JOINT CENTER FOR POLITICAL AND ECONOMIC STUDIES

NATIONAL MINORITY BROADBAND ADOPTION:

COMPARATIVE TRENDS IN ADOPTION, ACCEPTANCE AND USE

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FOREWORD

It is now widely understood that access to the digital world, and knowing how to use digital technologies and applications, are essential to opportunity and prosperity in the modern world. No longer is it possible to envision a child being able to achieve his or her full potential without access to a broadband connection from an early age. Yet, on a more hopeful note, the promise of the Internet looms large with regard to its potential for helping revitalize our long-neglecting communities, and for bringing a new birth of equality and hope to our country. Imagine the progress we can make if we can just get more people online to share in the ongoing advancements that are made possible by new digital technologies.

Indeed, this is precisely what the Federal Communications Commission is seeking to address in preparing its much-awaited National Broadband Plan. The Commission's vision of a fully connected nation points the way for new policy activities to close digital divides and make the most of broadband's enormous potential to bring advancements in education, health care, economic opportunity and environmental protection.

Good policy requires information and data on which to build solutions. Specifically, to make broadband work for America we have to know more about the availability and use of the Internet in communities of color.

Eighteen months ago, the Joint Center for Political and Economic Studies launched the Media and Technology Institute and gave it the mission of studying how emerging communications technologies can improve lives in our communities and make America a better place in the process. Since then, a key focus has been informing the policy process with research and data regarding broadband use in minority communities. This report, *National Minority Broadband Adoption: Comparative Trends in Adoption, Acceptance and Use,* is the Institute's first major research study – one intended to serve as a foundation for ongoing policy initiatives and further research in this critical area.

Achieving universal broadband access and adoption will continue to be a major priority for the Joint Center. Solutions will not come overnight. But the vast potential of broadband and the Internet can help our policymakers hopefully resolve some seemingly intractable problems that plague many American communities. We trust the information within the pages of this report will help further that process.

Ralph B. Everett
President and CEO
Joint Center for Political and Economic Studies

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SUMMARY OF KEY FINDINGS

More than 75% of Americans, across racial and ethnic groups, now use the Internet on a regular basis. Seventy-nine percent of Whites, 69% of African Americans, 59% of Hispanics, and more than 83% of other racial and ethnic minorities, including Asian and Pacific Islander Americans, Native Americans, and multiracial Americans are now online.

Between December 2009 and January 2010, the Joint Center for Political and Economic Studies conducted a study of 2,741 respondents, oversampling African Americans and Hispanics, to understand national minority broadband adoption trends, and examine broadband adoption and use between and within minority groups. This report addresses the experiences of minority consumers of wireline and mobile broadband services and provides insights into some of the factors affecting the decisions of minorities who have adopted broadband.

Overcoming disparities in broadband Internet access depends in large part on identifying key factors that are most likely to influence the behaviors of potential users. To achieve universal access, ensuring that all citizens have access to high-speed connections to the Internet is paramount to opening the door to greater use and acceptance of the Internet in all aspects of our lives. However, research primarily focused on broadband adoption, to the exclusion of the discrete circumstances surrounding it, is not enough to accelerate minority acceptance and use, especially since educational status, income, and age are critical factors impacting the degree and quality of engagement.

In addition to providing trend data on minority broadband adoption and use, this report goes a step further—it offers a research framework for understanding the behaviors affecting broadband acceptance. Specifically, this report contrasts the socioeconomic profile of minorities actively using the Internet against that of minorities who have yet to integrate the Internet into their daily lives.

One of the major findings of this study is that minority groups, middle-aged, higher income, and college-educated individuals are the fastest growing group of broadband adopters. These individuals have greater levels of Internet use and home broadband adoption.

- 91% of African Americans earning more than $50,000 regularly use the Internet as compared to 89% of Hispanics earning $50,000. More than 75% each of African Americans and Hispanics earning between $20,000 and $50,000 also report regular use of the Internet.
- 98% of Hispanics and 94% of African Americans with a college education report regular Internet use and over 80% of respondents from each group with some college are regular Internet users.
- 82% of Hispanics and 79% of African Americans earning more than $50,000 report a home broadband connection. More than 60% each of African Americans and Hispanics, with annual incomes between $20,000 and $50,000, also report having a home-based broadband connection.

In our research, this group of minorities enjoys a continuous experience of Internet use, from their home, where they subscribe to broadband services, to the workplace. They also enjoy public access at local libraries, schools, and community centers. Minorities in this group are attaining value from broadband in their work, social, personal, and civic lives and have increased their acceptance and use of the technology.

Higher income minorities are also more likely to embrace online content and applications that not only improve quality of life, but also facilitate robust connections with others online.

- 87% of Hispanics and 82% of African Americans earning more than $50,000 reported using the Internet to search for health or medical information.
- 79% of African American respondents and 77% of Hispanics earning more than $50,000 reported visiting local, city, state, and federal web sites to find relevant information.
- Over 60% of African Americans and Hispanics earning more than $50,000 use the Internet to access social networking sites such as Facebook, MySpace, and LinkedIn.

The increased use by minorities of online content and applications that improve quality of life and social connections suggests that the Internet is rapidly becoming a trusted resource for all Americans.

However, while the number of minority Internet users is steadily increasing, the data suggests that minority groups are overrepresented as new Internet users and underrepresented as experienced Internet users.

- 18% of White Americans report that they have been online for 1-5 years as compared to 28% of African Americans and 35% of Hispanics.
- More White Americans have been using the Internet for more than 10 years (35%) followed by 28% of African Americans, and 22% of Hispanics.

Such disparities suggest that minorities may be disproportionately disadvantaged in accessing, understanding or fully appreciating some of the newest web platforms.

Age, family income, and educational attainment are three major barriers that critically stifle minority Internet use and home broadband adoption.

- 23% of African Americans and 21% of Hispanics, 65 years of age and older, regularly use the Internet.
  - 17% of Hispanics and 15% of African Americans 65 years of age and older have a home broadband connection.
- Hispanics earning less than $20,000 have much lower Internet adoption rates than their African American and White American counterparts.
  - At 47%, Hispanics in general have the lowest rate of home-based broadband. Only 31% of Hispanics earning less than $20,000 have a home broadband connection.
- 51% of Whites who have dropped out of high school report using the Internet, while their African American (38%) and Hispanic (33%) counterparts regularly use the Internet.
  - More than a quarter of African Americans (27%) with less than a high school diploma enjoy home broadband. Hispanics, at 22%, have the lowest percentage of individuals without home broadband access.

These trends suggest that those who stand the most to gain from the Internet, especially insofar as the Internet is used to break the poverty cycle, are not in a position to benefit from it.

Demographic groups differ in the extent to which they use the Internet to search for jobs, apply for government benefits, access healthcare information, and bank online.

Across all income groups, African Americans and Hispanics use the Internet to search for jobs in greater proportion than White Americans. Among minority respondents with annual incomes of between $20,000 and $50,000, more than 70 percent of African Americans and Hispanics go online for job searches as compared to only 38 percent of White Americans.

Nine out of ten low-income African Americans, however, use the Internet for job searches. Among families with an annual income of less than $20,000, 92% of African Americans and 63% of Hispanics go online for job searches as compared to only 54% of Whites.

When taking levels of educational attainment into account, large gaps exist between White and minority Internet users with a high school diploma and those with less than a high school education.

- Among Internet users without a high school diploma, 77% of African Americans, 64% of Hispanics, and 17% of Whites go online to search for job information.
- 79% of African Americans and 67% of Hispanics with only a high school diploma go online to search for job information compared to 35% of Whites.

Lower income and less educated African Americans and Hispanics are also more likely than other minority subgroups to use the Internet to get information and apply for public benefits.

- African Americans without a high school diploma (47%) are more than four times as likely to get information or apply for government benefits online as compared to White Americans (12%).
- 31% of Hispanic Internet users without a high school diploma found information and/or applied for public benefits online.

Hispanic Internet users, whether high or very low-income, were also more enthusiastic users of online banking services as compared to African Americans.

- 88% of Hispanics with annual incomes of $50,000 or more, as compared to 72% of African Americans, bank online.
- 50% of Hispanics earning less than $20,000 annually access online banking services as compared to 40% of African Americans.
- 60% of Hispanic Internet users over 65 years of age reported banking online, about twice the figure for African Americans (31%) and even White Americans (23%) in the same age group.

Where people access the Internet is also an important factor in accelerating minority broadband adoption and use.

- 90% of Internet users reported their home as the primary location where they use the Internet.
- 68% of African American Internet users and 67% of their Hispanic counterparts also reported visiting the homes of other people to access the Internet.

As compared to Whites, minority groups in general were more likely to access the Internet at community anchor institutions such as public libraries, schools, and community centers.

- African Americans (51%) were more likely to access the Internet at their public library as compared to Hispanics (43%) and White Americans (27%).
- As compared to Whites (25%), African Americans (42%) and Hispanics (35%) were also more likely to access the Internet at local schools.
- Over 20% of African Americans and Hispanics were active users of community centers, including community technology centers and general purpose facilities with free Internet access.

For people with less than two years of experience on the Internet, young people were the primary source of support for digital literacy training with spouses and domestic partners ranking second. The comfort-level associated with close family members underlies the significance of social networks for minority consumers.

- Among new Internet users (i.e., those who have used the Internet for 2 years or less), 27% said their children, grandchildren, or other younger relatives played the biggest role in persuading them to start using the Internet.
- Spouses and domestic partners ranked next in support (18%) with co-workers (11%) and friends and neighbors (10%) being second and third respectively, in helping individuals get started on the Internet.

This study also identifies specific behavioral tendencies among minorities that should inform policies designed to increase broadband acceptance and use in the United States.

For non-adopting minority respondents, a general lack of interest, followed by lack of accessibility and then high cost, are the primary barriers to acceptance and use.

- 16% of Hispanic non-adopters reported access to broadband as the reason why they are not online. African Americans rank this reason as second (13%). This is in comparison to White non-adopters (15%) that report the high cost of the Internet as one of the reasons for their disengagement.

- Hispanic non-adopters were also more likely to report their lack of time (11%) and the difficulty of the Internet (10%) as other reasons for not being online.

Accessibility to broadband is most likely correlated with one's awareness of local broadband services. Seventy percent of non-Internet users reported that they did not know of any broadband providers in their community as compared to 54% of Internet users who were able to identify at least two or more service providers.

A perceived lack of relevance continues to be a major reason why some are still not actively using the Internet. Among the online activities we proposed to African American non-Internet users as potential reasons to go online: *staying in touch with family and friends (56%), getting information for or applying for public benefits (45%), staying in touch with doctors and other health care providers (44%), and keeping up with the news (41%)* ranked highest.

For Hispanic non-adopters, staying in touch with family and friends (47%), keeping up with the news (36%), *staying in touch with doctors and other health care providers (35%), and getting information or applying for public benefits (34%)* were their major activities of interest.

In this study, device ownership varies among minority groups. Overall, most minorities have a cell phone. Eighty-six percent of all study respondents reported that they owned cell phones. Minority respondents, as compared to White Americans, were more likely to own one.

- 81% of African Americans and 80% of Hispanics have cell phones as compared to 54% and 49% respectively that have a working computer at home.

When asked about cell phone activities, the majority of respondents, regardless of race or ethnicity, sent or received text messages in comparison to sending or receiving email. Among racial and ethnic minorities, the following cell phone activities were more widely reported:

- 80% of African Americans sent or received text messages, and 41% sent or received email from their cell phone.
- 75% of Hispanics sent or received text messages as compared to 35% of the same respondents that used their cell phone to access email.
- More African Americans exchanged photos (71%) or downloaded ring tones (54%) on their mobile device as compared to Hispanics and even White Americans.

Fifty percent of African Americans and 42% of Hispanics reported using their cell phone to access the Internet.

Among minority respondents who reported not using their cell phone to access the Internet, most African Americans indicated a lack of interest in using the device to browse the Internet (53%) and Hispanics stated that the cost of accessing the Internet on their cell phone was too expensive (55%).

Overall, laptops are the preferred device to access the Internet among those who own a desktop computer, laptop computer, and cell phone.

- More than half (53%) prefer a laptop, a third (33%) prefer a desktop, and only 6% prefer a cell phone for accessing online content.

Device preference for racial and ethnic groups was similar to the device preference among all respondents. Minorities that have all three devices also tend to prefer a laptop and wireless connection for Internet access.

Minority groups were also more likely to own other types of broadband-enabled devices, e.g., MP3 players or gaming consoles, when compared to White Americans.

- More than 40% of African Americans and Hispanics also own a game console or MP3 player.

When asked about connecting these various devices to the Internet,

- 13% of MP3 users and 25% of game console users reported using these devices to access the Internet.

Among people who use their laptops to access the Internet, 82% of respondents have Wi-Fi and 39% have wireless broadband.

An overwhelming majority of Internet users are satisfied with their Internet service.

- 58% say they are very satisfied and 32% say they are somewhat satisfied.
- Among minority respondents, 65% of African Americans and 61% of Hispanics reported being very satisfied with their Internet service.

We also asked respondents about switching from dial-up to broadband. Among a very small sample size of individuals still using dial-up, 33% were interested in subscribing to a broadband connection.

- 31% of these same respondents indicated that nothing would convince them to switch to broadband, 31% cited cost as the major barrier and 17% indicated that broadband was not available in their neighborhoods.

Through these analyses, it is clear that broadband Internet offers great promise to connect a growing population of individuals to commerce, government, and social networks at high-speeds. The purpose of this study is to shed light on the reasons why the acceptance and use of broadband Internet varies within racial and ethnic groups.

INTRODUCTION

With three quarters of American adults online, the age of the Internet as the driving force of commerce, entrepreneurship, socializing, and civic participation is here. Yet, despite more than a decade of vigorous advocacy to close the digital divide, millions of Americans remain without high speed Internet access. With more employers, businesses, consumers, a growing number of healthcare providers, and government agencies moving their services online, the Internet's pervasiveness makes its widespread adoption and acceptance integral to United States economic policy.

Currently, the Federal Communications Commission ("FCC") emphasizes the need to accelerate broadband access to support high-bandwidth content and applications including streaming media, Voice over Internet Protocol (Internet phone), gaming, and other interactive services. The FCC considers 200 kbps to be "first generation" broadband [1] and 768 kbps to be "basic broadband."[2]

Recent studies of broadband adoption have concluded that more than 74% of all Americans use the Internet, with 65% of American adults using a home broadband Internet connection.[3] However, while the overall reach of broadband is growing,[4] the extent of broadband use within demographic groups varies considerably.[5] This report presents racial and ethnic broadband adoption trends, revealing the vast heterogeneity within minority groups. A data-driven, behavioral [6] approach for understanding how population subgroups use broadband Internet is both timely and a pre-requisite to designing effective last mile adoption and use initiatives.

Increasing broadband Internet adoption and acceptance is dependent upon identifying key factors influencing the behaviors of those who have decided to begin using broadband. Thus, broadband adoption research conducted in a vacuum is not sufficient for accelerating minority adoption and use, since educational status, income, age, and other socioeconomic factors ultimately drive consumer decision making.

The jury is still out on whether or not all Americans will fully recognize the value proposition for using broadband. The effectiveness of public policies and programs created to drive broadband use are ultimately reliant upon non-adopters embracing high-speed Internet as a lifestyle medium.

As the nation prepares to receive the FCC's recommendations on a national broadband plan, and government agencies make substantial investments in unserved and underserved communities,[7] the time for a new policy framework has arrived. A policy architecture that fully appreciates and encourages broadband acceptance for all, particularly for disadvantaged, minority subgroups and other non-adopters, is critical for building a stable bridge between broadband adoption and use.

Sample Methodology

This National Minority Broadband Adoption Study, sponsored by the Joint Center for Political and Economic Studies, conducted telephone interviews with a nationally representative sample of 2,741 adults living in the continental United States. The survey was conducted by Princeton Survey Research Associates International (PSRAI) in English and Spanish from December 1, 2009 to January 4, 2010. Statistical results are weighted to correct known demographic discrepancies. The margin of sampling error for the complete set of weighted data is ±3.5 percentage points.

A combination of landline and cellular random digit dial (RDD) samples was used to represent all adults in the continental United States who have access to either a landline or cellular telephone. Both samples were provided by Survey Sampling International, LLC (SSI) according to PSRAI specifications. The landline sample was disproportionately-stratified. This sample was designed to generalize to the U.S. adult population in telephone households while at the same time oversampling African American and Hispanic respondents. This design used list-assisted random-digit dialing (RDD) methods, where telephone numbers were drawn disproportionately from area code-exchange combinations with higher than average densities of African American and Hispanic households. While this method increased the proportion of respondents in these target groups, special weighting adjustments restored the overall representativeness of the sample. The report appendices detail the specifics of the sampling methodology, and provide a description of the study's sample.

To date, the National Minority Broadband Adoption Study is the largest stratified dataset describing the characteristics of minorities using the Internet and home broadband services in the United States. The study also includes qualitative data gathered from minority respondents from three cities: Chicago, IL; San Francisco, CA; and, East St. Louis, IL over the course of the telephone survey period. Structured

focus groups with minority respondents allowed for further explanation on how these groups compare in using the Internet, home broadband, and mobile services to advance their social and economic interests. While some of the data will be shared throughout this report, the majority of interviews are archived for future research.

This report primarily focuses on comparisons and differences between White Americans, African Americans and Hispanics living in the United States. Emphasis was placed on reaching English and Spanish speaking Hispanic respondents.[8] Data from minorities that include Asian and Pacific Islander Americans, Native Americans, multiracial Americans, and other racial and ethnic groups, however, are included in some of the general trend analyses.

The report provides data on both general Internet use and home broadband adoption for minorities. Our rationale for this type of analysis is to highlight the engagement of minorities at various entry points. We define "Internet use" as one's ability to regularly access the Internet whether via dial-up 56k modem or via high-speed broadband. Internet access can occur at home, in the workplace, or in public computing centers. We define "home broadband" as high-speed Internet subscriber services, typically digital subscriber lines (DSL) or cable modems, within a private residence.[9]

While our future research will explore many of these demographic, economic, and behavioral factors in more detail, this report will share findings on three variables that limit Internet use and home broadband adoption between and within minority groups—*age, education, and income.*

While minority groups are experiencing positive growth in Internet use and home broadband adoption as compared to White Americans, age, education, and income continue to play a critical role in broadband acceptance.

