

Communities & Wi-Fi:

African Americans and Latinos are heaviest users of Wi-Fi networks and use them as pathways to education, jobs, entertainment, and increased efficiency

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About the authors

John B. Horrigan is an independent communications and technology policy consultant. Horrigan's work focuses on consumers' adoption and use of information and communications technologies, as well as ICTs' impacts on states and localities. He is most recently author of "[Schools and Broadband Speeds](#)" for the LEAD Commission and the Alliance for Excellent Education, which explores gaps in high-speed Internet at schools serving low-income and minority students. He is also author of a landmark report "[The Essentials of Connectivity](#)" that makes recommendations on how to accelerate broadband adoption and usage by examining broadband users enrolled in Comcast's Internet Essentials program.

Horrigan has served in senior positions at the Pew Research Center, the Joint Center for Political & Economic Studies, and TechNet. At the Federal Communications Commission in 2009-10, he led development of the broadband adoption and usage portion of the National Broadband Plan. Horrigan has a Ph.D. in public policy from the University of Texas at Austin and his undergraduate degree from the University of Virginia.

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Summary of Findings

Internet access via Wi-Fi has become a routine part of Internet users' online habits. At home and on the go, portable computing devices allow people to bring the Internet along as they go about their daily lives. Although people's paid subscription data plans enable much of this "on the go" access, publicly available Wi-Fi networks also play a large role in this phenomenon. By publicly available, we mean access available at public libraries, community centers, city or publicly available commercial Wi-Fi networks and schools. This report examines people's use of the Internet with an emphasis on the role of Wi-Fi networks. It also compares how communities of color – here focusing on African Americans and Latinos – engage with Wi-Fi networks in contrast to white Americans. The main findings are as follows:

A majority of online users have at some point used Wi-Fi networks in public places, with African Americans and Latinos more likely to have done this than white Americans.

- 55% of African Americans have used public Wi-Fi networks, defined as the use of Wi-Fi at school, a public library, a local community center, or a municipal Wi-Fi system.
- 54% of Latinos have used public Wi-Fi networks.
- 50% of whites have used public Wi-Fi networks.

Latinos and African Americans are also more frequent users of public Wi-Fi than white Americans.

- 33% of Latinos use public Wi-Fi at least *somewhat often*.
- 29% of African Americans use public Wi-Fi at least *somewhat often*.
- 22% of whites use public Wi-Fi at least *somewhat often*.

African Americans and Latinos are especially heavy users of Wi-Fi (at home or via public networks) for entertainment and searching for jobs.

- 71% of Latinos and 65% of African Americans watch videos, listen to music, look at art, or play games on Wi-Fi.
 - This compares with 63% of whites who do use Wi-Fi for these purposes.
- Minority users do these entertainment activities *more frequently* than whites.
 - 35% of African Americans who use Wi-Fi for these applications do so *very often*.
 - 32% of Latinos who use Wi-Fi for these applications do so *very often*.
 - 19% of whites who use Wi-Fi for these applications do so *very often*.
- 39% of African Americans and 37% of Latinos have used Wi-Fi to look for or apply for a job.
 - This compares to 21% of whites who have used Wi-Fi to look for or apply for work.
- Minorities search for jobs online more frequently than whites.
 - 28% of African Americans who use Wi-Fi for job searching do this *very often*.
 - 20% of Latinos who use Wi-Fi for job searching do this *very often*.
 - 9% of whites who use Wi-Fi for job searching do this *very often*.

Wi-Fi users are more likely than others to say that the Internet has positive impacts on their lives. African Americans and Latinos report greater positive impacts than whites in areas such as education, saving time on everyday activities, job search, and pursuing creative activities.

When asked to think about whether the Internet helps in specific areas in their lives, here is how African Americans, Latinos, and whites compare:

- **Education:** 62% of African Americans and 60% of Latinos say the Internet has helped with their education; 50% of whites say this.
- **Saving time:** 56% of African Americans and 54% of Latinos say the Internet helps them save time on day-to-day activities; 43% of whites say this.
- **Job searches:** 57% of Latinos and 55% of African Americans say the Internet helps them search for jobs; 40% of whites say this.
- **Creative activities:** 52% of Latinos and 50% of African Americans say the Internet helps them pursue activities such as writing, music, arts, or crafts. Just 43% of whites say this.

The impacts are greater for those who have used public Wi-Fi networks. On average, these impacts are about 11 percentage points higher for those who have used public Wi-Fi networks.

