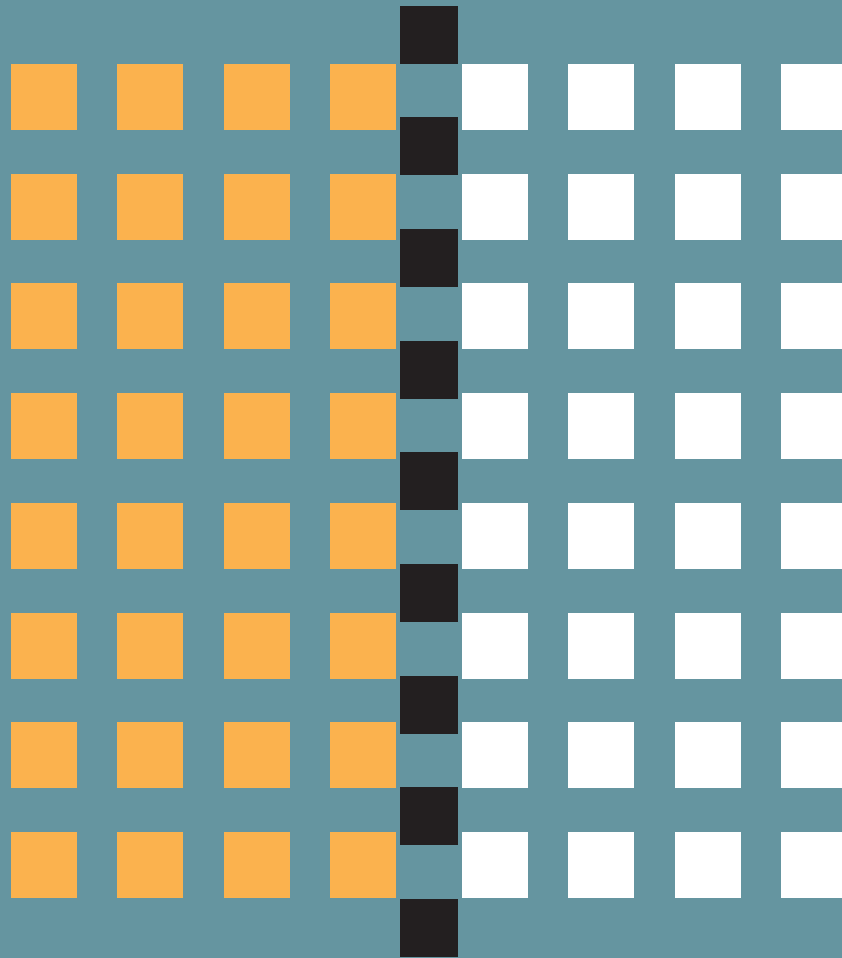


Privacy, Security, and Digital Inequality



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Data&Society

Privacy, Security, and Digital Inequality: How Technology Experiences and Resources Vary by Socioeconomic Status, Race, and Ethnicity

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Summary of Findings

Among the many dimensions of digital inequality is the unequal distribution of the risks and resources associated with online life. Americans with lower levels of income and education are acutely aware of a range of digital privacy-related harms that could upend their financial, professional, or social well-being. And these concerns are often accompanied by low levels of trust in the institutions and companies that these Americans rely on to be responsible stewards of their data. At the same time, there are significant racial disparities when looking at privacy-related concerns; in particular, foreign-born Hispanic adults stand out for both their privacy sensitivities and their desire to learn more about safeguarding their personal information. Yet, many of those who feel most vulnerable to data-related harms also feel as though it would be difficult for them to find the tools and strategies needed to better protect their personal information online.

These are among the key findings of a newly-released survey conducted by the Data & Society Research Institute and supported by a grant from the Digital Trust Foundation. The nationally representative survey was fielded in November and December of 2015 among 3,000 American adults, including an oversample of adults with annual household incomes of less than \$40,000. The survey provides new insights into the privacy and security experiences of low-socioeconomic status (low-SES) populations and aims to contribute to a deeper understanding of their technology-related behaviors and beliefs.

Americans with lower levels of income and education express heightened concerns about their informational and physical privacy and security.

The survey includes a range of questions about various digital privacy and security concerns. For each of these questions, those living in households with annual incomes of less than \$20,000 per year are considerably more likely to say that they are “very concerned” about the possibility of these harms when compared with those in households earning \$100,000 or more per year:

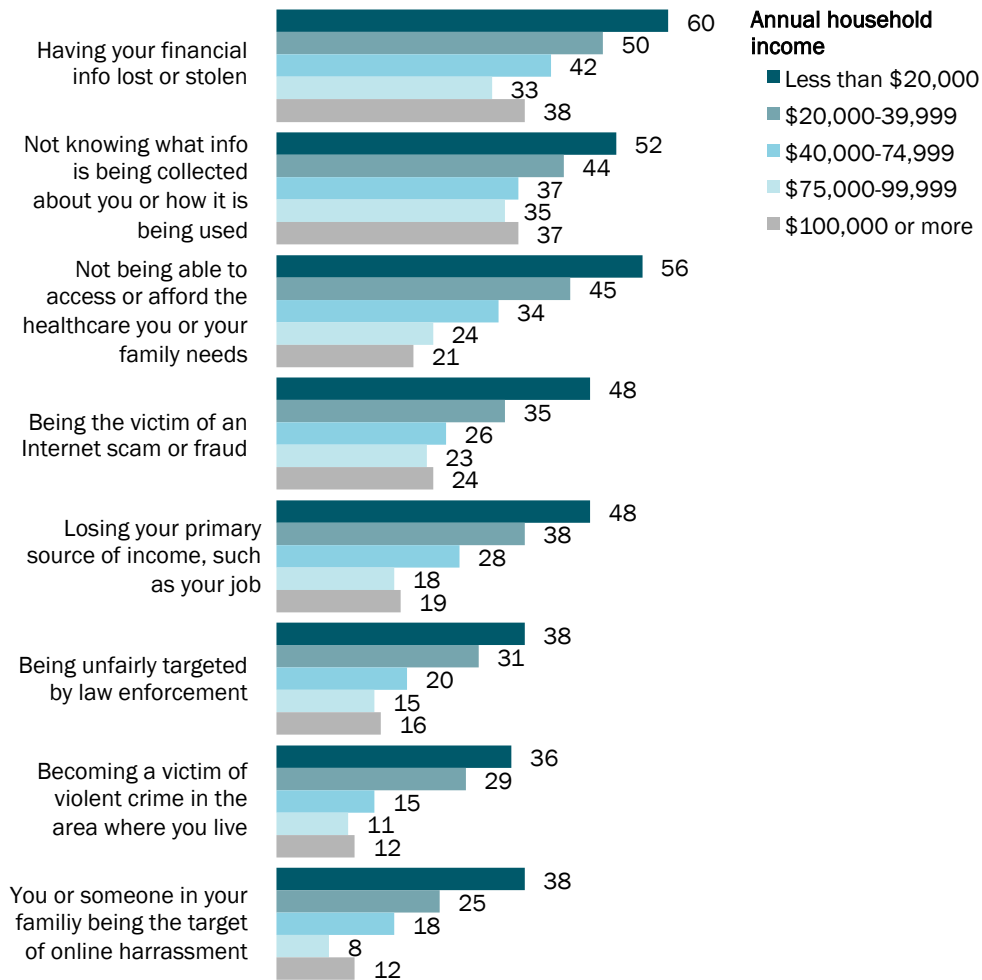
- 60% of those in the lowest-income households say the **loss or theft of financial information** is something they are “very concerned” about, while just 38% of those in the highest-earning households say the same.
- 52% of those in the lowest-earning households say that **not knowing what personal information is being collected about them or how it is being used** makes them “very concerned,” compared with 37% of those in the highest-income households.
- 48% of those in the lowest-income group say they are “very concerned” about **becoming the victim of an internet scam or fraud**, while just 24% adults in the highest-earning group report this.
- 38% of those in the lowest-income households say they are “very concerned” that **they or someone in their family may be the target of online harassment**, while only 12% of adults in the highest-earning households report this level of concern.

Variations by education level are also pronounced, with those who have less than a high school degree expressing roughly the same level of concern as those earning less than \$20,000 per year. In addition, the digital privacy and security concerns that low-income Americans express often overlap with the daily challenges of coping with physical or financial insecurities—whether that means dealing with violence in one’s neighborhood or finding enough money to cover basic expenses for their families:

- 56% of the lowest-income group say they are “very concerned” about **not being able to access or afford the healthcare they or their family needs**, while only 21% of adults in the highest-earning group report this as a major concern. Similarly, 56% of those with less than a high school degree are “very concerned” about losing access to healthcare, while just 24% of college graduates share this level of concern.
- 48% of the lowest-income group say they are “very concerned” about **losing their primary source of income**, while just 19% of adults in the highest-earning group report this. Likewise, 47% of those with less than a high school degree are “very concerned” about losing their primary source of income, while just 19% of college graduates share this level of concern.

Privacy and security concerns, by annual household income

% of all adults who are "very" concerned about the following issues, by annual household income



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

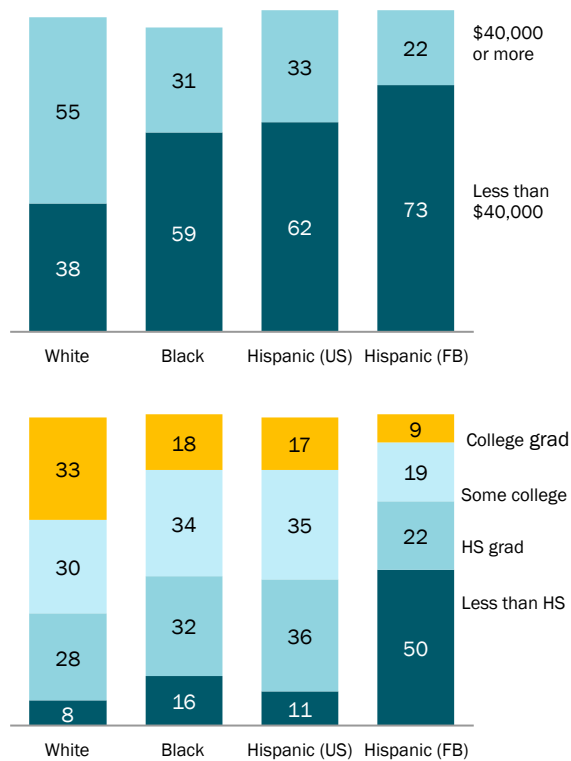
Foreign-born Hispanic adults, who already lack many resources, feel exceptionally vulnerable online and offline.

Beyond broad variations in income and education, this report examines the experiences of different racial and ethnic groups. It also includes a new analysis of Hispanic adults that considers their nativity,

comparing those born in the U.S. with those born in other countries.¹ In particular, foreign-born Hispanic adults, who are currently among the lowest-earning and least-educated groups in the U.S., stand out in a number of ways. While 73% of foreign-born Hispanic adults report household incomes of less than \$40,000 per year, just 38% of whites report the same. The share of black adults (59%) and U.S.-born Hispanics (62%) in that income category is comparable, but the groups report drastically different educational experiences. Fully 50% of foreign-born Hispanic adults have not completed high school, while just 16% of black adults report this. By comparison, 11% of U.S.-born Hispanics say they have less than a high school degree, and only 8% of whites say this.

Foreign-born Hispanic adults report the lowest levels of income and educational attainment

Among various racial, ethnic, and nativity groups, the % at each income and education level



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

It is within this context of limited resources that foreign-born Hispanics are navigating their own use of technology amid a variety of daily worries that are not front-of-mind for most Americans. The range

¹ According to Pew Research Center data from 2015, Hispanics accounted for 17.6% of the total U.S. population. Among adult Hispanics, 47.9% are foreign-born. For a more detailed statistical portrait, see: <http://www.pewhispanic.org/2017/09/18/facts-on-u-s-latinos/#share-foreign-born>

of concerns they express about their financial, informational, and physical security suggest a climate of vulnerability that extends across a number of critical areas in their lives. In particular, the intensity of these concerns often stands in stark contrast to the worries expressed by U.S.-born Hispanics and white adults in our sample. In most cases—though not all—foreign-born Hispanic adults are also significantly more likely to report strong concerns than black adults.

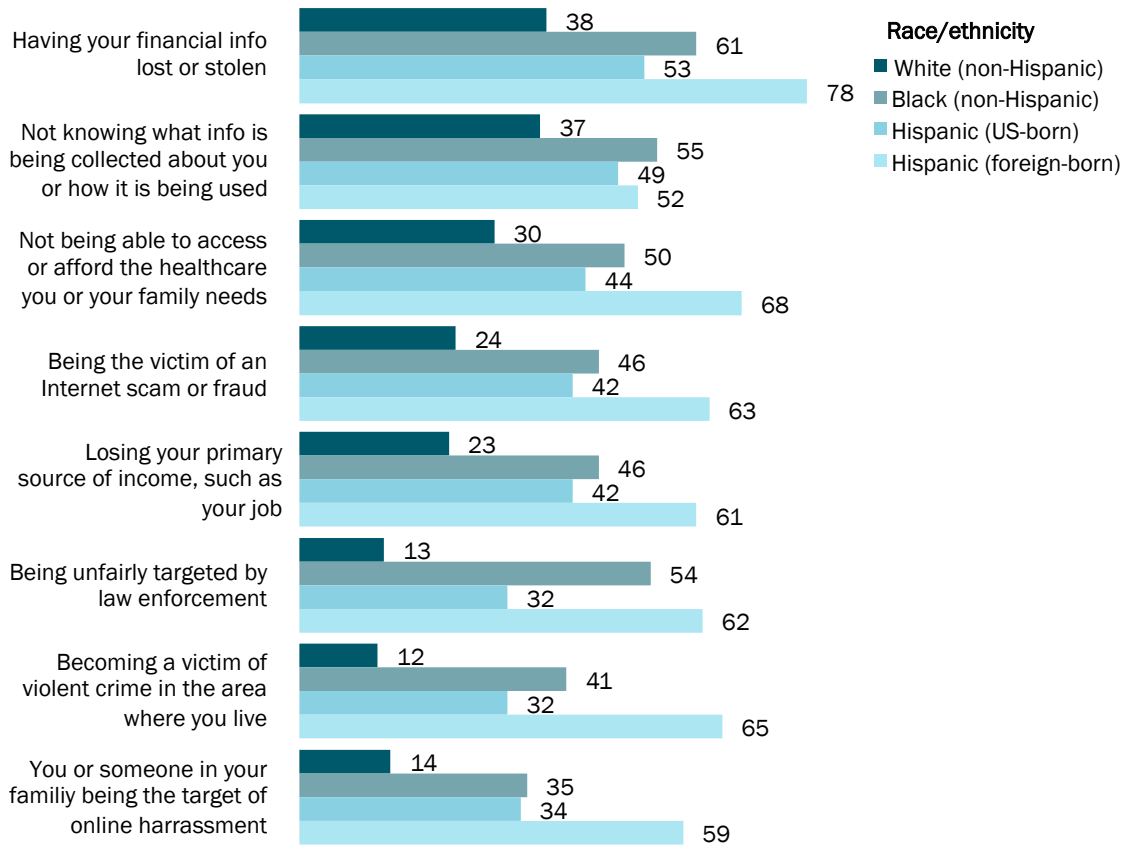
Among the largest gaps:

- 65% of foreign-born Hispanic adults say they are “very concerned” about **becoming a victim of violent crime in the area where they live**. That compares with 41% of black adults, 32% of U.S.-born Hispanics, and just 12% of white adults expressing this level of concern about crime in their neighborhoods.
- 62% of foreign-born Hispanic adults say they are “very concerned” about **being unfairly targeted by law enforcement**, compared with 32% of U.S.-born Hispanics and only 13% of whites. In this case, black adults share a comparable level of concern: 54% say they are “very concerned” about law enforcement targeting them unfairly.
- 59% of foreign-born Hispanics say they are “very concerned” that **they or someone in their family could be the target of online harassment**. That compares with 35% of black adults, 34% of U.S.-born Hispanics, and just 14% of white adults expressing this level of concern about being the target of online harassment.
- 63% of the foreign-born Hispanic population say that they are “very concerned” about **being the victim of an internet scam or fraud**, compared with 42% of U.S.-born Hispanics, 46% of blacks, and only 24% of whites.

In addition, foreign-born Hispanics are among the most likely to say they feel as though they have “little or no control” over how much personal information is collected about them and how it is being used during a typical day. Fully 46% of foreign-born Hispanics say this, which is significantly higher than the 32% of whites and 27% of U.S.-born Hispanics who feel this way.

Privacy and security concerns by race/ethnicity/nativity

% of all adults who are "very" concerned about the following issues on a typical day, by race/ethnicity/nativity



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

All of these heightened concerns were captured well before the 2016 election, which means the survey findings do not account for the heightened fears reported by Hispanic immigrant communities since the Trump administration began more aggressive anti-immigration and deportation efforts.² In the first three months after Trump took office, immigration arrests increased by 38% compared with the same period in 2016, according to statistics from the U.S. Immigration and Customs Enforcement office

² See: Ryan Devereaux, "Hispanic Caucus on Trump's Deportations: We're Creating an Immigration Police State," *The Intercept*, February 15, 2017. Available at: <https://theintercept.com/2017/02/15/hispanic-caucus-on-trumps-deportations-were-creating-an-immigration-police-state/>

(ICE).³ Recent news reports have also indicated that Hispanic immigrants have been among those most frequently targeted for deportation.⁴ Digital surveillance and security vulnerabilities associated with mobile phones have played a role; federal investigators have used cell-site simulators to trick nearby cell phones into providing location data in order to find and arrest undocumented Hispanic immigrants.⁵

Most Americans also express low levels of trust in key institutions that collect and store their personal data.

Regardless of their socioeconomic background, Americans share a lack of confidence in many of the institutions that regularly handle their personal data. In general, there are more similarities than differences across income and education groups for these questions—with several notable exceptions:

- **Internet service providers (ISPs):** Those with lower levels of education and income are considerably more likely to doubt their ISP's ability to protect their personal information: 48% of online adults with less than a high school degree say they trust their ISP "only a little" or "not at all," compared with 33% of online adults who are college graduates. Similarly, 43% of online adults living in households earning less than \$20,000 per year say they trust their ISP "only a little" or "not at all," compared with 31% of those living in households with incomes above that threshold.
- **Cell phone providers:** While Americans across all income levels express little confidence in their cell phone provider's ability to keep their personal information safe, those with less than a high school degree report much lower levels of trust when compared with those who have higher levels of education. Among cell phone owners who have less than a high school degree, 45% say they trust their cell phone provider "only a little" or "not at all" when it comes to protecting their personal data. By comparison, only 30% of high school graduates who have not attended college report trust levels that low.
- **Law enforcement:** Adults living in households earning less than \$20,000 per year are less likely to trust their local law enforcement or police department's ability to protect their personal information when compared with higher-income groups. For

³ See: Caitlin Dickerson, "Immigration Arrests Rise Sharply as a Trump Mandate Is Carried Out," *The New York Times*, May 17, 2017. Available at: <https://www.nytimes.com/2017/05/17/us/immigration-enforcement-ice-arrests.html>

⁴ See: Alex Emmons, "Targeting a Sanctuary: After ICE Stakes Out a Church Homeless Shelter, Charities Worry Immigrants Will Fear Getting Help," *The Intercept*, February 27, 2017. Available at: <https://theintercept.com/2017/02/27/after-ice-stakes-out-a-church-homeless-shelter-charities-worry-immigrants-will-fear-getting-help/>; Lisa Rein, et al, "Federal agents conduct immigration enforcement raids in at least six states," *The Washington Post*, February 11, 2017. Available at: https://www.washingtonpost.com/national/federal-agents-conduct-sweeping-immigration-enforcement-raids-in-at-least-6-states/2017/02/10/4b9f443a-efc8-11e6-b4ff-ac2cf509efe5_story.html?utm_term=.19bb334f55eb

⁵ See Robert Snell, "Feds use anti-terror tool to hunt the undocumented," *The Detroit News*, May 18, 2017. : Available at: <http://www.detroitnews.com/story/news/local/detroit-city/2017/05/18/cell-snooping-fbi-immigrant/101859616/>

instance, 34% of those in households earning less than \$20,000 annually say they trust their local law enforcement to protect their personal information “only a little” or “not at all,” compared with 23% of those in households earning above that threshold. Differences by race, ethnicity, and nativity are also notable, as blacks and foreign-born Hispanics are considerably less trusting of law enforcement compared with whites and U.S.-born Hispanics.