Minority Broadband Acceptance

In addition to providing trend data on minority broadband adoption and use,[10] this report offers a new policy framework for understanding broadband acceptance, specifically contrasting those minority subgroups actively using the Internet against those whose demographic characteristics make it more difficult to integrate the Internet into their everyday lives. We use as a starting point prior research on broadband adoption and suggest throughout the report that the key to acceptance and use depends upon one's perceived value proposition of broadband in light of the opportunity costs.

Broadband acceptance complements research and policies on broadband adoption by focusing on the perceptions and behaviors of existing and new broadband consumers that drive them toward full utilization of broadband Internet. And, the concept can be more readily adapted as an alternative framework for exploring disparate access and interest by minority groups and other non-adopters that are simply disinterested in getting online or lack the skills and resources to participate.

According to prior research on the adoption of information and communication technologies,[11] individuals migrate toward new technology based on the following four factors:

- *Performance Expectancy*—The extent to which consumers believe that broadband will improve their lives.
- *Effort Expectancy*—How easy it is to use broadband-enabled devices with the Internet.
- *Social Influence*—How other people influence broadband Internet use within identity groups.
- *Facilitating Conditions*—The availability of resources to support using broadband Internet, including resources to learn and understand broadband Internet and the devices used to access it.

Overall, our research indicates that minority broadband adoption is steadily increasing. Recent data released by the Federal Communications Commission affirms this trend. According to the FCC Working Paper on U.S. broadband adoption and use (February 2010), 59% of African-Americans have broadband connections at home reflecting a considerable increase from the 46% shared in Pew's April 2009 survey of home broadband use.[12]

Comparisons by income, educational attainment, and age suggest that more middle-aged, higher income, and college-educated minorities are fully benefitting from broadband and the Internet. These same individuals have a continuous experience of Internet use from their

home, where they subscribe to broadband services, to the workplace. They also enjoy public access at libraries, schools, and community centers. The experience of this subgroup presents the tale of one segment of minorities whose economic and social privilege makes it easier for them to get online. Minorities in this group understand the value proposition of broadband and can afford access to it. As an African American respondent that regularly uses the Internet shared in a focus group: *"I'm trying to get more information so I can understand things better and take it to the next level. I'm functioning at a point where I never imagined."*[13]

These positive trends affirm the significance of broadband access for African Americans and Hispanics. However, those Americans who stand to gain the most from the Internet are unable to use it to break the cycles of social isolation, poverty, and illiteracy, as millions around the world have been able to do.[14] This segment of the American population—one that is wrought with economic and social hardship—is largely prohibited from reaping the benefits of digital access.[15]

The first part of this report will overview trends in minority Internet use, between and within each group, and how these groups fare compared to Whites. The next section of the report will explore specific online activities that minorities are engaging in and how these activities suggest the need for greater broadband acceptance among poor, less educated, and older minority adults. We will also explore how non-adopters perceive the value of the web and identify prospective activities most likely to accelerate usage. The third section of the report will explore the social relationships that drive minority broadband acceptance. The final section will consider the preferred devices for connection to the Internet, perceived quality of service, and mobile as an on-ramp to full broadband adoption. For the purpose of this first report, three aspects of the broadband acceptance model— performance expectancy, effort expectancy, and social learning will be addressed. The Joint Center's future research will delve more deeply into the conditions most likely to cultivate acceptance among minority groups.

DEMOGRAPHIC TRENDS OF MINORITY INTERNET USE AND HOME BROADBAND ADOPTION

Minority Internet Use

Recent research has well documented that the level of Internet use has dramatically increased in the United States since 2000. In 2000, 48% of the population used the Internet and that number has grown by an average of approximately 3% per year. [16] Currently, more than 75% of the U.S. population uses the Internet on a regular basis. These positive trends are apparent across racial and ethnic groups. As indicated in Table 1 below, nearly 79% of White Americans, 69% of African Americans, 59% of Hispanics, and more than 83% of individuals who classify themselves as "Other" regularly access the Internet.

TABLE 1: PERCENTAGE OF INTERNET USERS BY RACE AND ETHNICITY, 2009

	Percentage of Population Using the Internet
All adults	75%
White	79
Black	69
Hispanics	59
Other	84

Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 2,741 adults including 603 non-Hispanic Whites, 1,023 non-Hispanic Blacks, 834 Hispanics, 233 persons of other racial and ethnic groups, and 48 respondents who did not answer the question.

When comparing Hispanic respondents, Internet use and home broadband adoption was widely used by those that were fluent in English. Table 2 shows the breakdown of both Internet use and home broadband by the language of the respondent.

TABLE 2: PERCENTAGE OF HISPANICS USING THE INTERNET OR WITH HOME BROADBAND CONNECTIONS, 2009

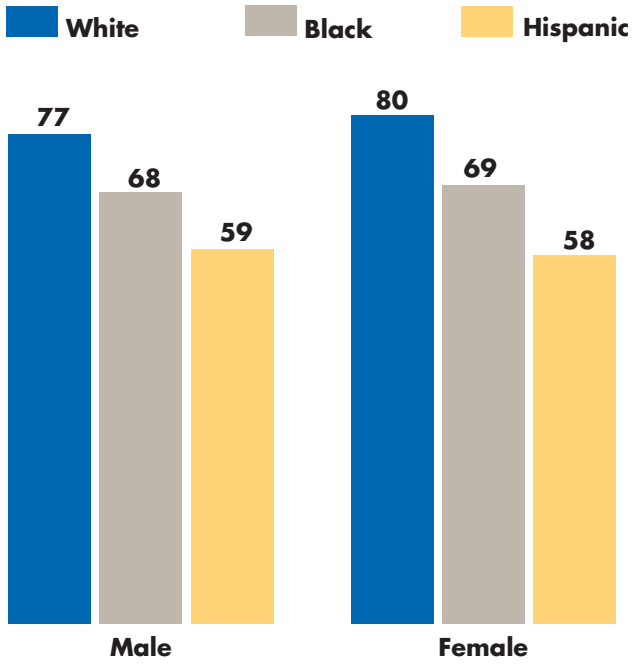
	Internet Use	Home Broadband Connection
Hispanic	59%	47%
English-speaking	76	66
Spanish-speaking	34	21

Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 834 Hispanics.

Internet use for women is also steadily increasing. [17] Minority women, in particular, are as engaged in regular Internet use as their male counterparts (Figure 1).

- About 74% of men and 76% of women study respondents regularly use the Internet.
- More than 50% of African American and Hispanic women also report regular use of the Internet.

FIGURE 1: PERCENTAGE OF INTERNET ADOPTION BY GENDER, RACE AND ETHNICITY, 2009



Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 603 non-Hispanic Whites, 1,023 non-Hispanic Blacks, and 834 Hispanics.

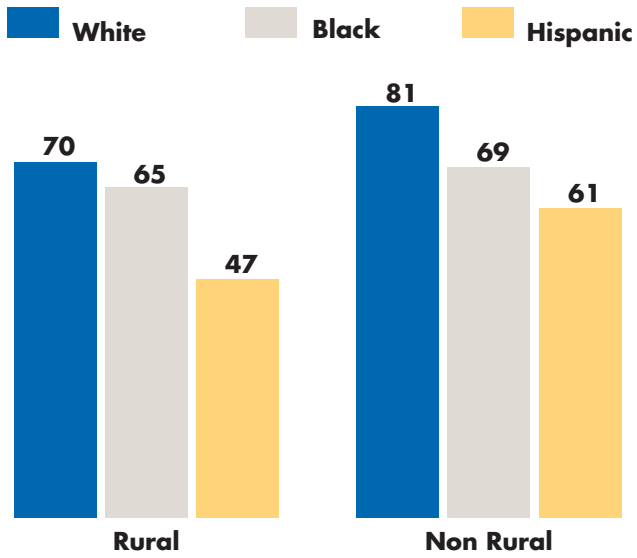
While these trends show the overall growth of the Internet, some studies indicate that these increases have begun to taper off and that the number of American adults using the Internet has actually dropped in recent years. [18] Other studies have shown that the percentage of households with Internet has continued to increase. [19] Neither of these trends contradicts our conclusion that one's likelihood of adopting broadband is largely determined by age, income, and education, regardless of race. Since education and affluence are highly correlated with broadband adoption, any leveling off of overall broadband adoption rates underscores the need to emphasize last-mile broadband adoption.

Hispanics from Rural Communities Have the Lowest Rates of Internet Use

White Americans from either urban or rural communities have the highest percentage of Internet use as compared to African Americans and Hispanics (Figure 2). Generally, people living in rural areas have lower Internet adoption rates, with minorities having lower rates of access.

- Hispanics from rural communities have the lowest rate of Internet use when compared to the other groups.
- Urban Internet use between African Americans (69%) and Hispanics (61%) is comparable, suggesting less disparity between minorities by this community type.

FIGURE 2: PERCENTAGE OF INTERNET ADOPTION BY COMMUNITY TYPE, RACE AND ETHNICITY, 2009



Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 603 non-Hispanic Whites, 1,023 non-Hispanic Blacks, and 834 Hispanics.

Internet Adoption by Years of Experience

The demographic composition of the web varies considerably when one considers the length of time individuals have been using the Internet. The survey asked respondents "[a]bout how many years have you been an Internet user?" In 2002, only 33% of Internet users had been using the Internet for 6 years or more. This number grew to 62% in 2006 and reached an all-time high of 75% in 2009. [20]

Minority Groups Have Fewer Years of Online Experience

Minority groups, however, have less experience on the Internet than White Americans. While 75% of Americans had been online for six years or more in 2009, African Americans and Hispanics have significantly less experience using the Internet (Table 3).

The main findings are:

- 18% of White Americans report that they have been online for 1-5 years as compared to 28% of African Americans and 35% of Hispanics.
- More White Americans have been using the Internet for more than 10 years (35%) followed by 28% of African Americans, and 22% of Hispanics.

TABLE 3: NUMBER OF YEARS AS AN INTERNET USER BY RACE AND ETHNICITY, 2009

	Race/Ethnicity					Total
	White	Black	Hispanic	Other	Don't know/ Refused (VOL.)	
Less than one year	1%	3%	3%	2%	0%	2%
1-5 years	18	28	35	22	14	21
6-10 years	43	40	37	43	38	42
11+ years	35	28	22	31	46	3
Dont know	3	.9	3	.9	2	2
Refused	.4	.9	.4	.6	0	.5

+Numbers represented in percentages and presented in round figures
Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 469 non-Hispanic Whites, 642 non-Hispanic Blacks, and 514 Hispanic Internet users.

While the number of Internet users is steadily increasing, the data suggests that minority groups are overrepresented as new Internet users and underrepresented in their years of online experience.

When we look at the demographic composition of newcomers to the Internet, the majority belong to a minority group. Table 4 reports that 69% of the Internet users are White, 10% are African American, 11% are Hispanic, and 7% are other minority groups. African-Americans and Hispanics also comprise a greater proportion of new Internet users than the composition of Internet users in the general population.

TABLE 4: RACIAL AND ETHNIC COMPOSITION OF INTERNET USERS BY NUMBER OF YEARS, 2009

		Number of Years Using the Internet						
	Total Pop.	Less than 1 year	1 year	2-3 years	4 years	5 years or less	5 yrs or more	6 yrs
White	69%	51%	61%	55%	69%	58%	58%	73%
Black	10	19	15	12	12	16	14	9
Hispanic	11	21	18	19	17	18	18	8
Other	7	9	3	12	2	7	8	7
Don't know/Refused (VOL.)	2	0	3	2	0	1	1	2
Total	100%	100%	100%	100%	100%	100%	100%	100%

+Numbers represented in percentages and presented in round figures
Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 469 non-Hispanic Whites, 642 non-Hispanic Blacks, and 514 Hispanic Internet users.

For the population that has been using the Internet for less than one year:

- 19% are African American and 21% are Hispanic, as compared to 51% who are White.

This disparity is consistent for Internet users who have used the Internet for 5 years or less. White American Internet users comprise 58%, while African American Internet users make up 14%. The difference in the composition of "newcomers" to the Internet versus "seasoned users" has important implications. The culture of the Internet defines norms and practices that shape how to participate online. Newcomers may be behind in learning how to generate and share content, use social networking sites, and find resources aimed at their own interests. Thus, greater effort will be needed to expand training and learning opportunities, especially for Internet newcomers. More outreach is also needed to help these newcomers understand how to be savvy in protecting themselves and their families from identity fraud and other privacy breaches.

Internet Adoption by Age

Among all populations in the study, the average Internet user is 43 years old. People between the ages 18 and 34 have the highest rate of Internet use for all age groups (Table 5).

- 87% of individuals between the ages of 18 and 34 regularly use the Internet as compared to half of that amount for individuals 65 years of age and older.

TABLE 5: PERCENTAGE OF INTERNET USERS BY AGE GROUP, 2009

Age	Percentage of Internet users
18-34	87%
35-49	81
50-64	76
65+	44

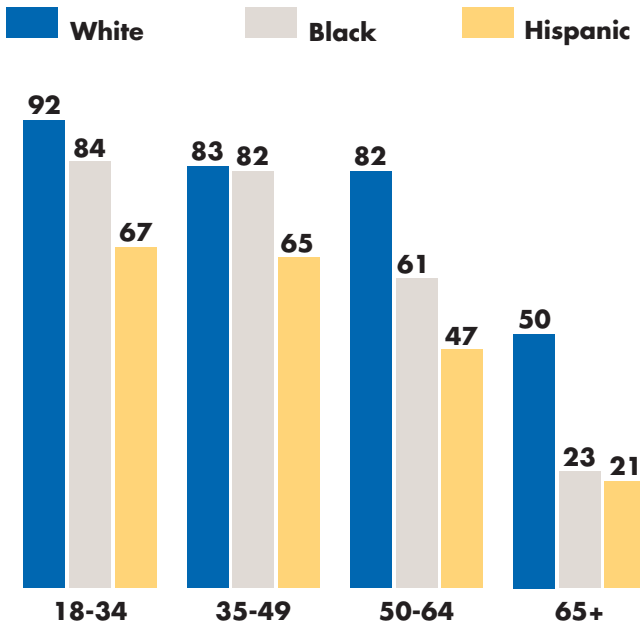
Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 2,741 adults.

Within each age group, there are significant differences by race and ethnicity.

- 92% percent of Whites between 18 and 34 years of age use the Internet, with a smaller proportion of African American (84%) and Hispanic (67%) young adults using the Internet.

The pattern is similar for Internet users who are between 35 and 49 years old, although the gap between Hispanic users in this age group and White Americans is moderately narrower. Figure 3 below illustrates these trends.

FIGURE 3: PERCENTAGE OF INTERNET ADOPTION BY AGE, RACE AND ETHNICITY, 2009



Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 603 non-Hispanic Whites, 1,023 non-Hispanic Blacks, and 834 Hispanics.

As shown in Figure 3, there is a significant gap between the number of older minorities who use the Internet and their White counterparts. For Internet users between 50 and 64 years of age:

- Whites are much more likely to use the Internet and among the most senior group of Internet users, 50% of Whites use the Internet compared to slightly less than 25% of African Americans and Hispanics.

Internet Adoption by Income

Generally, higher income and Internet use are positively correlated. As previously suggested, middle and higher income respondents, regardless of race or ethnicity, were more likely to be Internet users. Among Whites, African Americans and Hispanics that earn $50,000 or more, Internet use rates are over 80 percent. Thus, racial and ethnic divides are much less prevalent for families with the economic means to get online.

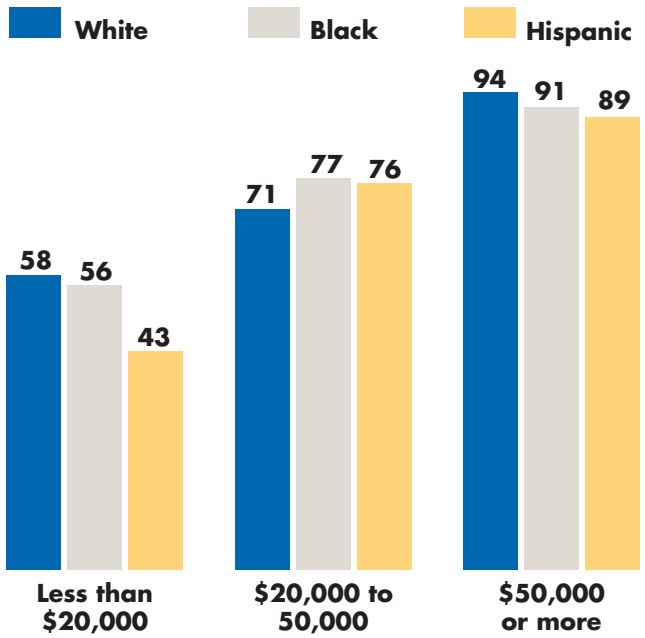
Differences between racial and ethnic minorities are also somewhat insignificant for households earning between $20,000 and $50,000. More than 70% of the households in this income bracket are regular Internet users.

Lower Income Households are Less Likely to be Online

As shown in Figure 4 below, when household income drops, fewer respondents are online. Internet use for low-income Hispanics becomes even more disparate when compared to African Americans and White Americans earning the same income.

- About 56% of adults with family incomes of less than $20,000 use the Internet compared to 94% of those earning more than $50,000.
- Hispanics earning less than $20,000 have much lower Internet adoption rates than their African American and White American counterparts.