Wi-Fi users have more positive attitudes about future-oriented Internet applications that rely on wireless networks, such as controlling home energy use or monitoring health of fitness. African Americans and Latinos show higher levels of interest than whites.

Respondents were asked whether they were interested in several different applications that are just emerging in widespread use.

- **Control home energy use:** 58% of Latinos and 53% of African Americans were “very” or “somewhat” interested in this, compared with 51% of whites.
- **Monitor personal health and fitness:** 55% of Latinos and 51% of African Americans were at least somewhat interested in this; 49% of whites were.
- **Home entertainment:** 49% of African Americans and 45% of Latinos were at least somewhat interested in this; 43% of whites were.

As with questions about the Internet’s impacts, Wi-Fi users were more likely to be interested in these activities – by a margin of about 12 percentage points.

Many people believe industry and government can improve the Internet by investing in wireless networks.

When asked to think about things industry and government could do to improve the Internet, here is what respondents said on several different topics:

- **Make it easier for people to secure their personal information:** 86% of whites, 85% of African Americans, and 84% of Latinos cited this.

- **Increase the speed of Wi-Fi networks:** 82% of Latinos cited this, 79% of African Americans did, and 77% of whites did.
- **Increase the availability of free Wi-Fi networks in public places:** 79% of Latinos cited this compared with 74% of African Americans and 71% of whites.
- **Invest in wired networks to increase access speeds to people's homes:** 73% of Latinos cited this compared with 67% of African Americans and 62% of whites.

Nearly 4 in 10 pointed to improving the speed, availability, and reliability of wireless networks as the *most important* thing stakeholders could do to improve the Internet.

- 55% of African Americans said the most important thing stakeholders could do was to make it easier to protect personal information; 52% of whites and 50% of Latinos said this.
- 39% of African Americans said either improving the speed, availability, or reliability of wireless networks was the most important step stakeholders could take. Some 37% of whites and Latinos also said this.

Introduction

Demand for wireless “on the go” online access has been growing rapidly in the United States in recent years. The National Broadband Plan made recommendations in 2010 to increase the supply of licensed and unlicensed spectrum in order to avoid a spectrum crunch for America.¹ Industry forecasts show mobile data traffic grew by 82% from 2013 to 2014 (driven mostly by video), with growth in tablet adoption (having increased by 52% from 2013 to 2014) a huge driver.² User studies document the growth in users going online via their cell phones, with 63% having done this in 2013, up from 47% two years earlier.³

These trends underscore the need to respond to user demands by improving the environment for wireless Internet use. Unlicensed wireless networks play a key role in that environment, many of which rely on the Wi-Fi Standard. Although some research has characterized how people use wireless networks in a very coarse way, little research probes into people’s wireless usage patterns at a granular level. Do they rely on wireless access through their data plan (that is, licensed spectrum)? Do they use Wi-Fi at home? Do they use wireless in public places where Wi-Fi (unlicensed) networks are the conduit to the Internet? Does Wi-Fi make a difference in how people view the Internet’s benefits? This report focuses on Wi-Fi, particularly usage patterns among minority groups (here focusing on African Americans and Latinos) in public places.

Understanding people’s wireless Internet habits in a survey context is challenging, since respondents may not know very much about the differences in the technologies they use to access the Internet. Still, past research has found that a strong majority of Americans – some 74% – are familiar with the term “Wi-Fi.”⁴ Most homes report having wireless networks, suggesting people have an understanding of the basics of wireless technology. This research made every effort to be clear in question framing to help respondents distinguish between wireless access that is enabled by Wi-Fi as distinct from subscription cellular data plans.

The other distinguishing characteristic of this research is its focus on race and ethnicity. Past research has shown that, compared to all Americans, African Americans and Latinos rely heavily on mobile wireless to go online (while lagging the average in-home broadband adoption).⁵ One can suspect that the wireless habits of these minority communities extends to Wi-Fi, but research – until now – has not looked into this in depth. The survey that is the basis of this report finds heavy reliance on Wi-Fi among all users, but especially for African Americans and Latinos. More than half have used Wi-Fi in public places, with African Americans and Latinos leading the way in overall Wi-Fi use, frequency of use, and reported impacts of Wi-Fi access on how they benefit from the Internet.

