amount of data would be quickly expended if a user tried to stream rich media content. For example, a single 90-minute HD video streamed over Netflix can use 5 GB of data alone (Willcox, 2016).

Typically, data plans that employ limits on use (data caps) also exercise a system of penalties when customers go over the allotted data threshold. Such penalties can include slowed service, overage fees, or an interruption of service for the remainder of the monthly billing cycle. ***Figure 13*** below shows the reported effects users experienced when their data cap was reached.

## Reported Data Cap Ranges with Previous Internet Service Provider

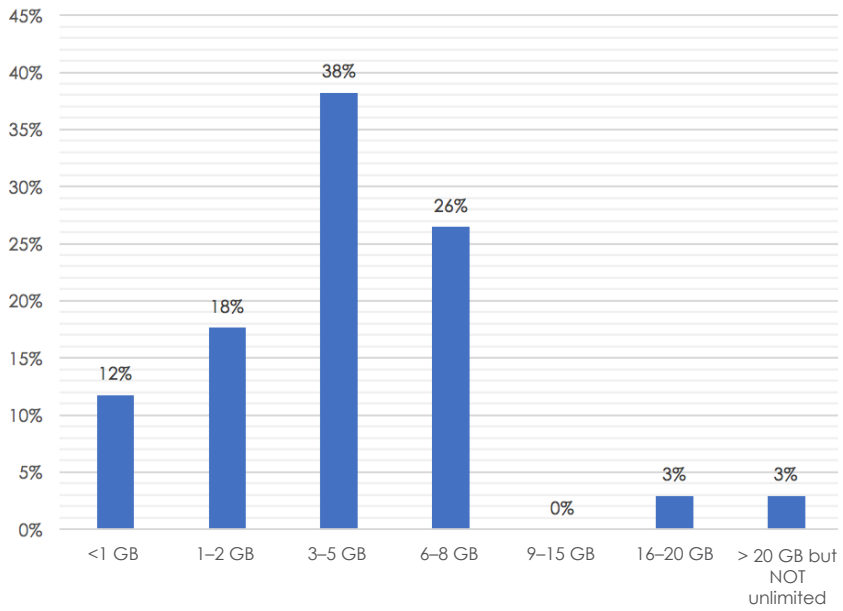


*Figure 12*

Next, we asked respondents how often they reached their plan's data cap. 30% said they went over their allotment every month, another 9% reported they exceeded their data cap every few months, and 39% said they weren't sure. Only 21% reported to have never gone over their plan limit.

## Reported Adverse Effects of Exceeding Previous Internet Plan's Data Allotment

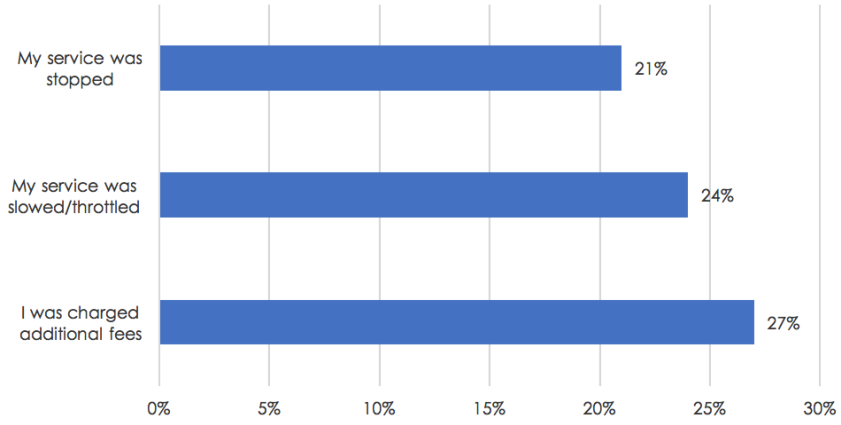


*Figure 13*

Respondents were also asked if there were online activities they were unable to engage in prior to signing up for Mobile Beacon's unlimited internet service due to a lack of data; 22% said yes. ***Figure 14*** (below) shows the major categories of activities Bridging the Gap subscribers said they were previously unable to do because of data caps on their prior internet plan.

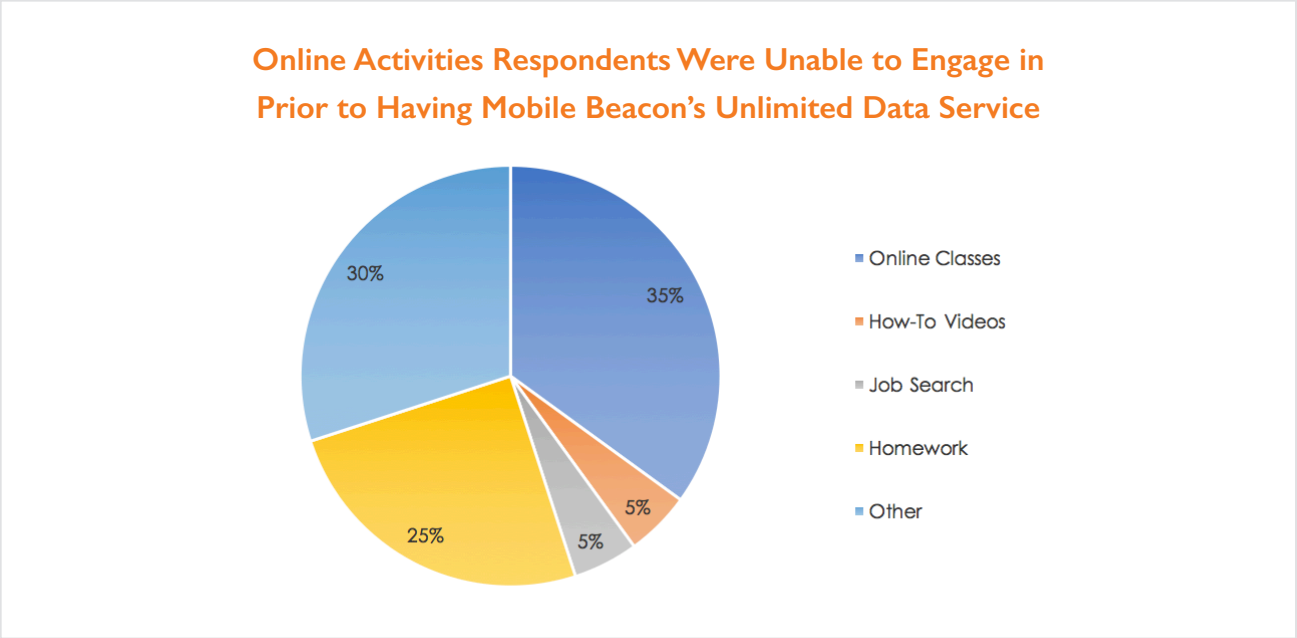


*Figure 14*

As we see, 60% of respondents reported difficulty using their previously capped service for online classes or homework. The category of "other" (30%) is comprised of various reported online activities such as streaming music and using online applications.

## Cost Savings with Mobile Beacon's Internet Service

Typically, cellular internet service from a commercial provider brings the high price tag of approximately $12 per GB/month (Louis, 2013) and the average home internet (DSL, Cable) plans are in excess of $50 per month (Sherman, 2015). These price points strain low-income families living close to the poverty line, often pricing them out of the market entirely.

We asked respondents if they saved money by signing up for Bridging the Gap. Over 77% of respondents said yes. Of the remaining, 12% were unsure of their cost savings and only 11% reported to not have noticed significant cost savings.[7]

*"On a fixed income, it was hard to get internet service."*

– Bridging the Gap subscriber

[7] Future research could determine whether these subscribers participated in other reduced rate programs.