Various low-socioeconomic status groups continue to be disproportionately reliant on mobile devices as their primary source of internet access.

Even when considering the fact that low-income adults are less likely to be internet users and own smartphones overall, the share of low-income adults who **rely on their mobile devices as their primary source of internet connectivity** exceeds that of higher-income groups. Among Americans who live in households earning less than \$20,000 per year, only 64% use the internet or email, and less than half (44%) own a smartphone. Yet for low-income internet users who do own a smartphone, almost two-thirds (63%) say they mostly go online from their phone. Far from being a luxury, smartphones offer a critical source of connection to jobs, family, education, and government services.

The reality for Americans at the other end of the economic spectrum is radically different. Among this group, internet and smartphone use is nearly universal: 96% of adults living in households earning \$100,000 or more are internet users, and 90% of adults in this income group own a smartphone. However, only 21% of these high-earning smartphone users say they mostly go online using their phone. This stark divide in the quality of internet access and the unique limitations of mobile connectivity for low-income groups has significant implications for the future design of privacy-related features and educational interventions.

In addition, several groups are even more likely to rely on their cell phone as their primary source of internet access:

- Among smartphone-owning internet users who have less than a high school degree, fully 73% say they mostly go online using their cell phone.⁶ That compares to 48% of high school graduates, 41% of those with some college education, and just 25% of college graduates.
- There are also substantial gaps across racial, ethnic, and nativity groups when looking at reliance on mobile connectivity. While 70% of foreign-born Hispanics who own smartphones and use the internet say that most of their internet use takes place on their cell phone, just 34% of white smartphone owners, 52% of blacks, and 53% of U.S.-born Hispanics say this.

⁶ This group of respondents is relatively small in the survey (n=95), but these differences are statistically significant.

At the same time, internet users with low levels of income and education are less likely to use certain privacy-enhancing tools and strategies.

Low-income internet users living in households earning less than \$20,000 per year are significantly less likely than those in higher-earning households to **use privacy settings** to limit who can see what they post online (57% vs. 67%). Looking specifically at *social media users* living in households earning less than \$20,000 per year, 65% say they have used privacy settings, while fully 79% of those in wealthier households say they have done this. Similarly, the use of privacy settings varies dramatically by education: just 49% of those who have less than a high school degree say they use privacy settings, compared with 72% of those with a college degree or more.

Low-SES internet users are also less likely to engage in other privacy-protective strategies that may impact the way their online activity is tracked. For instance:

- Those with less than a high school degree are far less likely than college graduates to say that they have **avoided communicating online** when they had sensitive information to share (37% vs. 66%).
- Just 31% of those with less than a high school degree say they have **set their browser to turn off cookies or notify them before receiving a cookie**, while 63% of internet users with a college degree have done this.

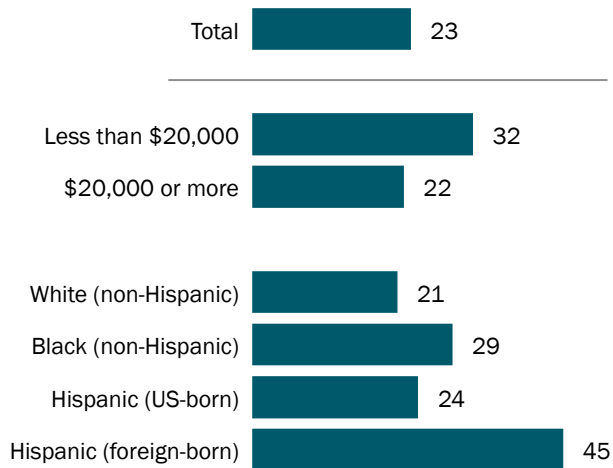
Foreign-born Hispanic internet users are among the least likely to use privacy settings, and almost half who use social media automatically share their location in their posts.

Among various racial, ethnic, and nativity subgroups, foreign-born Hispanic internet users are especially vulnerable to surveillance. Just 44% of foreign-born Hispanic internet users say they use privacy settings, compared with 64% of U.S.-born Hispanics who are online. That compares with 53% of black internet users and 68% of white internet users. At the same time, certain subgroups are also more likely to say that their social media accounts are currently set up so that they automatically include location information in their posts, which may expose them to various forms of tracking. Looking at all social media users, 23% say that at least some of their social media accounts are currently set up to automatically include their location in their posts. Foreign-born Hispanic adults who are social media users are by far the most likely group to share their location automatically in their posts: 45% do so, compared with just 24% of U.S.-born Hispanic adults, 29% of black adults, and 21% of white adults who use social media.

There are also notable differences when looking at those living in households earning less than \$20,000 per year: 32% of these lower-income social media users automatically share location data on their accounts, compared with just 22% of social media users who live in higher-earning households. By contrast, there are no significant differences by education for this question.

Social media location sharing, by income and race/ethnicity/nativity

Among social media users, the % who have accounts set up to automatically include their location in posts



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Members of low-income groups are less likely to report personal data theft, but more likely to be the victim of an online scam that caused them to lose money.

Despite their feelings of vulnerability, low-income groups are less likely than those at the higher end of the economic spectrum to say they have experienced **theft of important personal information**, such as their credit card number, Social Security number, or bank account information. For instance, 23% of internet users in households earning less than \$20,000 per year say they have had important data stolen, compared with 33% of those in households earning \$100,000 or more per year. These differences could be associated with low-income groups having less experience online, having a lower level of formal banking, or being less likely to view a credit report associated with a credit card or application for a loan.

However, low-income internet users are somewhat more likely than higher-income groups to say they have been the **victim of an online scam that caused them to lose money**. Those in households earning less than \$20,000 per year are more than twice as likely as those earning \$100,000 or more per year to say they have been the victim of an online scam (11% vs. 4%). And regardless of their economic status, Americans are equally likely to report other data-related harms, such as having health or medical information stolen.

Those with the fewest economic and educational resources also face difficulty accessing the tools and strategies that would help them protect their personal information online.

Looking at privacy and security resources, it is clear that there are considerable **disparities in access to tools and strategies** for those who want to learn more about protecting their personal information online:

- Among internet users with less than a high school degree, fully 48% feel as though it would be very or somewhat difficult for them to find the tools and strategies they would need if they wanted to learn more about protecting their personal information online, compared with just 20% of high school graduates who have not attended college.
- Among internet users living in households earning less than \$20,000 per year, 31% say it would be very or somewhat difficult to find the tools and strategies they would need to learn more about protecting their personal information online, compared with just 17% of those in higher-earning households.

Beyond education and income, one of the largest gaps in confidence regarding access to tools and strategies is evident when comparing foreign-born Hispanic internet users with other racial, ethnic, and nativity groups. Among foreign-born Hispanic adults who are online, 59% say that if they wanted to learn more about protecting their personal information, it would be somewhat or very difficult to find the tools and strategies they would need. That compares to just 16% of U.S.-born Hispanic internet users, 17% of white internet users, and 21% of black internet users.

Many of the same groups that feel particularly vulnerable are also more likely to express a strong desire to learn more about privacy- and security-related skills.

The survey also asked respondents about their desire “to learn more” about a range of privacy- and security-related skills. The findings suggest that high-SES Americans are largely confident in their technology skills, but reveals a **substantial demand for educational resources among low-SES groups**. Across many of the questions asked about skills, there are significant differences by income and education. However, foreign-born Hispanics are by far the most likely to say that they would like to learn more about a range of data management skills:

- There are considerable confidence gaps when it comes to using **privacy settings**. Just 29% of foreign-born Hispanic internet users say they feel as though they know enough about managing the privacy settings for the information they share online, and 67% say they “would like to learn more.” By comparison, just 21% of whites, 24% of U.S.-born Hispanics, and 32% of black internet users say they “would like to learn more” about managing the privacy settings of the information they share online.

- Among foreign-born Hispanic internet users, a mere 26% say they feel as though they know enough about **avoiding online scams and fraudulent requests**, and a large majority (72%) say they “would like to learn more.” Meanwhile, only 20% of whites, 19% of U.S.-born Hispanics, and 30% of black internet users say they “would like to learn more” about avoiding online scams and fraudulent requests for their personal information.
- By a large margin, foreign-born Hispanic internet users are most likely to say they want to learn more about ways they can **use the internet without having their online behavior tracked**. Only 26% say they feel as though they know enough about this, and 72% say they “would like to learn more.” By contrast, some 29% of whites, 33% of U.S.-born Hispanics, and 36% of black internet users say they “would like to learn more” about using the internet without having their online behavior tracked.

Parents with lower levels of income and education are less likely to use technical strategies to manage their children’s online safety, but they are just as likely to intervene in non-technical ways.

Parents in the survey were asked a series of questions about how they manage the privacy and security of their children’s activities, both online and offline.⁷ The most notable differences by income relate to the fact that parents in lower-income households are considerably less likely than those in higher-income households to say they use or help their children use certain technical strategies to support their safety online. In particular:

- Parents in lower-income households are less likely to report the use of parental controls or other means of blocking, filtering, or monitoring their children’s online activities. Among parents living in households earning less than \$20,000 per year, just 36% have used parental controls, compared with 60% of parents in households earning more than \$20,000 per year.
- Parents in lower-income households are also less likely to say they have helped their children set up privacy settings for a social media site. Just 18% of parents earning less than \$20,000 per year have helped their children with privacy settings, compared with 35% of parents in households earning \$20,000 or more per year.

However, parents across the socioeconomic spectrum are equally likely to say they have intervened in a non-technical way: about one in three parents have talked with their children out of concern about something they posted online.

⁷ The questions in this section were asked of a subgroup of parents who received a split-form module of questions in the survey (n=423). The size of this group limits the analysis of race and ethnicity to comparisons of white and non-white respondents.

A majority of parents from a variety of backgrounds also said it was “very important” for their children to know each of the online privacy and security practices discussed in the survey. This was consistent when comparing mothers and fathers, parents who live in higher- or lower-income households, younger or older parents, and white and non-white parents.

About this Survey

The survey on Privacy and Security Experiences of Low-Socioeconomic Status Populations, sponsored by the Data & Society Research Institute, obtained telephone interviews with a nationally representative sample of 3,000 adults ages 18 and older living in the United States. Interviews were completed in both English and Spanish, according to the preference of the respondent. The survey was conducted by Princeton Survey Research Associates International (PSRAI). The interviews were administered by Princeton Data Source from November 18 to December 23, 2015. A combination of landline and cell phone random-digit dial (RDD) samples was used to reach respondents regardless of the types of telephone they have access to. Both samples were disproportionately stratified to target low-income households. A total of 1,050 interviews were conducted with respondents on landline telephones and 1,950 interviews were conducted with respondents on cellular phones, including 1,193 who live in a household with no landline telephone access.

Statistical results are weighted to correct for the disproportionate sample design, the overlapping landline and cell sample frames, and disproportionate non-response across demographic groups that might bias results. The final weighted total sample is representative of all adults ages 18 and older living in the United States. The margin of sampling error for the complete set of weighted data is ± 2.7 percentage points.

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About Data & Society

Data & Society (D&S) is a research institute in New York City that is focused on social, cultural, and ethical issues arising from data-centric technological development. To provide frameworks that can help address emergent tensions, D&S is committed to identifying issues at the intersection of technology and society, providing research that can ground public debates, and building a network of researchers and practitioners that can offer insight and direction. To advance public understanding of the issues, D&S brings together diverse constituencies, hosts events, does directed research, creates policy frameworks, and builds demonstration projects that grapple with the challenges and opportunities of a data-saturated world.

Introduction

While Americans with lower levels of income and education have experienced a long history of governmental surveillance and related privacy intrusions in their offline lives, relatively little empirical attention has been paid to the unique digital privacy and security concerns these communities face.⁸ For many years, research and policy efforts that addressed the intersection of socioeconomic status and technology use tended to focus on resource scarcity problems; it was assumed that low-socioeconomic status communities only needed better technology infrastructure to help narrow the digital divide, and access to better skills once they got online. As such, when the privacy concerns of low-SES communities were discussed, they were often framed as something to be overcome in the interest of supporting meaningful connectivity and access to the myriad benefits of being online.⁹

Many low-income Americans continue to lack high-quality internet access at home, but mobile access has helped to narrow the digital divide. At the same time, this increased connectivity also often translates into opportunities for a wide range of tracking and data collection by various entities. Recent qualitative research has found that “marginal internet users” may be more likely to engage in online behaviors that make them susceptible to potential privacy problems, such as being tracked with third-party cookies or unwittingly disclosing their information to fraudulent or predatory websites.¹⁰ Similarly, legal scholars have suggested that low-socioeconomic status users could face magnified privacy vulnerabilities due to knowledge gaps about privacy- and security-related tools.¹¹

The term “low-SES” is used throughout this report to refer to respondents in this survey who are part of a low-socioeconomic status group. These respondents have relatively low levels of household income or formal education, defined as living in households earning less than \$40,000 per year or having not yet attended college. In some cases, the analysis focuses on subsets of these groups, such as those in households earning less than \$20,000 per year or those with less than a high school degree. And while these indicators are frequently analyzed separately by researchers, they are often overlapping in an individual’s life; those who live with lower household incomes are also more likely to have lower education levels and work in low-wage jobs.¹²

⁸ For a discussion of the history of disproportionate surveillance of low-SES communities, see: Michele E. Gilman, *The Class Differential in Privacy Law*, 77 *Brook. L. Rev.* (2012); Virginia Eubanks, *Want to Predict the Future of Surveillance? Ask Poor Communities*, *The American Prospect*, Jan. 15, 2014, available at <http://prospect.org/article/want-predict-future-surveillance-ask-poor-communities>.

⁹ As one example, see Mollyann Brodie, et al. “Health information, the Internet, and the digital divide,” *Health Affairs*, 19, no.6 (2000): 255-265, Available at: <http://content.healthaffairs.org/content/19/6/255>

¹⁰ See Seeta Peña Gangadharan Pena, *Joining the Surveillance Society? New Internet Users in an Age of Tracking*, New America Foundation, (2013), available at: <https://www.newamerica.org/oti/joining-the-surveillance-society/>

¹¹ Jennifer M. Urban & Chris Jay Hoofnagle, *The Privacy Pragmatic as Privacy Vulnerable*, Berkeley Public Law Research Paper, No. 2514381 (2014), Presented to the Symposium On Usable Privacy And Security Workshop on Privacy Personas and Segmentation (PPS), July 9-11, Menlo Park, CA. UC, available at <http://ssrn.com/abstract=2514381>.

¹² For a detailed discussion, see: American Psychological Association, *Task Force on Socioeconomic Status*. (2007). Report of the APA Task Force on Socioeconomic Status. Washington, DC: American Psychological Association. Available at: <http://www.apa.org/pi/ses/resources/publications/task-force-2006.pdf>

All of these overlapping factors contribute to a very different experience of surveillance in everyday life when compared with the reality that higher-SES groups experience. For instance, in today's low-wage workplaces, certain employers now track employee movements through GPS or radio frequency devices, use facial recognition technology to ensure employees are smiling enough, or require the use of health-tracking devices to receive discounted rates for health insurance.¹³ However, low-SES Americans who are unemployed or underemployed are also subject to various forms of monitoring. For instance, those who rely on public assistance may be subject to drug tests, DNA testing of children, fingerprinting, and questioning about intimate relationships as a prerequisite to receiving support.¹⁴ In addition, low-SES Americans living in poor neighborhoods are more likely to experience certain forms of tracking and surveillance by law enforcement.¹⁵

This reports adds to the growing public conversation about the impact of rising economic inequality in the United States. Economic inequality was a key issue for presidential candidates in the 2016 election, and it continues to be a central issue for many American voters.¹⁶ While the housing market crash and the Great Recession of 2007-2009 impacted Americans across the economic spectrum, lower- and middle-income American families experienced the most dramatic decreases in wealth during that period.¹⁷ As a result, almost 47 million Americans now live below the official U.S. Census Bureau poverty line of \$24,000 in annual income for a family of four.¹⁸ At the same time, there is also a large and growing racial wealth gap in the U.S. Recent analyses have indicated that the wealth of white households is now thirteen times that of black households and ten times that of Hispanic households.¹⁹

The story of income inequality and differential surveillance practices in America is also deeply intertwined with the history of racial inequalities.²⁰ From the government surveillance of black civil rights leaders in the 1960's to the social media surveillance of Black Lives Matters protesters today,

¹³ See Scott R. Peppet, *Regulating the Internet of Things: First Steps Toward Managing Discrimination, Privacy, Security & Consent*, 93 *Texas Law Review*. 85, 112 (2010). See Sally Davies, *From a frown to a smile, the technology that's in your face*, *Financial Times*, Jan. 2, 2014, available at <http://www.ft.com/cms/s/0/ccaac9e6-6f06-11e3-9ac9-00144feabdc0.html>; Rachel Emma Silverman, *Tracking Sensors Invade the Workplace*, *Wall St. Journal*. Mar. 7, 2013, available at: <http://www.wsj.com/articles/SB10001424127887324034804578344303429080678>; Suzanne McGee, *How employers tracking your health can cross the line and become Big Brother*, *The Guardian*, May 1, 2015, available at <http://www.theguardian.com/lifeandstyle/us-money-blog/2015/may/01/employers-tracking-health-fitbit-apple-watch-big-brother>.

¹⁴ See Kaaryn Gustafson, *Degradation Ceremonies and the Criminalization of Low-Income Women*, U.C. IRVINE L. REV. 297, 312-321 (2013); Gilman, *Class Differential*, *supra* note 1, at 1397-1400.

¹⁵ See, for instance, the *Atlantic CityLab* mapping of police logs of Stingray operations in Baltimore, Milwaukee, and Tallahassee that shows disproportionately high rates of Stingray use by police in non-white and low-income communities. Available at: <https://www.citylab.com/equity/2016/10/racial-disparities-in-police-stingray-surveillance-mapped/502715/>

¹⁶ See David Lauter, *Income inequality emerges as key issue in 2016 presidential campaign*, *Los Angeles Times*, February 5, 2015. Available at: <http://www.latimes.com/nation/la-na-campaign-income-20150205-story.html>

¹⁷ For a detailed discussion of the changing wealth gap between middle-income and upper-income families, see: *The American Middle Class Is Losing Ground*, Pew Research Center, December 9, 2015. Available at: http://www.pewsocialtrends.org/2015/12/09/5-wealth-gap-between-middle-income-and-upper-income-families-reaches-record-high/?utm_content=buffer8639c&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer

¹⁸ See Gillian B. White, *America's Poverty Problem Hasn't Changed*, *The Atlantic*, September 16, 2015. Available at: <http://www.theatlantic.com/business/archive/2015/09/americas-poverty-problem/405700/>

¹⁹ See Rakesh Kochnar & Richard Fry, *Wealth inequality has widened along racial, ethnic lines since end of Great Recession*, Pew Research Center, Dec. 12, 2014, <http://www.pewresearch.org/fact-tank/2014/12/12/racial-wealth-gaps-great-recession/>.