Methodology

The report that follows is based on a national survey that compares Wi-Fi usage patterns for white Americans, African Americans, and Latinos. The sample is made up of 434 white adult Internet users, 411 African American adult Internet users, and 418 Latino adult Internet users. The survey was conducted by The GfK Group using an online survey frame. The survey defines Internet users

as those either with broadband at home or a smartphone. The margin of error for results for each of the three groups is plus or minus 5 percentage points.

I. Use of Wi-Fi in Public Places

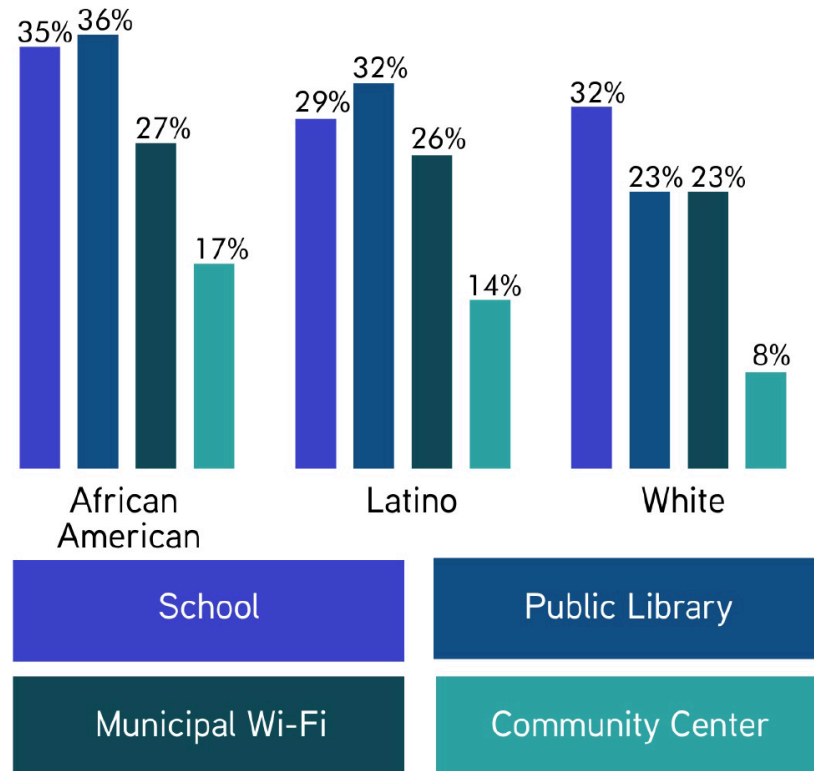
Wi-Fi is a staple in most Americans' homes, as households use wireless routers in conjunction with their (usually) wireline broadband subscription to enable untethered Internet use around the house. Although this report will discuss this use case, the main focus will be on Wi-Fi in public places. Such access is often a convenience for people, but in some cases it is a crucial access pathway for people who may not have access at home or might, in certain circumstances (e.g., for educational purposes) need access outside the home.

When asked whether they had used a Wi-Fi network at a public place to go online, minorities were more likely than whites to say they had done this. Specifically:

- 55% of African Americans use Wi-Fi in public places.
- 54% of Latinos use Wi-Fi in public places.
- 50% of whites use Wi-Fi in public places.

This research defines “use of Wi-Fi in a public place” as use of a Wi-Fi network to go online at school, public library, local community center, or a publicly available commercial or municipal Wi-Fi network. The specific responses to questions asking about this are as follows.