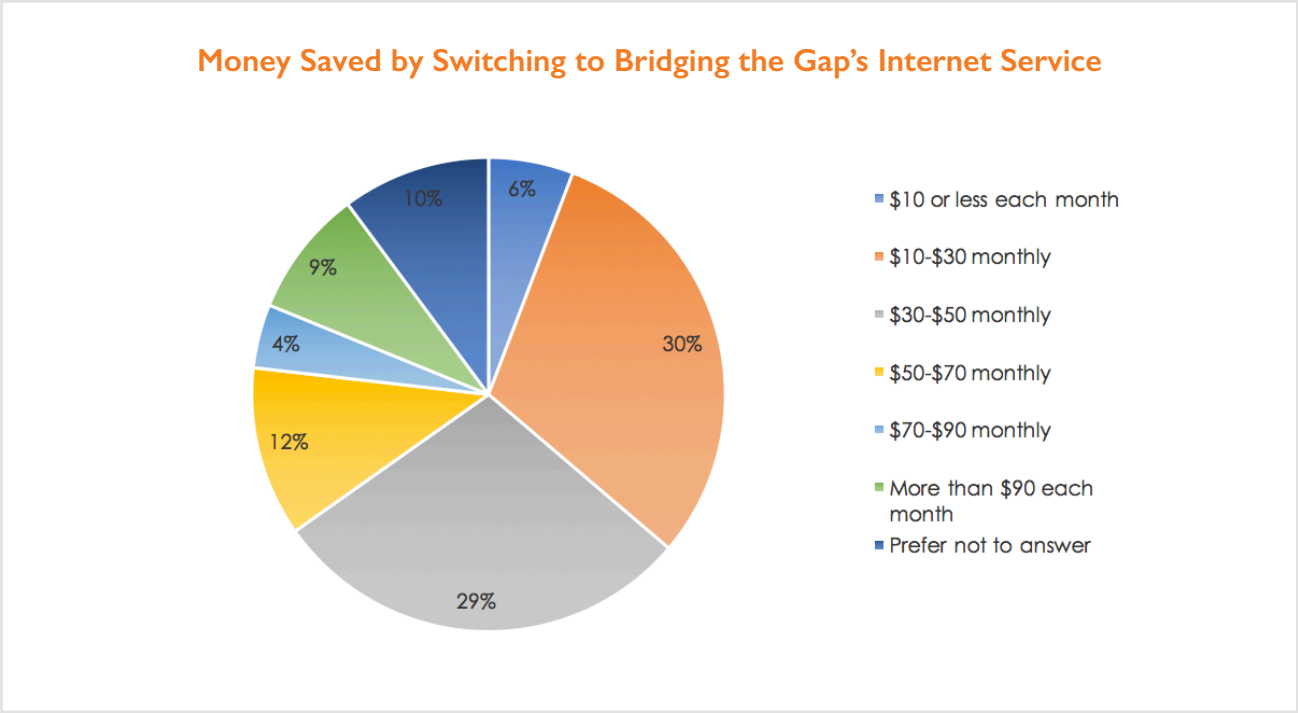


*Figure 15*

For those who reported cost savings, 27% reported to have previously had a more expensive retail internet plan. We asked these respondents to quantify how much money they saved monthly compared to their previous plan. ***Figure 15*** shows the percentage of ranges reported.

The median reported cost savings by the respondents answering this question is $2,560 each month or $30,720 per year. Applying this trend to Bridging the Gap's national subscriber base of approximately 11,000 households gives us a projected number of 2,970 (27% of all subscriber households) subscribers experiencing a similar array of cost-savings. This projects the median cost-savings for all Bridging the Gap subscribers is $110,646 each month, or $1,327,752 every year.

## Adding Value: Digital Literacy Training

Given that 73% of respondents said Bridging the Gap provided their first home internet service, we can assume these individuals had more limited exposure to the internet. Digital literacy may be a useful tool in helping all members of a household make meaningful use of the internet. We asked Bridging the Gap subscribers who said they were not offered digital literacy or technology training at the time of enrollment if they would have been interested in that option; 16% said yes. PCs for People has started offering digital literacy classes through a partnership with CTEP- Americorp to address the need and desire from subscribers for additional training.

# IV: Profile of Bridging the Gap Subscribers' Online Behavior

One of the hallmarks of Mobile Beacon's internet service, beyond its affordability and mobility, is the fact that it is uncapped and unthrottled internet service. This means that Mobile Beacon does not restrict the amount of data that a user can consume in each month, nor does their service slow or stop after reaching a certain data allotment. In this way, examining the online behaviors of Bridging the Gap subscribers provides never-before studied insights into how low-income subscribers, given no data cap restrictions, would use the internet. In this section, we provide a detailed breakdown of the reported time spent online for a wide variety of online activities.

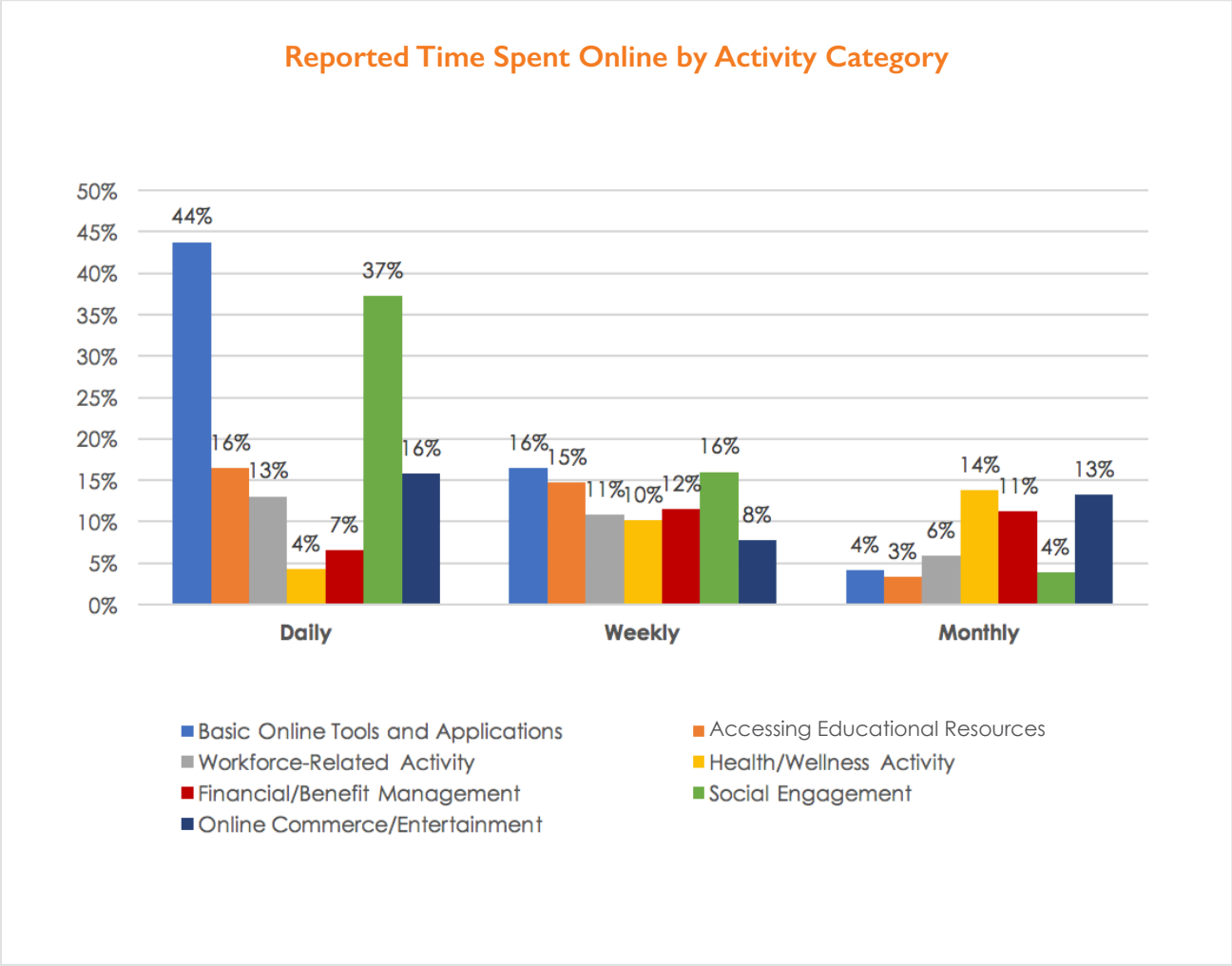


*Figure 16*

## General Online Tools

Beginning with basic online tools and computer applications, we asked respondents to describe how often they use a search engine, email, office applications (like Google Docs or Google Sheets), or alternative research portals. On a daily basis, 71% use a search engine and 60% use email. On the other end, we see that office applications, though widely used for school and in the workforce, are not used at all by 56% of respondents. 62% reported to not use online research portals (library or school portals).[8]

*"Access is power. The internet can help people better themselves. It's important."*