²⁰ And as has been widely noted in the sociological and psychological literature, the relationship between socioeconomic status, race and ethnicity is deeply intertwined. See, for instance: <http://www.apa.org/pi/ses/resources/publications/minorities.aspx>

there are myriad examples of communities of color enduring a disproportionate level of scrutiny and suspicion when compared with white Americans engaged in the same kinds of activities.²¹ In the Trump administration, recent government tracking of the foreign-born Hispanic population—which is also among the poorest and least educated group of adults in the U.S.—has resulted in raids and deportations that have separated family members and created a climate of widespread fear. At the same time, advocates who work with the poor have noted a decline in eligible immigrants applying for supplemental nutrition assistance out of fear that their application information could draw the attention of Immigration and Customs Enforcement (ICE) agents or compromise their efforts to attain citizenship.²²

As the political climate has evolved, so too has the technology that enables precision targeting and surveillance of vulnerable communities. In particular, the rise of big data-driven analytics across a variety of industries has heightened concerns among privacy scholars that low-SES internet users may be differentially impacted by new methods of data collection, surveillance, and marketing.²³ While some forms of targeting may unfairly exclude them from opportunities (such as eligibility for loans), other predatory marketing or surveillance tools may unfairly target them based on determinations made by predictive analytics and scoring systems—growing numbers of which rely on some form of social media input.²⁴ These practices have given rise to a new category of “networked privacy” harms and possibility for discrimination—particularly when users are assessed not only by their own behavior, but also by the actions of those in their networks.²⁵

Prior surveys of Americans’ privacy-related attitudes and experiences have identified notable variations across broad income and education groups.²⁶ For instance, Americans with lower levels of income and education reported lower levels of awareness about government surveillance programs, but were more wary of the security of both email and landline telephones when compared with their higher-SES counterparts. These studies also suggested that low-income internet users were more likely

²¹ See Alvaro Bedoya. “The Color of Surveillance,” *Slate*, January 18, 2016. Available at: http://www.slate.com/articles/technology/future_tense/2016/01/what_the_fbi_s_surveillance_of_martin_luther_king_says_about_modern_spying.html (“There is a myth in this country that in a world where everyone is watched, everyone is watched equally. (...) The truth is more uncomfortable. Across our history and to this day, people of color have been the disproportionate victims of unjust surveillance.”).

²² See Cailin Dewey. “Immigrants are going hungry so Trump won’t deport them,” *The Washington Post*, March 16, 2017. Available at: https://www.washingtonpost.com/news/wonk/wp/2017/03/16/immigrants-are-now-canceling-their-food-stamps-for-fear-that-trump-will-deport-them/?utm_term=.110dee69a80b

²³ See Nathan Newman. *How Big Data Enables Economic Harm to Consumers, Especially to Low-Income and Other Vulnerable Sectors of the Population*, (2014), public comments filed in response to a Federal Trade Commission request for workshop submissions, available at https://www.ftc.gov/system/files/documents/public_comments/2014/08/00015-92370.pdf.

²⁴ Solon Barocas & Andrew D. Selbst, *Big Data’s Disparate Impact*. 104 *California Law Review* (forthcoming 2016). On the risk of exclusion, see Jonas Lerman, *Big Data and Its Exclusions*, 66 *Stanford Law Review Online*, 70 (2013), <http://www.stanfordlawreview.org/online/privacy-and-big-data/big-data-and-its-exclusions> (“billions of people remain on its margins because they do not routinely engage in activities that big data and advanced analytics are designed to capture.”).

²⁵ Alice E. Marwick & danah boyd, *Networked privacy: How teenagers negotiate context in social media*, 16 *NEW MEDIA & SOCIETY* 1051–1067 (2014), available at <http://nms.sagepub.com/content/16/7/1051>; danah boyd, Karen Levy and Alice Marwick, *The Networked Nature of Algorithmic Discrimination*, *Data and Discrimination: Collected Essays* (Eds. Seeta Peña Gangadharan and Virginia Eubanks), 43-57, (2014), available at <https://www.newamerica.org/downloads/OTI-Data-an-Discrimination-FINAL-small.pdf>.

²⁶ Madden, Mary. “Public Perceptions of Privacy and Security in the Post-Snowden Era,” Pew Research Center’s Internet Project, November 2014. Available at: http://www.pewinternet.org/files/2014/11/PI_PublicPerceptionsofPrivacy_111214.pdf

to report having their reputation damaged by online activity. Echoing these findings, a recent report from the Data & Society Research Institute illustrated that users from low-income households are significantly more likely than those from higher-income households to experience multiple forms of online harassment as well as persistent negative impacts to their online reputation.²⁷

This report aims to build upon these earlier studies by providing a new set of interviews and a broad analysis of how Americans' concerns about privacy and technology fit into the larger scope of concerns they have in everyday life. In considering how low-SES populations might be different from those with higher levels of income or education, it is important to understand the offline context in which they live and work every day. What is the current economic climate in their community and the financial situation in their household? Do they live in an area where they feel safe, or are concerns about becoming a victim of violence part of their everyday reality? Do they trust government institutions and technology companies to protect their sensitive data? What protective strategies do they already use, and what skills do they want to learn more about?

In order to help address these and other questions, the Data & Society Research Institute, supported by a grant from the Digital Trust Foundation, fielded a nationally representative 20-minute random-digit-dial telephone survey of 3,000 American adults 18 and older. The sample included an oversample of adults with annual household incomes of less than \$40,000.²⁸ This survey, fielded in November and December of 2015, explores how low-SES adults' concerns about privacy fit into the larger scope of concerns they have in everyday life, and aims to contribute to a deeper understanding of their technology-related behaviors and beliefs.

²⁷ Lenhart, Amanda, et al. "Online Harassment, Digital Abuse, and Cyberstalking in America," Data & Society Research Institute, November 2016. Available at: https://www.datasociety.net/pubs/oh/Online_Harassment_2016.pdf

²⁸ This level of annual income represents roughly 200% of the current federal poverty level for a household of three. According to the National Center for Children in Poverty, "Current research suggests that, on average, families need an income of about twice the federal poverty level just to afford basic expenses." See: <http://www.nccp.org/topics/measuringpoverty.html> For current HHS poverty guidelines, which are used to determine access to benefits, see: <https://aspe.hhs.gov/2015-poverty-guidelines>. Regarding family size, current estimates from the Census Bureau suggest the average household size in the U.S. includes 2.54 people. See Household size: <http://www.census.gov/hhes/families/data/households.html>.

Americans' perceptions of economic well-being in their communities and households

Broadly speaking, most Americans do not feel as though the current financial climate is favorable to them. The majority feel as though the economic situation in their community is “only fair” or “poor,” and less than one in three report that they are personally able to “live comfortably.”

Overall, 59% of American adults report that their community's economic situation is “only fair” or “poor,” while 39% rate the economic status of their community “good” or “excellent.”²⁹ Those who view their community's financial climate in the most positive terms are the exception. Even among those living in households with the highest levels of income (\$100,000 or more per year), just 14% say the economic situation in the community where they live is “excellent.”

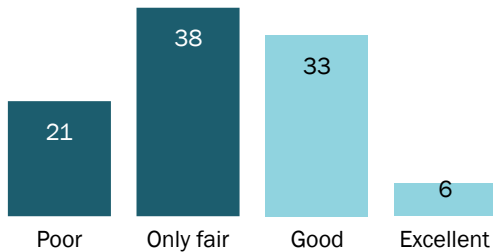
This underlying perception of local resource scarcity is particularly acute for low-income Americans. Most low-income adults view their local economy in negative terms: 68% of those living in households earning less than \$20,000 per year say the situation in their community is only “fair” or “poor.” By contrast, just 46% of those living in households earning \$100,000 or more per year report this. Variations by education level are not as pronounced, though college graduates generally report a more positive outlook in their communities.

In general, black Americans are more likely to report a “fair” or “poor” perception of their local economy when compared with whites (65% vs. 57%). Yet these differences disappear below a certain income threshold, as whites and blacks earning less than \$40,000 per year are equally likely to view the economic situation in their community unfavorably. Looking at the Hispanic population, U.S.-born Latinos are slightly more likely to say that the economic situation in their community is “fair” or “poor” compared with foreign-born Hispanics (65% vs. 52%).

²⁹ Although a majority of American adults currently rates their community's economic situation unfavorably, these numbers have improved considerably since the financial crisis of 2008. For example, in a Pew Research Center survey conducted March 27-April 14, 2008, 69% of American adults said the economic situation in their community was only “fair” or “poor.”

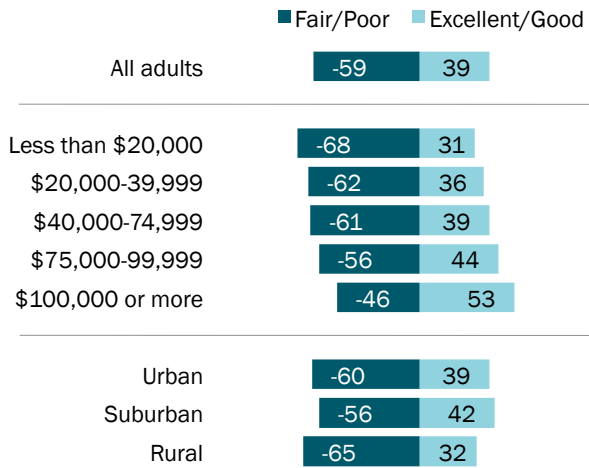
Economic situation in your community today

Among all adults, the % who say the overall economic situation in their community today is...



Economic situation in your community today

Among all adults, the % who say the overall economic situation in their community today is...



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Overall, adults living in rural areas are more likely than those living in suburban areas to say that the economic situation in their community is only “fair” or “poor” (65% vs. 56%). These negative sentiments among rural dwellers are fairly consistent across the socioeconomic spectrum. By comparison, the views of those living in urban and suburban areas suggest a greater level of economic inequality: in those communities, those who have lower incomes express more negative views of their local economies when compared with higher-income groups. For instance, urban adults with

household incomes of less than \$40,000 per year are more likely than higher-earning urban adults to say that the economic situation in their community is only “fair” or “poor” (68% vs. 54%).

The reason these kinds of socioeconomic variations are relevant to conversations about digital privacy and security is that those who feel economic vulnerability in both their personal lives and in their communities approach their technology choices with a broader set of concerns about negative impacts than those who experience greater stability. Yet at the same time, these findings show that they are less likely to feel confident in their own awareness of the privacy and security practices that could help to protect them in their daily lives.

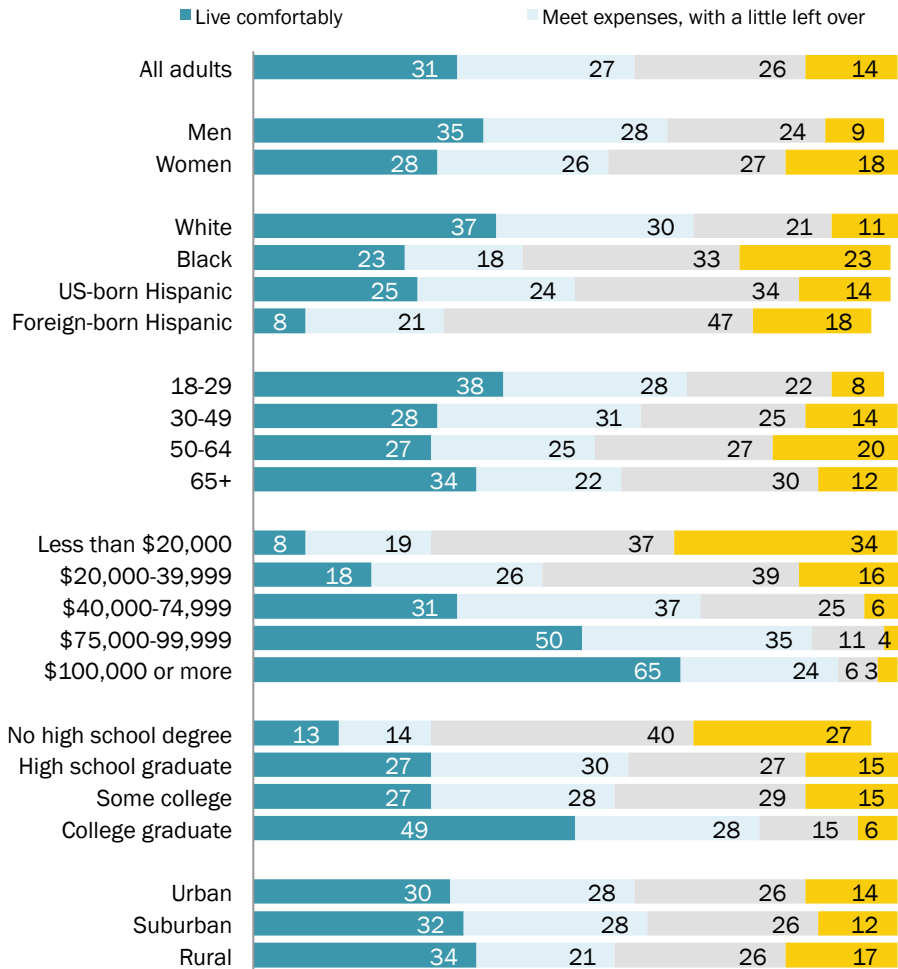
When asked to describe the financial situation within their own household, fewer than one in three Americans (31%) say they “live comfortably.” Another 27% report that they earn enough to meet their basic expenses with a little left over for extras, and 26% say they just meet their basic expenses.

The perception of living comfortably with respect to one’s household finances varies along several different dimensions. Not surprisingly, views differ most dramatically by household income: 65% of those in households earning \$100,000 or more per year say that they live comfortably, while just 8% of those earning less than \$20,000 report the same. At the other extreme, 34% of those earning less than \$20,000 say that they “don’t even have enough to meet basic expenses.” Similarly, variations by education are pronounced: half of college graduates (49%) report that they live comfortably, compared with just 13% of adults who have not completed high school.

On the whole, white Americans are considerably more likely than other racial and ethnic groups to report a comfortable economic situation in their own household—a larger share of whites (37%) report that they “live comfortably” compared with blacks (23%) and Hispanics (17%). However, within the Hispanic community, there are radically different experiences among the U.S.-born and foreign-born populations: 25% of U.S.-born Hispanics report that they “live comfortably,” but only 8% of foreign-born Hispanics report the same.

How would you describe your household's financial situation?

Among all adults, the % who would say they...



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

CHAPTER 2

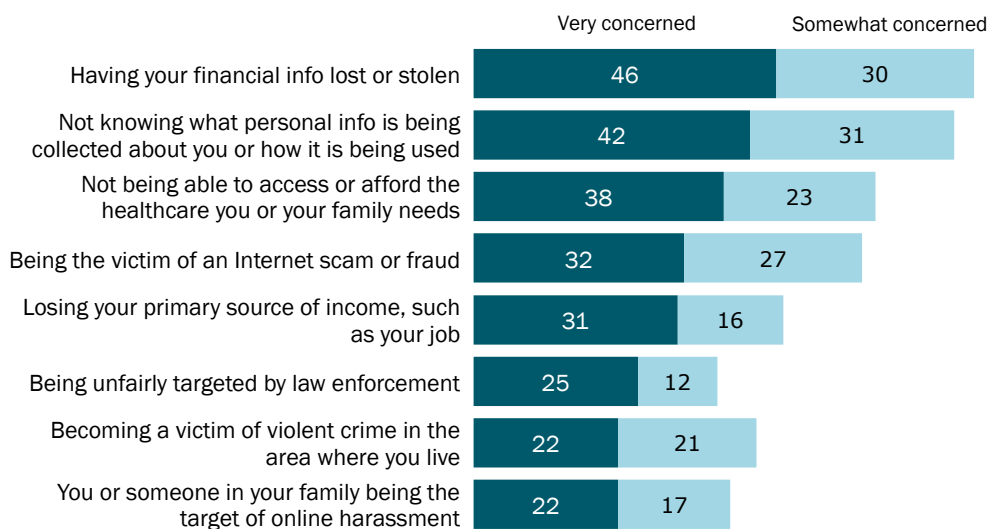
Attitudes About Privacy and Security in Daily Life

As news reports about consumer data breaches, sensitive health data being held ransom, and widespread security vulnerabilities associated with connected devices continue to proliferate, privacy- and security-related concerns loom large in Americans' everyday lives. More Americans say they are worried about having their financial information lost or stolen (76%) than say they are concerned about losing their primary source of income (48%). Similarly, most Americans express concern that they do not know what personal information is being collected about them by companies or how it is being used (73%). At the same time, a majority of American adults worry that they could fall victim to an internet scam or fraud (59%), and a considerable share say they are concerned that they or someone in their family will become a target of online harassment (40%)

In addition to—and often overlapping with—these information-based concerns are a variety of anxieties relating to physical security and stability. Not being able to access or afford the healthcare needed for one's family worries the majority of American adults (61%). Another 44% express concern that they will become a victim of violent crime in the area where they live, and 36% worry that they will be unfairly targeted by law enforcement. However, all of these concerns differ significantly across socioeconomic strata and racial, ethnic, and nativity groups.

Privacy and security concerns

Among all adults, the % who are "very" or "somewhat" concerned about the following issues



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

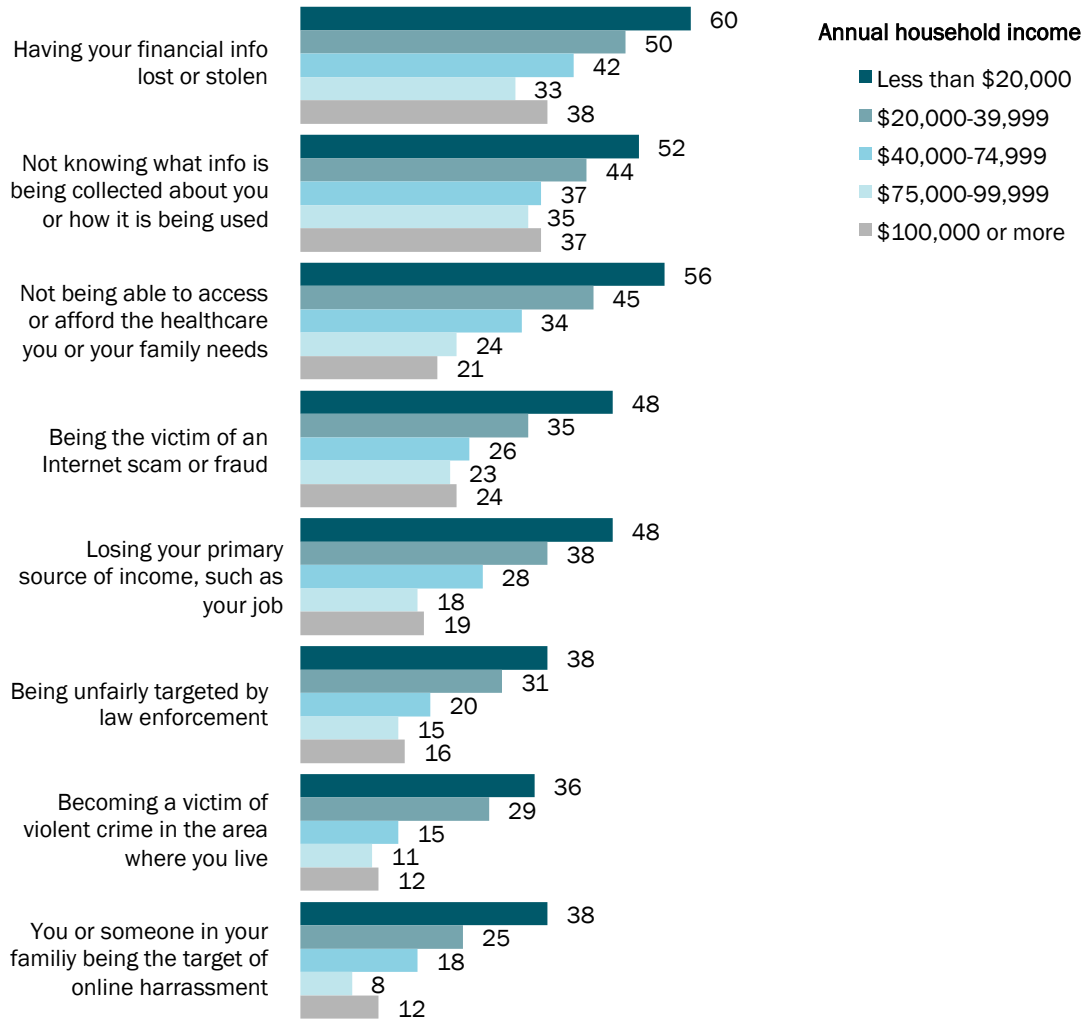
For instance, the intensity of these everyday concerns looks quite different through the lens of income. For each of these questions, those living in the lowest-income households are considerably more likely to say that they are “very concerned” compared with higher-earning groups. These gaps are so pronounced at either end of the income spectrum that those living in households earning less than \$20,000 per year are often twice as likely—and sometimes three times as likely—to say that they are “very concerned” compared with those in households earning \$100,000 or more per year. This is true of both information-based concerns and those relating to economic and physical security.