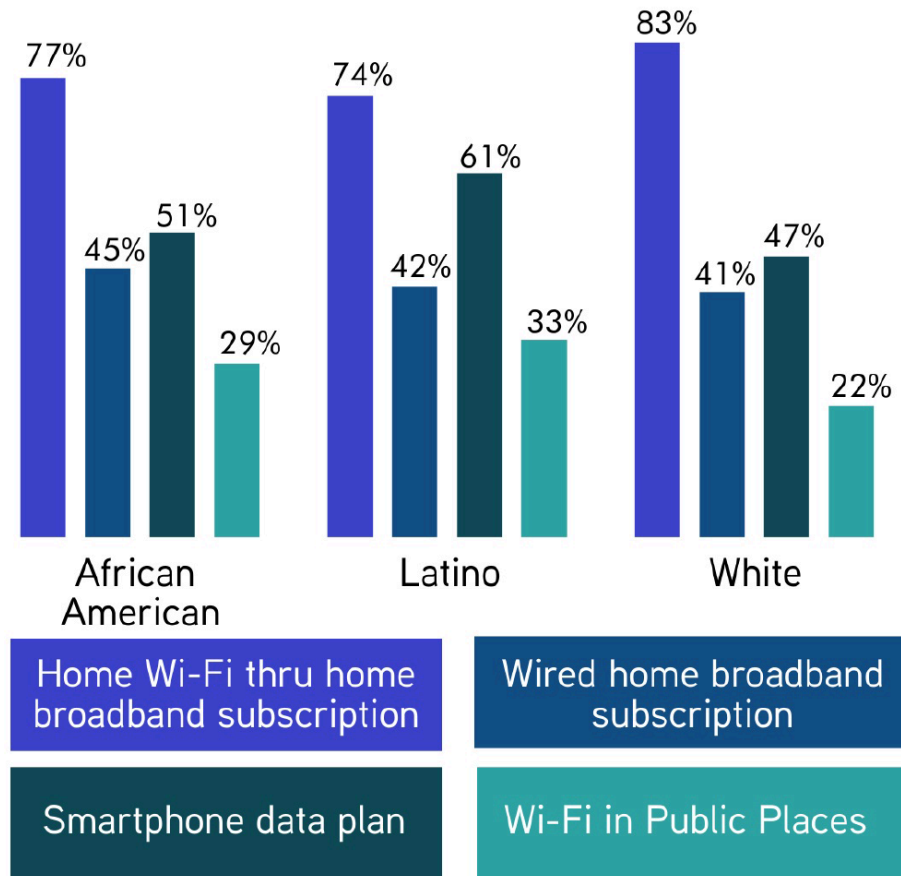
Chart 1: Use of Wi-Fi in public places



It is worth noting that the survey also asked about Wi-Fi use at a hotel and most respondents had done this. Two-thirds (68%) of whites had used a Wi-Fi network at a hotel, followed by African Americans (56%), and Latinos (55%).

The survey also asked respondents to think about the frequency with which they go online, not just in the context of Wi-Fi but also other means. The results show the African Americans and Latinos have a stronger orientation to public Wi-Fi than whites.

Chart 2: How respondents connect when they go online



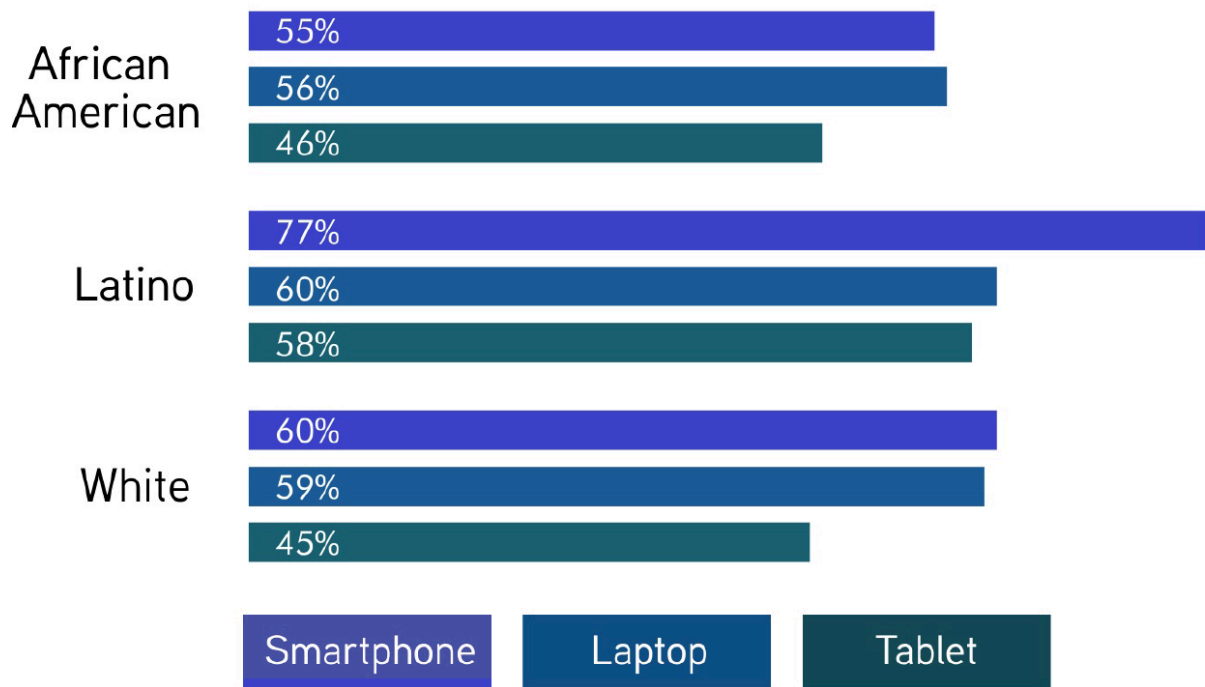
While Table 1 emphasized whether people had *ever* used Wi-Fi in public places, Table 2 goes to frequency of use. Table 2 shows that anywhere between one-fifth and one-third of respondents use Wi-Fi in public places at least somewhat often. Moreover, Wi-Fi access in public places plays a larger role for communities of color. One-third (33%) of Latinos use public Wi-Fi at least somewhat often to go online, with 29% of African Americans saying this. One in five (22%) of whites, by contrast, say this. For home networking, whites are most likely to use a home Wi-Fi connection *very* often to go online.