FIGURE 4: PERCENTAGE OF INTERNET ADOPTION BY FAMILY INCOME, RACE AND ETHNICITY, 2009

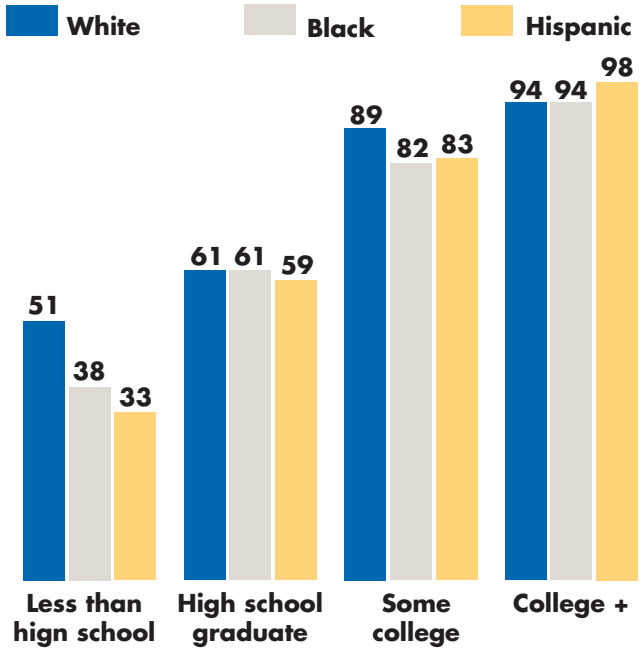


Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 603 non-Hispanic Whites, 1,023 non-Hispanic Blacks, and 834 Hispanics

Internet Adoption Rates by Education

Similar to income, the higher one's education the more likely he or she is to use the Internet (Figure 5).

FIGURE 5: PERCENTAGE OF INTERNET ADOPTION BY EDUCATIONAL ATTAINMENT, RACE AND ETHNICITY, 2009



Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 603 non-Hispanic Whites, 1,023 non-Hispanic Blacks, and 834 Hispanics.

- 94% of individuals that have completed college are regular online users.
- Trailing these users are individuals with some college (87%) and those whose highest level of educational attainment are high school graduate (60%).
- 98% of Hispanics and 94% of African Americans with a college education report regular Internet use and over 80% of respondents from each group with some college are regular Internet users.

Minority High School Dropouts Trail Others in Internet Use

Educational attainment has a significant impact on regular Internet use. When compared to White Americans with less than a high school diploma, African American and Hispanic high school dropouts have significantly lower Internet adoption rates.

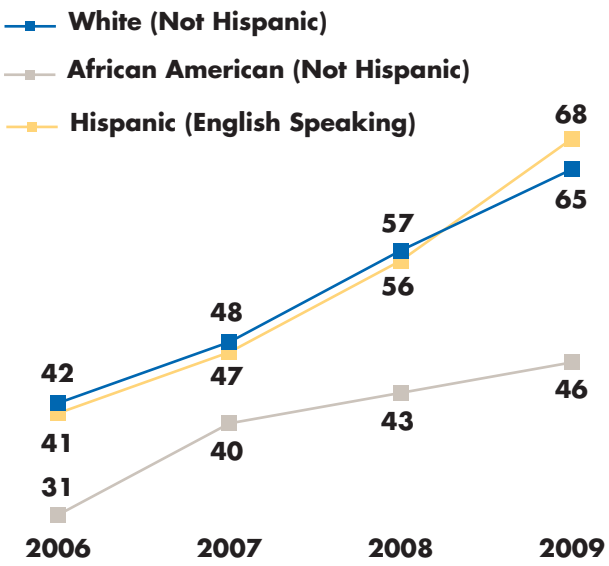
- When comparing educational attainment, 51% of Whites who have dropped out of high school report Internet use, while 38% of African Americans and 33% of Hispanics regularly use the Internet.

Trends in Home Broadband Adoption

Having a home broadband connection is becoming critical to the national debate on broadband adoption and use. For the purposes of this report, we define home broadband to be high-speed Internet subscriber services, typically digital subscriber lines (DSL) or cable modems, within a private residence. The Pew Research Center's Internet and American Life Project reports that home-based broadband adoption is generally increasing in the U.S. and certain minorities, as well as subgroups, have experienced significant growth in home broadband connections and use. When compared to African Americans that have trailed other groups in home-based broadband adoption, Hispanics have been rapidly increasing their engagement with broadband via home access. According to the latest Pew research

(April 2009), Hispanics have experienced a 20% jump in home-based broadband adoption in the last three years. In the same study, African Americans have been the slowest to adopt broadband in the home since 2006. Only 46% of African Americans had a home broadband connection in 2009 (Figure 6).

FIGURE 6: TRENDS IN HOME BASED ADOPTION BY RACE AND ETHNICITY FROM 2006-2009 (IN PERCENT)



Source: Pew Internet and American Life Project, April 2009

Newer data sources that include findings from the Department of Commerce's Digital Nation Report (2010) are now indicating that home-based broadband adoption is actually increasing among minority groups. According to this report,

> *"[t]he data also reveal that demographic disparities among groups have persisted over time. Persons with high incomes, those who are younger, Asians and Whites, the more highly- educated, married couples, and the employed tend to have higher rates of broadband use at home. Conversely, persons with low incomes, seniors, minorities, the less-educated, non-family households, and the non-employed tend to lag behind other groups in home broadband use."*[21]

While the data collected in the National Minority Broadband Adoption Study suggest an increase in home broadband adoption rates among more affluent and better educated minorities, the data further reveals the types of disparities that exist in minority home broadband adoption.

Hispanics Lag behind Others in Home Broadband Adoption

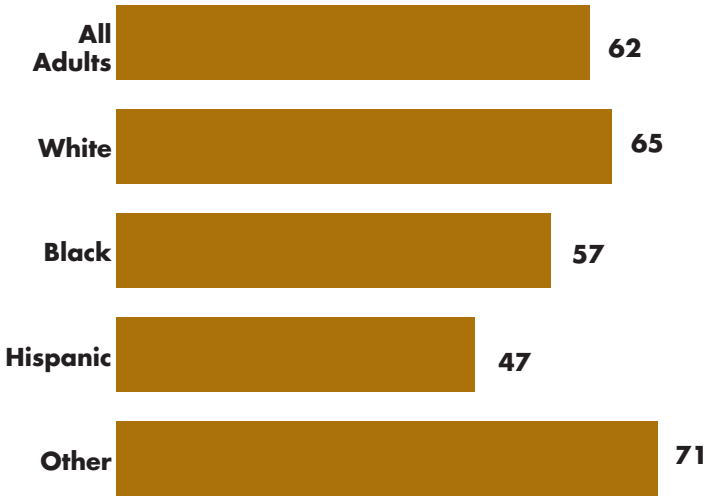
Our data reveal that 62% of all respondents report a data connection in the home (Figure 7).

- Whites have the highest rate of home broadband adoption (65%), while African Americans trail at second (57%).
- Hispanics have the lowest rate of home broadband at 47%.

Similar to the trends of regular Internet use, home broadband adoption rates for men and women are the same at 62% (Figure 8). Men and women also do not differ significantly within each racial and ethnic group.

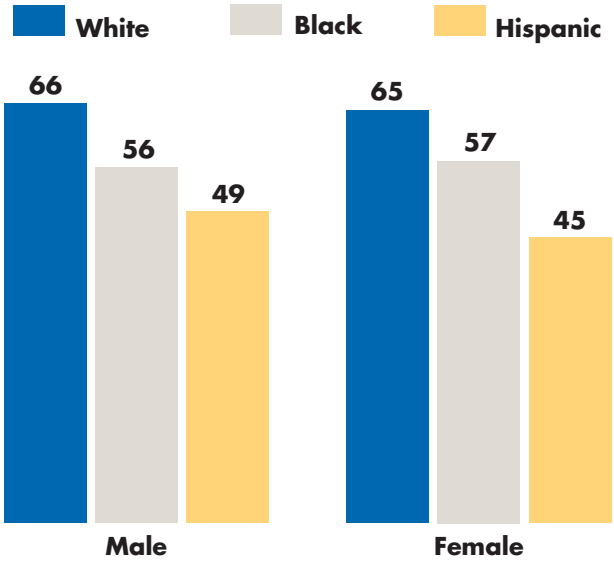
- Both male and female Hispanics have less than 50% of both men and women accessing broadband at home.
- Hispanic women (45%) are less likely to have home broadband access when compared to other female subcategories.

FIGURE 7: PERCENTAGE OF HOME BROADBAND ADOPTION BY RACE AND ETHNICITY, 2009



Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 2,741adults including 603 non-Hispanic Whites, 1,023 non-Hispanic Blacks, 834 Hispanics, and 233 respondents of other racial and ethnic groups.

FIGURE 8: PERCENTAGE OF HOME BROADBAND ADOPTION BY GENDER, RACE AND ETHNICITY, 2009



Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 603 non-Hispanic Whites, 1,023 non-Hispanic Blacks, and 834 Hispanics.

Home Broadband Adoption by Age

On average, home broadband users are 42 years of age, 12 years younger than people without broadband at home (Table 6). Within each racial and ethnic group, people with broadband at home are at least 10 years younger than people without broadband.

- The average age of African Americans with broadband at home is 38 and the average of Hispanics is slightly younger, at 35.

TABLE 6: AVERAGE AGE BY HOME BROADBAND ADOPTION AND BY RACE AND ETHNICITY, 2009

	Total	White	Black	Hispanic
Broadband at home	42	44	38	35
No broadband at home	54	57	51	45

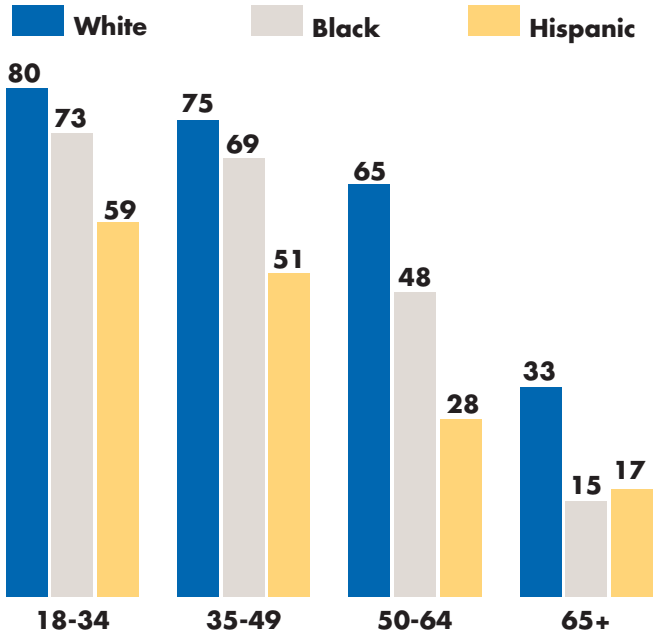
Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 2,741adults including 603 non-Hispanic Whites, 1,023 non-Hispanic Blacks, 834 Hispanics, 233 persons of other racial and ethnic groups and 48 respondents who did not identify their racial and ethnic background.

Younger People Have Higher Rates of Home Broadband Adoption

There is a large age disparity in the rate at which broadband Internet is adopted. Among all age groups, people ages 18 to 34 have the highest home broadband (76%) adoption rates and seniors have the lowest home broadband (30%) adoption rates. Figure 9 illustrates the data for home broadband.

- Within each age group, Whites generally have the highest home broadband adoption rates and Hispanics have the lowest.
- More African Americans (73%) between the ages of 18 to 34 have broadband in the home as compared to other age groups.

FIGURE 9: PERCENTAGE OF HOME BROADBAND ADOPTION BY AGE, RACE AND ETHNICITY, 2009



Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 603 non-Hispanic Whites, 1,023 non-Hispanic Blacks, and 834 Hispanics.

Like Internet use, older racial and ethnic minorities lag in home broadband adoption.

- 23% of African Americans and 21% of Hispanics 65 years of age and older, regularly use the Internet.
- 17% of Hispanics and 15% of African Americans 65 years of age and older have a home broadband connection.

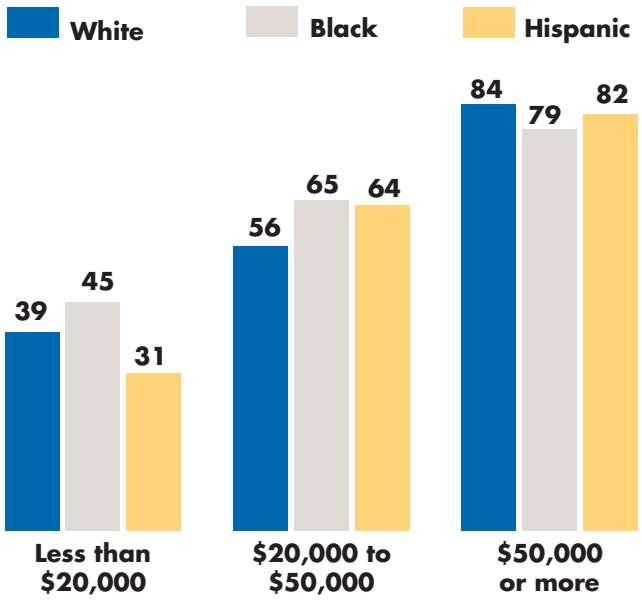
Home Broadband Adoption Rates by Income

Income is a significant factor bearing on whether minorities have broadband access in the home. As shown in Figure 10, regardless of race and ethnicity, individuals with higher incomes adopt broadband Internet at much higher levels than individuals with lower incomes. What is glaring about this is the huge disparity between higher and lower income people.

Higher income Americans are almost twice as likely to have broadband access in the home across all races and ethnicities. For racial and ethnic minorities earning more than $50,000, these trends are similar.

- 82% of Hispanics and 79% of African Americans earning more than $50,000 report a home broadband connection. More than 60% each of African Americans and Hispanics, with annual incomes between $20,000 and $50,000, also report having a home-based broadband connection.

FIGURE 10: PERCENTAGE OF HOME BROADBAND ADOPTION BY FAMILY INCOME, RACE AND ETHNICITY, 2009



Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 603 non-Hispanic Whites, 1,023 non-Hispanic Blacks, and 834 Hispanics.

Our data also show that African Americans that earn less than $20,000 reported slightly higher home broadband connections than Whites and Hispanics earning less than $20,000.

- 45% of African Americans that are very low-income have home broadband compared to 39% of Whites and 31% of Hispanics.

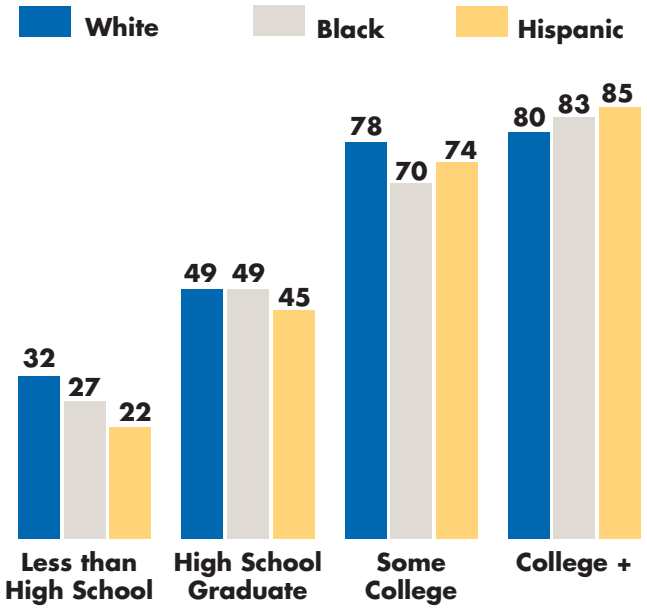
Home Broadband Adoption Rates by Education

Where access in the home becomes more disparate is in the comparisons by educational attainment. As levels drop in educational achievement, fewer minorities are likely to have a home broadband connection (Figure 11).

When comparing trends across the subsections of the population, the highlights are as follows:

- More than a quarter of African Americans (27%) with less than a high school diploma enjoy home broadband. Hispanics, at 22%, have the lowest percentage of individuals without home broadband access.

FIGURE 11: PERCENTAGE OF HOME BROADBAND ADOPTION BY EDUCATIONAL ATTAINMENT, RACE AND ETHNICITY, 2009



Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 603 non-Hispanic Whites, 1,023 non-Hispanic Blacks, and 834 Hispanics.

Home Broadband by Community Type

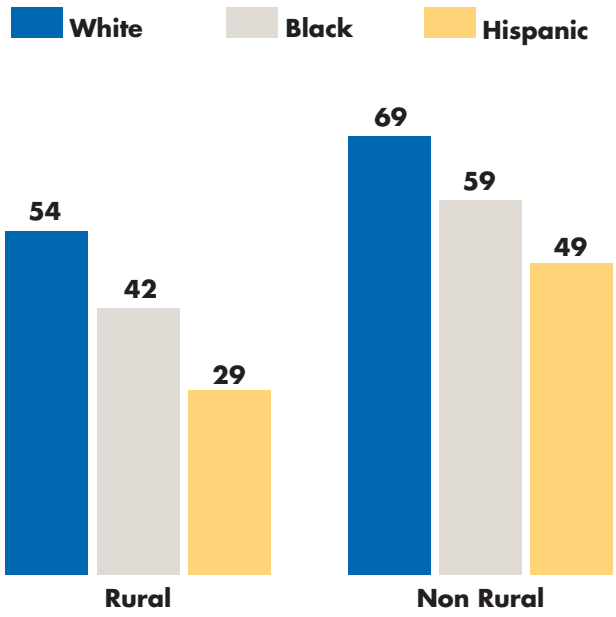
There are wide disparities in the adoption of broadband Internet across communities. There are large pockets of rural and urban areas where access is very limited. Consequently, where one lives also impacts their broadband access and use. In our study, people living in rural areas have lower home broadband adoption rates than people in non-rural areas.

Rural and Urban Hispanics Have the Lowest Home Broadband Adoption Rates

The same pattern is reflected within each racial and ethnic group (Figure 12). Whites, African Americans and Hispanics in rural areas have lower home broadband adoption rates than their counterparts in non-rural areas; and, the broadband gap between rural and non-rural areas is bigger than the Internet use gap.

- When compared to African Americans, Hispanics from rural communities have the lowest rate of home-based broadband adoption (29%) as compared to African Americans (42%) and White Americans (54%).
- Hispanics also have the lowest rate of home-based broadband (49%) when compared to African Americans (59%) and Whites (69%).