- Across all income groups, the potential loss or theft of financial information is the greatest worry among those asked about in the survey. However, 60% of those in the lowest-income households say that the loss of financial information is something they are “very concerned” about, while just 38% of those in the highest-earning households say the same.
- More than half (52%) of those in the lowest-earning group say that not knowing what personal information is being collected about them or how it is being used makes them “very concerned,” compared with just over a third (37%) of those in the highest-income households.
- Those in the lowest-income group are more than twice as likely as those in the highest-earning households to say they are “very concerned” about not being able to access or afford healthcare (56% vs. 21%), losing their primary source of income (48% vs. 19%), and being unfairly targeted by law enforcement (38% vs. 16%).
- Nearly half (48%) of adults in the lowest-income group say they are “very concerned” about becoming the victim of an internet scam or fraud, while just one in four (24%) adults in the highest-earning group report this.
- The instances in which adults in the lowest-income group are at least three times as likely as the highest-earning group to say they are “very concerned” include becoming a victim of violent crime in the area where they live (36% vs. 12%) and being the target (or someone in their family being the target) of online harassment (38% vs. 12%).

Levels of concern also vary greatly by a respondent’s education level, with those who have less than a high school degree generally expressing roughly the same level of concern as those earning less than \$20,000 per year for most questions.

Privacy and security concerns by annual household income

% of all adults who are "very" concerned about the following issues, by annual household income



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

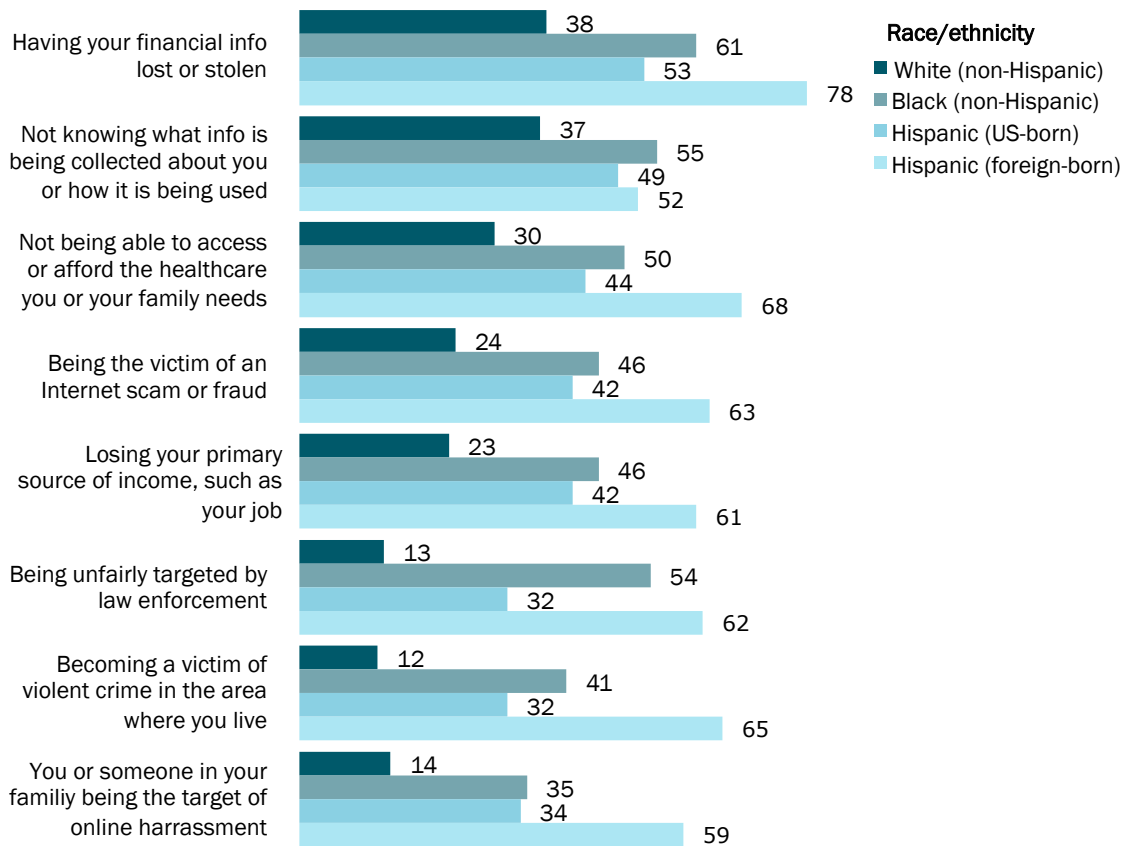
In most cases, blacks and Hispanics express stronger levels of concern than whites. This is most striking when looking at differences in concern about becoming a victim of violent crime, being unfairly targeted by law enforcement, and being the target of online harassment. For example, black adults are more than three times as likely as white adults to say they are concerned about being unfairly targeted by law enforcement (73% vs. 23%). Similarly, Hispanic adults are almost twice as

likely as white adults to say they are concerned about becoming a victim of violent crime in the area where they live (67% vs. 35%). Hispanics adults are also the most likely to report concern that they or someone in their family will be the target of online harassment: 61% are concerned about this, compared with 48% of black adults and 32% of white adults.

Even more striking are the differences between U.S.-born Hispanics and foreign-born Hispanics. Across all of the survey questions—with the exception of concerns about data collection by companies—foreign-born Hispanics stand out as far more likely to express concern.

Privacy and security concerns by race/ethnicity/nativity

% of all adults who are "very" concerned about the following issues on a typical day, by race/ethnicity/nativity



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

For instance, nine in ten (89%) of foreign-born Hispanics say they are concerned about the potential loss or theft of their financial information, compared with 74% of U.S.-born Hispanics. There are even

larger gaps between foreign-born and U.S.-born Hispanics when it comes to having concerns about not being able to access healthcare (84% vs. 66%), becoming a victim of violent crime (81% vs. 53%), and losing their primary source of income (77% vs. 55%).

There are also significant differences in concern between foreign-born and U.S.-born Hispanics regarding the prospect of becoming a victim of an internet scam or fraud (76% vs. 63%). Similarly, being unfairly targeted by law enforcement (75% vs. 44%) and being the target—or a family member being the target—of online harassment (72% vs. 49%) are notable worries for the majority of foreign-born Hispanics, while less than half of U.S.-born Hispanics share the same concerns.

General perceptions of control over personal information in daily life

Respondents were asked to think about a typical day in their lives—as they spend time at home, outside their home, and getting from place to place. And as they go through a typical day, they were asked how much control they feel they have over how much personal information is collected about them and how it is used. Overall, just one in four (26%) adults report that they have “a lot” of control, while 39% feel they have “some” control over the amount of personal data that’s collected about them and how it is used. Another 22% said they have “a little” control, and 12% said they have “no control at all.”

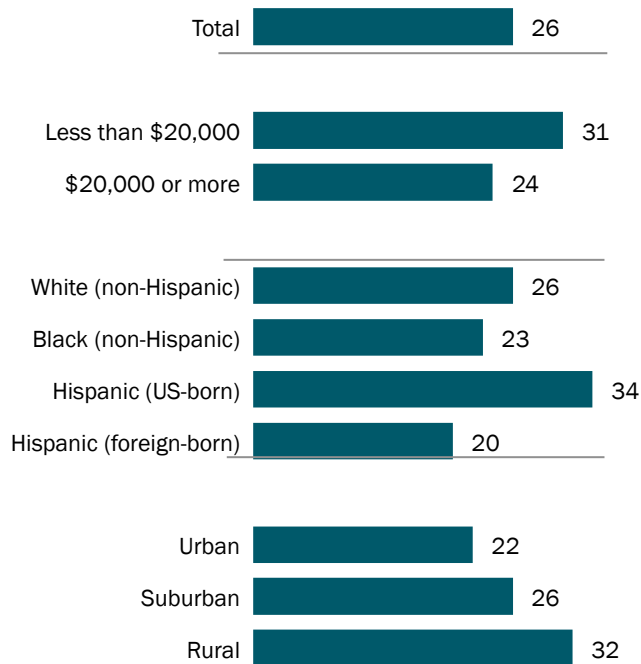
Those in the lowest-income group, who are less likely to be internet users, are modestly *more likely* than those in higher income groups to feel as though they have “a lot” of control. For instance, 31% of those in households earning less than \$20,000 per year report this, compared with 24% of those living in higher-earning households (that is, households earning more than \$20,000 per year). However, the opposite is true when looking at the subgroup of adults who have had some kind of personal information stolen. Low-income victims of information theft living in households earning less than \$20,000 per year are more than *twice as likely* than those in higher-earning households to say they have “no control at all” over the way their information is collected and how it gets used (27% vs. 12%).

The most notable differences across different racial, ethnic, and nativity groups are between foreign-born Hispanics, U.S.-born Hispanics, and whites. While 20% of foreign-born Hispanics feel as though they have “no control at all” over the personal information that is collected about them and how it is used, just 7% of U.S.-born Hispanics and 11% of white adults report the same.

Adults living in rural areas are more likely than those living in urban areas to feel they have “a lot” of control over the personal information that is collected about them (32% vs. 22%). However, there are no consistent variations by gender or age.

Control over personal information by income, race/ethnicity and nativity, and community type

Among all adults, the % who feel they have “a lot” of control over how personal information about them is collected and used



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Trust in various institutions to protect personal information

Regardless of their socioeconomic or racial background, Americans share a lack of confidence in many of the institutions that regularly handle their personal data. In general, there are more similarities than differences across socioeconomic groups for these questions—with several notable exceptions for certain institutions. Low-SES groups are less likely to say they trust that their internet service providers, cell phone providers, and law enforcement agencies will protect their personal information.

Trust in your employer

Among employed adults, most express a high level of trust in their employer to protect their personal information: 61% say that they trust their employer “a lot.” By comparison, 22% say they trust their

employer “some” to protect their personal information, 9% say they trust their employer “only a little,” and 6% say that they do not trust them “at all.”

In general, levels of trust in employers to protect personal information do not track clearly with income levels, and there are no notable differences by community type. However, 67% of employed adults who have a college degree say they trust their employer “a lot” to protect their personal information, compared with just 53% of those who have not completed high school. In addition, there are several notable differences among employed adults in different racial, ethnic, and nativity groups and across occupational categories.

Employed white adults are significantly more likely than employed black adults to say they trust their employer “a lot” to protect their personal data (66% vs. 54%). However, the differences between U.S.-born and foreign-born Hispanics are considerably more pronounced. While 63% of employed U.S.-born Hispanic adults say they trust their employer to protect their personal information “a lot,” just 38% of Hispanics who were not born in the U.S. express the same level of confidence.

Employed women are somewhat more likely than employed men to say they trust their employer’s ability to protect their personal information “a lot” (65% vs. 57%). Younger employed adults are also considerably more trusting of their employers compared with older adults. Some 71% of those ages 18-29 say they trust their employer to protect their personal information “a lot,” compared with just 51% of those ages 50-64.

In addition, a greater share of those who work in office-based jobs say they trust their employer “a lot” to protect their personal information compared with those who work in jobs that are not office-based (66% vs. 54%).

Trust in your health insurance provider

Among all adults, 45% say they trust health insurance providers to protect their personal information “a lot,” compared with 27% who say they trust insurance companies “some.” Another 13% say they trust the companies “only a little,” and 10% do not trust them “at all” when it comes to protecting their personal data.³⁰

There are few significant variations for trust in health insurance providers by income group, education level, or community type. However, non-white respondents—particularly black and foreign-born Hispanic adults—report somewhat lower levels of trust in health insurance providers’ ability to keep their personal information protected. For instance, 35% of foreign-born Hispanics and 28% of blacks say they trust health insurance providers “only a little” or “not at all.” That compares with 20% of whites and 14% of U.S.-born Hispanics.

³⁰ Another 3% volunteered that this question doesn’t apply to them.

Women are modestly more likely than men to say they trust their health insurance provider's capacity to protect their personal information "a lot" (49% vs. 42%). In addition, the youngest and oldest age groups are somewhat more trusting of health insurance providers when compared with middle-aged adults. Some 51% of those ages 18-29 say they trust their health insurance provider to protect their personal information "a lot," compared with just 38% of those ages 50-64, and more than half of adults ages 65 and older (54%) say they trust their health insurance providers "a lot."

Trust in your local law enforcement or police department

Trust in local law enforcement or police departments to protect personal information are very similar to those for health insurance providers when looking at the general population of adults. However, unlike the questions about health insurance providers, trust in local law enforcement varies significantly by race, ethnicity, nativity, and education.

Overall, less than half of American adults say they have a high level of trust in their local law enforcement or police department to protect their personal information: 43% say that they trust local law enforcement "a lot," while 28% say they trust their local police department "some." By comparison, 12% say they trust their local law enforcement or police department "only a little," and 13% say that they do not trust them "at all" to protect their personal information.

Those in the lowest-income bracket (in households earning less than \$20,000 per year) are less likely to trust their local law enforcement or police department when compared with higher-income groups. For instance, 34% of those in households earning less than \$20,000 annually say they trust their local law enforcement to protect their personal information "only a little" or "not at all," compared with 23% of those in households earning above that threshold. Variations by education level are not as clear, but those with less than a high school degree and some college tend to report lower levels of trust when compared with both high school graduates who did not attend college and college graduates.

Differences across racial, ethnic, and nativity groups are much more striking. In general, blacks and foreign-born Hispanics are considerably less trusting of law enforcement when compared with whites and U.S.-born Hispanics. Almost half (46%) of black adults say they trust their local law enforcement or police department "only a little" or "not at all" when it comes to protecting their personal information, and 33% of foreign-born Hispanic adults say the same. By comparison, just 19% of white adults and 22% of U.S.-born Hispanic adults report that they trust their local law enforcement or police department "only a little" or "not at all" when it comes to protecting their personal data.

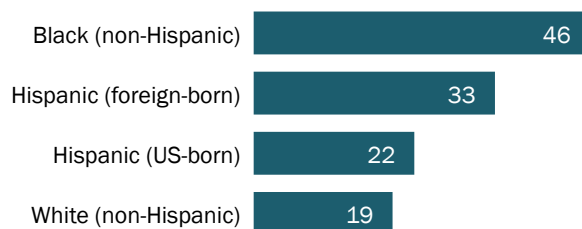
Adults living in urban communities (16%) are more likely than those living in suburban areas (12%) to say they do not trust their local law enforcement "at all" to protect their personal information. Looking at the data another way, those living in suburban areas are more likely to say they do trust their law enforcement "a lot" or "some": 74% of those living in suburban areas say this, compared with just 68% of those in urban areas. However, this is mostly due to higher confidence levels among suburban adults living in households earning more than \$40,000—79% say they trust their law enforcement "a

lot” or “some,” while 70% of suburbanites in households below the \$40,000 mark express this level of trust in their local law enforcement’s handling of their personal data.

Men are somewhat more likely than women (17% vs. 10%) to say they do not trust their local law enforcement to protect their personal information “at all.” Similarly, those ages 30-49 (17%) are slightly more likely than those 18-29 (11%) or 65 and older (8%) to say they do not trust their local law enforcement “at all” to protect their personal information.

Black Americans express lowest levels of trust in local law enforcement to protect their personal information

Among each group of adults, the % who trust local law enforcement to protect their personal information “only a little” or “not at all,” by race/ethnicity/nativity



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Trust in your local public schools

Among parents, just over a third (37%) say they trust their local public schools “a lot” when it comes to protecting their personal information. Another 31% say they trust their public schools “some,” while 18% say they trust their schools “only a little” to keep their personal data safe. An additional 10% of parents say they do not trust their public schools “at all” to safeguard their personal information.

In general, parents’ sense of trust in public schools to protect their personal information does not follow clear patterns across income and education levels. However, Hispanic parents (including both U.S.-born and foreign-born Hispanics) are significantly more likely than white parents to say they trust their local public schools “only a little” or “not at all” (35% vs. 22%).³¹

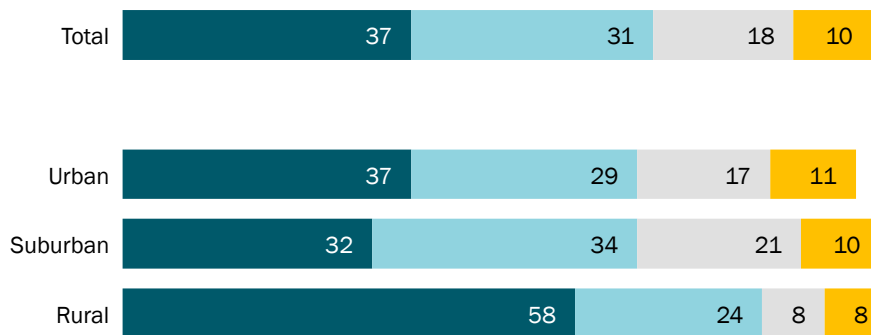
At the same time, parents living in rural communities are much more trusting when compared with those living in other areas. Fully 58% of parents in rural communities say they trust their local public schools “a lot” when it comes to protecting their personal information, while just 37% of parents in

³¹ Due to filtering in the survey, the group of Hispanic parents is too small for this question to include analysis comparing foreign-born Hispanic parents with U.S.-born Hispanic parents.

urban communities and 32% of parents in suburban areas feel this way. Fathers are somewhat more skeptical than mothers—34% of fathers report that they trust their local public schools “only a little” or “not at all,” compared with 23% of mothers. By contrast, parents of all ages report comparable levels of trust in their local schools to safeguard their personal information.

Parents’ trust in their local public schools to protect their personal information

Among parents, the % who trust their local public schools to protect their personal information “a lot,” “some,” “a little” or “not at all,” by community type



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Trust in your cell phone service provider

Among cell phone owners, about one in four (27%) say that they trust their cell phone service providers “a lot” with the job of keeping their personal information safe. By comparison, 36% say they trust their cell providers “some,” while 19% say they trust their provider “only a little.” Another 15% say they do not trust their cell phone provider “at all” to keep their personal information protected.

Those with less than a high school degree report much lower levels of trust in cell phone providers when compared with those who have higher levels of education. Among cell phone owners who have not finished high school, 45% say they trust their cell phone provider “only a little” or “not at all” when it comes to protecting their personal data. By comparison, only 30% of high school graduates who have not gone on to college report trust levels that low. Despite these differences across education groups, there are no consistent variations across different income groups.

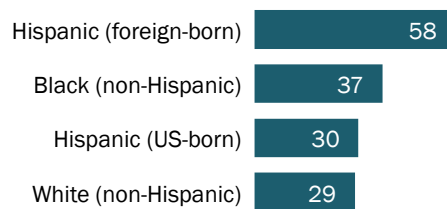
However, black and foreign-born Hispanic cell phone owners report considerably lower levels of trust in their cell phone providers when compared with whites and U.S.-born Hispanics. For instance, 58% of foreign-born Hispanic cell phone owners say that they trust their cell phone provider “only a little” or “not at all,” compared with just 29% of white cell owners and 30% of U.S.-born Hispanics. Among black cell owners, 37% say they trust their cell providers “only a little” or “not at all.” In addition, cell

phone owners living in urban areas (37%) are more likely than those living in rural areas (27%) to say they trust their provider “only a little” or “not at all.”