– Bridging the Gap subscriber

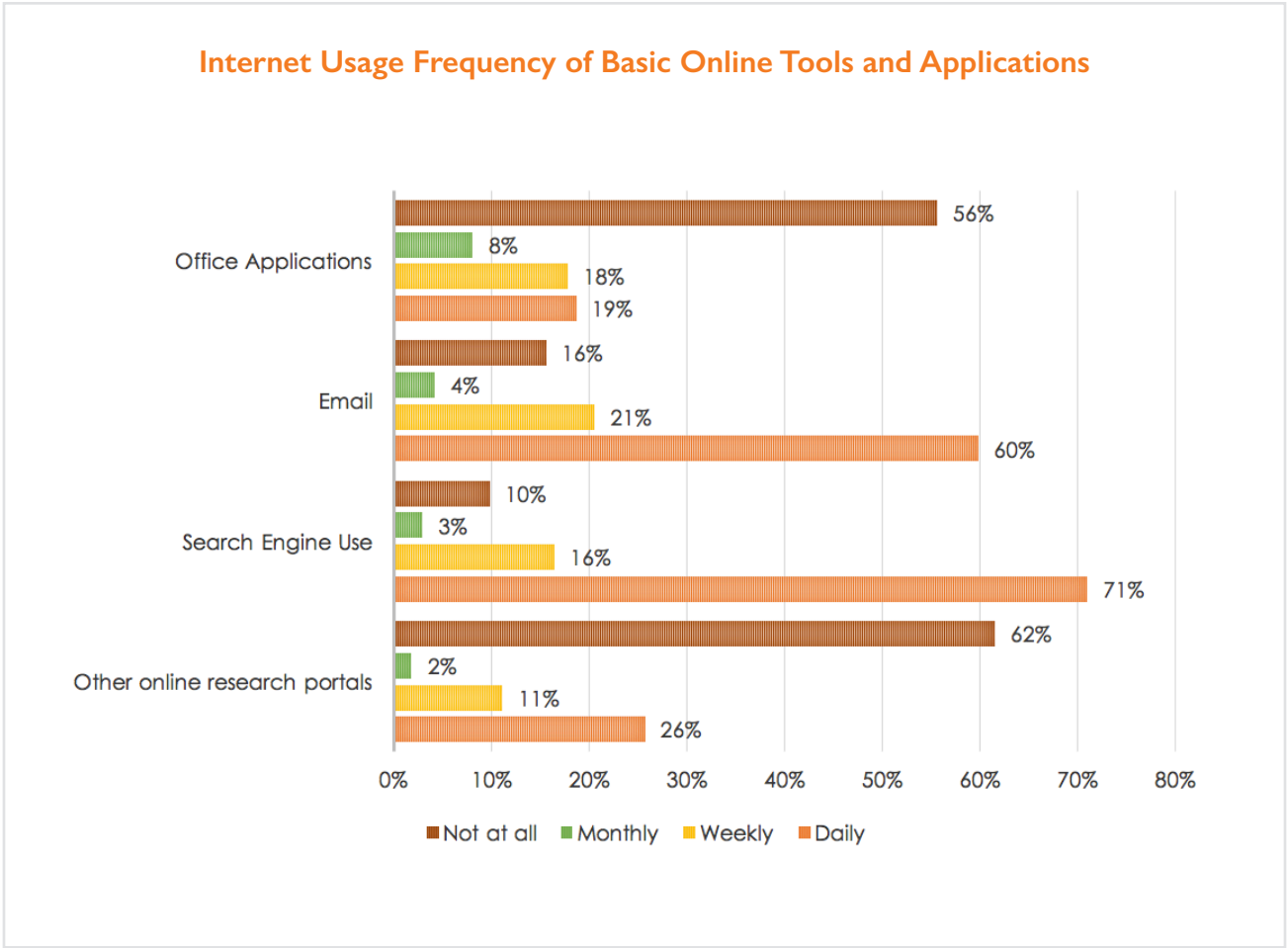


*Figure 17*

[8] This represents an opportunity for training on the use of library and school portals in future digital literacy offerings.

## Educational Activities

In *Section II* (*Figure 7*) we highlighted the frequency that with which school-aged children used their internet service to do schoolwork online. Here, we turn to extend our understanding of the previously discussed finding that 32% of all respondents live in a household where an adult is currently taking a continuing education or college class by inquiring into how often they use online educational resources. ***Figure 18*** illustrates the frequency with which respondents' report engaging with online educational resources. From this data, we can calculate that 25% of respondents are taking online classes, 38% regularly communicate with teachers online, and 64% of all respondents watch how-to videos. Pairing these findings with the previous data from ***Figure 16***, we see a trend of higher reported daily and weekly compared with monthly frequency.

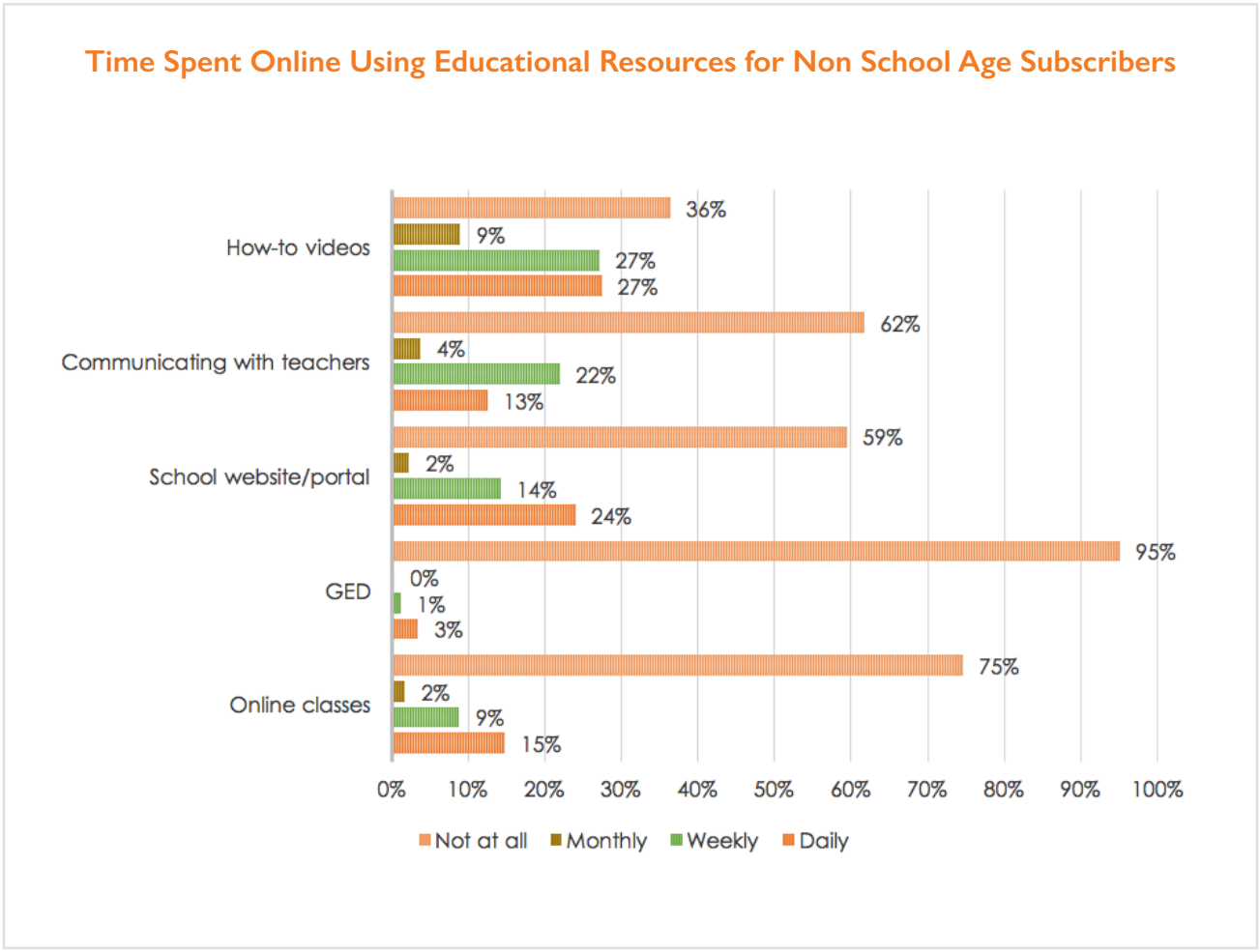


*Figure 18*

## Job Search/Workforce Development

In *Section I*, we learned that 50% of respondents reported to be unemployed at the time of enrollment in the Bridging the Gap program. Therefore, it is not surprising that ***Figure 19*** above shows that 42% (sum of daily, weekly, and monthly time spent) of respondents are actively searching for and/or applying for jobs online.[9] Additionally, we see in ***Figure 19*** that 17% of respondents reported engaging in online job skills training. This finding further emphasizes the importance of internet access as an educational and workforce development resource.