FIGURE 12: PERCENTAGE OF HOME BROADBAND ADOPTION BY COMMUNITY TYPE, RACE AND ETHNICITY, 2009



Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 603 non-Hispanic Whites, 1,023 non-Hispanic Blacks, and 834 Hispanics.

Whereas the data on general Internet adoption showed minimal gaps within minority groups, Figure 12 suggests that there is more of divide with home broadband access, especially between rural (29%) and urban African Americans (49%).

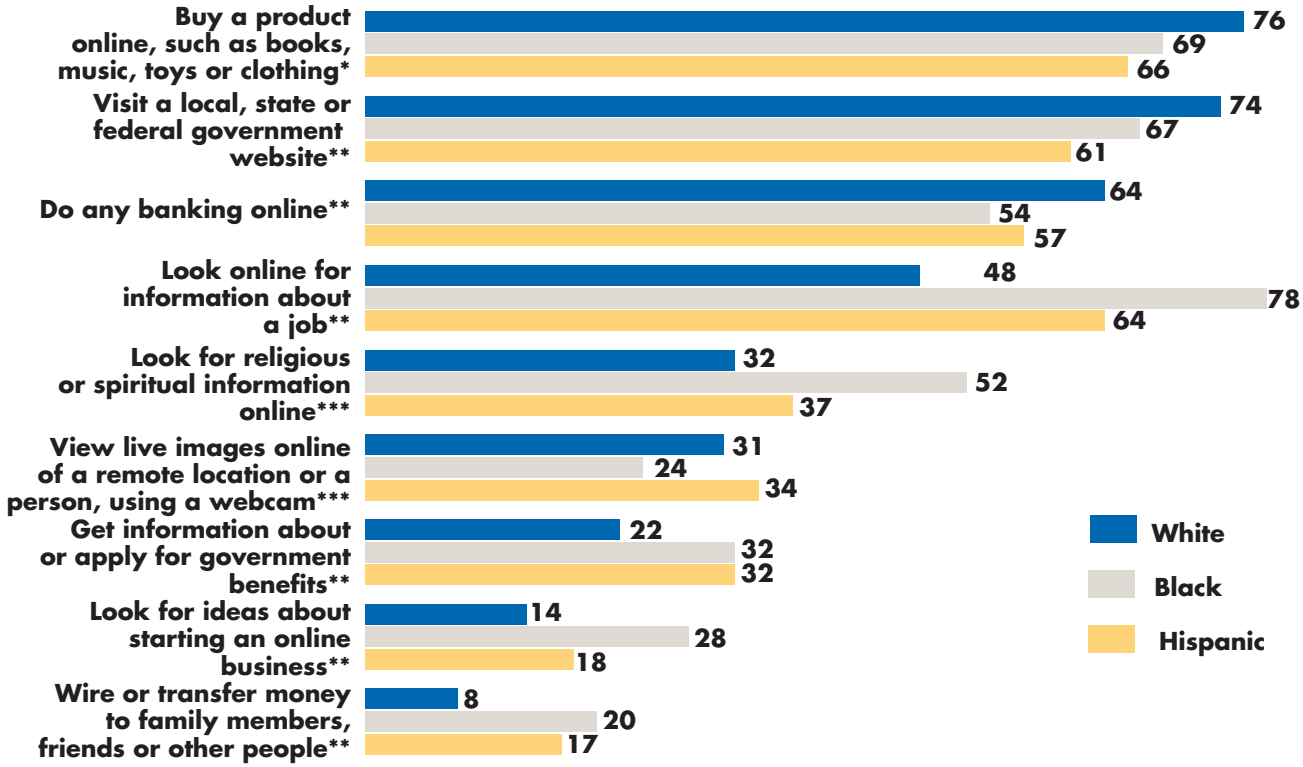
INTERNET USERS' ONLINE ACTIVITIES

In the survey, we asked respondents in the sample to identify the types of activities he or she normally engages in on the Internet. Overall, the range of online activities for Internet users appears to be very broad (Figure 13). E-mail remains the most widely used application on the Internet for all populations. And, beyond using e-mail, the Joint Center survey reveals that online activities are relatively similar across demographic groups. These activities include: *buying products online, visiting government websites, doing research for school or training, and banking online.*

Across the general population, the differences vary significantly for other online activities.

- A higher percentage of African Americans (78%) and Hispanics (64%) use the Internet to look online for information about jobs as compared to 48% of White Internet users.
- African American Internet users are also more likely than White and Hispanic users to look online for religious or spiritual information (52%) and ideas about starting an online business (28%).
- 34% of Hispanic users are more likely to use a webcam or view live images from a remote location.

FIGURE 13: SELECTED ONLINE ACTIVITIES BY RACE AND ETHNICITY, 2009 (IN PERCENT)



*Source: Joint Center for Political and Economic Studies, December 2009-January 2010. *Activities are based on 469 non-Hispanic Whites, 642 non-Hispanic Blacks, and 514 Hispanics; ** activities are based on 244 non-Hispanic whites, 310 non-Hispanic blacks and 234 Hispanics; *** activities are based on 225 non-Hispanic whites, 332 non-Hispanic blacks and 280 Hispanics..*

For all groups, visiting government web sites was a common activity, yet African Americans and Hispanics were more likely than Whites to get information about or apply for public benefits.

In addition to the aforementioned online activities, important differences by race also surfaced for the following Internet activities: use of social networking sites and looking for health information.

- 87% of Hispanics and 82% of African Americans earning more than $50,000 reported using the Internet to search for health or medical information.
- 79% of African American respondents and 77% of Hispanics earning more than $50,000 reported visiting local, city, state, and federal web sites to find relevant information.
- Over 60% of African Americans and Hispanics earning more than $50,000 use the Internet to access social networking sites such as Facebook, MySpace, and LinkedIn.

Online Activities by Race, Ethnicity, Income, Educational Status, and Age

There are notable differences among the demographic groups when using the Internet to search for jobs, apply for government benefits, manage healthcare, and take care of banking needs.

More African Americans and Hispanics Use the Internet to Search for Employment

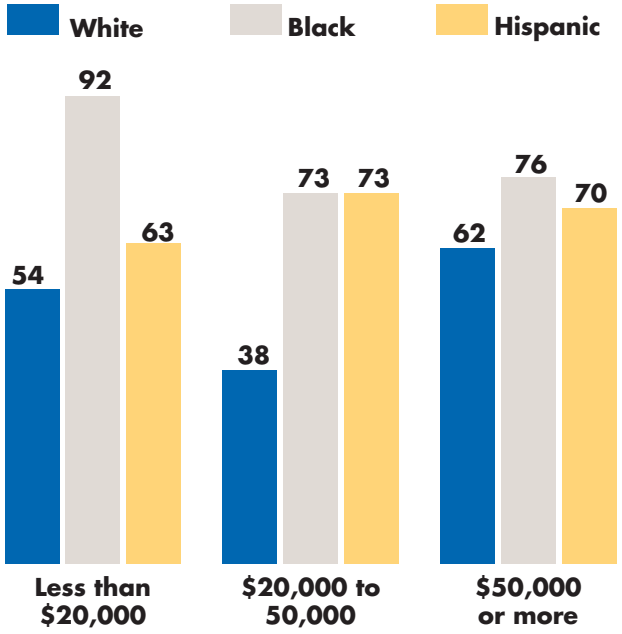
The Internet has become a primary channel for finding and posting employment opportunities. In the survey, 55% of Internet users report that they look online for information about jobs. Across all income groups, African Americans and Hispanics use the Internet to search for jobs in greater proportion than Whites.

- Among families with an annual income of $50,000, 76% of African Americans and 70% of Hispanics go online for job searches as compared to 62% of Whites.

As shown in Figure 14, the gap is greater for moderate and low-income groups.

- Among families with an annual income of $20,000 to $50,000, 73% of African American and 73% of Hispanics go online for job searches as compared to only 38% of Whites.
- Among families with an annual income of less than $20,000, 92% of African Americans and 63% of Hispanics go online for job searches as compared to only 54% of Whites. Thus, nine out of ten low-income African Americans use the Internet for job searches.

FIGURE 14: PERCENTAGE OF PEOPLE USING THE INTERNET TO LOOK FOR INFORMATION ABOUT A JOB, BY FAMILY INCOME, RACE AND ETHNICITY, 2009



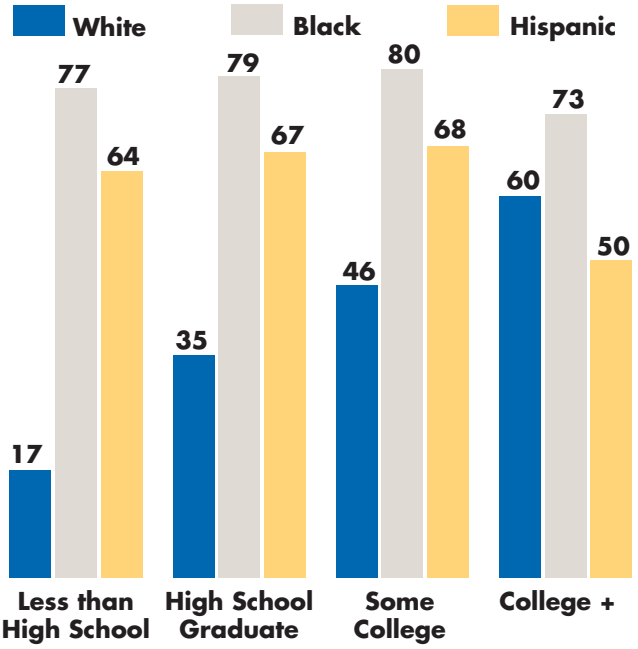
Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 244 non-Hispanic Whites, 310 non-Hispanic Blacks and 234 Hispanics.

More African American High School Dropouts Use the Internet for Employment

The patterns are similar when looking at differences by educational attainment (Figure 15). Overall, African Americans lead in using the Internet to look for information about jobs. Moreover, there is a large gap between demographic groups for Internet users with high school and less than high school education.

- 79% of African Americans and 67% of Hispanics that have graduated from high school and 35% of Whites go online to search for job information.

FIGURE 15: PERCENTAGE OF PEOPLE USING THE INTERNET TO LOOK FOR INFORMATION ABOUT A JOB, BY EDUCATIONAL ATTAINMENT, RACE AND ETHNICITY, 2009



Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 244 non-Hispanic Whites, 310 non-Hispanic Blacks and 234 Hispanics.

More Affluent and Educated Internet Users Regularly Visit Government Web Sites

Increasingly, government organizations are using the Internet to deliver a wide range of e-government services to the public. E-government aims to improve services and drive down the transaction costs associated with serving the public. [22] In the survey, 73% of Internet users report going online to visit a local, state, or federal government website. There is an income and educational disparity in using e-government, with similar patterns of use across demographic groups.

- Approximately 8 out of 10 Whites, African Americans or Hispanic Internet users earning over $20,000 access government services online, as compared with 5 out of 10 respondents earning less.

Table 7 illustrates the percentage of respondents by race and income that reported visiting a local, state, or federal government web site.

TABLE 7: PERCENTAGE OF RESPONDENTS THAT REPORTED VISITING GOVERNMENT WEB SITES BY RACE, ETHNICITY AND INCOME, 2009

	White	Black	Hispanic
Less than $20,000	80%	59%	50%
$20,000 to 50,000	63	73	75
$50,000 or more	76	82	87

Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 225 non-Hispanic Whites, 332 non-Hispanic Blacks and 280 Hispanics.

Similarly, African Americans and Hispanics with at least some college have higher rates of use of local, city, state and federal government web sites (Table 8).

- African Americans with some college experience are much more likely (80%) to visit these web sites than those with less than a high school education.
- Hispanics who have completed college or attained additional higher education use government web sites (72%) with a greater frequency than those with less than a high school diploma (48%).

TABLE 8: PERCENTAGE OF RESPONDENTS THAT REPORTED VISITING GOVERNMENT WEB SITES BY RACE, ETHNICITY, AND EDUCATION, 2009

	White	Black	Hispanic
Less than High School	43%	49%	48%
High School Graduate	66	55	60
Some College	72	80	66
College and above	84	78	72

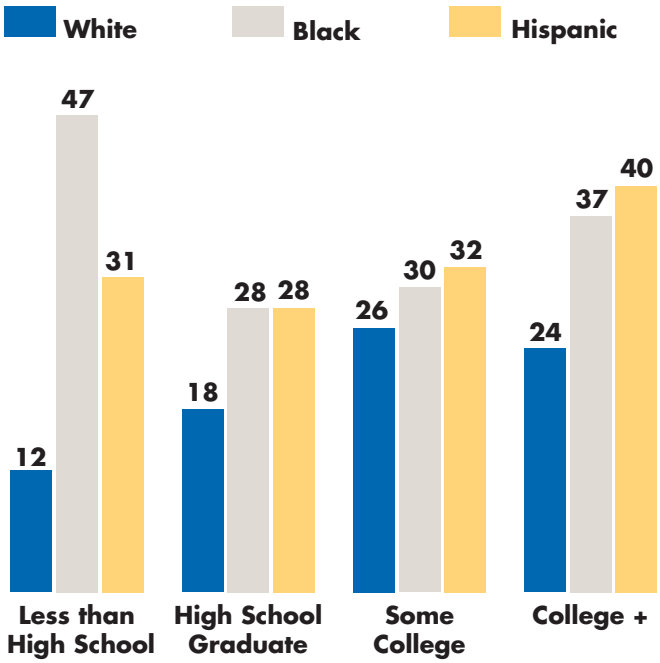
Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 244 non-Hispanic Whites, 310 non-Hispanic Blacks and 234 Hispanics.

More African Americans Get Information and Apply for Public Benefits Online

E-government strategies are shifting such services as managing government benefits to self-service channels over the Internet. In the survey, 25% of Internet users get information about government benefits and apply for government benefits online. Modest disparities by race are apparent (Figure 16).

- African Americans with less than a high school diploma are more than twice as likely to get information or apply for government benefits online.

FIGURE 16: PERCENTAGE OF PEOPLE USING THE INTERNET TO GET INFORMATION ABOUT OR APPLY FOR GOVERNMENT BENEFITS BY EDUCATIONAL ATTAINMENT, RACE, AND ETHNICITY, 2009



Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 244 non-Hispanic Whites, 310 non-Hispanic Blacks and 234 Hispanics.

Higher Income Minorities Actively Use the Internet for Health and Medical Information

Healthcare is another important online activity which reveals differences in use by race and ethnicity (Table 9). In the survey, 70% of Internet users manage parts of their healthcare by going online to seek health or medical information. Minorities with higher family incomes use the Internet more often to look for health and medical information.

- 82% of African Americans and 87% of Hispanics with annual incomes of $50,000 or more seek medical information online, as compared to 59% of African Americans and 50% of Hispanics with incomes less than $20,000 annually.

TABLE 9: PERCENTAGE OF RESPONDENTS THAT SEEK HEALTH OR MEDICAL INFORMATION ONLINE BY RACE, ETHNICITY AND INCOME, 2009

	White	Black	Hispanic
Less than $20,000	56%	40%	50%
$20,000 to 50,000	61	59	49
$50,000 or more	72	72	88

Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 244 non-Hispanic Whites, 310 non-Hispanic Blacks and 234 Hispanics.

Hispanic Internet Users Across High and Low Incomes Regularly Bank Online

In the survey, banking is also a common service conducted via the Internet. Sixty one percent of Internet users go online to manage their banking services (Table 10). Minorities with greater family incomes use the Internet more for banking services.

- 72% of African Americans and 88% of Hispanics with annual incomes of $50,000 or more bank online.
- 40% of African Americans and 50% of Hispanics earning less than $20,000 annually access online banking services.

TABLE 10: PERCENTAGE OF RESPONDENTS THAT BANK ONLINE BY RACE, ETHNICITY, AND INCOME, 2009

	White	Black	Hispanic
Less than $20,000	80%	59%	50%
$20,000 to 50,000	63	73	75
$50,000 or more	76	82	87

Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 225 non-Hispanic Whites, 332 non-Hispanic Blacks and 280 Hispanics.

Older African American Internet Users are Less Likely to Bank Online

Age disparities appear to contribute to one's willingness to use the Internet for online banking (Table 11). Older White and African American Internet users do less online banking than younger Internet users.

- Less than 30% of White Americans and African Americans 65 years of age and older report that they use online banking services.
- 60% of Hispanic Internet users over 60 report banking online, more than half the figure of African Americans and Whites.