For Latinos and African Americans with smartphones, wireless access plays an important role. These groups are much more likely than whites to use the data plan on their smartphones *very often* to go online. This is not surprising since Latinos and African Americans have higher rates of smartphone ownership than white. In this survey, 76% of Latinos have smartphones, 74% of

African Americans do, and 70% of whites have smartphones. Note also that most respondents have wireless networks at home; 89% of whites do, compared with 83% for Latinos and 81% for African Americans.

Smartphones figure prominently for Latinos (especially) and African Americans when using Wi-Fi, in contrast to the emphasis on smartphone use on a data plan in Table 2. When asked to think about how they connect to Wi-Fi using different devices, smartphones were especially important for Latinos.

Chart 3: Devices used to connect to Wi-Fi



II. Activities people do online using Wi-Fi

Access to the Internet is one thing, but the Internet's role in people's lives depends on what they do once they are online. The survey asked people about the kinds of things they do online using Wi-Fi as their online onramp and the following table shows the results.

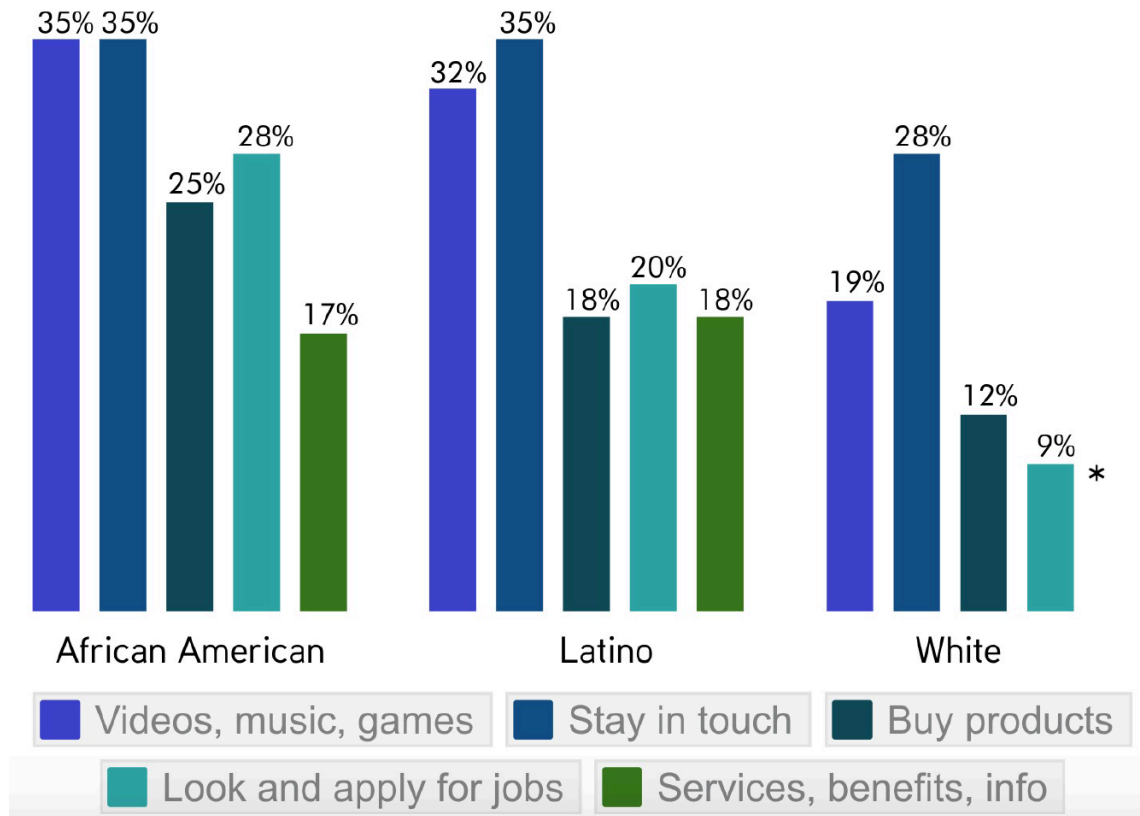
Chart 4: Activities people do on Wi-Fi

	Whites	African Americans	Latinos
Stay in touch with family & friends through, texting, Facebook, or LinkedIn	75	68	68
Buy products	67	54	59
Watch videos, listen to music, look at art, or play games	63	65	71
Access government services, benefits, or information	27	38	34
Look for or apply for a job	21	39	37
Make phone calls using services such as Skype or Vonage that do not use minutes from your cell phone calling plan	19	22	27
Do school work for a degree program you are enrolled in	11	18	20
Take a class online for credit	9	16	17

It is no surprise that respondents' online habits cover a wide range of ground. Whites are more likely to say their Wi-Fi Internet use involves social networking or commerce, while African Americans and Latinos use Wi-Fi for job search, school work, or accessing government services.