*"The internet was helpful for job search so I could respond to emails."*

– Bridging the Gap subscriber

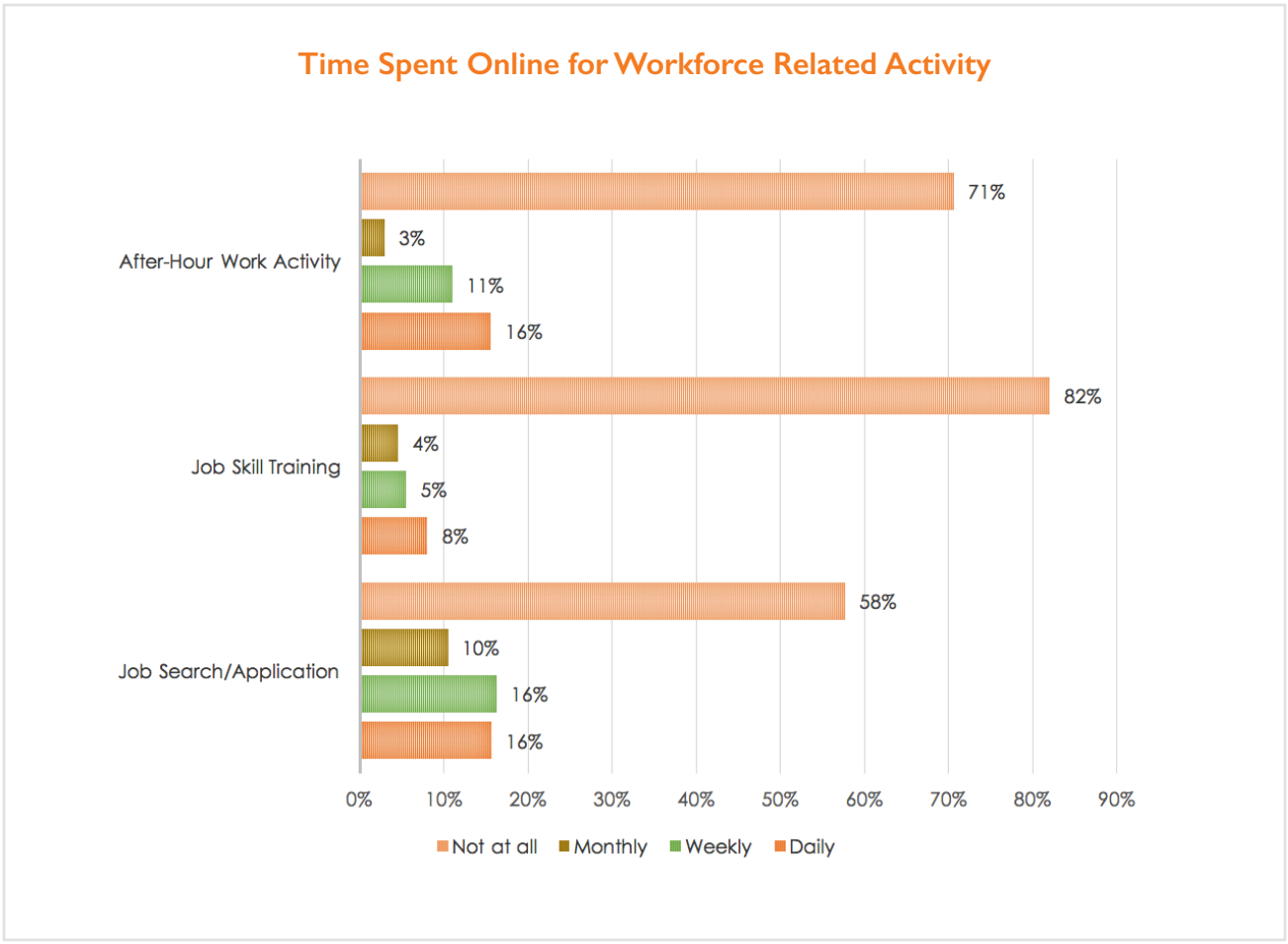


*Figure 19*

[9] Employment status for respondents was collected at the time of enrollment in the Bridging the Gap program, and not during the phone survey. With respondents having had their Mobile Beacon service for varying amounts of time, it is conceivable that respondents' employment status may have changed since entering the program. Therefore, a one to one match of percentage points is not to be expected.

## Wellness/Telehealth

Since the early 2000s, online patient-interfacing portals have been increasingly deployed by all major healthcare organizations. This allows patients to manage appointments, communicate with doctors, request medication, and track test results. The increased prevalence of this healthcare tool can be a great benefit, especially for single-adults living with a disability, seniors, and others who experience challenges going to and from medical appointments. Additionally, other wellness brands (like Weight Watchers) have grown participation in their programs by their virtual presence and new ways of interacting with their programs online.

We asked survey respondents about their use of such online health and wellness platforms and found that 41% of all respondents use online health portals and 15% engage in wellness/fitness programs. ***Figure 20*** shows users are 11% more likely to use health portals monthly than weekly. While internet use for health is reported less frequently than online activity for education or workforce development purposes, digital literacy training may be a driver for additional use in this category.