TABLE 11: PERCENTAGE OF RESPONDENTS THAT BANK ONLINE BY RACE, ETHNICITY AND AGE, 2009

	White	Black	Hispanic
18-34	75%	53%	61%
35-49	77	57	50
50-64	55	58	60
65+	23	31	60

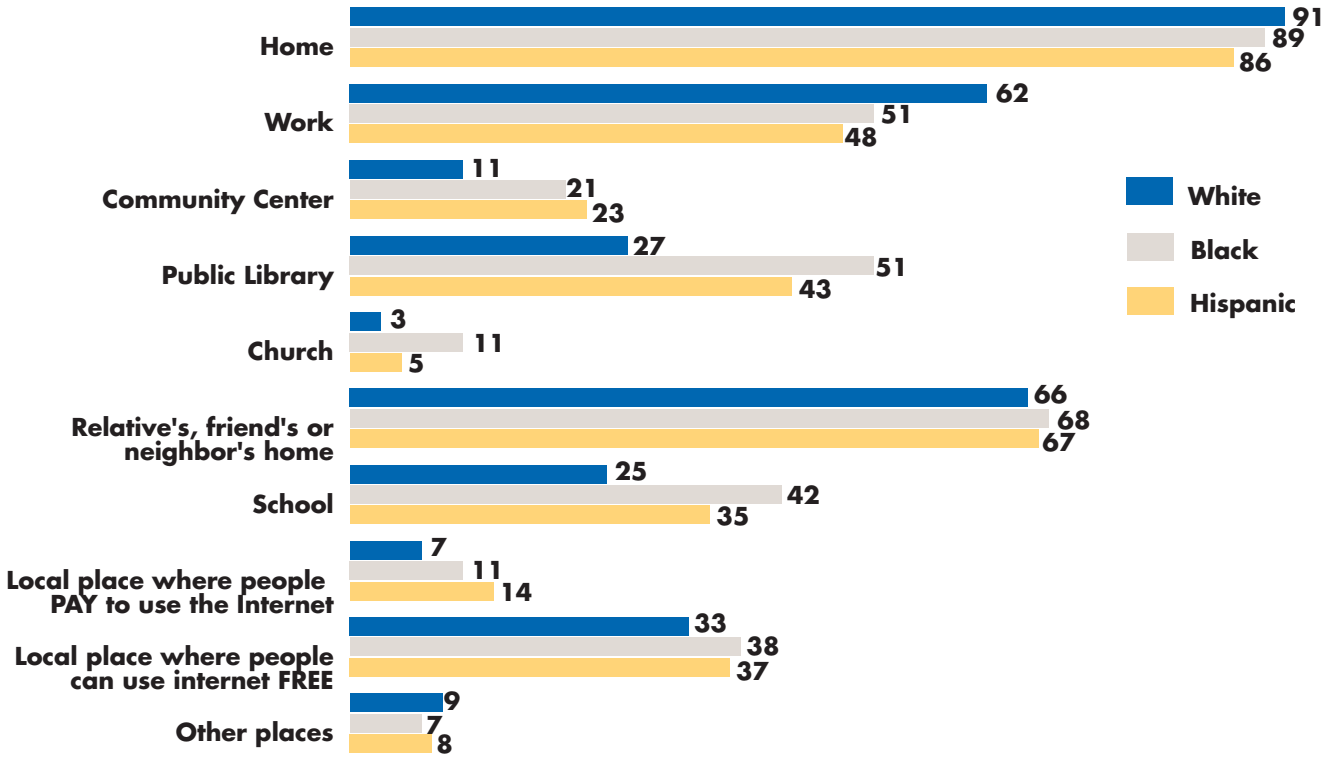
Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 244 non-Hispanic Whites, 310 non-Hispanic Blacks and 234 Hispanics.

WHERE PEOPLE USE THE INTERNET

Where people access the Internet is an important factor in accelerating minority broadband access. Across the array of respondents, the home was the central location for Internet use. Over 80% of respondents report the home as the primary location where they use the Internet.

When compared by race and ethnicity, reliance upon the homes of family members, friends and even neighbors were widely used to access the Internet. As shown in Figure 17, 66% of Whites, 68% of African Americans, and 67% of Hispanics visit the homes of other people to use the Internet.

FIGURE 17: WHERE PEOPLE ACCESS THE INTERNET BY RACE AND ETHNICITY, 2009 (IN PERCENT)



Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 472 non-Hispanic Whites, 667 non-Hispanic Blacks, and 542 Hispanics.

Such a finding suggests that the home – whether one's own or the residence of a trusted family member, friend, or neighbor is significant to the broadband experience for all people, regardless of race or ethnicity.

Having the ability to connect with family members, friends, and neighbors is integral to broadband acceptance. When people rely upon Internet connections that are convenient and often void of constraints that include limited hours of operation and lack of available computer terminals, they are able to realize the value of broadband. Moreover, these familiar locations provide a safe space for training and support from others, especially for Internet newcomers.

Minority Groups are Reliant upon Public Institutions and Community Access Centers

When various locations are compared by race and ethnicity, differences emerge. Public libraries, schools, and community centers were more likely to be used by minority groups.

- African Americans were more likely to access the Internet at their public library (51%) as compared to Hispanics (43%) and White Americans (27%).
- African Americans and Hispanics were also more likely to access the Internet at local schools – 42% and 35% respectively – as compared to Whites (25%).
- Over 20% of African Americans and Hispanics were active users of community centers for public access that include community technology centers and general purpose facilities with free Internet access.

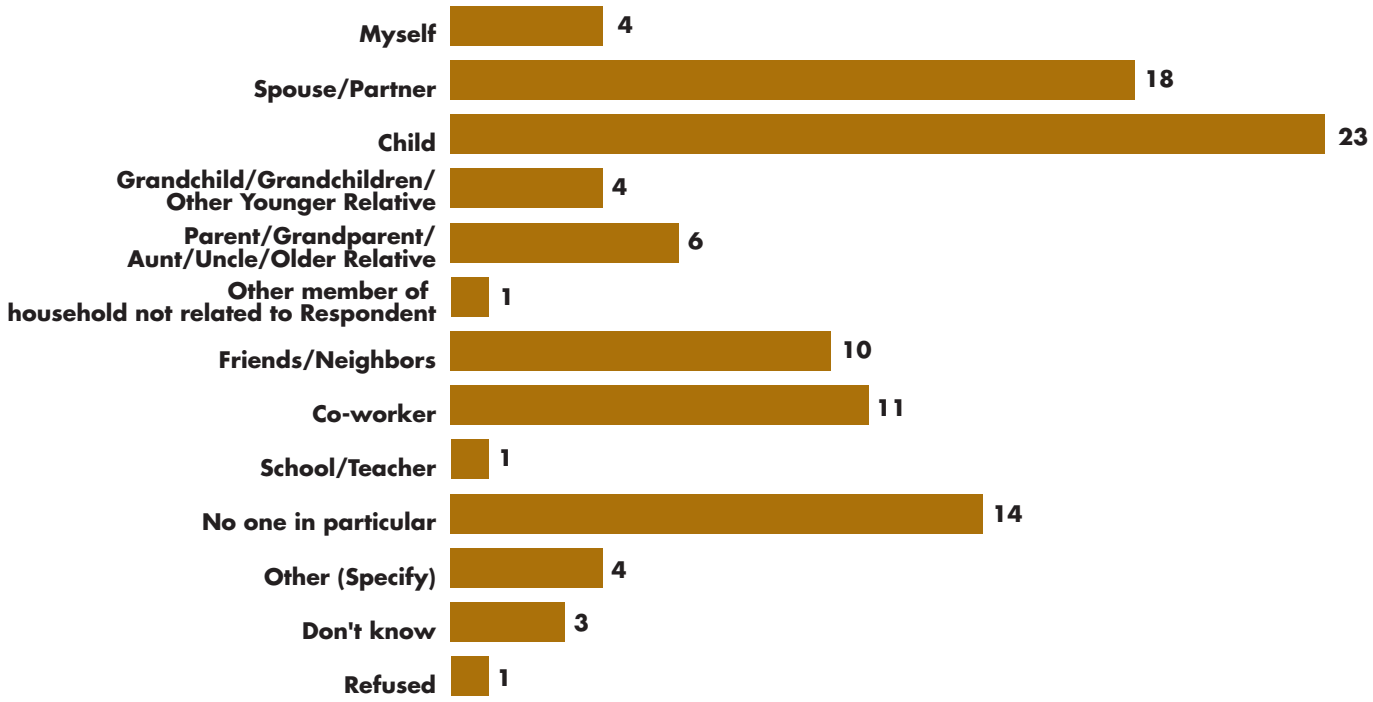
With broadband investments currently being made to community anchor institutions, this finding suggests the need for more targeted support of community anchor institutions that serve unserved or underserved populations.

Family and Peer Groups Help Minorities Accept Broadband Internet

Having someone to help with making the transition online is also a significant factor in minority broadband adoption (Figure 18). When asked about who played the biggest role in getting them started online.

- 27% of new Internet users (i.e., those who have used the Internet for 2 years or less), said their children, grandchildren or other younger relatives played the biggest role in getting them to start using the Internet.
- Spouses and domestic partners ranked next in support (18%) with co-workers (11%) and friends and neighbors (10%) being second and third in helping individuals get started on the Internet.

FIGURE 18: PEOPLE WHO HELPED GET INDIVIDUALS STARTED ON THE INTERNET, 2009 (IN PERCENT)



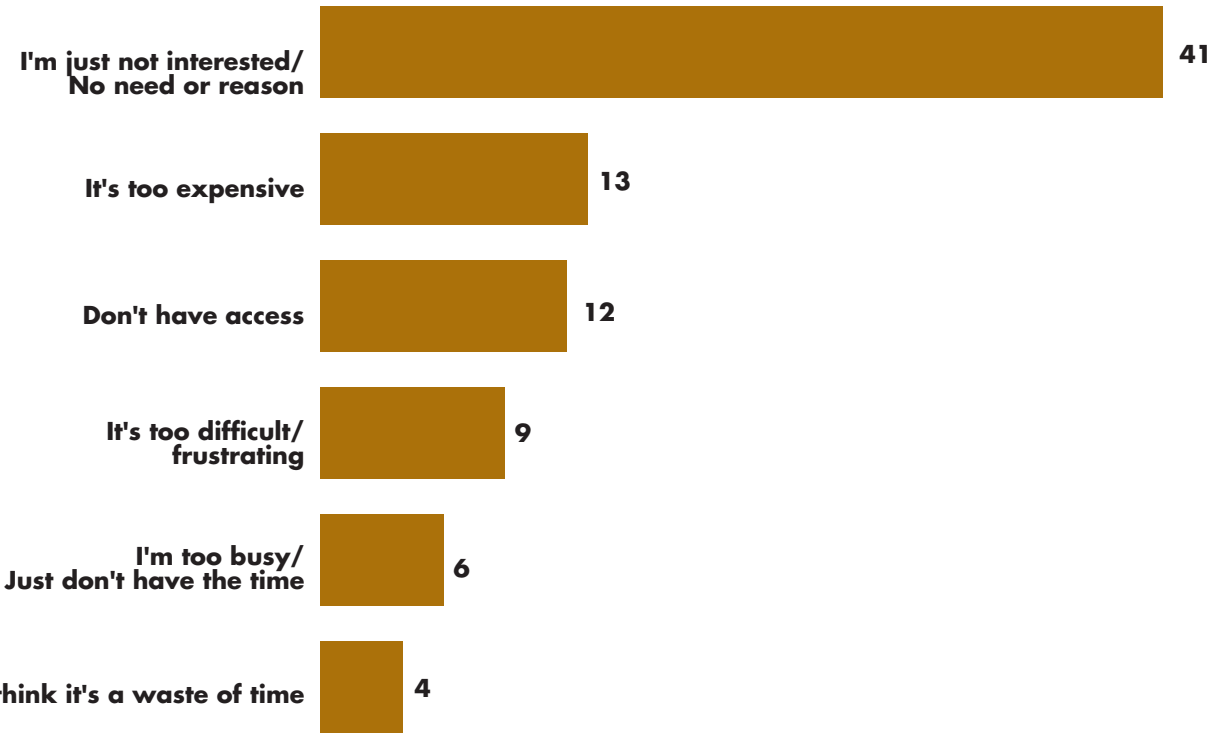
Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 196 persons who had used the Internet for 2 years or less.

TRENDS OF NON-INTERNET USERS

Recent research from NTIA suggests that a large proportion of individuals, regardless of their demographic background, are simply not interested in using the Internet. [23] In the Joint Center study, about 41% of non-Internet users state "not interested" as the main reason why they are not online. Cost and availability trails second and third for the cross section of individuals in the sample (Figure 19).

When we made comparisons by race and ethnicity, African Americans and Hispanics differ in their response.

FIGURE 19: MAIN REASONS WHY PEOPLE DON'T USE THE INTERNET, 2009 (IN PERCENT)



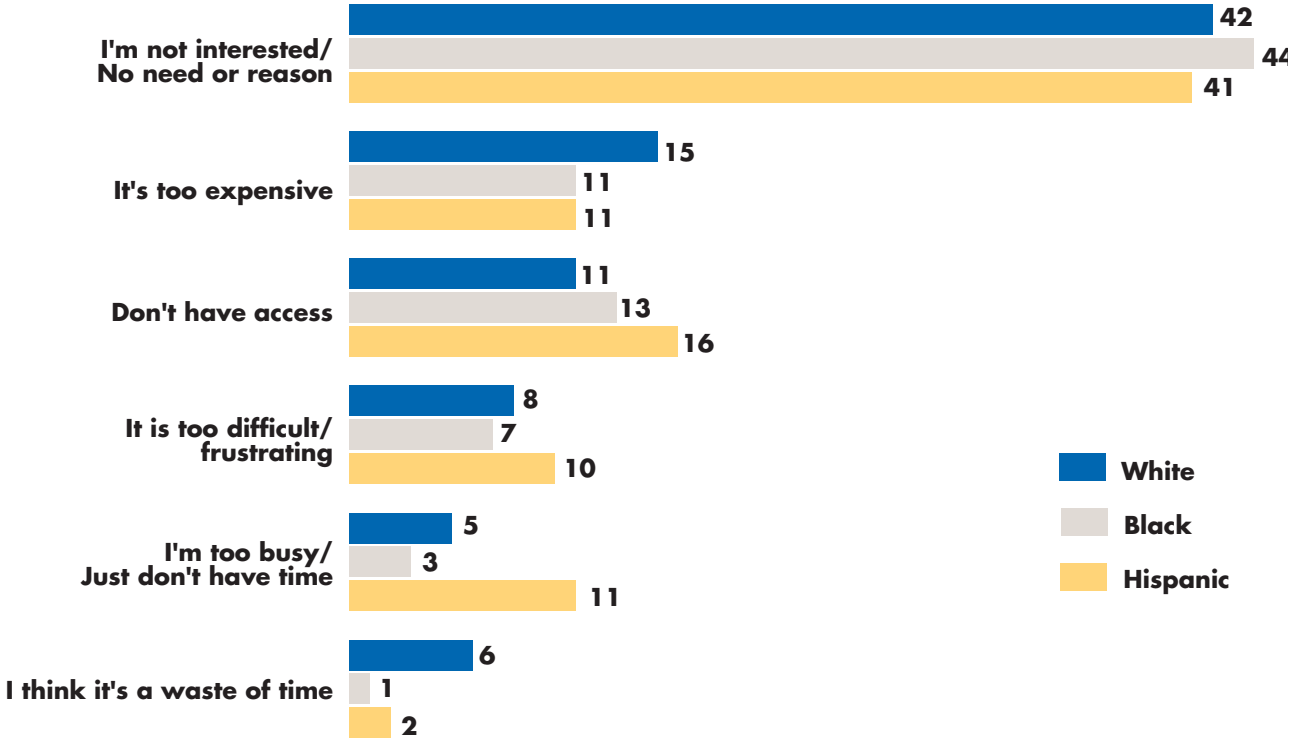
Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 881 persons who don't use the Internet.

Disinterest, Accessibility, and Cost Keep Minorities from Adopting Broadband

For minority groups, general lack of interest followed by accessibility and cost as the reasons for their disengagement (Figure 20).

- 16% of Hispanic non-adopters reported not having access to broadband as the reason why they are not online. African Americans rank this reason as second (13%).
- More White non-adopters (15%) report price as a reason for their detachment from the online space.
- Hispanic non-adopters were also more likely to report their lack of time (11%) and the difficulty of the Internet (10%) as other reasons for not being online.

FIGURE 20: MAIN REASONS WHY PEOPLE DON'T USE THE INTERNET BY RACE AND ETHNICITY, 2009 (IN PERCENT)



Source: Joint Center for Political and Economic Studies, December 2009-January 2010.
Based on 134 non-Hispanic Whites, 381 non-Hispanic Blacks and 320 Hispanics who don't use the Internet.

While cost is still a perceived barrier for individuals without broadband, the perceived lack of access to broadband is telling among non-adopters of broadband services.

While many researchers and policy makers are primarily focused on making broadband more affordable for low-income people, targeting minority groups, in general, is not always the most appropriate response. Our study finds that affording broadband may not necessarily be correlated with race. As previously suggested, many minorities – especially those that are higher income, can afford broadband services. It is the perceived lack of local broadband access among non-adopters that presents itself as a major impediment to use. When asked about the number of broadband providers in their community, the majority of non-adopters reported that they knew of very few broadband service providers in their community (Table 12).

- 68% of non-Internet users as compared to 36% of Internet users shared that they did not know any broadband service providers in their community.

TABLE 12: INTERNET AND NON-INTERNET USERS' AWARENESS OF THE NUMBER OF COMPANIES OFFERING BROADBAND IN THE NEIGHBORHOOD, 2009

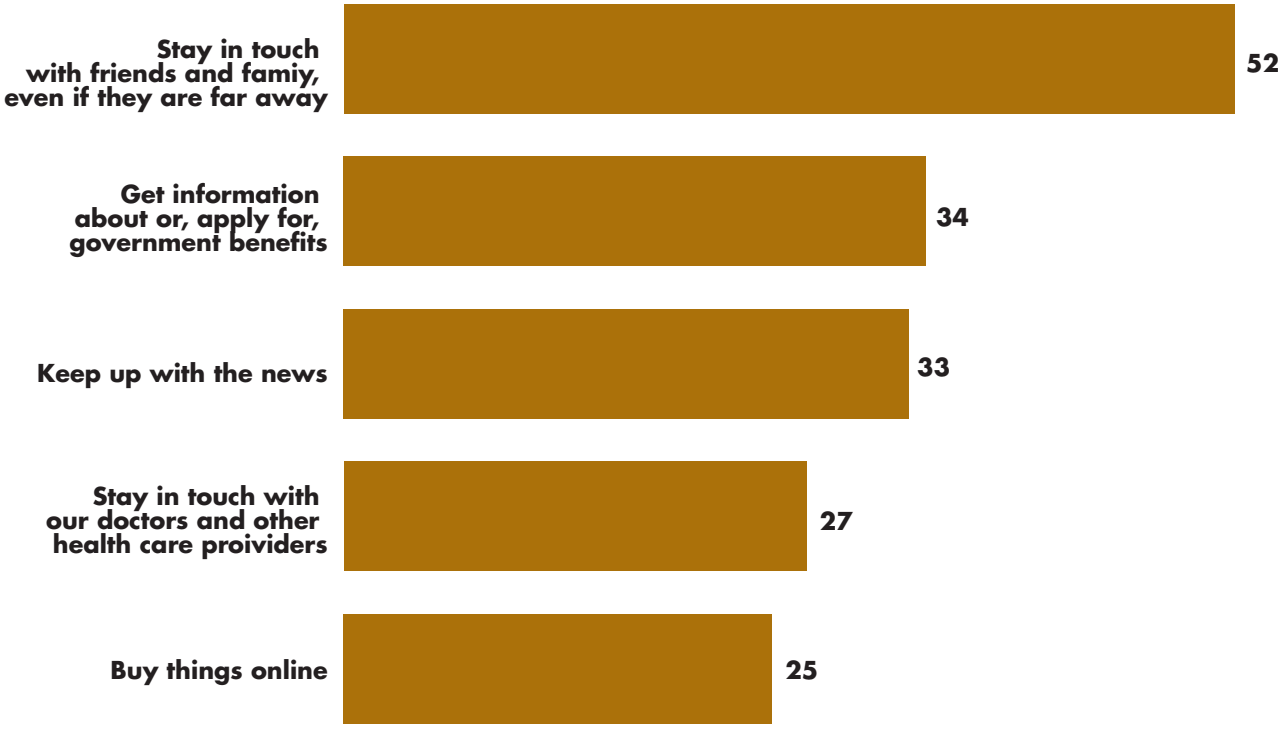
	Internet User	Non-Internet User
None	2%	3%
1 company	7	5
2 companies	21	8
3 companies	18	7
4+ companies	15	7
Don't know any	36	68

Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 1,708 internet users and 881 non-internet users.