Male cell phone owners are slightly more likely than women to report that they do not trust their cell phone providers “at all” (18% vs. 12%). Variations by age are also modest, as cell owners under the age of 50 are only slightly more skeptical of their carrier’s ability to protect their personal information when compared with those ages 65 and older. For instance, 36% of young adult cell owners under age 30 say they trust their cell providers “only a little” or “not at all,” compared with 27% of those ages 65 and older.

Foreign-born Hispanics express lowest levels of trust in cell phone providers

Among each group of adults, the % who trust their cell phone service provider to protect their personal information “only a little” or “not at all,” by race/ethnicity/nativity



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Trust in federal government agencies

Among all adults, 21% say they trust federal government agencies to protect their personal information “a lot,” compared with 31% who say they trust the agencies “some.” Another 19% say they trust the agencies “only a little,” and 26% do not trust them “at all” when it comes to protecting their data.

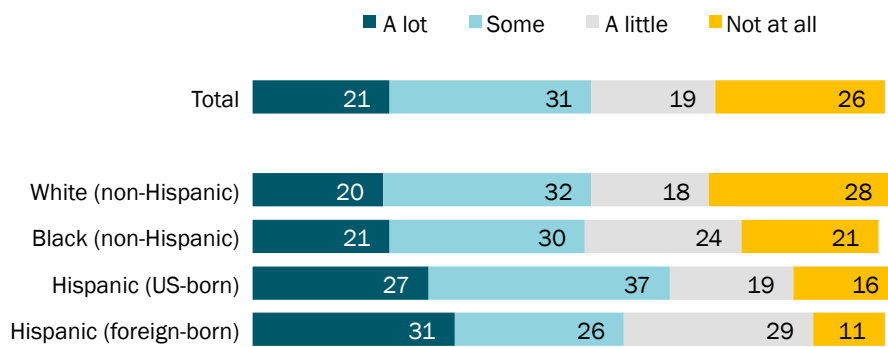
There are few consistent patterns across various income and education groups, but U.S.-born Hispanic adults report considerably higher levels of trust in federal government agencies’ ability to protect their data when compared with other groups: 64% of U.S.-born Hispanics say that they trust federal government agencies “a lot” or “some,” compared with 52% of whites and 52% of blacks.

Across community types, 57% of adults living in urban areas say that they trust federal government agencies “a lot” or “some,” compared with 49% of those living in the suburbs. Also notable is the gap between political parties, as 66% of respondents who identified as Democrat say they trust the government with their personal information, compared with only 45% of Republicans.

Women and men are equally wary of federal government agencies’ capacity to protect their personal information. However, adults in the youngest age group are far more trusting of federal agencies when compared with older age groups, with 65% of those ages 18-29 saying they trust federal government agencies to protect their personal information “a lot” or “some,” compared with just 47% of adults ages 65 and older.

Americans’ trust in federal government agencies to protect their personal information

Among all adults, the % who trust federal government agencies to protect their personal information “a lot,” “some,” “a little” or “not at all” by race/ethnicity/nativity



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

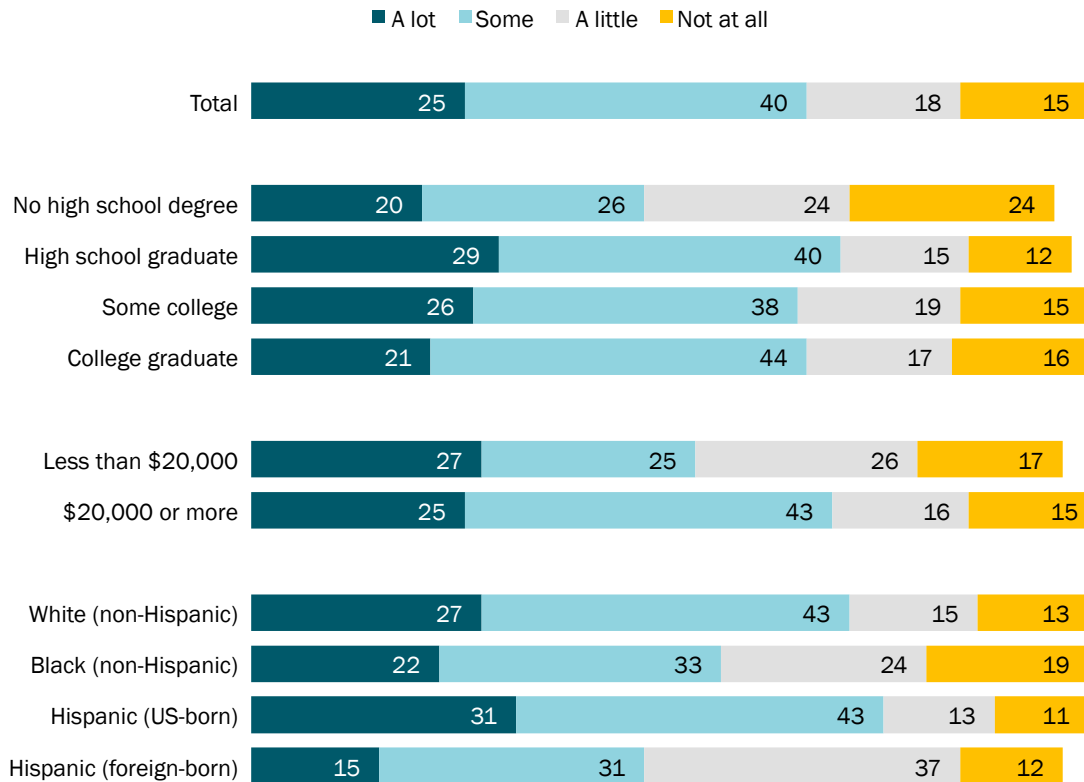
Trust in your internet service provider

Looking at internet users, one in four (25%) say that they trust their internet service provider (ISP) “a lot” when it comes to protecting their personal information. By comparison, 40% say they trust their ISP “some,” while 18% say they trust their internet service provider “only a little.” Another 15% say they do not trust their ISP “at all” to keep their personal information safe.

Those with lower levels of education are considerably more likely to doubt their ISP’s ability to protect their personal information. For instance, 48% of online adults with less than a high school degree say they trust their ISP “only a little” or “not at all,” compared with 33% of online adults who are college graduates.

Low-SES internet users among the least likely to trust ISPs to protect their personal information

Among internet users, the % who trust their internet service provider to protect their personal information “a lot,” “some,” “a little” or “not at all” by education, income, and race/ethnicity/nativity



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Those in the lowest-income bracket are also more likely than those in higher-income households to express an unfavorable view of their ISP’s ability to safeguard their personal data. Some 43% of online adults living in households earning less than \$20,000 per year, say they trust their ISP “only a little” or “not at all,” compared with 31% of those living in households with incomes above that threshold.

Differences by race, ethnicity, and nativity are also significant, with 49% of foreign-born Hispanic internet users and 43% of black internet users saying they trust their ISP “only a little” or “not at all,” compared with just 28% of whites and 24% of U.S.-born Hispanics. However, despite these differences, there are no consistent variations among internet users living in urban, suburban, or rural.

Online men are slightly more likely than online women to say they trust their ISP “only a little” or “not at all” (36% vs. 29%). Looking at age groups, internet users in the middle age group are somewhat

more likely than older internet to be skeptical of their ISP's capacity to safeguard their data; for instance, 36% of online adults ages 30-49 say they trust their ISP "only a little" or "not at all," compared with 24% of online adults ages 65 and older.

Trust in online shopping companies such as Amazon or eBay

Among internet users, 21% say they trust online shopping companies such as Amazon or eBay to protect their personal information "a lot," compared with 34% who say they trust the companies "some." Another 20% say they trust these companies "only a little," and 18% do not trust them "at all" when it comes to protecting their personal data. In addition, 7% volunteered that the question didn't apply to them.

Black and foreign-born Hispanic internet users are significantly more wary of online shopping companies' handling of their personal data compared with white internet users. Nearly half (48%) of black internet users and 46% of foreign-born Hispanic internet users say they trust ecommerce companies like Amazon or eBay "only a little" or "not at all" to protect their personal information, while only 34% of white internet users report this low level of confidence.

Internet users in the lowest-income bracket (those in households earning less than \$20,000 per year) are less likely to trust online shopping companies when compared with higher-income groups. Some 48% of online adults in households earning less than \$20,000 annually say they trust online shopping companies to protect their personal information "only a little" or "not at all," compared with 35% of those in households earning above that threshold.

Variations by education are also notable. Fully 59% of internet users with less than a high school degree say they trust online shopping companies like Amazon or eBay "only a little" or "not at all" to protect their personal information. That compares to just 38% of internet users with a high school degree, 33% of those with some college education, and 38% of college graduates who say they trust online shopping companies "only a little" or "at all" when it comes to protecting their personal data.

Internet users living in urban areas are somewhat less trusting of online shopping companies when compared with those living in rural areas. Among online adults living in urban areas, 40% say they trust online shopping companies "only a little" or "at all" when it comes to protecting their personal data, compared with 31% of those living in rural areas.

Online men are somewhat more skeptical of online shopping companies when compared with online women: 42% of online men say they trust the companies "only a little" or "not at all" to protect their personal information, compared with 34% of online women. However, internet users across all age groups report similar levels of trust in online shopping companies.

Trust in search engine providers, such as Google or Bing

Overall, internet users are considerably less trusting of search engines' ability to keep their personal data safe when compared with other entities included in the survey. Just 16% say that they trust search engine providers such as Google or Bing "a lot" when it comes to protecting their personal information. Another 32% say they trust search engines "some," while 23% say they trust search engine providers to "only a little" when it comes to handling their personal data. And 25% say they do not trust search engines "at all" to keep their personal information safe.

There are no significant variations across various education groups, and no consistent differences by income or community type. Similarly, various racial, ethnic, and nativity groups report roughly the same trust levels for search engines when it comes to protecting their personal information.

As with other institutions and companies, men are slightly less trusting than women: 52% of online men say they trust search engines "only a little" or "not at all," compared with 44% of online women. In this case, internet users under the age of 50 are somewhat more skeptical about search engines' ability to keep their data safe than are those ages 65 and older. For instance, 51% of online adults ages 18-29 and 49% of those ages 30-49 say they trust search engines "only a little" or "not at all," compared with 37% of online adults ages 65 and older.

Trust in social media companies, such as Facebook or Twitter

This survey echoes other recent studies that have suggested low levels of public trust in social media companies.³² Just 8% of social media users say they trust social media companies like Facebook and Twitter "a lot" to protect their personal information. Another 31% say they trust these companies "some," while 26% say they trust them "only a little." One in three (34%) social media users say they do not trust the companies "at all" to keep their personal data safe.

There are no notable variations by income, education, or community type, and no consistent patterns by gender or across different racial, ethnic, and nativity groups for this question; all of these groups express consistently low levels of trust in social media companies. The only significant variation by age is that social media users ages 30-49 are more wary of the sites compared with the oldest social media users: 63% of those ages 30-49 say they trust these sites "only a little" or "not at all," while 48% of those ages 65 or older say the same.

³² Madden, Mary. "Public Perceptions of Privacy and Security in the Post-Snowden Era," Pew Research Center's Internet Project, November 2014. Available at: http://www.pewinternet.org/files/2014/11/PI_PublicPerceptionsofPrivacy_111214.pdf

How Internet and Cell Phone Use Varies Across Different Socioeconomic, Racial, and Ethnic Groups

Echoing previous findings from a wide range of empirical studies, the survey results indicate that adults with lower levels of education and income are less likely to be internet users, but among those who are online, they are disproportionately reliant on mobile devices as their primary source of internet connectivity.

Overall, 82% of adults use the internet or email at least occasionally. Among those who have less than a high school degree, just 45% use the internet or email, compared with 96% of college graduates. Income is also an important indicator: among adults living in households earning less than \$20,000 per year, just 64% use the internet or email, compared with 96% of those in the highest income group earning \$100,000 or more per year.

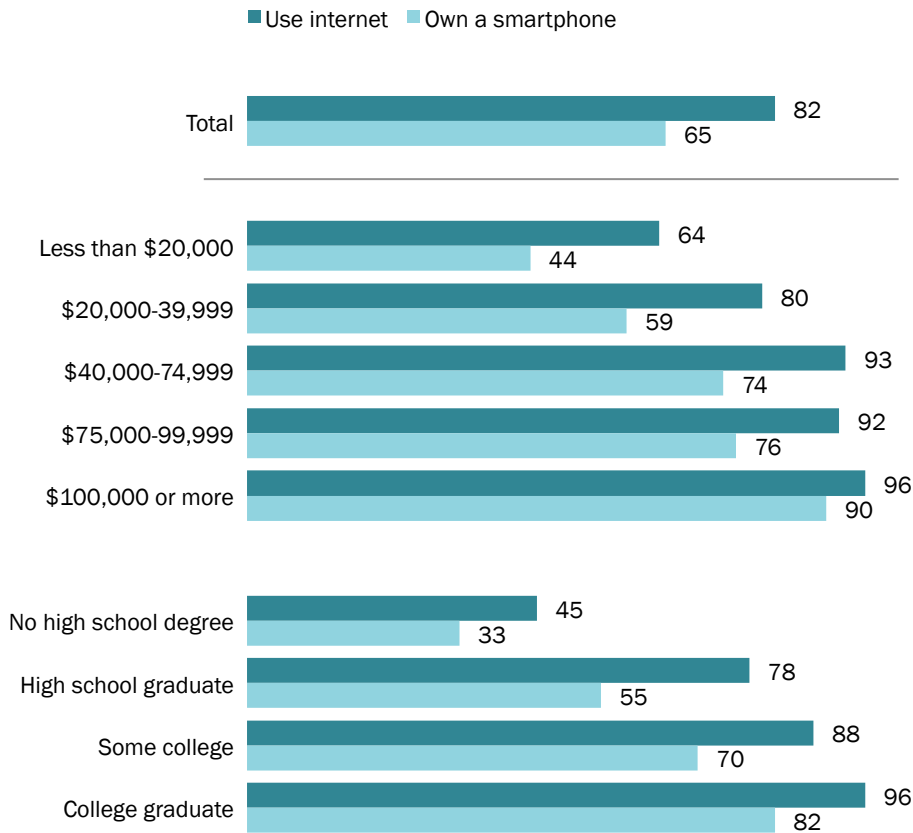
Yet, the vast majority of the income gap is attributable to lower-income adults ages 65 and older. Older adults who live above a certain economic threshold are just as likely as the average American to be online. A full 80% of adults ages 65 and older living in households earning \$40,000 or more per year use the internet or email, but just 32% of those living in households earning less than \$40,000 use the internet or email.

Conversely, at the other end of the age spectrum, young adults ages 18-29 who live in lower-income households are just as likely as those in higher-earning households to be online—95% of young adults in households earning less than \$40,000 per year are online, as are 98% of those in households earning more than \$40,000 per year.

Internet access also continues to differ significantly between racial, ethnic, and nativity groups and by community type. Just 63% of foreign-born Hispanic adults and 72% of black adults use the internet or email. By comparison, 85% of whites and 89% of U.S.-born Hispanics are online. Similarly, adults living in urban (85%) and suburban (83%) communities are more likely than those living in rural areas (72%) to use the internet or email at least occasionally.

Internet use and smartphone ownership by income and education

Among all adults, the % who use the internet or who own a smartphone



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Low-income Americans are considerably less likely to have high-speed internet connections at home.

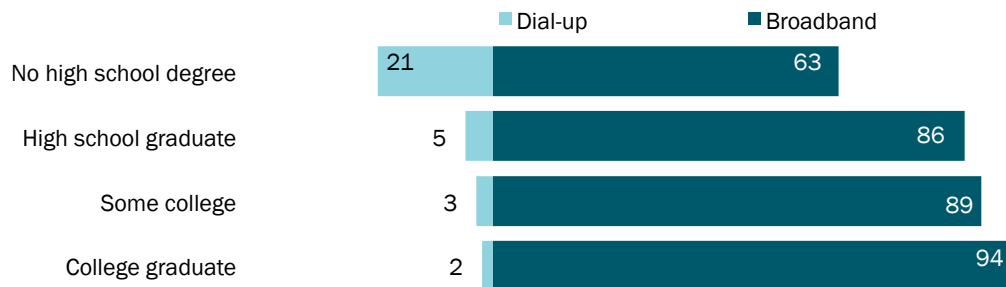
Nine in ten (91%) online adults say they use the internet or email at home. Looking at this group of home internet users, 89% report that they have high-speed broadband connections. Yet, among the subgroup of home internet users in households earning less than \$20,000 per year, just 72% say they have broadband. By contrast, 97% of those with household incomes of \$100,000 or more per year have broadband at home.

There also continue to be stark variations by education, as just 63% of home internet users with less than a high school degree say they have broadband, compared with 94% of college graduates. Among various racial, ethnic, and nativity groups, foreign-born Hispanics are considerably less likely than other groups of home internet users to have high-speed connectivity. Just 70% of foreign-born Hispanic home internet users say they have broadband at home, compared with 91% of white home internet users, 87% of blacks, and 86% of U.S.-born Hispanics.

In addition, there continue to be important variations by community type. Among those who use the internet at home, those living in urban (90%) and suburban (90%) communities are somewhat more likely than those living in rural areas (82%) to have broadband connections.

Americans with higher levels of education more likely to have high-speed connections at home

Among home internet users, the % who say they have dial-up or broadband connections



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Various low-SES groups continue to be disproportionately reliant on mobile devices as their primary source of internet access.

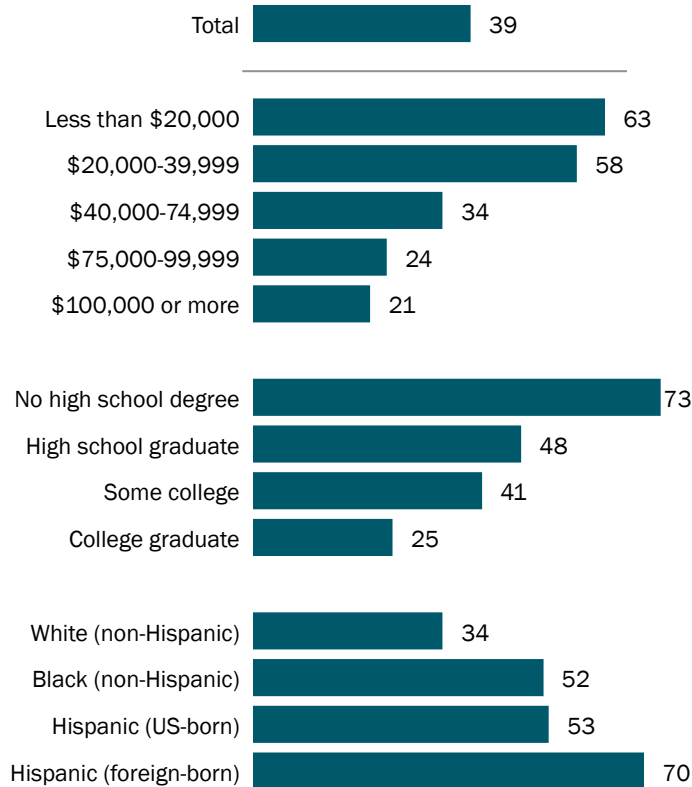
Within the group of Americans who are online, one of the most salient differences when looking at patterns of internet use among lower-income adults is the reliance on cell phones for internet connectivity—particularly among those under the age of 50. Low-income internet users who own smartphones are significantly more likely than higher-income groups to say they “mostly go online” using their cell phone. Even when considering the fact that low-income adults are less likely to be internet users and own smartphones overall, the share of low-income adults who rely on their mobile devices as their primary source of internet connectivity exceeds that of higher-income groups.