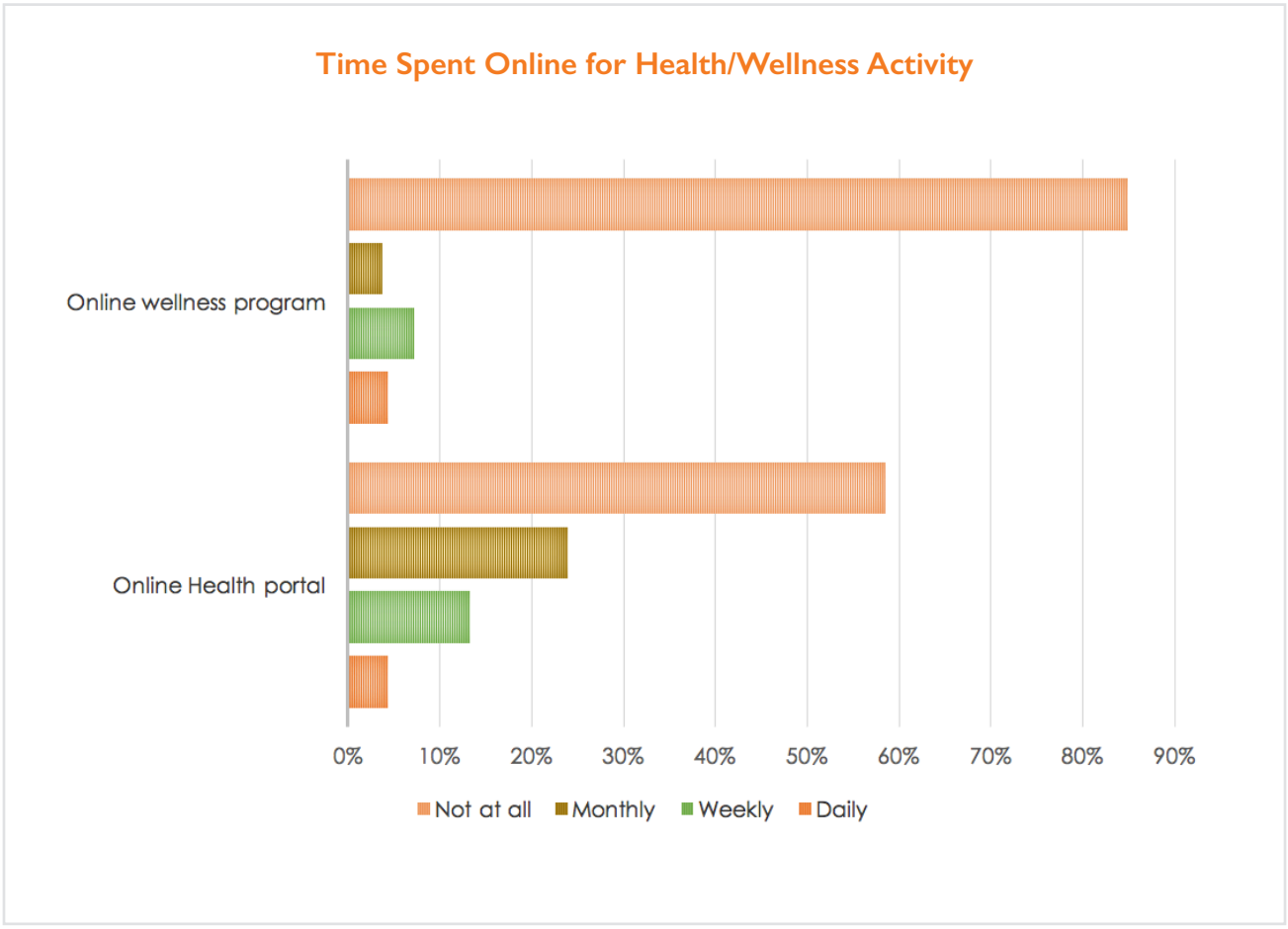


*Figure 20*

## Financial and Benefit Management

Another area of increasing online presence is the growing availability of virtual banking and online financial planning resources. While younger technology users have adopted these new services more readily, older users (many of whom did not grow up with technology) are less trusting of this technology (Schartman, 2012). For this reason, financial equity advocates dissuade banks from being quick to close branches in favor of greater online dependency.

In *Figure 21*, we see that over half (54%) of all respondents engage in online banking. These respondents are also 11% more likely to engage on a weekly as opposed to daily basis. Only about a quarter (22%) reported using the internet service to apply for or manage government benefits, and, not surprisingly given the low-income population served, only 12% are using the internet for online financial planning resources. Future research could uncover whether this population would be interested in basic financial literacy training or resources.

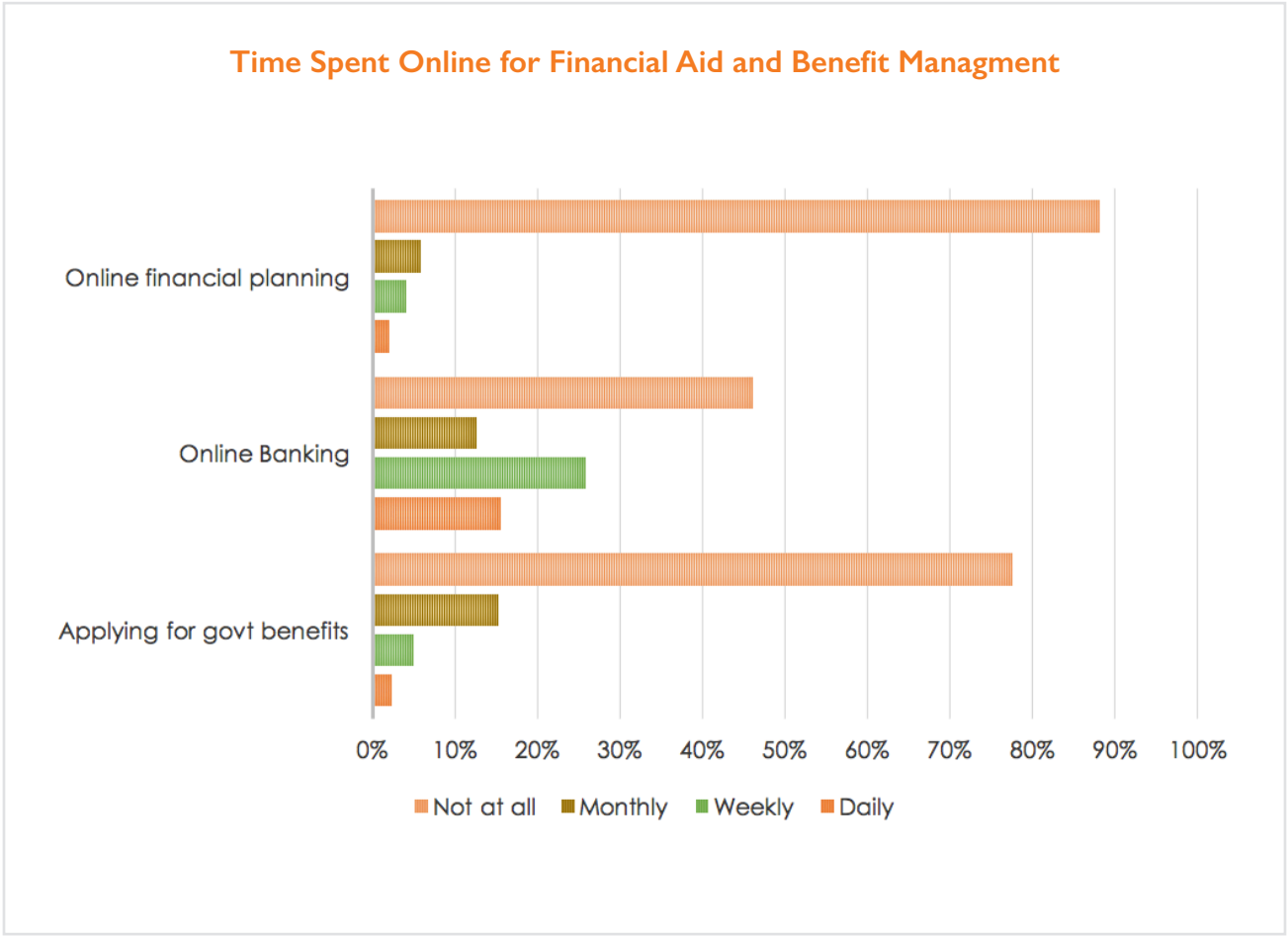


*Figure 21*

## Social Engagement

Online social engagement platforms have provided new and rich ways of interacting with and participating in others' lives. Through social media, we can share photos, videos, and perspectives with our friends and family in real time without the constraint of physical distance. Also, the availability of news online has expanded the way we receive information about our world and reduced the time it takes to reach us.

Online social engagement has helped strengthen our connection to others, particularly for seniors and persons with disabilities who tend to be more isolated. In a detailed survey of program participants conducted by the third largest Broadband Technology Opportunities Program (BTOP) project, 55% of all survey respondents reported feeling more socially connected to their family and friends after getting home broadband access, and 59% of all survey respondents said that having home broadband access makes them feel more independent(Schartman, 2012 Connect Your Community Participant Survey, 2012).

*"I feel strongly that low cost access is important for seniors on a fixed income. It allows them to access the outside world."*

– Bridging the Gap subscriber

With all it has to offer, and as prevalent as social media has become in our society, it is then not surprising that 73% of respondents (***Figure 22)*** reported using their Mobile Beacon internet service for social media (among other online activities). Not far behind is the finding that 67% read news online. These activities are highly-integrated into the lives of Bridging the Gap subscribers as evidenced by the number of respondents reporting to engage in these online activities daily.