Prospective Online Activities of Non-Internet Users

Lack of relevance continues to be a primary reason why non-adopters are not actively using the Internet. Often perceived as a lack of interest in the Internet, some researchers argue that the perceived disinterest in the Internet is primarily related to an individual's limited knowledge of online activity.[24] Our research attempts to examine the issue of relevance through the model of broadband acceptance. In the Joint Center survey, non-Internet users were asked a series of questions around a variety of functions that might increase their participation (Figure 21). Exploring likely drivers of future use by non-Internet users can provide insight into what programmatic approaches would be most likely to accelerate broadband use.

FIGURE 21: PROSPECTIVE ONLINE ACTIVITIES OF NON-INTERNET USERS, 2009 (IN PERCENT)



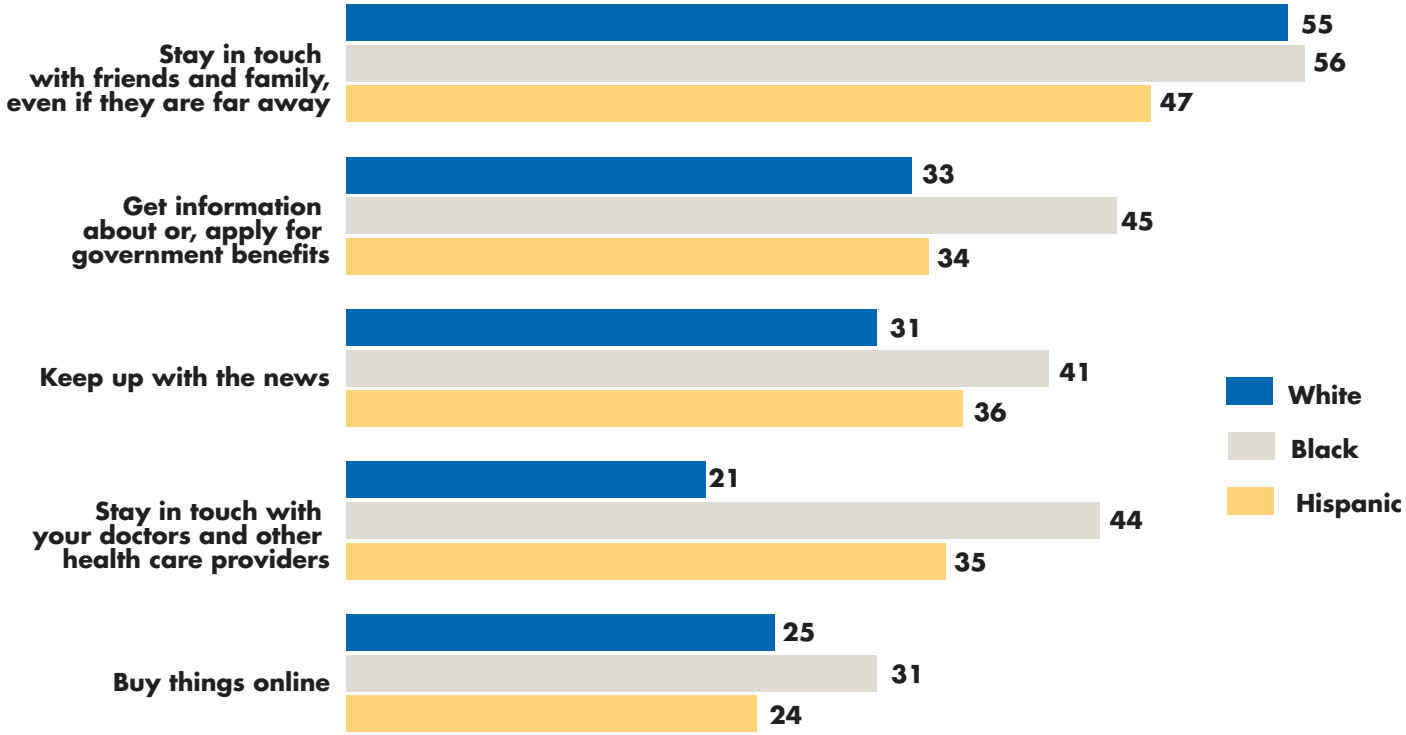
Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 881 persons who don't use the Internet.

When asked whether they would engage in a series of selected online activities, responses from a cross section of non-Internet users were as follows:

- More than half (52%) said they would use the Internet to stay in touch with friends and family.
- 34% shared that they would go online to get information about or apply for government benefits.
- 33% indicated they would use the Internet to keep up with the news.
- 27% said they would use the Internet to stay in touch with their doctors.
- A quarter (25%) shared that they would go online to buy things.

African American non-Internet users were especially enthusiastic about getting online to participate in these activities. For each online activity prompted, higher percentages of African American non-Internet users confessed to getting online for a specific activity as compared to White Americans and Hispanics. Compared to African Americans and Hispanics, White Americans were less likely to say they would use the Internet to stay in touch with their doctors. Hispanics were less likely than White Americans and African Americans to use the Internet to stay in touch with their friends and family (Figure 22).

FIGURE 22: PROSPECTIVE ONLINE ACTIVITIES FOR NON-INTERNET USERS BY RACE AND ETHNICITY, 2009 (IN PERCENT)



Source: Joint Center for Political and Economic Studies, December 2009-January 2010.
Based on 134 non-Hispanic Whites, 381 non-Hispanic Blacks and 320 Hispanics who don't use the Internet.

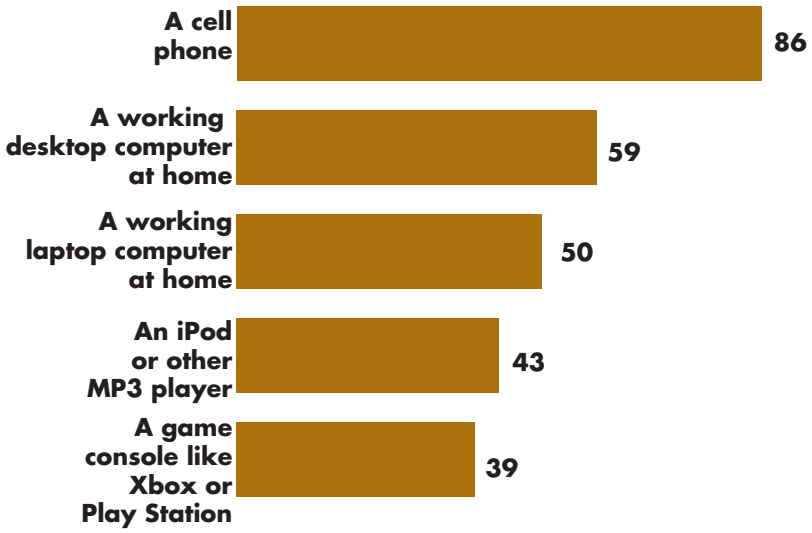
Among the online activities we proposed to African American non-Internet users as potential reasons to go online: *staying in touch with family and friends (56%), getting information for or applying for public benefits (45%), staying in touch with doctors and other health care providers (44%), and keeping up with the news (41%)* ranked highest.

For Hispanic non-adopters, *staying in touch with family and friends (47%), keeping up with the news (36%), staying in touch with doctors and other health care providers, (35%) and getting information or applying for public benefits (34%)* were their major activities of interest.

DEVICES, MOBILE USE, AND PERCEIVED SATISFACTION OF SERVICE

Among devices with Internet capability, the cell phone is the most popular - 86% of African American, Hispanic, White and Other respondents are cell phone users. In addition to owning a cell phone, 59% of all respondents have a working desktop computer at home, 50% have a working laptop at home, 43% have an iPod or other MP3 player, and 39% have a game console (Figure 23).

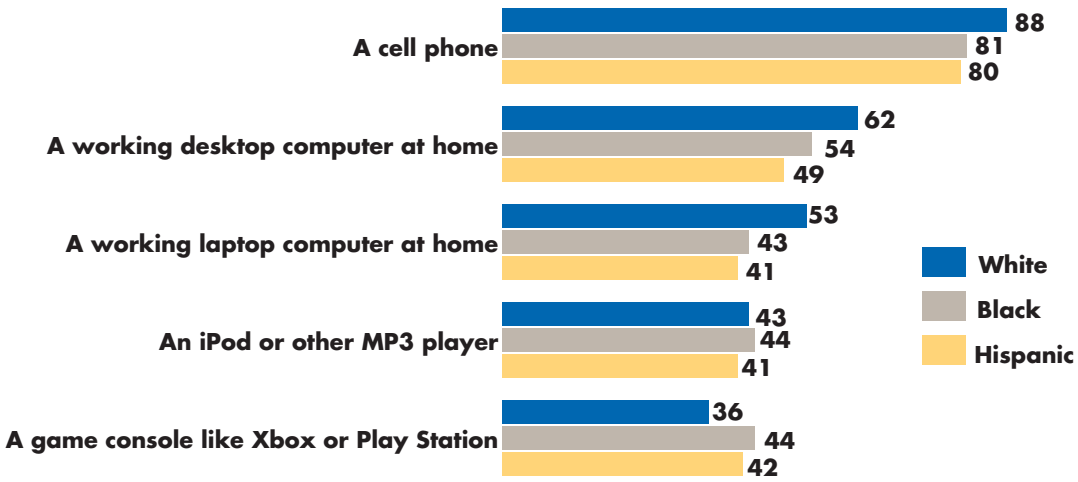
FIGURE 23: DEVICE OWNERSHIP, 2009 (IN PERCENT)



Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 2,741 respondents.

When compared by race and ethnicity, Whites have higher ownership rates of cell phones, desktops, and laptop computers. African Americans were more likely to own a game console such as an Xbox or Playstation (Figure 24).

FIGURE 24: DEVICE OWNERSHIP BY RACE AND ETHNICITY, 2009 (IN PERCENT)



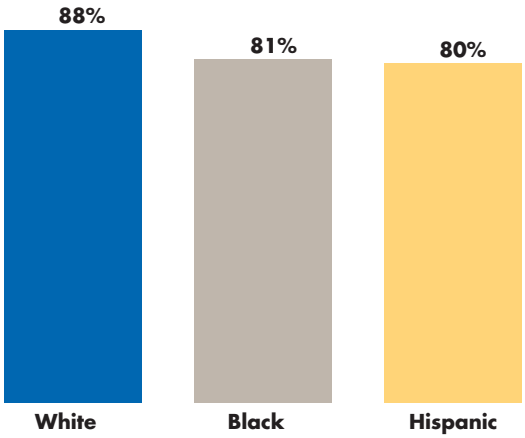
Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 603 non-Hispanic Whites, 1,023 non-Hispanic Blacks, 834 Hispanics.

Minority Use of Mobile and Alternative Broadband-Enabled Devices

Similar to previous research, cell phone use for minorities is very high (Figure 25).

- 81% of African Americans reported owning a cell phone compared to 80% of Hispanics.

FIGURE 25: PERCENTAGE OF RESPONDENTS THAT REPORT CELL PHONE OWNERSHIP BY RACE AND ETHNICITY, 2009



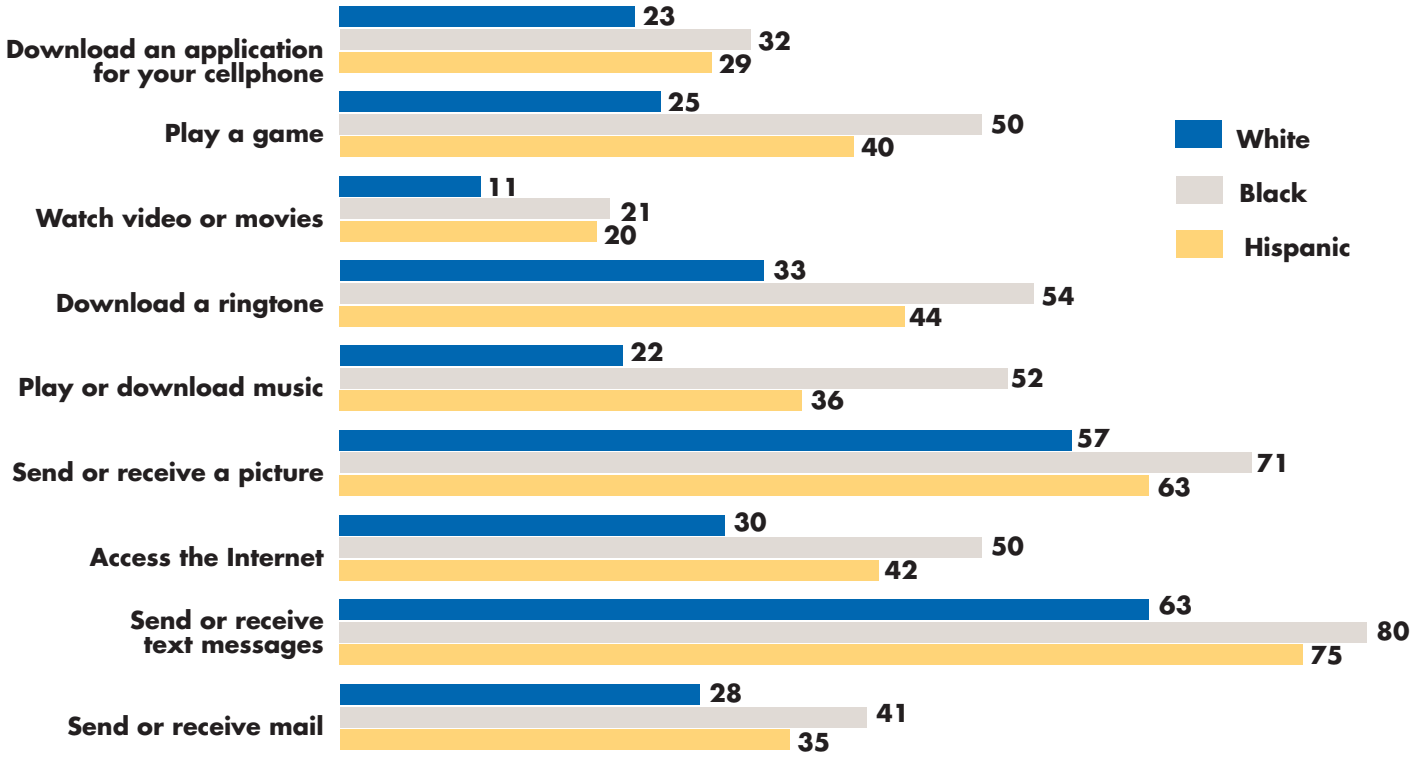
Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 603 non-Hispanic Whites, 1,023 non-Hispanic Blacks, and 834 Hispanics.

When asked about cell phone activities, the majority of respondents, regardless of race or ethnicity, sent or received text messages in comparison to sending or receiving email (Figure 26). While 50% of African Americans had higher rates of accessing the Internet via their cell phone, only 42% of Hispanics reported using their cell phone for that purpose.

Among racial and ethnic minorities, the following cell phone activities were more widely reported:

- 80% of African Americans sent or received text messages, and 41% sent or received email from their cell phone.
- 75% of Hispanics sent or received text messages as compared to 35% of the same respondents that used their cell phone to access email.
- More African Americans exchanged photos (71%) or downloaded ring tones (54%) on their mobile device as compared to Hispanics and even White Americans.

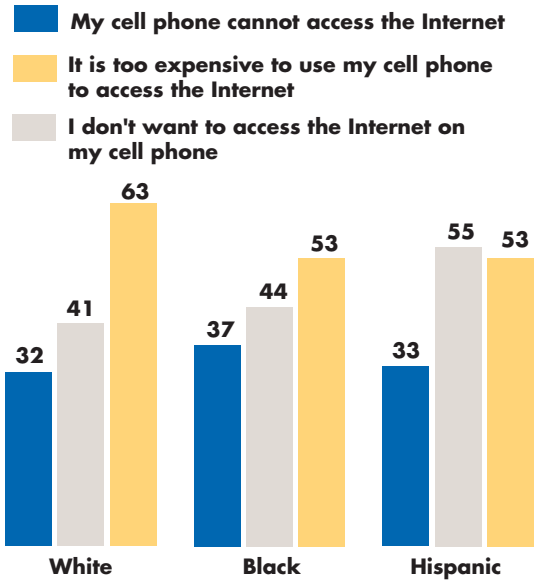
FIGURE 26: CELL PHONE ACTIVITIES BY RACE AND ETHNICITY, 2009 (IN PERCENT)



Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 603 non-Hispanic Whites, 1,023 non-Hispanic Blacks, 834 Hispanics.

When racial and ethnic minorities were asked why they do not access the Internet via their cell phone, Hispanics reported a lack of interest in using their cell phone to browse the Internet (55%) and African Americans stated that the cost of accessing the Internet on their cell phone was too expensive (53%). Figure 27 shares these findings.

FIGURE 27: REASONS WHY PEOPLE DON'T USE CELL PHONES TO ACCESS THE INTERNET BY RACE AND ETHNICITY, 2009 (IN PERCENT)



Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 603 non-Hispanic Whites, 1,023 non-Hispanic Blacks, and 834 Hispanics.