The prominent role for Wi-Fi shows up clearly when respondents are asked about the frequency that they use Wi-Fi for certain activities. The survey included a follow-up question to those who responded "yes" about use of Wi-Fi for a specific activity. African Americans and Latinos, when compared to whites, were much more likely to say they had used Wi-Fi for particular online activities. Note that the table does not include all activities since the number of respondents for some activities was too small and thus lack the necessary statistical reliability.

Chart 5: Frequency of online activities performed over Wi-Fi



African Americans and Latinos report that they are more frequent users of Wi-Fi for the online activities shown. For accessing government benefits or looking for a job, there were not enough cases for whites to report the figures for comparison, but African Americans and Latinos in both instances exceeded the incidence for whites by wide margins.

III. The Internet & its impacts for Wi-Fi users

The Internet offers potential benefits to those who use it that include entertainment, economic opportunity, and feeling closer to friends and communities. The depth of these impacts depends on a number of factors – a user’s digital skills, the quality of the network, and the quality and quantity of access devices, to name just a few. In a survey, it is not unreasonable to ask people to consider, in a broad context, whether the Internet is a help to them in various aspects of their lives. By contrast, asking them to assess whether a specific element of online access – makes a difference – a tablet computer or a Wi-Fi network is a more challenging proposition for respondents.

Given that the goal of this research is to understand Wi-Fi and its impacts, the strategy adopted here is to ask users about the Internet’s impacts and see if public Wi-Fi users differ from others. Recall that about half the sample for each population subgroup in question said they use public Wi-Fi (that is, either at public libraries, school, community centers, or muni Wi-Fi). This offers a useful point of comparison to see whether public Wi-Fi users report different levels of the Internet’s

impact. The following table shows results for a question which ask: “How much, if at all, does the Internet contribute to ...?” specified activities.