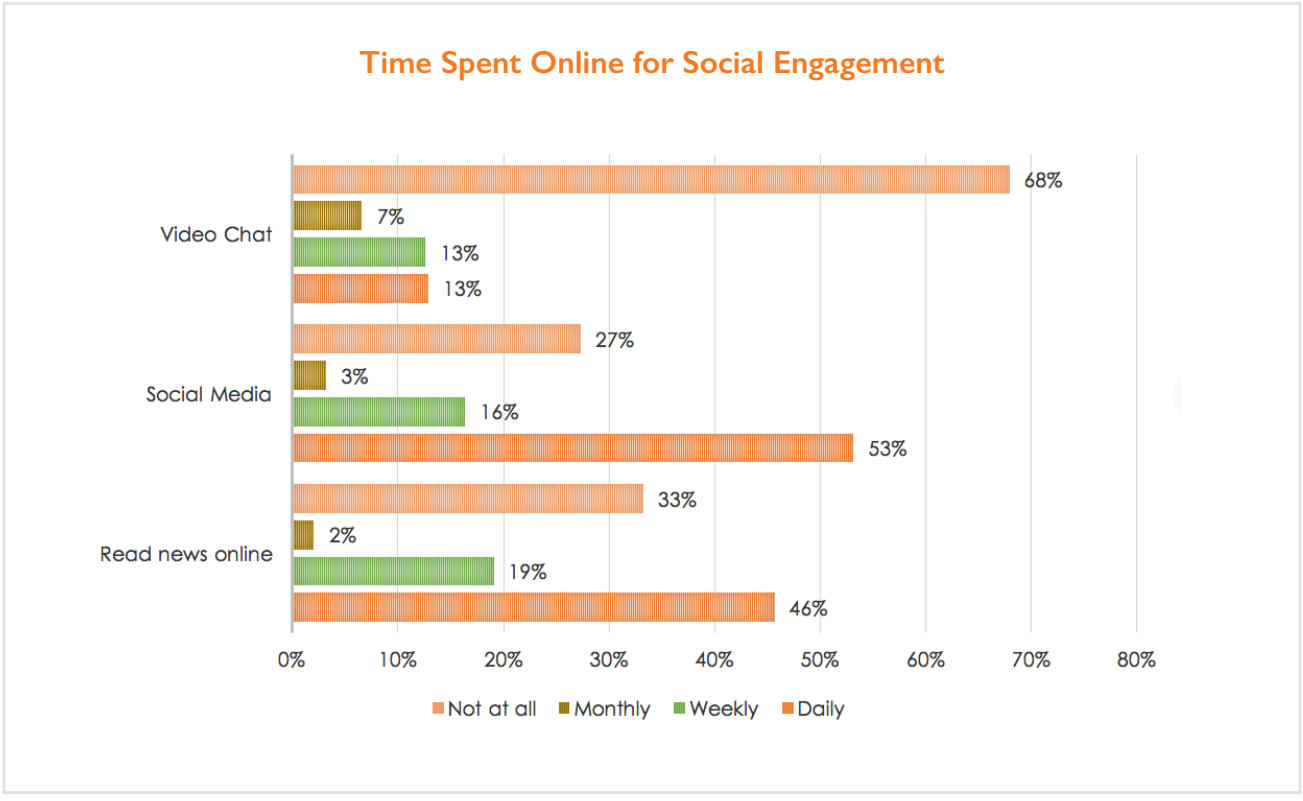


*Figure 22*

## Commerce And Entertainment

The internet has grown into a bustling and lucrative environment for consumers, retailers, and individuals looking to sell goods and services without the need for brick and mortar. Likewise, those looking for entertainment can now find a rich virtual ecosystem ready to provide an endless supply of music, video, and games. No longer are living room gaming sessions or listening parties the standard protocol of aficionados, home connectivity has made possible the option of virtual gaming opponents, and real-time audiophile discussion threads (Versace, 2014).

*Figure 23* illustrates the frequency with which survey respondents engage in online commerce and entertainment. As shown, e-commerce is fairly prevalent with 54% reporting to shop online and 18% reporting to sell goods online. The next most commonly citied activities were online gaming (38%) and online music streaming (37%).

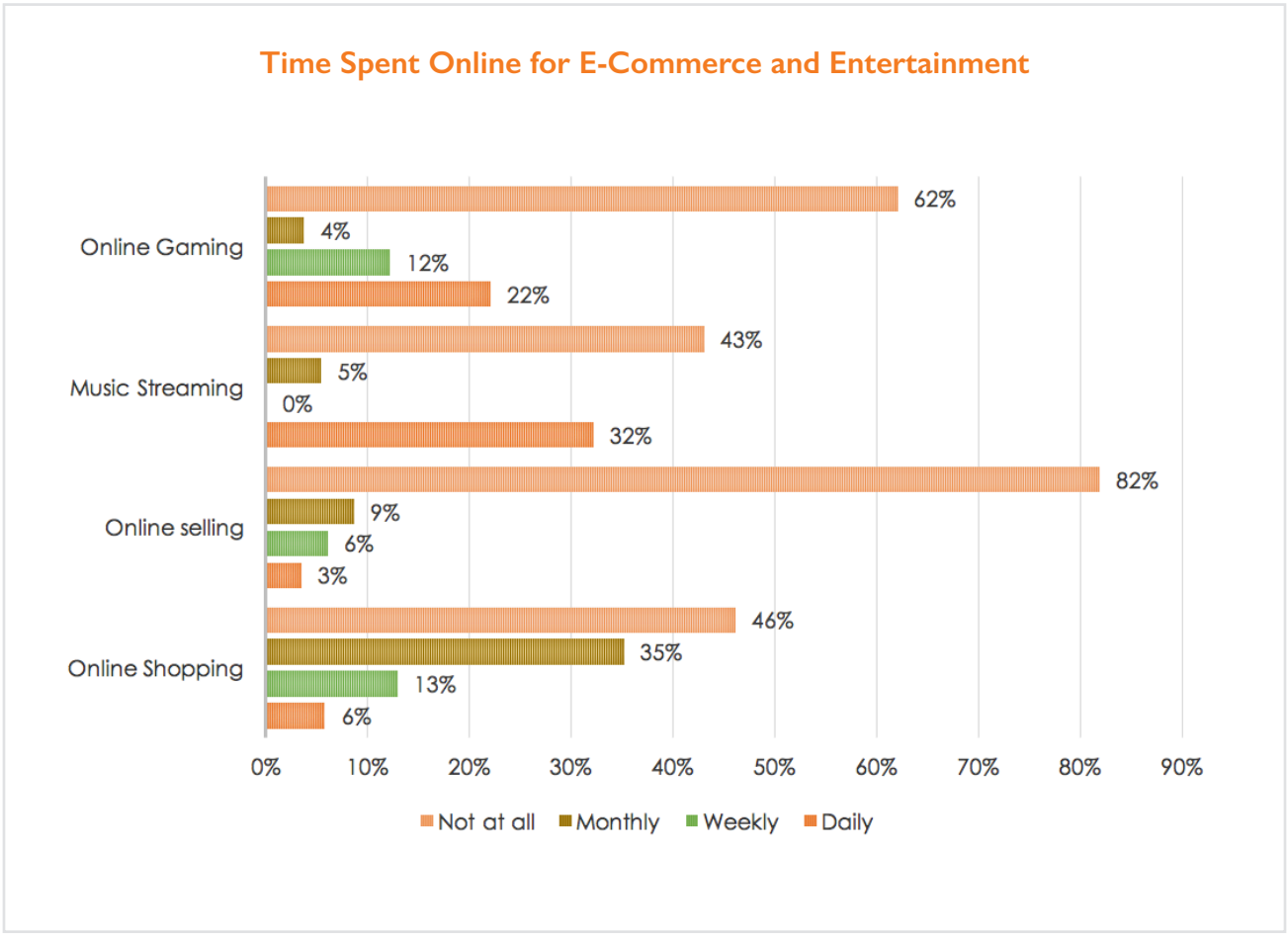


*Figure 23*

# V. Data Consumption Trends with Mobile Beacon's Internet Service

The discussion surrounding the use of data caps has long been a tug-of-war between telecommunications companies that argue their necessity to manage network traffic and consumers and advocacy groups who argue the associated cost-structure produces inequities by pricing certain consumer groups out of the market or limiting what a low-income household can do online.

Because Mobile Beacon's internet is an uncapped and unthrottled service, this provides an opportunity to gain insight into unencumbered online behaviors of low-income families. To investigate the differences in the amounts of data used by respondents reporting to engage in various online activities, we first pulled data usage records over a three-month period (from October to December 2016).[10] From this, it was found that Bridging the Gap households use approximately 41 GB per month on average.

Next, we analyzed the correlation between reported online activities and actual monthly data consumption. For example, in ***Section II*** we learned that 88% of all respondents with school-aged children reported their children use Mobile Beacon's internet service to do schoolwork. We analyzed the data consumption trends of this population and found that these households used 51 GB of data per month – 10 GB more than the overall average. This suggests that the increase in data use by households containing school-aged children is at least partially the result of the additional education-related online activities.