Minority Groups Report Greater Preference for Broadband-Enabled Laptops

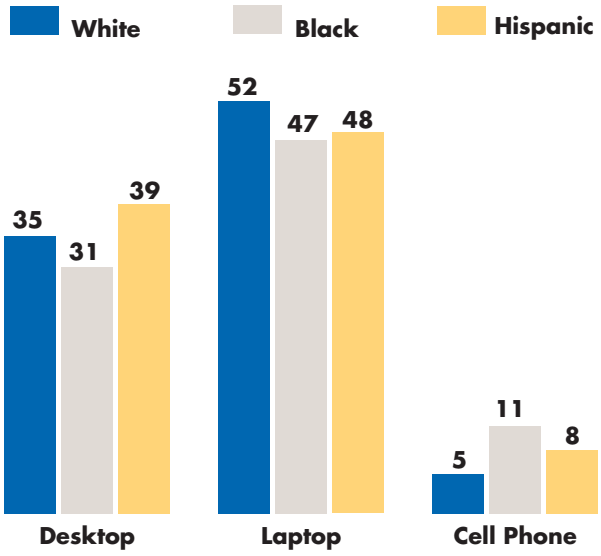
Overall, laptops are the preferred device for access the Internet among those who own a desktop computer, laptop computer, and cell phone (Figure 28).

- On average, among all respondents, more than half (53%) prefer a laptop, a third (33%) prefer a desktop, and only 6% prefer a cell phone for accessing online content.
- There are only modest differences in the percentage of the population that uses either a desktop, laptop or cell phone. Device preference among racial and ethnic groups was similar to the device preference among all respondents. Minorities that have all three devices also lean more toward preferring a laptop for Internet access.

Among respondents who use their laptop to access the Internet, 82% have WiFi (a short range wireless Internet connection) and 39% have wireless broadband (a long range wireless connection) (Figure 29).

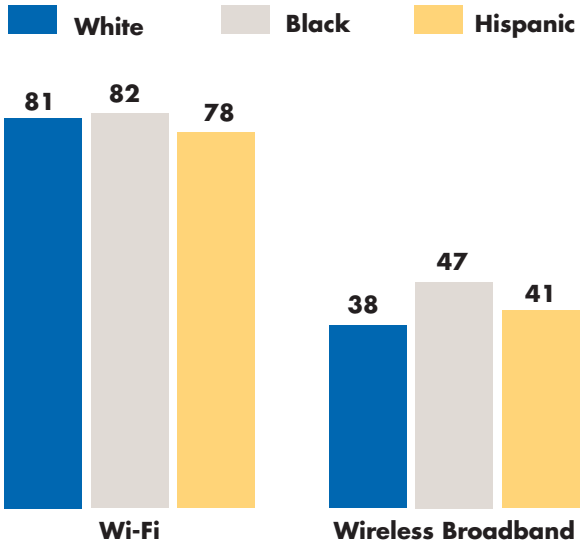
- 82% of African Americans and 78% of Hispanics use WiFi to access the Internet from their laptop computer.
- Less than half of both African Americans and Hispanics access the Internet via wireless broadband.

FIGURE 28: PREFERRED DEVICE TO ACCESS THE INTERNET BY RACE AND ETHNICITY, 2009 (IN PERCENT)



Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 93 non-Hispanic Whites, 171 non-Hispanic Blacks and 128 Hispanics who own all three devices.

FIGURE 29: INTERNET ACCESS VIA AN ALTERNATIVE DEVICE BY RACE AND ETHNICITY, 2009 (IN PERCENT)

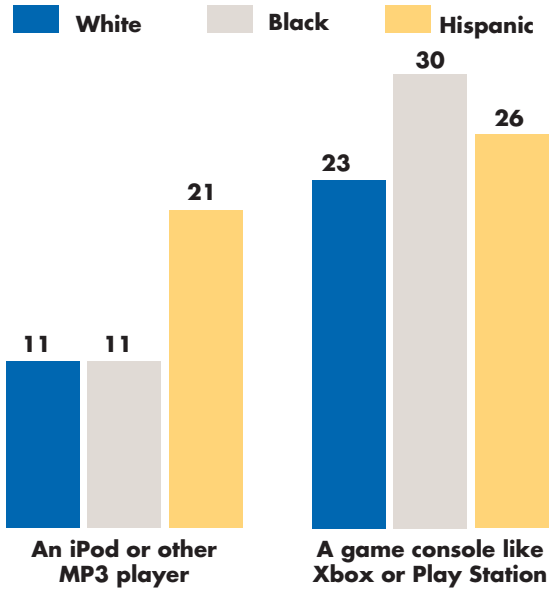


Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 293 non-Hispanic Whites, 362 non-Hispanic Blacks, and 293 Hispanics.

African Americans Were More Likely to Access the Internet Via Gaming Consoles

As leading owners of other types of broadband-enabled devices, e.g., MP3 players or gaming consoles, African Americans were asked about their use of these alternative devices to get online (Figure 30). It is worth noting that 30% of African American respondents reported using a game console to access the Internet, while 21% of Hispanics use their MP3 player or iPod to access the Internet.

FIGURE 30: INTERNET ACCESS VIA AN ALTERNATIVE DEVICE BY RACE AND ETHNICITY, 2009 (IN PERCENT)



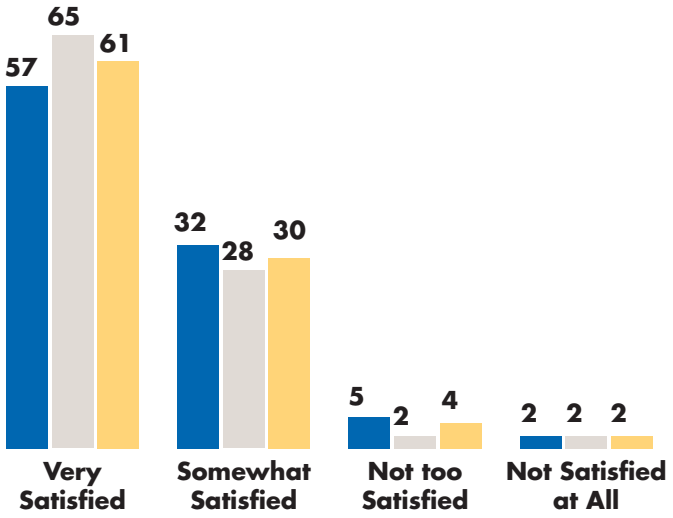
Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 293 non-Hispanic Whites, 362 non-Hispanic Blacks, and 293 Hispanics.

Minorities' Satisfaction with Broadband Service

An overwhelming majority of Internet users are satisfied with their Internet service (Figure 31). And respondents' opinions did not significantly vary by race or ethnicity.

- 58% say they are very satisfied and 32% say they are somewhat satisfied.
- 65% of African Americans and 61% of Hispanics reported being very satisfied with their Internet service.

FIGURE 31: PERCEIVED SATISFACTION AMONG INTERNET USERS WITH BROADBAND SERVICE BY RACE AND ETHNICITY, 2009 (IN PERCENT)



Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 293 non-Hispanic Whites, 362 non-Hispanic Blacks, and 293 Hispanics.

Among a very small sample of individuals (n=100) that reported dissatisfaction with their Internet service, the reasons cited included speed (62%) and cost (35%). Table 13 offers a summary of these results. The sample size was too small to distinguish by race, ethnicity, and even family income.

TABLE 13: REASONS PEOPLE ARE NOT SATISFIED WITH THEIR INTERNET SERVICE, 2009 (IN PERCENT)

	Major reason	Minor reason	Not a reason
Service is too slow	62%	16%	20%
The service fails too often	56	18	24
It costs too much	35	26	39
My email doesn't work all the time	22	21	53
I can't get to the web sites I want to online	20	29	50

Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 100 respondents who are not satisfied with their internet service

Finally, respondents that were still using dial-up were asked about their interest in switching to high-speed broadband. Among a very small sample size of individuals still using dial-up, 33% were interested in subscribing to a broadband connection (Table 14).

TABLE 14: INTEREST IN SWITCHING TO BROADBAND, 2009 (IN PERCENT)

Yes, interested	33%
No, not interested	65
Don't know	2

Source: Joint Center for Political and Economic Studies, December 2009-January 2010. Based on 132 respondents with dial-up internet access at home.

- 31% of these same respondents indicated that nothing would convince them to switch to broadband, 31% cited cost as the major barrier and 17% indicated that broadband was not available in their neighborhoods.

Future Joint Center research will explore in more detail minorities' use of mobile and alternative devices. The key goal of this section is to surface which devices minority groups are more inclined to use and how these tools help them to connect to the Internet in customized ways.

CONCLUSIONS

As this and other studies suggest, it is clear that broadband Internet offers great promise for connecting a growing population of individuals to new opportunities for engagement. The need to close the gap, between those who are actively using high-speed Internet and those who are not, is well-established. The challenge going forward, however, is to understand why the acceptance and use of broadband Internet varies considerably among individuals; what the key motivators are for those who are, or would consider, going online; and, how to leverage this information to design public-private partnerships that implement the drivers identified in this research.

Minorities are not monolithic. Our findings confirm that the minorities who do use broadband Internet are doing so at a deeper level of engagement when they are younger, more affluent, and better educated. On the other hand, minorities who are not in this socioeconomic group tend to use the Internet outside their homes, and primarily for informational purposes such as job searching and obtaining public benefits. To reach last mile consumers—especially those who have chosen not to adopt broadband, even where it is widely affordable, available, and accessible—policies should be designed to promote deeper engagement by influencing consumer decision-making.

Finding out more about the behaviors of minority groups is a helpful starting point for developing policies to accelerate adoption and use. For example, while many suggest that cell phones are an alternative broadband onramp for minority consumers, more research is needed on what is driving mobile adoption and how industry, government, and other policymakers can work together to enhance the depth and quality of minority users' experience.

This report marks the beginning of several studies that will introduce and discuss the concept of broadband acceptance and its role in accelerating minority engagement online. As a new way of exploring the relevance of the Internet for minorities and other users, we present broadband acceptance as a framework to be used for investigating the saliency of the qualitative factors, from where one lives to who one knows, most likely to accelerate digital inclusiveness.

ENDNOTES

1 Report and Order and Further Notice of Proposed Rulemaking, In the Matter of Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice Over Internet Protocol (VoIP) Subscribership, Federal Communications Commission, Mar. 19, 2008: 9. Web. 21 Feb. 2010. <http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-08-89A1.pdf> "As discussed in our Fifth Report, pursuant to section 706 of the Telecommunications Act of 1996, we find it appropriate to continue to evaluate broadband deployment by monitoring the migration of customers and services to higher speed tiers by continuing to collect information beginning at the 200 kbps threshold that is appropriately considered 'first generation.' ... the reporting tiers applicable to the reporting of both download and upload transfer rates under the new Form 477 collection are: (1) greater than 200 kbps but less than 768 kbps; (2) equal to or greater than 768 kbps but less than 1.5 mbps; (3) equal to or greater than 1.5 mbps but less than 3.0 mbps; (4) equal to or greater than 3.0 mbps but less than 6.0 mbps, (5) equal to or greater than 6.0 mbps but less than 10.0 mbps; (6) equal to or greater than 10.0 mbps but less than 25.0 mbps; (7) equal to or greater than 25.0 mbps but less than 100.0 mbps; and (8) equal to or greater than 100 mbps."

2 Report and Order and Further Notice of Proposed Rulemaking, In the Matter of Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscribership 10.

3 Horrigan, John B. *Broadband Adoption and Use in America OBI Working Series Paper No. 1*: 3, Federal Communications Commission, Feb. 23, 2010. Web. 23 Feb. 2010. <http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296442A1.pdf>

4 *Digital Nation, 21st Century America's Progress Toward Universal Broadband Internet Access: U.S. Department of Commerce National Telecommunications and Information Administration, National Telecommunications and Information Administration,* Feb. 2010: 4. Web. 18 Feb. 2010. <http://www.ntia.doc.gov/reports/2010/NTIA_Internet_use_report_Feb2010.pdf>

5 Davidson, Charles M. and Michael J. Santorelli. *Barriers to Broadband Adoption: A Report to the Federal Communications Commission.* New York Law School, Oct. 2009: 2. Web. 23 Feb. 2010. <http://fjallfoss.fcc.gov/ecfs/document/view?id=7020142497> Reporting disparities in broadband adoption amongst senior citizens and those with disabilities "...The factors impeding more robust broadband adoption among different demographics and sectors are numerous, varied, and substantial..."

6 Bertrand, Marianne and Sendhil Mullainathan, Eldar Shafir. *A Behavioral-Economics View of Poverty, American Economic Review Papers and Proceedings,* May 2004. 18 Feb. 2010. <http://cbdr.cmu.edu/seminar/shafir.pdf> Discussing the "relevance of psychological insights to anti-poverty policy."; Thaler, Richard H. and Cass R. Sunstein. Nudge: Improving Decisions About Health, Wealth, and Happiness. New Haven: Yale University Press, 2008. Print.

7 The FCC's forthcoming National Broadband Plan is a Congressional mandate stemming from the American Recovery and Reinvestment Act of 2009. The Department of Commerce's Broadband Technology Opportunities Program (BTOP), administered through the National Telecommunications and Information Administration (NTIA), provides grants and loans to support broadband adoption and infrastructure programs. The Broadband Initiatives Program (BIP), administered through the Department of Agriculture's Rural Utilities Service (RUS), is designed to provide grants and loans to programs that will facilitate broadband access in rural communities.

8 Of the 834 Hispanic respondents, 524 completed the survey in English and 310 completed the survey in Spanish. The survey instrument was translated into Spanish and interviewers were bilingual.

9 Horrigan, John B. *Home Broadband Adoption 2009,* Pew Research Center's Internet and American Life Project. Pew Research Center, June 2009:8. Web. 18 Feb. 2010. <http://www.ewInternet.org/~/media//Files/Reports/2009/Home-Broadband-Adoption-2009.pdf>

10 The Joint Center has analyzed the recent findings from both the NTIA report entitled *Digital Nation, 21st Century America's Progress Toward Universal Broadband Internet Access* (released February 2010) and the FCC's report entitled *Broadband Adoption and Use in America* (released February 2010). Both studies present valuable research on national broadband trends and have some data on minorities and subpopulations, e.g. low-income people, people with disabilities and high school dropouts. The Joint Center adds to this body of work by advancing a specific dialogue on comparisons within and between minority groups.

11 Verdegem, P. and P. Verhoest. *Profiling the non-user: Rethinking policy initiatives stimulating ICT acceptance.* Telecommunications Policy, 2009: 642-652. Print. 22 Feb. 2010.

12 Horrigan, John B. *Broadband Adoption and Use in America.* OBI Working Series Paper 1.:3 February 2010

13 A focus group conducted in December 2009 in Chicago's North Lawndale community with 12 individuals that are members of the Lawndale Wireless Community Network (LWCN), a collaboration of neighborhood organizations and leaders that have established and implemented one of the few robust community wireless networks in an urban community of 45,000 households. In its third year, the LWCN will soon provide free Internet access to over 5,000 residents through home-based broadband connections, community technology centers, business hot spots, and schools; offer programs for affordable computer hardware; and support digital skills training.

14 Genachowski, Julius. *Innovation in a Broadband World. The Innovation Economy Conference.* Federal Communications Commission, 1 Dec. 2009. Address. 23 Feb. 2010. http://www.fcc.gov/Daily_Releases/Daily_Business/2009/db1216/DOC-295265A1.pdf "Earlier this month, I met in Beirut with leaders of communications agencies from around the world, and I can tell you that other countries are not standing still."

15 U.S. Bureau of Labor Statistics. Economic News Release, *Employment Status of Civilian Population by Race, Sex, and Age*. Washington, D.C: Feb. 2010. Web. 18 Feb 2010. http://www.bls.gov/news.release/empsit.t02.htm. According to the Bureau of Labor Statistics while the nationwide unemployment rate fell to 9.7%, African American unemployment increased to 16.5% and Hispanic rates were at 12.6%.

16 See Rainie, Lee. *Internet, broadband, and cell phone statistics.* Pew Research Center's Internet and American Life Project. Pew Research Center, Jan. 2010: 5. Web. 18 Feb. 2010. <http://www.pewInternet.org/Reports/2010/Internet-broadband-and-cell-phone-statistics.aspx?r=1> The percentage of Americans using the Internet increased from 48% in 2000 to 74% in 2009; Rainie, Lee. *"Survey Questions. December Tracking Survey 2009."* Pew Research Center's Internet and American Life Project. Pew Research Center, 4 Jan. 2010: 2. Web. 18 Feb. 2010. <http://www.pewInternet.org/Reports/2010/~/media/12119A7E0A794B328C2F0819594CB426.pdf>

17 *Digital Nation, 21st Century America's Progress Toward Universal Broadband Internet Access: 8.* In this recent report, Internet usage among women increased from 47% in 2007 to 59% in 2009.

18 Rainie, *Internet, broadband, and cell phone statistics:* 3. The number of American adults using the Internet dropped slightly between April 2009 and December 2009, from 79% to 74%. However, the April report did not include Spanish interviews.

19 *Digital Nation, 21st Century America's Progress Toward Universal Broadband Internet Access: 8.* The percentage of U.S. households with Internet increased from 61.7% in 2007 to 68.7% in 2009. Those with broadband Internet increased from 50.8% in 2007 to 63.5% in 2009.

20 Pew Internet & American Life Project July 2002 and April 2006 surveys, Joint Center for Political and Economic Studies, December 2009-January 2010.

21 *Digital Nation, 21st Century America's Progress Toward Universal Broadband Internet Access: 3.*

22 West, D., *Global E-government,* Brown University Center for Public Policy, Aug., 2007. Web. 23 Feb. 2010. <http://www.insidepolitics.org/egovt07int.pdf>

23 *Digital Nation, 21st Century America's Progress Toward Universal Broadband Internet Access:* 13. Forty seven percent of survey respondents who are not online indicated that they either don't need or are not interested in using the Internet.