Overall, 91% of adults in the survey say they have a cell phone. Among cell phone owners, 71% say they own a smartphone. Among internet users who own a smartphone, 39% say that their cell phone is the primary way they go online. Another 41% say they mostly use some other device, and 20% report that they use their cell phone and other devices equally.

However, the differences at either end of the income spectrum are stark: 63% of smartphone-owning internet users who live in households earning less than \$20,000 per year say they mostly go online using their cell phone, compared with just 21% of those in households earning \$100,000 or more per year.

“Cell-mostly” internet use by annual household income, education, and race/ethnicity/nativity

Among internet users who own smartphones, the % who mostly go online with their phone



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

The survey findings also suggest that age is an important indicator for relying on a cell phone for internet access. Looking at broader income groups (those in households earning less than \$40,000 per year compared with those earning \$40,000 per year or more), low-income internet users ages 18-29 who have a smartphone are more likely to report a reliance on cell phones for internet access when compared with young adults living in higher-income households (62% vs. 46%). However, there is an even larger gap among lower-income smartphone owners ages 30-49, who are more than twice as

likely as higher-income adults in the same age group to say they mostly go online using their phone (71% vs. 29%).

Variations by education level are also notable. Among smartphone internet users who have less than a high school degree, fully 73% say they mostly go online using their cell phone.³³ That compares with 48% of high school graduates, 41% of those with some college education, and just 25% of college graduates.

When comparing mobile internet use patterns across racial, ethnic, and nativity groups, foreign-born Hispanic adults stand out as the most likely by far to say they mostly go online using their cell phone. Fully 70% of foreign-born Hispanics who own smartphones and use the internet say that most of their internet use takes place on their cell phone. Meanwhile, half as many white smartphone-owning internet users (34%) report a reliance on their cell phone for most of their internet use; 52% of blacks and 53% of U.S.-born Hispanics who use the internet and own smartphones also go online mostly with their cell phones.

Across community types, those living in urban (19%) and suburban (23%) communities are modestly more likely than those living in rural areas (11%) to say they use their cell phones and other devices equally to go online.

Social media use is pervasive among nearly all groups of internet users.

Almost three in four internet users (74%) say they use social mediasuch as Facebook, Twitter, or Instagram. Male and female internet users are equally likely to use social media, but use varies significantly by age. Fully 88% of internet users ages 18-29 and 80% of those ages 30-49 use these sites, compared with 64% of those ages 50-64 and just 51% of internet users ages 65 and older.

Looking at variations in social media use by income, the lowest-income internet users (those in households earning less than \$20,000 per year) are modestly more likely than higher-income internet users to say they use social media such as Facebook, Twitter or Instagram (81% vs. 73%). However, most of this income-related gap is attributable to differences among adults ages 50 and older; online adults under the age of 50 are equally likely to use social media regardless of income.

Internet users in different racial, ethnic, and nativity groups and those with varying education levels are all equally likely to use social media. However, internet users living in urban (75%) and suburban (76%) communities are more likely than those living in rural areas (64%) use social media services.

³³ This group of respondents is relatively small in the survey (n=95), but these differences are significant.

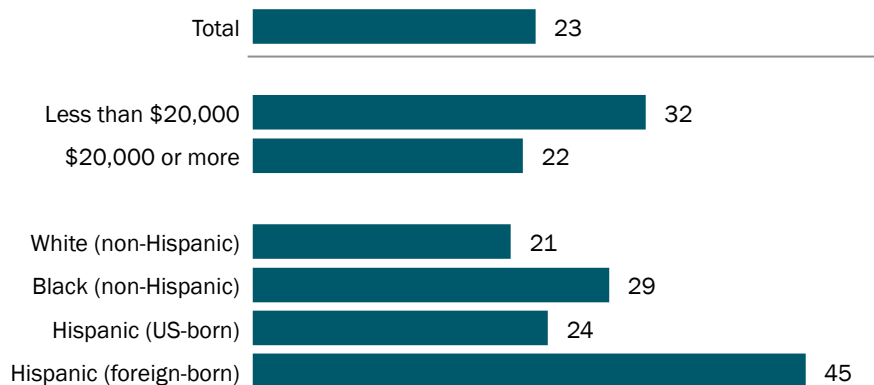
Almost half of foreign-born Hispanic social media users automatically share their location in their social media posts.

Certain subgroups are also more likely to say that their social media accounts are currently set up so that they automatically include location information in their posts, which may expose them to various forms of tracking. Among all social media users, 23% say that at least some of their social media accounts are currently set up to automatically include their location in their posts. Foreign-born Hispanic adults who are social media users are by far the most likely group to share their location automatically in their posts: 45% do so, compared with just 24% of U.S.-born Hispanic adults, 29% of black adults, and 21% of white adults who use social media.

There are no significant variations by gender for automatic location sharing, and no consistent differences by age group, education level, or community type. However, there are notable differences when looking at those living in households earning less than \$20,000 per year: 32% of these lower-income social media users automatically share location data on their accounts, compared with just 22% of social media users who live in higher-earning households.

Social media location sharing, by income and race/ethnicity/nativity

Among social media users, the % who automatically include their location in posts



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Other online activities

Buying Products Online

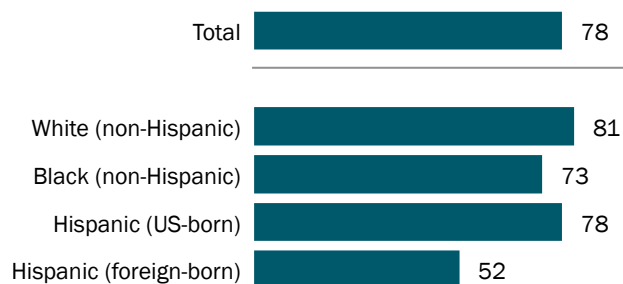
Close to eight in ten internet users (78%) say they use the internet to buy products, such as books, toys, music, or clothing. However, those with higher levels of education and income are much more likely to engage with ecommerce. While 91% of college graduates say they shop online, just 40% of internet users with less than a high school degree buy products online. Similarly, there are also substantial variations by income, with 89% of those living in households earning \$100,000 or more per year shopping online, compared with only 60% of internet users living in households earning less than \$20,000 per year.

In another very notable gap, foreign-born Hispanic internet users are significantly less likely than those from every other racial, ethnic, and nativity group reported here to say that they buy products online. For instance, just 52% of foreign-born Hispanics say that they shop online, compared with 78% of U.S.-born Hispanic adults who are online.

In addition, internet users living in suburban areas are more likely than those living in rural areas to buy products online (81% vs. 73%). And while there are no significant differences in the share of men and women who buy products on the internet, young adults under age 30 are somewhat more likely than those ages 50 and older to say that they shop online (83% vs. 74%).

Online purchases, by race/ethnicity/nativity

Among internet users, the % who have used the Internet to buy a product



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Applying for jobs online

Half of the online adults in the survey (50%) say that they have used the internet to apply for a job. Those who have the lowest levels of education are significantly less likely than those with higher levels of education to say they have used the internet to apply for jobs. For instance, 36% of those with less than a high school degree have used the internet to search for jobs compared with 53% of high school graduates who have not attended college. By contrast, there are few significant differences across various income groups.

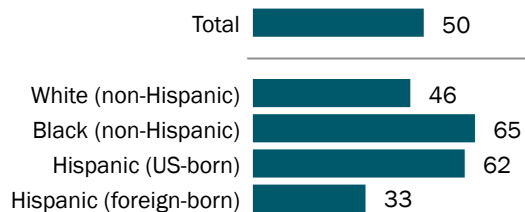
Blacks and U.S.-born Hispanics are considerably more likely than whites and foreign-born Hispanics to apply for jobs online. While 65% of online black internet users and 62% of online U.S.-born Hispanic internet users say they go online to apply for jobs, just 46% of whites and 33% of foreign-born Hispanics do so.

Looking across community types, those living in urban (54%) and suburban (52%) communities are significantly more likely than those living in rural areas (35%) to say they apply for jobs online.

And although men and women are equally likely to use the internet to apply for jobs, the differences by age group are stark. Fully 77% of online adults ages 18-29 say they use the internet to apply for jobs, compared with 60% of those ages 30-49, 33% of those ages 50-64, and 7% of those ages 65 and older.

Online job applications, by race/ethnicity/nativity

Among internet users, the % who have used the Internet to apply for a job



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Confidence that job applications will remain private and secure

When internet users apply online for jobs, just 24% feel “very confident” that the information they provide as part of the process will remain private and secure. About half (47%) say they feel “somewhat

confident,” while 19% say they are “not too confident.” Another 10% say they are “not at all confident” that their information will remain private and secure.

Responses across various demographic groups are consistent, with a few exceptions at either end of the socioeconomic spectrum. Lower-income online job applicants are somewhat more skeptical about the privacy and security of their application information when compared with those in higher-earning households: 34% of those living in households earning less than \$40,000 per year feel “not too confident” or “not at all confident” that the data they submit will remain private and secure, compared with 25% of applicants in households with incomes over the \$40,000 threshold. Similarly, those with only a high school degree are more likely than college graduates to say they are “not too confident” or “not at all confident” that the information they submit will remain private and secure (35% vs. 24%).

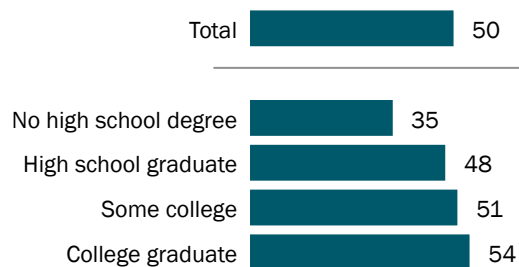
In addition, those living in urban (31%) and suburban (29%) communities are significantly more likely than those living in rural areas (16%) to say they are “not too confident” or “not at all confident” that the information they submit as part of online job applications will remain private and secure.

Searching for sensitive health information

Half of all adult internet users (50%) have used the internet to search for sensitive health information. There are no notable differences across income groups or community types, or by gender or age group. However, those with lower levels of education are considerably less likely to search for sensitive health information online: just 35% of those with less than a high school degree do this, compared with 54% of college graduates. In addition, black internet users are more likely than U.S.-born Hispanics to say they search the internet for sensitive health information (56% vs. 42%).

Using the internet to search for sensitive health information, by education level

Among internet users, the % who have used the Internet to search for sensitive health information



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Applying for government benefits or assistance

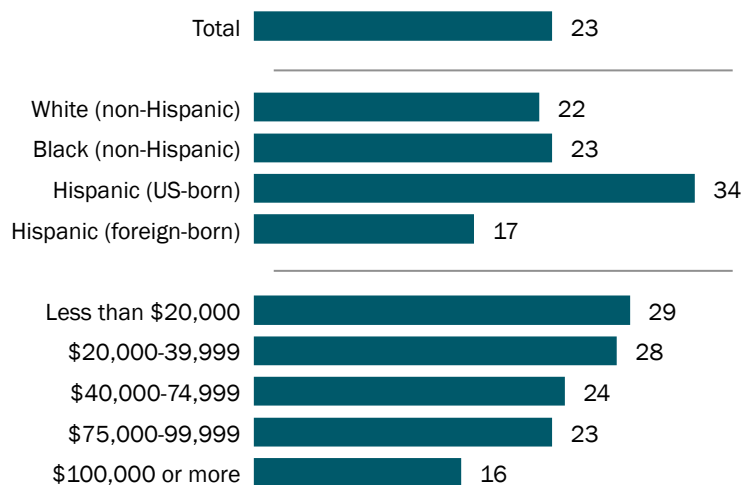
Close to one in four internet users (23%) say they use the internet to apply for government benefits or assistance. There are no consistent variations by education level or community type, but the differences at either end of the economic spectrum are significant. While 29% of those living in households earning less than \$20,000 per year say they use the internet to apply for benefits, just 16% of those living in households earning \$100,000 say this. Similarly, the group most likely to say they go online to apply for benefits is young adults ages 18-29 who live in households earning less than \$40,000: among that group, 38% say they use the internet to apply for government benefits or assistance.

U.S.-born Hispanics are more likely than whites, blacks, or foreign-born Hispanics to say they use the internet to apply for government benefits or assistance. For instance, among internet users, 34% of U.S.-born Hispanic adults say they have used the internet in this way, compared with 17% of foreign-born Hispanics.

There are no significant differences by gender for this question, but young adult internet users are more likely than certain groups of older users to say they have used the internet in this way. For instance, 30% of internet users ages 18-29 say they apply for government benefits or assistance online, compared with 20% of internet users ages 30-49.

Using the internet to apply for government benefits, by race/ethnicity/nativity and household income

Among internet users, the % who have used the internet to apply for government benefits or assistance, by race/ethnicity/nativity and annual household income



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Confidence that applications for government benefits or assistance will remain private and secure

Internet users who have applied online for government benefits were asked how confident they feel that the information they submitted as part of the application will remain private and secure. Echoing the responses from job applicants, just 26% feel “very confident” that the information they provide as part of the process will remain private and secure. About half (49%) say they feel “somewhat confident,” while 13% say they are “not too confident.” Another 11% say they are “not at all confident” that their information will remain private and secure.

Differences across socioeconomic groups and community types are not significant, nor are those between racial, ethnic, and nativity groups—but this may be partly due to a relatively small sample size for this question. However, variations by age group are notable, with middle-aged adults who have applied for government benefits online among the least likely to be confident in the privacy and security of their data when compared with young adults. For instance, 18% those ages 30-49 report that they are “not at all” confident that the benefits-related information they submitted will remain private and secure, compared with just 5% of applicants ages 18-29 who say they feel this way.

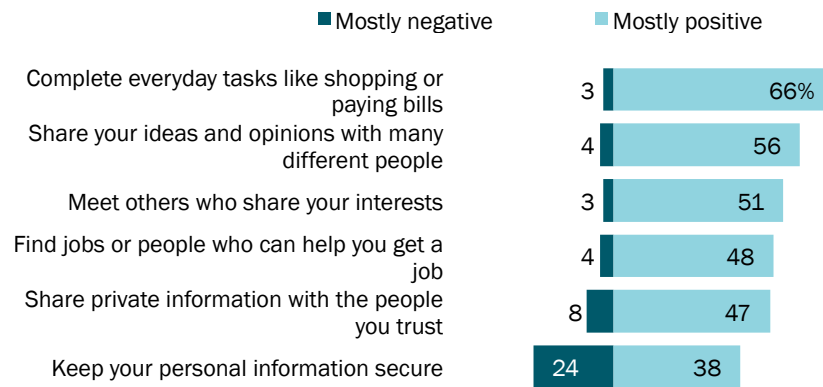
In addition, men who have applied for government benefits online say they are somewhat more confident in the process when compared with women. Some 32% of male applicants say they are “very confident” their information will remain private and secure, compared with 20% of female applicants.

Despite their concerns, people are more likely to note the positive impacts of the internet in their daily lives.

While Americans from all backgrounds express various privacy and security-related concerns, they also note many positive impacts associated with going online. Survey respondents were asked to think about a range of ways that the internet affects them overall. In general, across all of the scenarios, internet users were much more likely to report a positive rather than negative impact. In addition, considerable numbers said the internet had “no impact at all” on many of these areas in their lives. However, the ability to “keep your personal information secure” was by far the most negative impact area, with 24% of online adults reporting that the internet has had a negative impact on them in this area. For this question, higher-status groups are somewhat more likely to report a negative impact. By contrast, when looking at internet users who say the internet has had a mostly negative impact on their ability to “share private information with the people you trust,” low-SES populations were more likely than higher-status groups to report negative experiences.

Impact of the internet

Among Internet users, the % who say the Internet has had a mostly positive/negative impact on their ability to...



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Ability to keep your personal information secure

Just 38% of adult internet users say the internet has had a “mostly positive” effect on their ability to keep their personal information secure, while 24% say it has had a “mostly negative” impact. Another 32% say the internet has had “no impact at all” on their ability to keep their personal data secure.

For this question, those with higher levels of education are the most likely to report negative impacts. Some 29% of online college graduates say the internet has had a “mostly negative” impact on their ability to keep their personal information secure, while 17% of those with less than a high school degree report this.

Variations by income are not consistent, but some differences across racial, ethnic, and nativity groups are notable. In particular, black internet users are among the most likely to report positive impacts on their ability to keep their personal information secure (49%) compared with whites (38%). Foreign-born Hispanics, by comparison, are more likely than any other group to report that the internet has had “no impact at all” on their ability to keep their personal information secure.

Online men and women are equally likely to note negative effects, as are all adults under the age of 65. And of all the impact areas, this is one for which online adults living in urban areas report notably more negative effects. Among online adults living in urban areas, fully 29% say the internet has had a “mostly negative” impact on their ability to keep their personal information secure, compared with 22% of those living in suburban areas and just 16% of those living in rural areas.

Ability to share private information with the people you trust

Close to half of adult internet users (47%) say the internet has had a “mostly positive” effect on their ability to share private information with the people they trust. Just 8% say it has had a “mostly negative” impact on their ability to share private information with people they trust. And 37% say the internet has had “no impact at all” on their ability to share private information with trusted contacts.

Looking at negative impacts, in this case, those with lower levels of education and income are more likely to report negative outcomes. For example, 15% of internet users with less than a high school degree say the internet has had a “mostly negative” impact on their ability to share private information with the people they trust, compared with just 6% of college graduates who report the same. Similarly, 10% of internet users living in households earning less than \$40,000 per year say the internet has had a “mostly negative” effect on their ability to share private information, compared with 6% of those in households above that threshold.

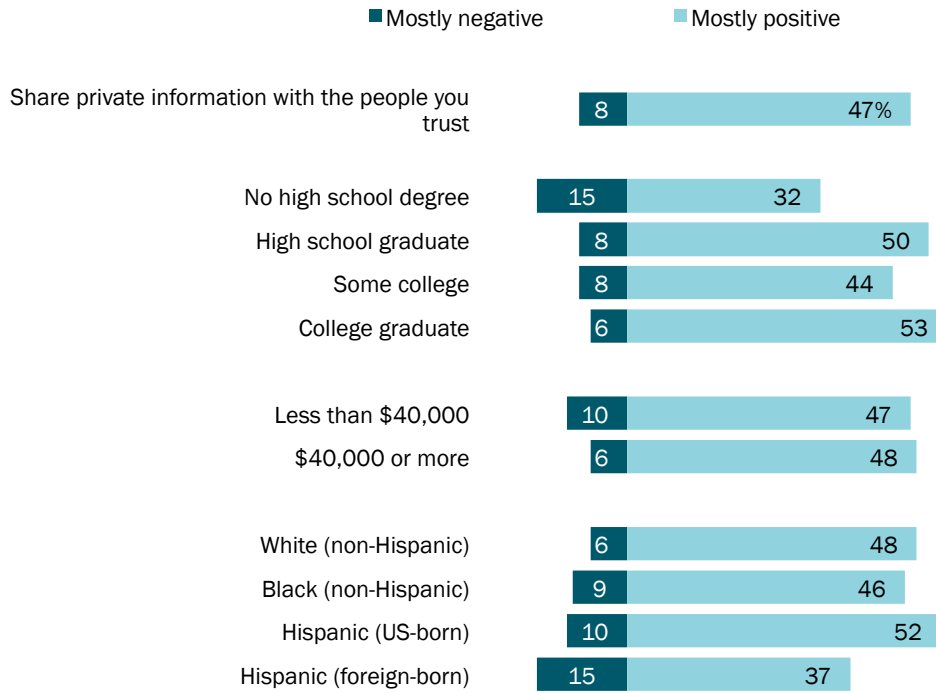
Across racial, ethnic, and nativity groups, the most significant difference is between foreign-born Hispanic adults and whites. Fully 15% of foreign-born Hispanic internet users say the internet has had a “mostly negative” impact on their ability to share private information with the people they trust, compared with just 6% of white internet users.