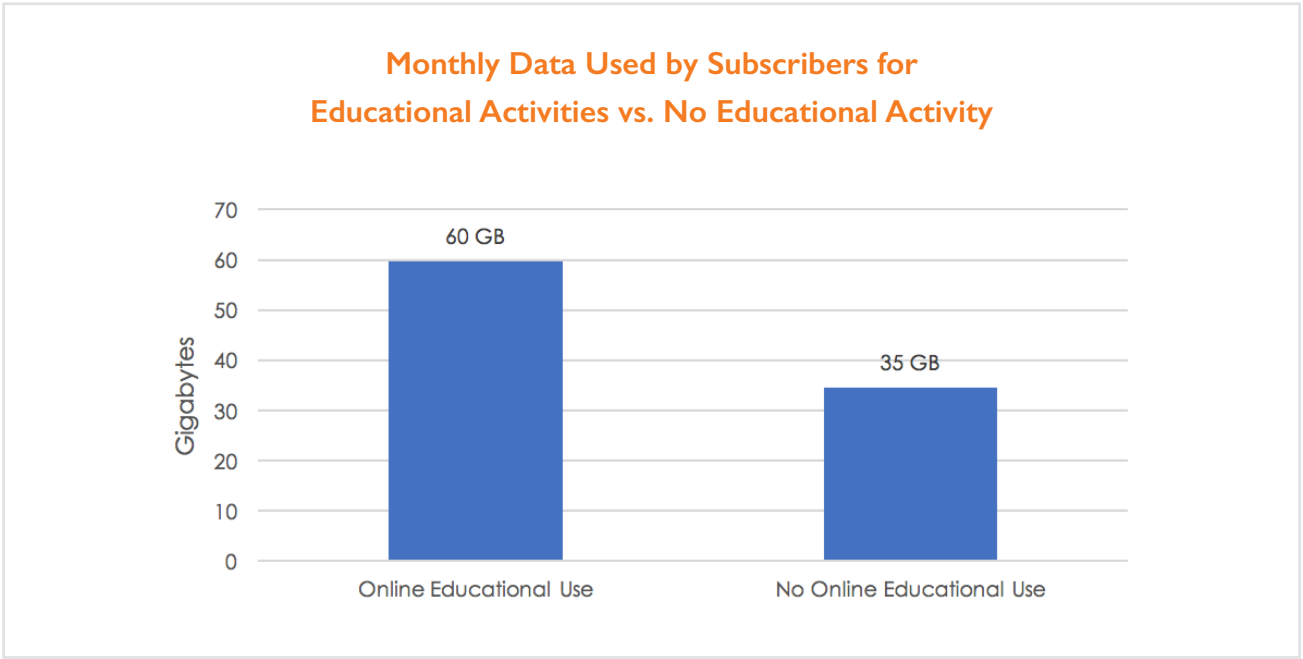


*Figure 24*

[10] The survey was administered in December of 2016 and January of 2017 so data use numbers reflect participant use at the time of responding.

We also analyzed the correlation between reported online educational activities (taking online classes, doing homework online, prepping for the GED, communicating with teachers, and using online research portals) and looked at actual monthly data consumption between this group and those reporting to not engage in such activities. This comparison showed that those using the internet to further their educational pursuits use an average of 25 GB more per month than non-educational users (*Figure 24*).

Similarly, we found a correlation between above-average data use and work-related online activity (*Figure 25*). The data used by those reporting online activities such as searching for jobs, engaging in online job-skills training, and doing work-related activities off-hours is 14 GB greater than those reporting to not engage in such activities.

Some unexpected correlations were found as well. Those who reported watching online how-to videos (monthly use of 45 GB) only use 5 GB more per month than the average user (41 GB), those who use online health portals use no more data than average, and those reported using their Mobile Beacon service outside the home use no more data than the average or non-mobile user.

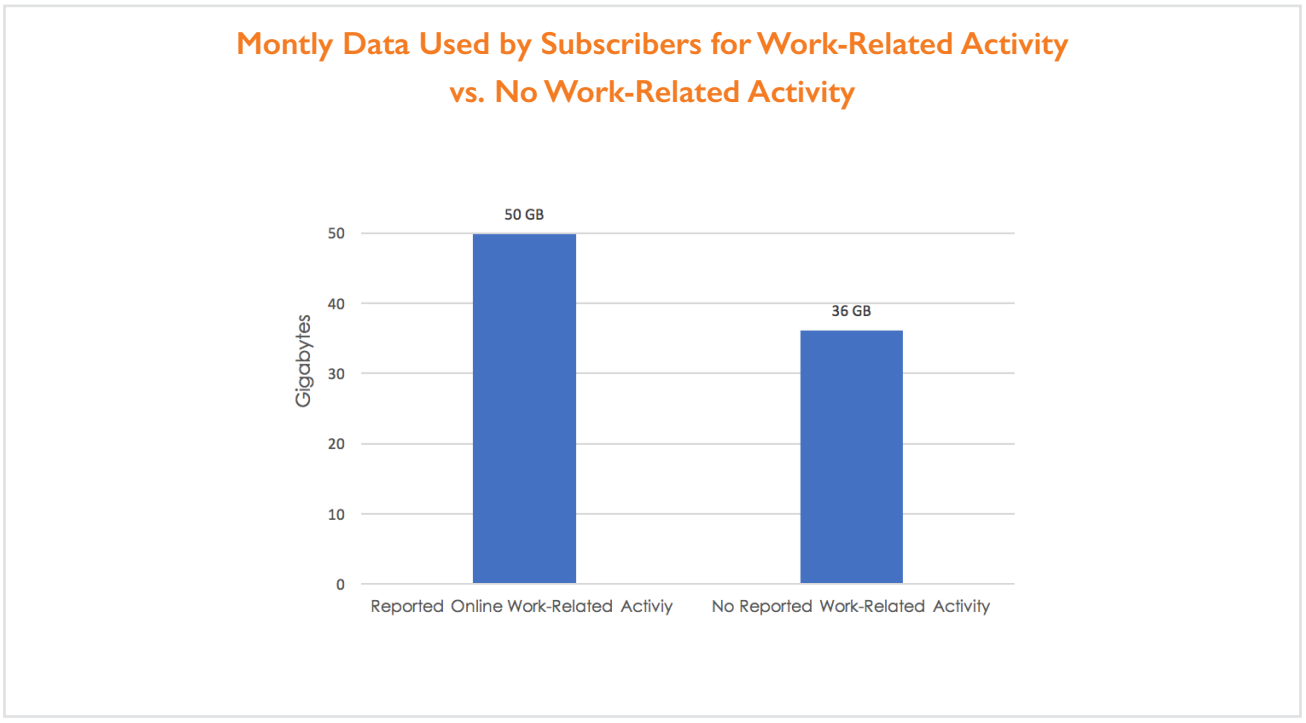


*Figure 25*

# VI. Pathways to Learning about Bridging the Gap and Program Satisfaction

We asked survey respondents how they learned about the Bridging the Gap program. ***Figure 26*** shows respondents overwhelmingly reported being referred to Bridging the Gap by a friend or family member (71%). An additional 21% reported learning about the program from a community nonprofit or service agency, leaving only 8% to have found the program independently through online search or another means. In total, 92% of all respondents used a community resource to find and enroll in the Bridging the Gap program. This finding indicates the major role community networks play in the field of digital inclusion and technology equity.