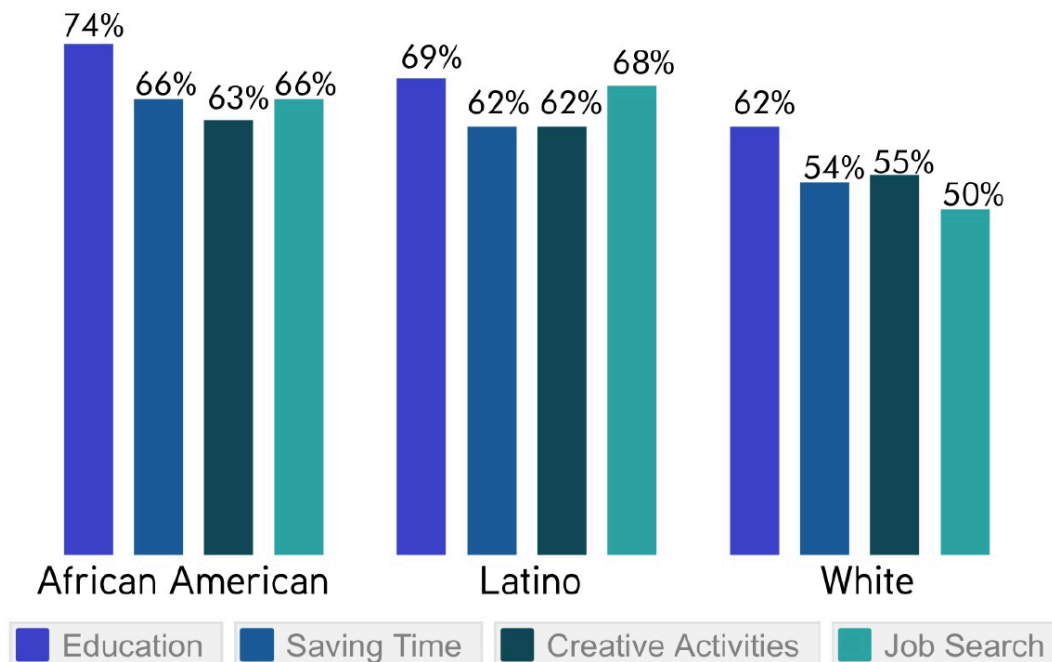
Table 1: Impacts of online access

	Whites			African Americans			Latinos		
	Total	A lot	Some	Total	A lot	Some	Total	A lot	Some
Saving money	65	29	36	62	31	31	61	30	31
Education	50	23	27	62	34	28	60	32	28
Doing your job	47	26	21	47	26	21	49	25	24
Saving time	43	14	29	56	25	31	54	21	33
Creative Activities	43	14	29	50	22	28	52	24	28
Job Search	40	20	20	55	34	21	57	30	27
Schedule	35	12	23	38	18	20	45	17	28

As the table shows, there are variations across racial and ethnic categories, particularly for the Internet’s impact on educations, saving time, and job searches. In those areas, African Americans and Latinos report significantly higher impacts, especially (for education and job search) with respect to respondents saying the Internet helps “a lot.”

For public Wi-Fi users, the Internet’s reported impacts are even greater than for the entire sample.

Chart 6: Impacts of online access: Wi-Fi users



Comparing the two tables shows that those who use Wi-Fi in public places exhibit higher levels of reported impacts across the activities about which they were asked. For results based on those who said the Internet helps “a lot” or “somewhat,” those who have used Wi-Fi in public places report more positive impacts by an average of 11 percentage points across each of the three racial/ethnic

categories. The patterns for the prior table also hold; African Americans and Latinos exceed whites on a number of measures, such as job searches, educational, and time-saving impacts.

It is important to emphasize that the results do not necessarily mean Wi-Fi is causing people to perceive higher levels of the Internet's impact in their lives. On the one hand, it is entirely reasonable to trace a path from Wi-Fi access to people's sense that the Internet can help with education, especially if they use Wi-Fi at a school or library. The presence of Wi-Fi may help complete an assignment and that person may be more likely to herald the Internet's impact on education. On the other hand, Wi-Fi users could just be more enthusiastic and sophisticated tech users; they report higher levels of impacts because of who they are, irrespective of Wi-Fi networks.

This research does not settle the cause-and-effect issue. However, the differences between those who use public Wi-Fi and those who do not are significant and consistent across a number of online activities and reported impacts. This leads to two clear implications:

- Public Wi-Fi networks are catalysts to greater online use and higher levels of satisfaction with how the Internet impacts users' lives.
- These impacts are greater for African American and Latino Internet users.

IV. Looking to the future

With so many new Internet applications on the horizon – most of them dependent on wireless networks to serve users – the survey asked respondents to think about emerging applications and ways to improve the Internet and wireless access going forward.

Internet users surveyed show reasonable levels of interest in applications that help them monitor home energy usage and personal health and fitness. Here is what they said when they were asked how interested they would be in “New and emerging Internet applications use devices connected through wireless networks to provide information and services to individuals about their home and themselves.”

Table 2: Interest in future applications

	Whites	African Americans	Latinos
% “very” or “somewhat” interested			
Control how much energy your home uses	51	53	58
Monitor your personal health or fitness	49	51	55
Operate a home entertainment system for video or music	43	49	45
Operate a home security system	42	46	52
Keep track of the household items so that you know which items you need to shop for	41	45	51

As was the case when asking about the Internet's impacts, there is a sizable boost in interest among respondents who have used public Wi-Fi.