Looking at differences within community types, lower-income urban households earning less than \$40,000 per year are three times as likely as urban adults in wealthier households to say the internet has had a mostly negative impact on their ability to share information with the people they trust (12% vs. 4%).

Men and women are equally likely to report negative and positive impacts. However, online adults under the age of 50 are considerably more likely than those ages 50 and older to report a positive impact. For example, 59% of internet users ages 18-29 say the internet has had a “mostly positive” impact on their ability to share private information with the people they trust, compared with just 36% of online adults ages 65 and older.

Sharing private information with the people you trust

Among internet users, the % who say the internet has had a mostly positive/negative impact on their ability to share private information with the people they trust...



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Confidence in Skills and Adoption of Protective Strategies

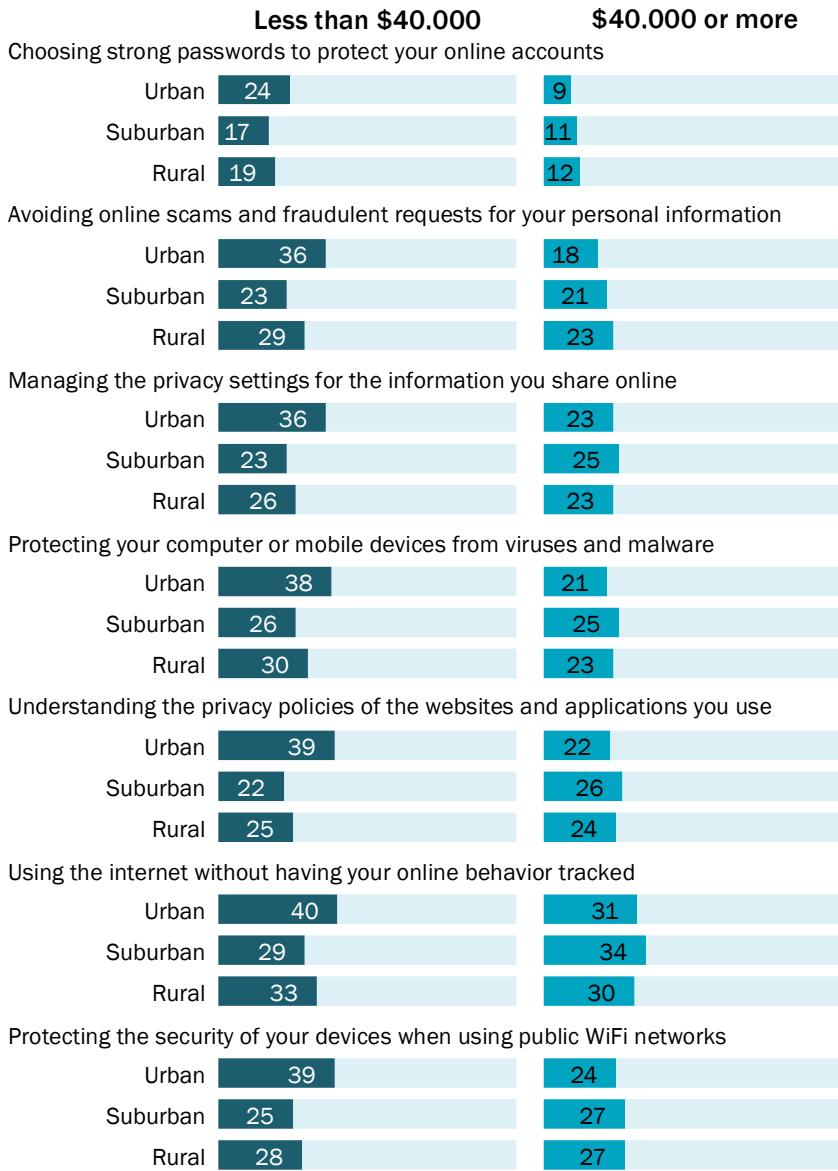
In general, internet users report high levels of confidence in their privacy- and security-related skills and knowledge, as most feel as though they “already know enough” about a variety of protective strategies and tools. However, there may be a desirability bias in some of these responses that obscures the respondent’s true level of fluency in these online skills. In addition, other recent research has suggested that internet users may be overly confident in their assessment of various online privacy and security risks³⁴ In this case, overconfidence could lead to more respondents feeling as though they “already know enough” about a range of protective behaviors. At the same time, even as some respondents may be overly confident, other groups express a distinct lack of confidence and a notable desire to learn more about privacy and security skills.

Across many of the questions asked about protective strategies, those with lower levels of education and foreign-born Hispanics are by far the most likely to say that they are aware of their gaps in digital literacy skills and would like to learn more. Another broad trend across the questions is that variations by community type are generally not significant when making comparisons between all internet users living in urban, suburban, and rural areas. However, when looking at economic subgroups *within* those communities, internet users who live in urban households earning less than \$40,000 per year are much more likely than many other groups—including those in the same economic category but living in suburban or rural areas—to say that they “would like to learn” more about an array of strategies to improve their privacy and security protection online. These findings may be of particular interest to educators, libraries, and advocacy groups that are trying to assess demand for privacy- and security-related resources in their communities.

³⁴ For a detailed discussion of “optimism bias” and other behavioral economics research on privacy and security see: Acquisti, Alessandro, et al. “Nudges for Privacy and Security: Understanding and Assisting Users’ Choices Online” (August 7, 2017). Available at SSRN: <https://ssrn.com/abstract=2859227>

Which online privacy and security practices internet users would like to know more about

Among internet users, the % who say they would like to learn more about the following online activities



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Choosing strong passwords

Even though researchers have demonstrated that internet users tend to choose passwords that are easy to guess, most internet users express confidence in their abilities: 84% of internet users say they “already know enough” about choosing strong passwords to protect their online accounts, while 14% say they “would like to learn more” about this. Those who are by far the most likely to say they have a desire to learn more are foreign-born Hispanic internet users. Only 43% of foreign-born Hispanic internet users say they feel as though they know enough about choosing strong passwords, while a majority (55%) say they “would like to learn more.” By contrast, just 10% of whites, 12% of U.S.-born Hispanics, and 21% of black internet users who say they “would like to learn more” about choosing strong passwords to protect their online accounts.

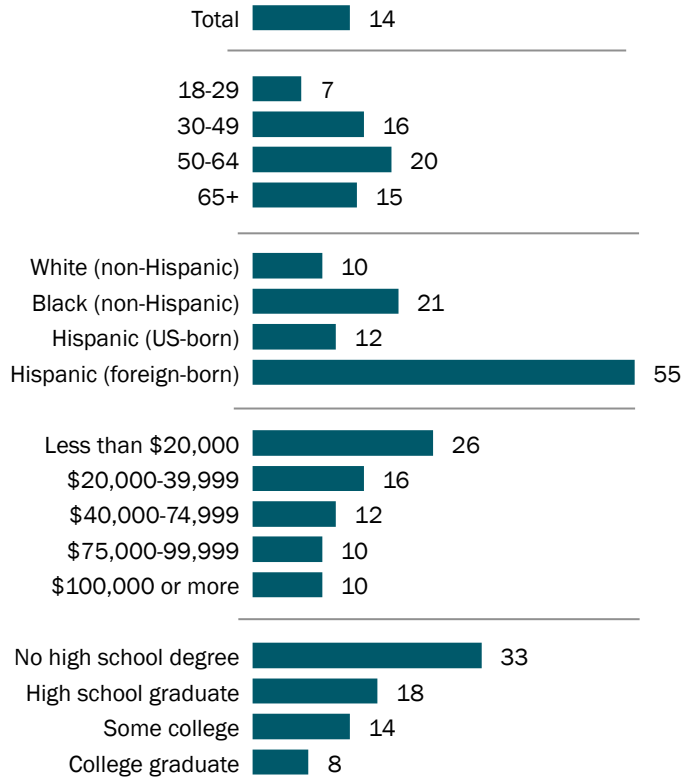
Significant differences for this question are also evident when comparing respondents across education levels. For instance, 91% of those with a college degree feel as though they “already know enough” about choosing strong passwords, and only 8% say they “would like to learn more.” By contrast, just 63% of internet users with less than a high school degree feel as though they know enough about choosing strong passwords to protect their accounts, and 33% say they would like to learn more.

Differences across the economic spectrum are similar, though not as pronounced. Some 89% of those living in households earning \$100,000 or more per year feel as though they “already know enough” about creating strong passwords, and just 10% say they would like to learn more. However, only 73% of those in households earning less than \$20,000 per year feel as though they “already know enough” about choosing strong passwords, while 26% say they “would like to learn more.” Looking at the \$40,000 threshold, internet users in households earning less than that are twice as likely as those in higher-earning households to say they “would like to learn more” about creating strong passwords (20% vs. 10%). Comparisons between internet users in urban households earning less than \$40,000 and those in higher-earning households reveal an even larger gap (24% vs. 9%).

Men and women are equally confident in their ability to choose strong passwords. Younger adults under the age of 50 are slightly less likely than older adults to say they “would like to learn more” about creating strong passwords (12% vs. 19%). However, looking within age groups, lower-income adults ages 30-49 who live in households earning less than \$40,000 per year are four times as likely as those in higher-earning households to say they would like to learn more about choosing strong passwords (28% vs. 7%).

Internet users who would like to know more about choosing strong passwords

Among internet users, the % who say they would like to know more about choosing strong passwords in order to protect their online accounts



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Avoiding online scams and fraud

Close to three in four internet users (73%) say they “already know enough” about avoiding online scams and fraudulent requests for their personal information, and 24% “would like to learn more.” Foreign-born Hispanic internet users offer strikingly different responses for this question compared with other groups: a mere 26% say they feel as though they know enough about avoiding online scams and fraudulent requests, and a large majority (72%) say they “would like to learn more.” Only 20% of whites, 19% of U.S.-born Hispanics and 30% of black internet users who say they “would like to learn more” about avoiding online scams and fraudulent requests for their personal information.

Among all internet users, those with higher education levels are vastly more confident in their ability to avoid online scams. Some 79% of those with a college degree feel as though they “already know enough,” and just 18% say they “would like to learn more.” In comparison, only 45% of internet users with less than a high school degree feel as though they know enough about avoiding online scams and fraud, and 52% say they would like to learn more.

Looking at income, 79% of those living in households earning \$100,000 or more per year feel as though they “already know enough” about avoiding online scams and fraudulent requests, and just 20% say they would like to learn more. Among those in households earning less than \$20,000 per year, 63% feel as though they “already know enough” about avoiding online scams, while 34% say they “would like to learn more.”

Similarly, internet users in households earning less than \$40,000 are more likely than those in higher-earning households to say they “would like to learn more” about avoiding scams and fraudulent requests for personal information (29% vs. 20%). However, the difference between internet users in urban households earning less than \$40,000 and those living in higher-earning households is even more pronounced (36% vs. 18%).

Men and women are equally likely to say they would like to learn more about how to avoid online scams and fraudulent requests. However, differences by age group are significant. Young adults ages 18-29 are the most confident about avoiding scams and fraudulent requests, regardless of their income or education level. By contrast, there are considerable variations by income and education within the group of internet users ages 30-49. For instance, lower-income internet users ages 30-49 who live in households earning less than \$40,000 per year are more than twice as likely as those living in higher earning households to say they would like to learn more about how to avoid online scams (39% vs. 15%).

Managing privacy settings

The vast majority of online adults, 71%, say they “already know enough” about managing the privacy settings of the information they share online, while 26% say they “would like to learn more.” Once again, those who are by far the most likely to say they have a desire to learn more are foreign-born Hispanic internet users. Only 29% of foreign-born Hispanic internet users say they feel as though they know enough about managing privacy settings, and 67% say they “would like to learn more.” Just 21% of whites, 24% of U.S.-born Hispanics, and 32% of black internet users say they “would like to learn more” about managing the privacy settings of the information they share online.

There are also considerable confidence gaps across various education levels when it comes to privacy settings. Just 54% of internet users with less than a high school degree feel as though they know enough about managing the privacy settings of the information they share online, and 44% say they would like to learn more. By contrast, 78% of those with a college degree feel as though they “already know enough,” and only 20% say they “would like to learn more.”

Income differences are most notable at the \$20,000 threshold. While 73% of internet users in households earning at least \$20,000 per year say they know enough about managing their privacy settings, only 61% of those in households earning less than \$20,000 per year express that level of confidence.

Similarly, low-income *social media users* living in households earning less than \$20,000 per year are less likely to feel as though they “know enough” about managing the privacy settings for the information they share online when compared with social media users in wealthier households (65% vs. 77%).

Looking across community types, internet users from urban, suburban, and rural areas are equally likely to say they “would like to learn more” about managing their privacy settings for the information they share online. However, internet users in urban households earning less than \$40,000 are significantly more likely than those living in higher-earning households to say they would like to learn more about privacy settings (36% vs. 23%).

Online men and women are equally likely to say they would like to learn more about managing privacy settings for the content they post, but internet users under age 50 are less likely than older age groups to say they would like to improve their skills (22% vs. 31%). Looking within age groups, income and education differences are most pronounced among those ages 30-49. For instance, internet users ages 30-49 who live in lower-income households earning less than \$40,000 per year are far more likely than those in higher-earning households to say that they would like to learn more about managing privacy settings (39% vs. 18%).

Understanding privacy policies

Most internet users also express confidence in their ability to understand privacy policies: 70% say they “already know enough” about understanding the privacy policies of the websites and applications they use, while 26% say they “would like to learn more.” However, the reverse is true for foreign-born Hispanic internet users, among whom 28% say they feel as though they know enough about understanding the privacy policies of the websites and applications they use—and a large majority (71%) say they “would like to learn more.” That compares to just 21% of whites, 23% of U.S.-born Hispanics, and 34% of black internet users who say they “would like to learn more” about understanding privacy policies.

Those with at least a high school degree are more confident in their ability to make sense of privacy policies. Some 73% of high school graduates who have not attended college feel as though they “already know enough,” and just 25% say they “would like to learn more.” In comparison, only 51% of internet users with less than a high school degree feel as though they know enough about understanding the privacy policies of the websites and applications they use, compared with 42% who say they would like to learn more.

Variations by income are evident at the \$20,000 threshold. While 72% of internet users in households earning above that amount say they know enough about understanding privacy policies, only 60% of those in households earning less than \$20,000 per year express that level of confidence. Similarly, low-income social media users in households earning less than \$20,000 per year are less likely to feel they have a good understanding of the privacy policies for the applications and websites they use compared with social media users in wealthier households (64% vs. 74%).

Again, internet users from urban, suburban, and rural areas are equally likely to say they “would like to learn more” about understanding privacy policies. However, internet users in urban households earning less than \$40,000 are considerably more likely than those living in higher-earning households to say they would like to learn more about privacy settings (39% vs. 22%). In this instance, that proportion is also significantly higher than every other subgroup—including suburban and rural internet users above and below the \$40,000 mark.

Online men and women report comparable levels of confidence in their comprehension of privacy policies, and variations across broad age groups are not particularly notable. However, looking at the subgroup of users ages 30-49, variations by income are considerable. Among those in this age group living in lower-income households earning less than \$40,000 per year, 38% say they would like to learn more about understanding privacy policies, compared with just 21% of those in higher-earning households.

Protecting devices from viruses and malware

When asked about their knowledge of how to protect their computer or mobile devices from viruses and malware, 70% of internet users say they “already know enough,” while 26% say they “would like to learn more.” One of the groups most likely to say they would like to learn more are foreign-born Hispanic internet users: only 35% say they feel as though they know enough about protecting their devices from viruses and malware, while 59% say they “would like to learn more.” That compares with only 23% of whites, 25% of U.S.-born Hispanics, and 33% of black internet users who say they “would like to learn more” about protecting the security of their devices.

As with other questions about privacy and security strategies, those with at least a high school degree are more confident in their ability to protect their devices: 70% of high school graduates who have not attended college feel as though they “already know enough,” and just 27% say they “would like to learn more.” In comparison, only 44% of internet users with less than a high school degree feel as though they know enough about protecting their computer or mobile devices from viruses and malware, while 50% say they would like to learn more.

In terms of income, 75% of internet users living in households earning \$100,000 or more per year feel as though they “already know enough” about protecting their devices, and just 24% say they would like to learn more. By contrast, among those in households earning less than \$20,000 per year, 59% feel as

though they “already know enough” about protecting their devices, while 37% say they “would like to learn more.” Focusing on the \$40,000 threshold, internet users in households earning less than that are slightly more likely than those in higher-earning households to say they “would like to learn more” about protecting their devices (31% vs. 23%). However, there is a larger gap between internet users in urban households earning less than \$40,000 and those in higher-earning households who would like to learn more about protecting their devices (38% vs. 21%).

Confidence levels do not vary significantly by gender, but there are significant differences between age groups. While 73% of internet users under the age of 50 say they already know enough about protecting their devices from viruses and malware, just 65% of those ages 50 and older feel as though they know enough.

Using the internet without being tracked

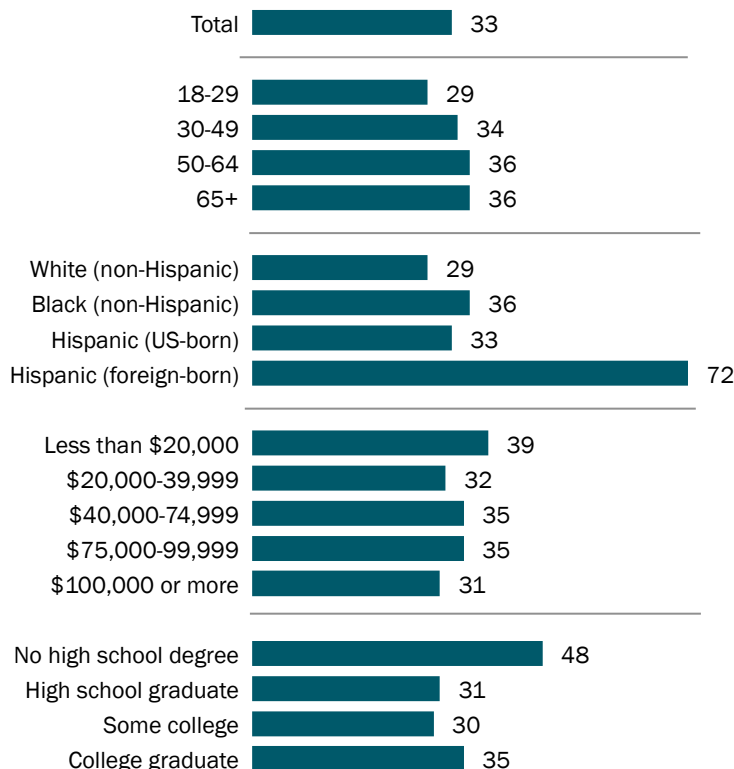
Internet users are notably less confident in their ability to use the internet without having their online behavior tracked: 61% say they “already know enough” about how to do this, while 33% would like to learn more. By a large margin, those who are the most likely to say they want to learn more about avoiding online tracking are foreign-born Hispanic internet users: only 26% say they feel as though they know enough, and fully 72% say they “would like to learn more.” That compares with just 29% of whites, 33% of U.S.-born Hispanics, and 36% of black internet users who say they “would like to learn more” about using the internet without having their online behavior tracked.

Once again, those with at least a high school degree are more confident in their abilities. Some 65% of high school graduates who have not attended college feel as though they “already know enough” about this, and just 31% say they “would like to learn more.” However, just 43% of internet users with less than a high school degree feel as though they know enough about using the internet without having their activity tracked, while 48% say they would like to learn more.

In terms of income, 63% of internet users in households earning above \$20,000 say they know enough about how to avoid having their online activities tracked, while only 54% of those in households earning less than \$20,000 per year express that level of confidence.