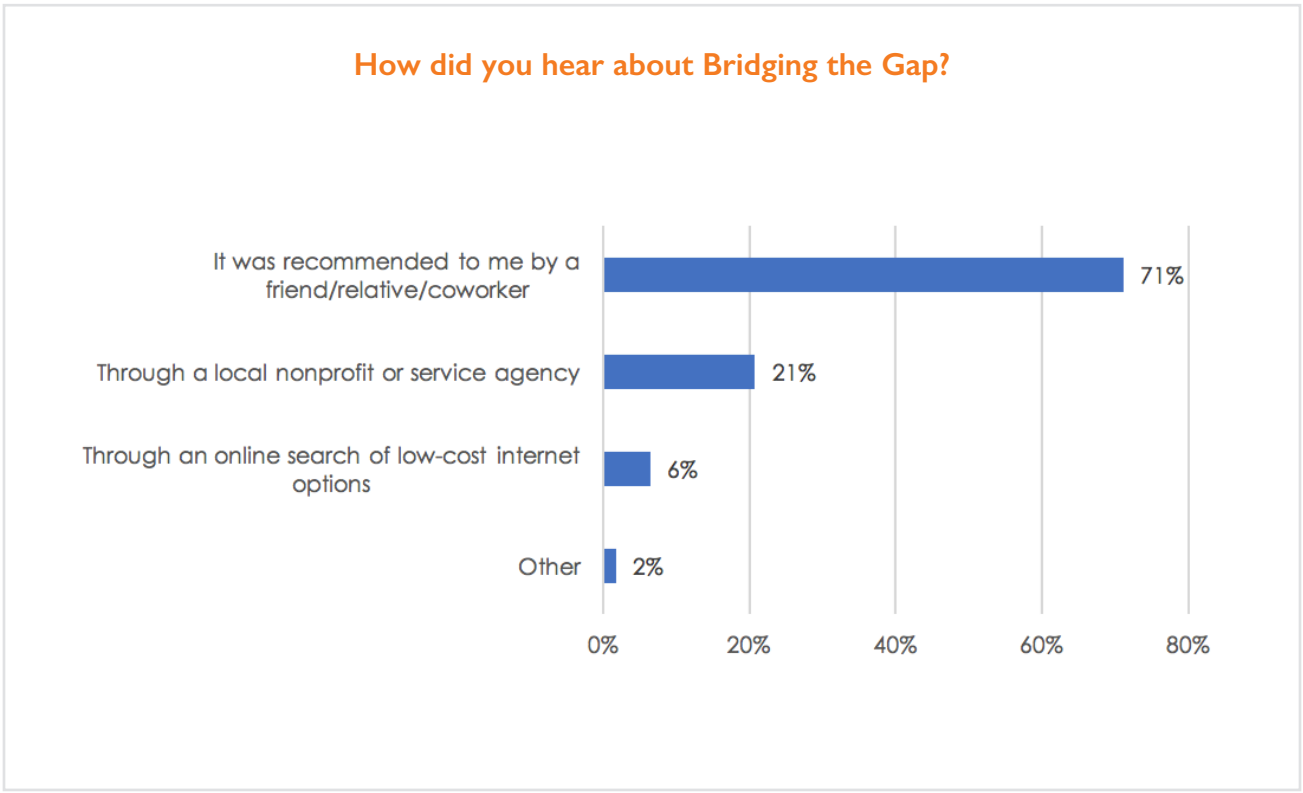


*Figure 26*

Next, we asked Bridging the Gap subscribers if they have recommended the internet service to someone else. 84% of respondents (shown in ***Figure 27***) reported having already recommended Mobile Beacon's service. An additional 15% said that while they have not yet recommended the service, they would if the opportunity arose. Together this adds up to 99% of respondents who would recommend Bridging the Gap to a friend or family member.

Given that referrals are the chief way people learn about the program and 99% of respondents have or will recommend it to a friend strongly suggests the Bridging the Gap program will continue to grow through word-of-mouth marketing. As one respondent put it:

*"You have a choice, and Mobile Beacon and PCs for People care about people."*

– Bridging the Gap subscriber

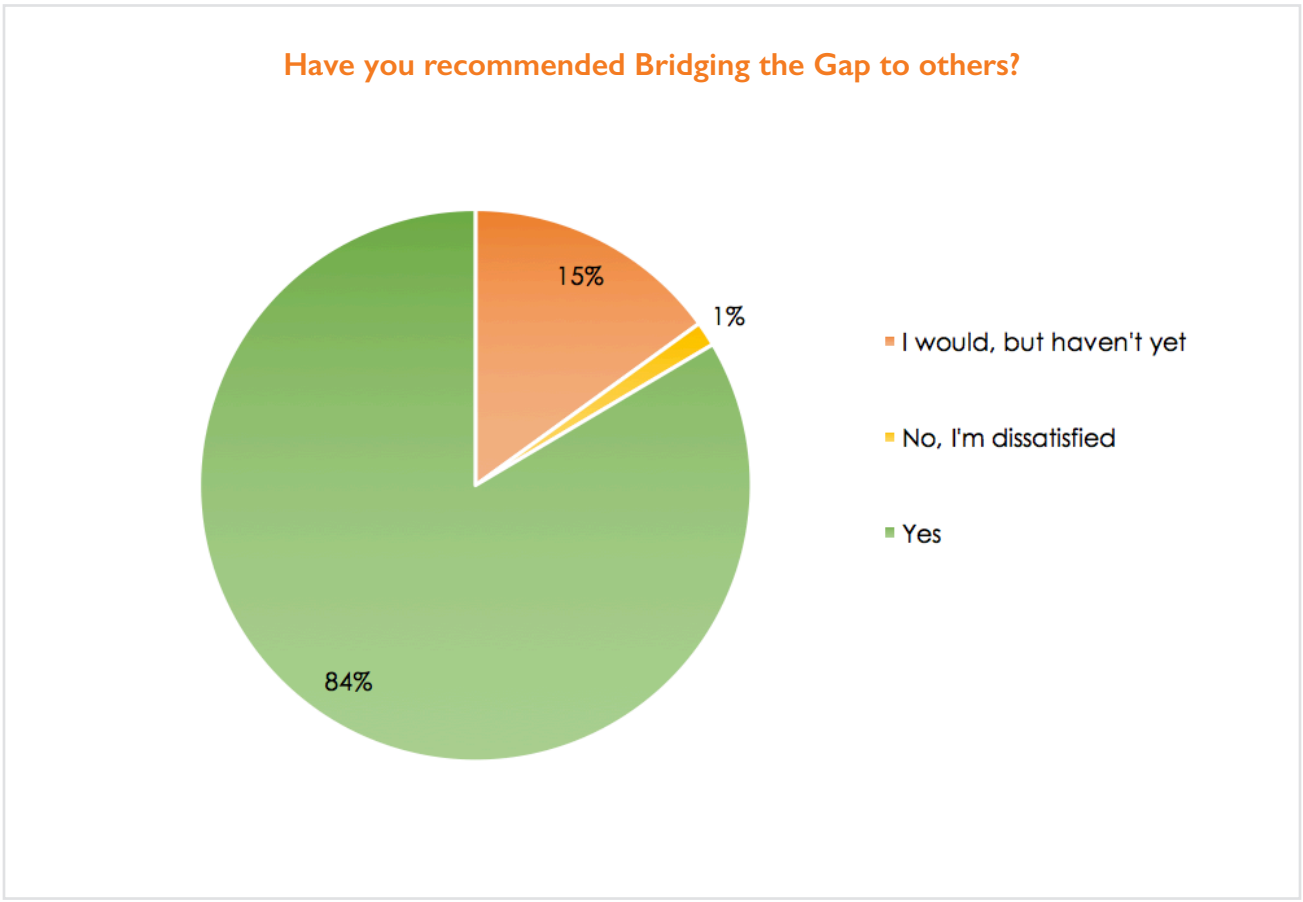


*Figure 27*

# CONCLUSION

This research proves Bridging the Gap's internet service is highly-valued and utilized among low-income individuals and families below the 200% poverty level. Nearly three-quarters (73%) had never had a home internet connection before enrolling in Bridging the Gap. Now, 94% are daily internet users and 82% use the internet for several hours each day. Additionally, among households with two or more members, nearly half (48%) reported all members of the household are using the internet equally. These findings demonstrate that Bridging the Gap is not only successful in terms of increasing broadband adoption among low-income Americans, but also serves as a "whole family" digital inclusion solution.

Moreover, Bridging the Gap subscribers reported using the internet frequently for high-value online activities such as online education/skills acquisition and workforce development. While we were not surprised to learn that 60% of households with a school-age child reported the child (or children) were primary or equal users of the internet, the degree to which adults are using the internet for educational purposes is striking.

94% said the internet is helping them better support their child academically and 88% research topics so they can help their child with their homework. Additionally, 32% of adults are currently enrolled in an adult/continuing education class or attending college. This has tremendous potential to help these adults find higher-paying jobs, which will lead them to jobs with self-sufficient wages and ultimately break the cycle of poverty that persists when individuals have limited access to education and technology.

Lastly, the information we gathered about the previous internet service available to this population (the speed and type of connection, the amount of data included, and the cost for such service) raises awareness of the ways commercial internet plans limit or discourage "whole family" broadband adoption. This research also suggests that data caps make it more difficult to engage in certain online activities (60% reported having difficult completing homework or an online class due to data caps), and 24% only enrolled in a daily or weekly online class after switching to Bridging the Gap's unlimited internet service.

The value of affordable, uncapped internet access for low-income families is clear, and, as this report shows, is measurable. We encourage digital inclusion advocates and practitioners to elevate the need for "whole family" broadband adoption as a digital inclusion standard. We also suggest further research and emphasis be placed on the role data caps and the speed of connections play in limiting the activities low-income families are able to engage in online. Digital equity demands that low-income users should be able to use the internet for the same things their wealthier peers can. This study proves that it is critical provide low income Americans with the reliable connectivity necessary to compete in today's world.

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