Table 3: Interest in future applications: Public Wi-Fi users

	Whites	African Americans	Latinos
% “very” or “somewhat” interested			
Control how much energy your home uses	63	64	70
Monitor your personal health or fitness	60	64	67
Operate a home entertainment system for video or music	58	63	68
Operate a home security system	53	56	53
Keep track of the household items so that you know which items you need to shop for	53	58	64

Table 9 clearly shows that African Americans and Latinos are more likely than whites to be receptive to emerging applications that rely on wireless networks, with Latinos markedly more open to these applications.

The other questions looking to the future examined steps stakeholders can take to improve the Internet. Many of the questions focused on wireless, but not all (in order to avoid too much emphasis on one theme that might bias results). As the table below shows, online users, while heavily emphasizing the importance of the security of their personal information, are more likely to favor efforts to improve wireless networks compared to wired networks.

When asked what things stakeholders could do to improve the Internet, here’s how they responses played out comparing responses from whites, African Americans, and Latinos.

Table 4: Things stakeholders could do to improve the Internet

	Whites	African Americans	Latinos
Make it easier for people to make sure their personal information is secure	86	85	84
Improve the reliability of wireless networks so online applications operate better	78	77	79
Increase the speed of Wi-Fi networks	77	79	82
Ensure wireless networks are available in more places	73	75	77
Increase the availability of free Wi-Fi Internet access for mobile use	71	74	79
Improve Wi-Fi at schools and libraries	67	72	77
Invest in wired networks to increase the speed of service to people’s homes	62	67	73

Understandably, people place the security of their personal information at the top and an overwhelming majority thinks more should be done in this area. After that, large majorities think efforts should be undertaken to improve Wi-Fi network speeds, availability, and reliability. Two-thirds think improving Wi-Fi at schools and libraries would be a good thing.

The gap between those who say stakeholders should make efforts to improve the speed of wireless and wireline networks is notable. Some 77% of whites, 79% of African Americans, and 82% of Latinos said highlighted the need to improve the speed of wireless networks. Fewer said this about wired networks; 62% of whites said investments to improve wired networks was worthwhile, 67% of African Americans said this, and 73% of Latinos.

A follow-up question asked respondents to identify the *most important* thing industry or government could do improve the Internet. Here people's concern about the security of their personal information takes on enormous importance.

Table 5: Most important thing stakeholders could do to improve the Internet

	Whites	African Americans	Latinos
Make it easier for people to make sure their personal information is secure	52	55	50
Improve the reliability of wireless networks so online applications operate better	5	6	6
Increase the speed of W-Fi networks	10	12	10
Ensure wireless networks are available in more places	12	11	9
Increase the availability of free Wi-Fi Internet access for mobile use	10	10	12
Improve Wi-Fi at schools and libraries	1	2	4
Invest in wired networks to increase the speed of service to people's homes	10	4	9

Yet the triumvirate of wireless speed, availability (free and licensed), and reliability looms large. For whites, 37% cite these priorities, 39% of African Americans do, and 37% of Latinos do.

Finally, respondents' desire to see more done to improve Wi-Fi emerges clearly when they are asked whether their Wi-Fi connection ever slows down. The question the survey asked was:

"How often does the speed of your Wi-Fi connection become noticeably slow, for example, when video quality diminishes, Web pages load slowly, or applications function poorly?"

- For whites, 48% said that this happened *sometimes* or *very often*.
- For African Americans, 52% said this happened *sometimes* or *very often*.
- For Latinos, 52% said this happened *sometimes* or *very often*.

End Notes

¹ See National Broadband Plan on America's growing spectrum needs, Chapter 5, p. 77. Available online at: <http://transition.fcc.gov/national-broadband-plan/national-broadband-plan.pdf>.

² Mary Meeker, "Internet Trends 2014," slide 4. Available online at: <http://www.kpcb.com/internet-trends>.

³ Maeve Duggan and Aaron Smith, "Cell Internet Use 2013," Pew Research Center, September 2013. Available online at: <http://www.pewinternet.org/2013/09/16/cell-internet-use-2013/>.

⁴ John B. Horrigan, "Broadband and Jobs." Joint Center for Political & Economic Studies, October 2013, p. 15.

⁵ National Telecommunications and Information Administration, "Exploring the Digital Nation: Embracing the Mobile Internet." October 2014. Available online at: http://www.ntia.doc.gov/files/ntia/publications/exploring_the_digital_nation_embracing_the_mobile_internet_10162014.pdf.