24 *Digital Nation, 21st Century America's Progress Toward Universal Broadband Internet Access* 13.

APPENDIX A: METHODOLOGY
NATIONAL MINORITY BROADBAND ADOPTION STUDY

SUMMARY

The National Minority Broadband Adoption Study, sponsored by the Joint Center for Political and Economic Studies, obtained telephone interviews with a nationally representative sample of 2,741 adults living in the continental United States. The survey was conducted by Princeton Survey Research Associates International. Interviews were done in English and Spanish by Princeton Data Source from December 1, 2009 to January 4, 2010. Statistical results are weighted to correct known demographic discrepancies. The margin of sampling error for the complete set of weighted data is ±3.5 percentage points.

Details on the design, execution and analysis of the survey are discussed below.

Design And Data Collection Procedures

Sample Design

A combination of landline and cellular random digit dial (RDD) samples was used to represent all adults in the continental United States who have access to either a landline or cellular telephone. Both samples were provided by Survey Sampling International, LLC (SSI) according to PSRAI specifications.

The landline sample was disproportionately-stratified. This sample was designed to generalize to the U.S. adult population in telephone households while at the same time oversampling African American and Hispanic respondents. This design used list-assisted random-digit dialing (RDD) methods, where telephone numbers were drawn disproportionately from area code-exchange combinations with higher than average densities of African American and Hispanic households. While this method increased the proportion of respondents in these target groups, special weighting adjustments restore the overall representativeness of the sample.

The landline and cellular RDD samples were provided by Survey Sampling International, LLC (SSI) according to PSRAI specifications. The landline sample was drawn using standard *list-assisted random digit dialing* (RDD) methodology. *Active blocks* of telephone numbers (area code + exchange + two-digit block number) that contained three or more residential directory listings were included in the sampling frame; after selection two more digits were added randomly to complete the phone numbers. This method guarantees coverage of every assigned phone number regardless of whether that number is directory listed, purposely unlisted, or too new to be listed. After selection, the numbers were compared against business directories and matching numbers purged. The cellular sample was not list-assisted, but was drawn through a systematic sampling from dedicated wireless 100-blocks and shared service 100-blocks with no directory-listed landline numbers.

In addition to the disproportionate landline sample, we also screened both the landline and cell samples to oversample minority respondents. The interviewing was completed in two phases. During phase one, all adults were interviewed while the second phase screened for only minority respondents (i.e., respondents who were not White and not Hispanic). Table 1 shows the number of completes by interviewing phase and sample type.

TABLE 1: COMPLETES BY INTERVIEWING PHASE

	Landline	Cellular	Total
Adults	637	368	1005
Screening for minorities	1283	453	1736
Total	1920	821	2741

Contact Procedures

Interviews were conducted from December 1, 2009 to January 4, 2010. As many as 7 attempts were made to contact every sampled telephone number. Sample was released for interviewing in replicates, which are representative subsamples of the larger sample. Using replicates to control the release of sample ensures that complete call procedures are followed for the entire sample. Calls were staggered over times of day and days of the week to maximize the chance of making contact with potential respondents. Each phone number received at least one daytime call.

The introduction and screening procedures differed depending on the sample and the phase of interviewing. During phase one, for each contacted household in the landline sample, interviewers asked to speak with either the youngest adult male or youngest adult female currently at home based on a random rotation. If no male/female was available at the time of the call, interviewers asked to speak with the youngest adult of the opposite sex. This systematic respondent selection technique has been shown to produce samples that closely mirror the population in terms of age and gender when combined with cell sample. For the RDD cellular sample phase one, interviews were conducted with the person who answered the phone once it was confirmed that they were an adult and were in a safe place to talk. All cell respondents were offered a $10 reimbursement for any charges that they might incur from their carrier.

Phase two contact procedures were identical to phase one except that the race and Hispanic origin questions were moved to the beginning of the questionnaire. During phase two, respondents who identified themselves as White and did not identify themselves as Hispanic were screened out as ineligible.

Weighting and Analysis

Weighting is generally used in survey analysis to adjust for effects of the sample design and to compensate for patterns of non-response that might bias results. The weighting was accomplished in multiple stages to account for the overlapping landline and cellular sample frames as well as the disproportionate landline sample design and the oversampling of certain groups. The weighting also balanced sample demographic distributions to match known population parameters.

The first stage of weighting corrected for the disproportionately-stratified RDD sample design of the main landline sample Telephone exchanges were divided into *strata* defined by the estimated African American and Hispanic household densities associated with each exchange. Some of these strata were oversampled while others were undersampled. The first-stage weight for each stratum is the approximate proportion of active blocks in each stratum divided by the proportion sampled. The weighted distribution of cases contacted across strata will no longer show effects of the designed oversampling. Table 2 documents the active block and sample distributions across strata along with the weight adjustment which was called SAMPWT in the data.

TABLE 2: LAND LINE RDD SAMPLE DESIGN WEIGHT

Strata	Active Block Dist'n	LL RDD Sample Dist'n	Weight Adjustment (SAMPWT)
1	53.4%	13.3%	4.02
2	25.1%	6.2%	4.02
3	5.3%	13.2%	0.40
4	5.4%	13.4%	0.40
5	5.0%	25.1%	0.20
6	4.4%	22.0%	0.20
7	1.4%	6.9%	0.20

After applying the sample weights, we made an adjustment to correct for the oversampling of minorities though screening. We made a simple adjustment (called OSADJUST in the dataset) that weighted down the race/ethnicity groups of the entire sample to match the distribution we got before screening. Table 3 outlines the computation of this weighting adjustment.

TABLE 3: MINORITY OVERSAMPLE ADJUSTMENT

	Pre-screened	Total Sample	OSADJUST
Landline sample			
White, not Hispanic	83.2%	48.1%	1.7278
Black, not Hispanic	6.2%	22.6%	0.2752
Hispanic	4.4%	16.2%	0.2713
Other, not Hispanic	4.4%	11.2%	0.3908
DK/Ref	1.8%	1.9%	0.9873
Cell sample			
White, not Hispanic	66.6%	29.8%	2.2310
Black, not Hispanic	14.1%	26.8%	0.5273
Hispanic	11.4%	30.0%	0.3809
Other, not Hispanic	6.3%	11.8%	0.5290
DK/Ref	1.6%	1.6%	1.0297

After applying the oversample adjustment, we also made two more adjustments before raking the data to population parameters. The Probability of Selection Adjustment (PSA) corrects for the fact that respondents in the landline sample have different probabilities of being sampled depending on how many adults live in the household. Since we only sample one person per household, adults who live with no other adults have a greater chance of being sampled than adults who live in multiple-adult households.

To compute the PSA, first define n_1 as the number of respondents in the landline sample who live in single-adults households and n_2 as the number of respondents in the landline sample that live in multi-adult households. The PSA equals:

$$\frac{n_1 + n_2}{n_1 + 2n_2} \; for\ landline\ respondents\ in\ single - adult\ households$$

$$\frac{2(n_1 + n_2)}{n_1 + 2n_2} \; for\ landline\ repondents\ in\ multiple - adult\ households$$

$$1\ for\ cellphone\ repondents$$

The final adjustment we made prior to raking the data is the Phone Use Adjustment (PUA) which corrects for the overlapping landline and cellular sample frames. To compute the PUA, first define p_1 as the number of respondents with only one type of phone – landline or cell - and define p_2 as the number of respondents with both types of phones, the PUA equals:

$$\frac{2(p_1 + p_2)}{2p_1 + p_2} \quad for\ respondents\ with\ one\ kind\ of\ phone$$

$$\frac{(p_1 + p_2)}{2p_1 + p_2} \quad for\ respondents\ with\ two\ kinds\ of\ phones$$

At this point an interim weight was computed that was the product of SAMPWT, OSADJUST, PUA and PSA. This interim weight was used as an input weight for the final stage of weighting – the demographic raking. The raking was done in two stages. In the first stage, the demographic composition of each racial/ethnic group was raked to match national parameters for sex by age, sex by education, age by education and region. The three groups were defined as: [1] Hispanics; [2] non-Hispanic African Americans; and [3] Non-Hispanic other race. Those who refused to give their race were included in the third group.

This stage of weighting, which incorporated each respondent's initial weighting adjustments, was accomplished using Sample Balancing, a special iterative sample weighting program that simultaneously balances the distributions of all variables using a statistical technique called the *Deming Algorithm*. The raking corrects for differential non-response that is related to particular demographic characteristics of the sample. This weight ensures that the demographic characteristics of each group closely approximate the demographic characteristics of the group's population.

After the three racial/ethnic groups were weighted to their population parameters, a final raking was performed - by form - on the total sample. This stage also used sample balancing and matched total sample distributions to population parameters for telephone usage, population density and race/ethnicity. The telephone usage parameter was derived from an analysis of the most recently available National Health Interview Survey data.[1] The population density parameter is county-based and was derived from Census 2000 data. Tables 4 and 5 compare weighted and unweighted sample demographics to population parameters.

1 Blumberg SJ, Luke JV. Wireless substitution: Early release of estimates from the National Health Interview Survey, July-December, 2008. National Center for Health Statistics. May 2009.

TABLE 4: TOTAL SAMPLE DEMOGRAPHICS

	Parameter	Unweighted	Weighted
Gender			
Male	48.5%	42.7%	47.8%
Female	51.5%	57.3%	52.2%
Age			
18-24	12.6%	14.8%	13.2%
25-34	17.9%	16.0%	16.8%
35-44	18.2%	16.4%	17.2%
45-54	19.6%	18.6%	19.2%
55-64	15.1%	15.2%	16.5%
65+	16.6%	18.9%	17.1%
Education			
Less than HS Graduate	14.1%	17.7%	13.4%
HS Graduate	34.7%	33.8%	32.0%
Some College	24.1%	24.1%	24.6%
College Graduate	27.1%	24.4%	30.0%
Race/Ethnicity			
White/not Hispanic	68.8%	22.4%	66.5%
Black/not Hispanic	11.5%	38.0%	11.2%
Hispanic	13.7%	31.0%	13.7%
Other/not Hispanic	6.0%	8.7%	6.7%
Region			
Northeast	18.5%	16.1%	18.1%
Midwest	22.0%	15.0%	22.5%
South	36.8%	43.5%	36.9%
West	22.7%	25.5%	22.6%
County Pop. Density			
1 - Lowest	20.1%	17.3%	21.2%
2	20.0%	14.1%	20.1%
3	20.1%	15.4%	19.3%
4	20.2%	21.8%	19.5%
5 - Highest	19.6%	31.4%	19.9%
Phone Use			
LLO	13.6%	13.9%	11.1%
Dual - few, some cell	49.7%	58.7%	51.0%
Dual - most cell	15.9%	15.6%	16.4%
CPO	20.8%	11.8%	21.6%

TABLE 5: SUBGROUPS SAMPLE DEMOGRAPHICS

	White/Other Parameter	White/Other Unweighted	White/Other Weighted	AA Parameter	AA Unweighted	AA Weighted	Hispanic Parameter	Hispanic Unweighted	Hispanic Weighted
Gender									
Male	48.4%	45.2%	47.5%	44.9%	38.6%	45.3%	51.5%	45.0%	51.2%
Female	51.6%	54.8%	52.5%	55.1%	61.4%	54.7%	48.5%	55.0%	48.8%
Age									
18-24	11.5%	12.8%	12.1%	15.4%	13.3%	16.8%	16.3%	18.7%	16.6%
25-34	16.0%	12.9%	14.8%	19.9%	13.9%	18.9%	26.2%	21.9%	25.9%
35-44	17.2%	15.2%	16.0%	19.3%	14.8%	18.0%	22.7%	19.7%	22.9%
45-54	20.1%	19.6%	20.1%	19.8%	19.7%	18.6%	16.5%	16.2%	14.9%
55-64	16.4%	18.3%	18.2%	13.4%	16.7%	13.6%	9.5%	10.3%	9.3%
65+	18.8%	21.3%	18.7%	12.2%	21.6%	14.1%	8.8%	13.2%	10.3%
Education									
Less than HS Grad.	9.5%	7.5%	8.9%	17.1%	15.9%	17.1%	37.0%	30.8%	35.7%
HS Graduate	34.5%	28.9%	30.9%	38.9%	37.7%	38.1%	32.3%	34.1%	32.9%
Some College	24.6%	27.8%	25.6%	26.8%	24.6%	25.8%	18.8%	19.6%	18.4%
College Graduate	31.4%	35.9%	34.7%	17.3%	21.8%	19.0%	11.8%	15.5%	13.0%
Region									
Northeast	19.6%	17.3%	18.4%	16.6%	16.6%	18.3%	14.1%	14.0%	16.0%
Midwest	25.2%	19.2%	25.6%	17.9%	18.2%	19.1%	7.6%	6.5%	7.9%
South	33.8%	37.2%	34.7%	56.4%	56.2%	53.4%	37.0%	34.7%	35.1%
West	21.4%	26.2%	21.3%	9.1%	9.0%	9.2%	41.3%	44.8%	41.0%

Effects of Sample Design on Statistical Inference

Post-data collection statistical adjustments require analysis procedures that reflect departures from simple random sampling. PSRAI calculates the effects of these design features so that an appropriate adjustment can be incorporated into tests of statistical significance when using these data. The so-called "design effect" or *deff* represents the loss in statistical efficiency that results from a disproportionate sample design and systematic non-response. The total sample design effect for this survey is 3.46.

PSRAI calculates the composite design effect for a sample of size n, with each case having a weight, w_i as:

$$def\,f = \frac{n\sum_{i=1}^{n} w_i^{\,2}}{\left(\sum_{i=1}^{n} w_i\right)^2} \qquad \textit{formula 1}$$

In a wide range of situations, the adjusted *standard error* of a statistic should be calculated by multiplying the usual formula by the square root of the design effect ($\sqrt{deff}$). Thus, the formula for computing the 95% confidence interval around a percentage is:

$$\hat{p} \pm \left(\sqrt{def\,f} \times 1.96 \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}\right) \qquad \textit{formula 2}$$

where $\hat{p}$ is the sample estimate and n is the unweighted number of sample cases in the group being considered.

The survey's *margin of error* is the largest 95% confidence interval for any estimated proportion based on the total sample— the one around 50%. For example, the margin of error for the entire sample is ±3.5%. This means that in 95 out every 100 samples drawn using the same methodology, estimated proportions based on the entire sample will be no more than 3.5 percentage points away from their true values in the population. It is important to remember that sampling fluctuations are only one possible source of error in a survey estimate. Other sources, such as respondent selection bias, questionnaire wording and reporting inaccuracy, may contribute additional error of greater or lesser magnitude. Table 6 shows design effects and margins of error for key subgroups.

TABLE 6: DESIGN EFFECTS AND MARGINS OF SAMPLING ERROR

	Sample Size	Design Effect	Margin of Error
Total Sample	2,741	3.46	3.5 percentage points
White, not Hispanic	603	1.55	5.0 percentage points
African American, not Hispanic	1,023	2.09	4.4 percentage points
Hispanic	834	1.77	4.5 percentage points

Response Rate

Table 7 reports the disposition of all sampled telephone numbers ever dialed from the original telephone number samples. The response rate estimates the fraction of all eligible sample that was ultimately interviewed. At PSRAI it is calculated by taking the product of three component rates:[2]

- Contact rate – the proportion of working numbers where a request for interview was made[3]
- Cooperation rate – the proportion of contacted numbers where a consent for interview was at least initially obtained, versus those refused
- Completion rate – the proportion of initially cooperating and eligible interviews that were completed

Thus the final response rate for the landline sample is 19 percent and the final response rate for the cell sample is 22 percent.

2. PSRAI's disposition codes and reporting are consistent with the American Association for Public Opinion Research standards.
3. PSRAI assumes that 75 percent of cases that result in a constant disposition of "No answer" or "Busy" are actually not working numbers.

TABLE 7:SAMPLE DISPOSITION

Landline	Cell	
60389	20500	T Total Numbers Dialed
3348	437	OF Non-residential
2943	16	OF Computer/Fax
8		OF Cell phone
32577	7916	OF Other not working
3434	375	UH Additional projected not working
18079	11756	Working numbers
29.9%	57.3%	Working Rate
1145	125	UH No Answer / Busy
3045	2692	UO_{NC} Voice Mail
76	16	UO_{NC} Other Non-Contact
13813	8923	Contacted numbers
76.4%	75.9%	Contact Rate
1546	1237	UO_{R} Callback
8590	4964	UO_{R} Refusal
3677	2722	Cooperating numbers
26.6%	30.5%	Cooperation Rate
182	74	IN_{1} Language Barrier
1478	1803	IN_{2} Child's cell phone/Screen out for race
2017	845	Eligible numbers
54.9%	31.0%	Eligibility Rate
97	24	R Break-off
1920	821	I Completes
95.2%	97.2%	Completion Rate

APPENDIX B: SAMPLE BREAKDOWN BY SELECTED CHARACTERISTICS

	Count	Percentage
All adults	**2,741**	**100%**
Gender		
Male	1,170	42.7%
Female	1,571	57.3%
Race & ethnicity		
White	603	22%
Black	1,023	37.3%
Hispanic	834	30.4%
Other	233	8.5%
Don't know or refused	48	1.8%
Age		
18-34	821	30%
35-49	662	24.2%
50-64	676	24.7%
65+	504	18.4%
Don't know or refused	78	2.8%
Nativity		
Native born	2,118	77.3%
Foreign born	595	21.7%
Refused	28	1%
Educational attainment		
Less than high school	479	17.5%
High school graduate	914	33.3%
Some college	652	23.8%
College +	661	24.1%
Don't know or refused	35	1.3%
Family income		
Under 20K	605	22.1%
20-50K	725	26.5%
Over 50K	691	25.2%
Don't know or refused	720	26.3%
Community type		
Rural	334	12.2%
Non rural	2,314	84.4%
Unknown	93	3.4%

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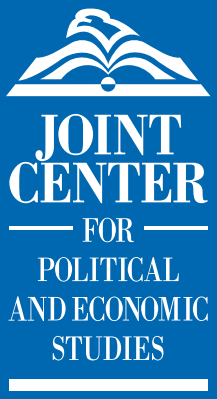

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