Internet users who would like to know more about how to use the internet without being tracked

Among internet users, the % who say they would like to know more about how to use the internet without having their online behavior tracked



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Online men are somewhat more likely than online women to feel as though they already know enough about how to use the internet without being tracked (65% vs. 58%). Younger adults under the age of 50 are more likely than older internet users over the age of 50 to feel as though they know enough (65% vs. 54%). Educational differences are most notable for those who are ages 30-49; within this age group, 68% of those with some college education feel as though they know enough about how to avoid online tracking, compared with 55% of those who have a high school degree or less.

As with every other protective strategy, internet users from urban, suburban, and rural areas are equally likely to say they “would like to learn more” about how to avoid being tracked online. However, internet users in urban households earning more than \$40,000 are notably more likely than those living in lower-earning households to say they would already know enough about avoiding online tracking (64% vs. 53%).

Protecting the security of devices when using public WiFi networks

Among all adult internet users, 59% say they “already know enough” about protecting the security of their devices when using public WiFi networks, and 28% “would like to learn more.” Another 12% volunteered that this question didn’t apply to them. By contrast, the *majority* of foreign-born Hispanic internet users would like to learn more about protecting their devices when using public WiFi: just 26% say they feel as though they know enough, while 66% say they “would like to learn more.” That compares with just 23% of whites, 26% of U.S.-born Hispanics, and 37% of black internet users who say they “would like to learn more” about protecting the security of their devices when using public WiFi.

In keeping with other questions about privacy and security strategies, those with less than a high school degree are less confident in their ability to protect their devices. Some 61% of high school graduates who have not attended college feel as though they “already know enough” and just 28% say they “would like to learn more.” In comparison, just 43% of internet users with less than a high school degree feel as though they know enough about protecting the security of their devices while using public WiFi networks, while 48% say they would like to learn more.

In contrast to many other protective strategies, the only modest differences by income are at the \$20,000 mark; those below that threshold are somewhat more likely than those in higher-income households to say they “would like to learn more” about protecting the security of their devices when using public WiFi networks (35% vs. 27%)

And while internet users from urban, suburban, and rural areas are equally likely to say they “would like to learn more” about protecting the security of their devices when using public WiFi networks overall, there are notable differences between economic subgroups. Internet users in urban households earning less than \$40,000 are notably more likely than those living in higher-earning households to say they would like to learn more about avoiding online tracking (39% vs. 24%).

Online men are slightly more likely than online women to feel as though they already know enough about how to protect the security of their devices when using public WiFi (63% vs. 56%). Younger adults under the age of 50 are more likely than internet users over the age of 50 to feel as though they know enough (67% vs. 47%). However, while there were only modest differences by income overall, when looking within age groups, the gaps by income are more notable for certain groups. Among lower-income internet users ages 30-49 who live in households earning less than \$40,000 per year, 59% feel as though they already know enough about protecting their devices when using public WiFi, compared with 71% of those in higher-earning households.

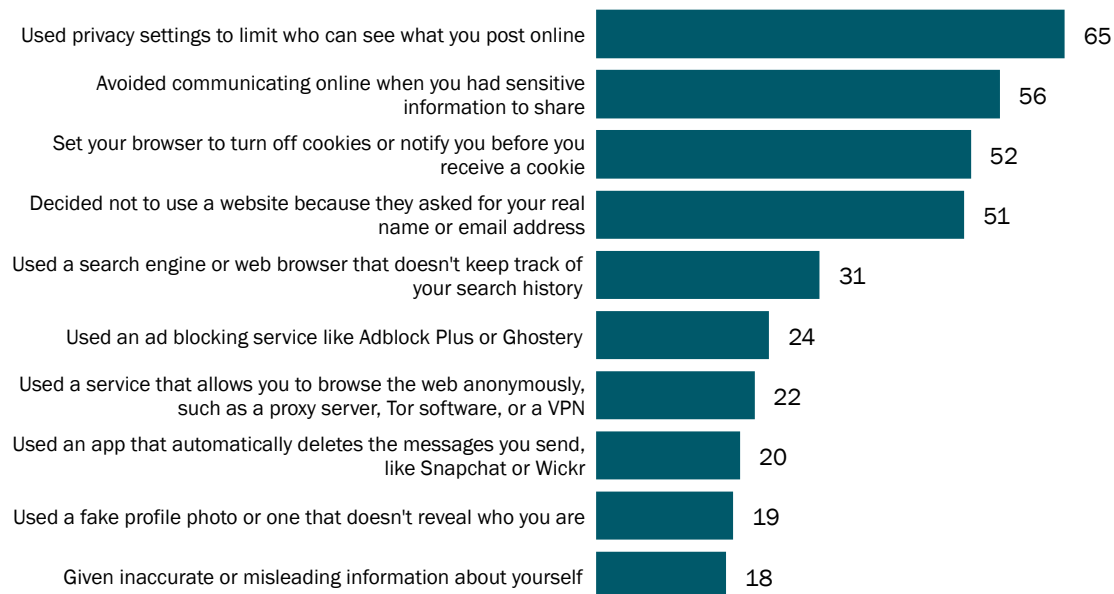
Prevalence of protective strategies

While internet users frequently employ technical strategies such as changing privacy and browser settings to limit the information they share, they also rely on an array of non-technical privacy-

enhancing practices. For instance, more than half of internet users say they have simply avoided communicating online when they had sensitive information to share—further evidence of the “chilling effects” of privacy concerns that have been highlighted in recent research.³⁵ Similarly, about half of internet users will sometimes avoid using a website if they are asked for their name or email address. And just under one in five have used non-technical strategies, such as providing profile photos that don’t reveal who they are and other misleading or inaccurate information.

Internet users' privacy practices

Among internet users, the % who have ever done the following things



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Use of privacy settings

In keeping with previous findings from other national surveys, most internet users—65%—report that they use privacy settings to limit who can see what they post online.³⁶ These settings could be for any content sharing platform, such as their social media profiles, online video sites, or photo sharing apps.

³⁵ See, for instance: Rafi Goldberg, *Lack of Trust in Internet Privacy and Security May Deter Economic and Other Online Activities*, National Telecommunications and Information Administration, United States Department of Commerce, May 13, 2016. Available at: <https://www.ntia.doc.gov/blog/2016/lack-trust-internet-privacy-and-security-may-deter-economic-and-other-online-activities>

³⁶ See Mary Madden, *Privacy management on social media sites*, Pew Research Center, February 24, 2012. Available at: <http://www.pewinternet.org/2012/02/24/privacy-management-on-social-media-sites/>

Looking specifically at social media users, 76% of social media users say they have used privacy settings to limit who can see what they post online. Among other internet users who do not use social media, less than half as many (34%) say they use privacy settings to limit who can see the content they post.

However, various groups of low-SES internet users are less likely to make use of privacy settings. Those living in households earning less than \$20,000 per year are significantly less likely than those in higher-earning households to use privacy settings (57% vs. 67%). Focusing more closely on privacy-related behaviors within the population of *social media users* also reveals even more significant variations by income. Among social media users living in households earning less than \$20,000 per year, 65% say they have used privacy settings to limit who can see what they post online, while 79% of those in wealthier households say they have done this.

By comparison, a user's education level is an even stronger barometer of whether or not they use privacy settings. While only 49% of those who have not completed high school say they use privacy settings to limit who can see what they post online, 72% of those with a college degree do. This is especially significant considering that social media use, which is highly correlated with the use of privacy settings, does not vary by education level.

Among racial, ethnic, and nativity groups, white and U.S.-born Hispanic internet users are the most likely to use privacy settings. Fully 68% of white internet users and 64% of U.S.-born Hispanic internet users say they have used privacy settings. That compares with just 53% of black internet users and 44% of foreign-born Hispanic internet users.

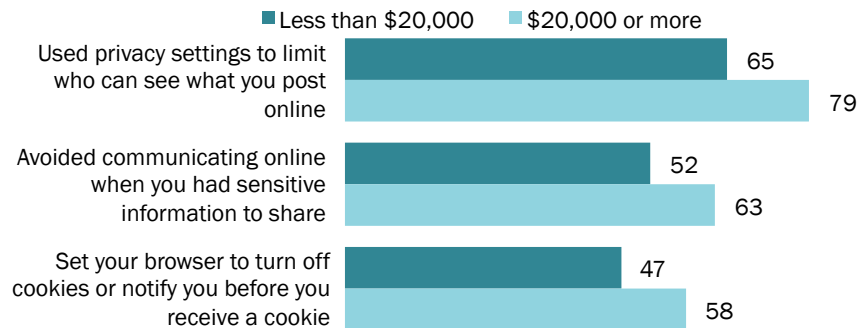
Online women are more likely than online men to use privacy settings (69% vs. 61%), and younger users—who are also more likely to share content overall—are considerably more likely than older users to say they use settings to control who can see the material they post. While 77% of internet users ages 18-29 and 71% of those ages 30-49 use privacy settings, that compares with 60% of those ages 50-64 and just 32% of those ages 65 and older.

Within age groups, differences by income remain significant for those ages 18-29 and those ages 30-49. Among lower-income young adults ages 18-29 who are online, 73% use privacy settings, compared with 85% of those who are in the same age group but live in households earning \$40,000 or more per year. Gaps by income are even greater among those ages 30-49: 61% of those in lower-earning households use privacy settings, compared with 79% of those in the same age group who live in wealthier households earning \$40,000 or more per year.

Overall, rural internet users (56%) are somewhat less likely than those living in urban (65%) or suburban areas (67%) to say they use privacy settings to limit who can see what they post online. However, within the urban population, there are notable gaps by income: while 73% of urban internet users in households earning more than \$40,000 per year use privacy settings, just 58% of those in lower-earning households do this.

Low-income social media users less likely to use certain privacy strategies

Among social media users, the % who use each strategy



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Avoiding online communications

More than half of all adult internet users (56%) have avoided communicating online when they had sensitive information to share. Men and women are equally likely to do this, as are all internet users under the age of 65.

Differences by income are significant: 46% of internet users living in households earning less than \$20,000 per year say they avoid communicating online, compared with 59% of those living in higher-earning households. Looking within the subgroup of social media users, differences by income remain significant. Just over half (52%) of social media users living in households earning less than \$20,000 per year say they have avoided communicating sensitive information online, while 63% of social media users in higher-earning households say this.

Those at either end of the educational spectrum are also notably different in their tendency to avoid online communications. For example, while just 37% of those with less than a high school degree say they have avoided communicating online when sharing sensitive information, 66% of internet users with a college degree say they have made this kind of decision.

Internet users across all community types are equally likely to avoid online communications as a privacy strategy, but lower-income adults in each community type are less likely to avoid online communications when compared with their higher-earning counterparts. For instance, while 64% of urban internet users in households earning more than \$40,000 per year say they have avoided communicating online, just 45% of those in lower-earning households do this.

White internet users (59%) are considerably more likely than foreign-born Hispanic internet users (36%) to say they have avoided communicating online when they had sensitive information to share with someone. Black internet users (48%) are somewhat less likely to report this than white internet users.

Cookie settings and notifications

About half of internet users (52%) say they have set their browser to turn off cookies or notify them before receiving a cookie. Looking at variations by income, just 41% of internet users living in households earning less than \$20,000 per year say they change their cookie settings, compared with 54% of those living in higher-earning households. Looking within the population of social media users, differences by income remain significant: 47% of low-income social media users in households earning less than \$20,000 annually say they change their cookie settings, while 58% of those in higher-earning households do so.

Differences by educational attainment are even more notable. While just 31% of those with less than a high school degree say they have set their browser to turn off cookies or notify them before receiving a cookie, 63% of internet users with a college degree have done this.

Again, internet users across all community types are equally likely to change their cookie settings, with the notable exception of lower-income urban adults. While 63% of urban internet users in households earning more than \$40,000 per year say they have set their browser to turn off cookies or notify them before receiving a cookie, just 37% of those in lower-earning households do this.

Among various racial, ethnic, and nativity subgroups of internet users, the only notable gaps are between foreign-born Hispanic internet users and other groups. For instance, while 53% of white internet users, 49% of black internet users, and 50% of U.S.-born Hispanic internet users say they change their cookie settings, just 26% of foreign-born Hispanics report this.

Equal shares of men and women change their cookie settings, but online adults under the age of 50 are significantly more likely than older adults to say they do this (57% vs. 43%). Within age groups, differences by income and education are most notable for those who are ages 30-49. Lower-income internet users who are ages 30-49 and living in households earning less than \$40,000 per year are far less likely to change their cookie settings when compared with higher-earning adults of the same age (41% vs. 65%). Differences by education are also significant for this age group: 36% of internet users ages 30-49 who have a high school degree or less have changed cookie settings, compared with 64% of 30-49 year olds who have attended at least some college.

Avoiding websites that ask for your real name or email address

Many internet users refuse to disclose personal information online simply by avoiding certain websites: 51% say they have decided not to use a website because they asked for a real name or email address. Internet users living in households earning less than \$20,000 per year are significantly less

likely than those in higher-earning households to say they have avoided websites that asked for their real name or email address (42% vs. 54%). Similarly, just 34% of those with less than a high school degree say they have decided not to use a website when asked for their name or email address, compared with 59% of college graduates who have done this.

Looking at various racial, ethnic, and nativity groups, whites (54%) and U.S.-born Hispanics (54%) are considerably more likely to avoid websites for this reason compared with blacks (40%) and foreign-born Hispanics (29%).

Equal shares of online men and women say they avoid websites in this way, as do users across all age groups and community types.

Using a search engine or browser that doesn't track search history

Roughly one in three (31%) internet users have used a search engine or web browser that doesn't keep track of their search history. Use of these kinds of browsers and search engines does not vary meaningfully by income. However, those who have a college degree are somewhat more likely than those with less than a high school degree to use these tools (34% vs. 21%).

In addition, rural internet users (21%) are somewhat less likely than those living in urban (34%) or suburban areas (32%) to say they have used a search engine or web browser that doesn't keep track of their search history. However, while there are no income differences overall, within the urban population, there are meaningful gaps: 39% of urban internet users in households earning more than \$40,000 per year use browsers and search engines that don't keep track of their history, but just 29% of those in lower-earning households do this. At the same time, there are no notable variations across racial, ethnic, and nativity groups.

Male internet users are more likely than female internet users to say they use search engines and browsers that don't keep track of their history (35% vs. 27%). And young adult internet users ages 18-29 are more than twice as likely as users ages 65 and older to say they do this (45% vs. 17%). Within age groups, the most notable differences by education are for those who are ages 30-49. For instance, while 38% of internet users ages 30-49 who have attended college say they use search engines and browsers that don't keep track of their history, just 24% of those with lower levels of education say this.

Use of ad blocking services

One in four (24%) internet users say they have used an ad blocking service like Adblock Plus or Ghostery. Ad blocking does not vary by income, but does differ modestly according to education level. While only 14% of those with less than a high school degree use blocking services, 26% of those with some college and the same proportion of those with a college degree use them.

However, differences across racial, ethnic, and nativity groups are pronounced. At one end of the spectrum, only 9% of foreign-born Hispanic internet users say they use ad blocking services like Adblock Plus or Ghostery. By comparison, 29% of U.S.-born Hispanics, 23% of whites, and 18% of black internet users say they use ad-blocking services.

Male internet users are somewhat more likely than female internet users to say they employ ad blocking services (27% vs. 21%), and adults under the age of 50 are almost twice as likely as older adult internet users to do this (29% vs. 15%). Fully 37% of young adult internet users ages 18-29 say they use ad-blocking services. Within age groups, there are notable income and education-related differences among those ages 50-64, with lower-SES groups reporting a lower likelihood of using ad-blocking services. In addition, internet users living in urban areas (29%) are more likely than those living in suburban (21%) or rural areas (20%) to say they have used an ad blocking service.

Using services that allow you to browse the web anonymously

Fewer than one in four (22%) online adults say they have used a service that allows them to browse the web anonymously, such as a proxy server, Tor software, or a virtual personal network. There are significant differences in usage between lower-income online adults in households earning under \$40,000 per year and higher-income online adults earning \$40,000 or more per year (18% vs. 24%). Looking at education, 14% of those with less than a high school degree say they use services that allow them to browse anonymously, compared with 24% of college graduates.

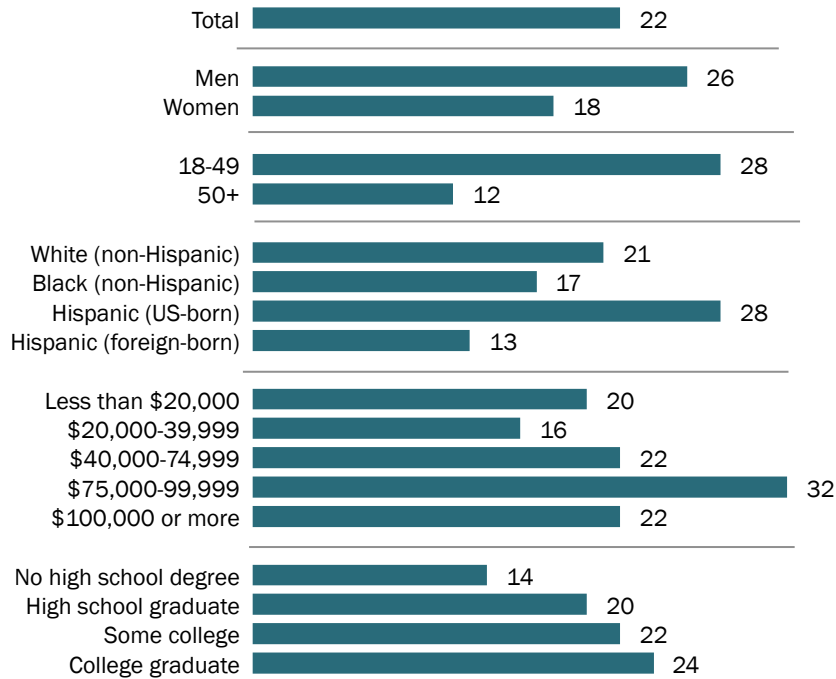
Differences across racial, ethnic, and nativity groups for the use of anonymous browsing services follow a similar pattern as other privacy-enhancing activities. Foreign-born Hispanic internet users (13%) are the least likely to use these services, followed by black internet users (17%). White internet users (21%) and U.S.-born Hispanics (28%) are significantly more likely than foreign-born Hispanics to use these tools.

Online men are more likely than online women to use anonymous browsing services (26% vs. 18%), and younger adult internet users under the age of 50 are also more likely than older internet users to say they use the services (28% vs. 12%). Within age groups, the aforementioned income- and education-related differences are even more notable. For instance, among young adult internet users living in households earning \$40,000 or more per year, 44% say they have used services that allow them to browse the web anonymously, compared with 29% of those in lower-earning households. Similarly, among those ages 30-49 who have attended college, 27% use anonymous browsing services, while just 13% of those who are in the same age group but have lower educational levels have done so.

Although internet users across all community types are equally likely to use services that allow them to browse anonymously, there is one notable exception: while 28% of urban internet users in households earning more than \$40,000 per year say they have used services that allow them to browse anonymously, just 14% of urban internet users in lower-earning households do this.

Browsing the web anonymously

Among internet users, the % who say they have ever used a service that allows them to browse the web anonymously, such as a proxy server, Tor software, or a virtual personal network



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Using an app that automatically deletes the messages you send

One in five (20%) online adults say they have used an app that automatically deletes the messages they send, such as Snapchat or Wickr. In contrast to many other privacy-protective behaviors, there are no consistent differences by income or education. However, looking across racial, ethnic, and nativity groups, U.S.-born Hispanic internet users are the most likely to use these apps: 31% say they use apps that automatically delete the messages they send, compared with 19% of foreign-born Hispanics. By comparison, 20% of black internet users and 19% of white internet users say they use these apps. In addition, internet users living in urban areas (23%) are modestly more likely than those living in suburban (18%) or rural areas (16%) to say they have used apps that automatically delete their messages.

Online men and women are equally likely to use apps that automatically delete messages. But age is by far the biggest indicator of usage: internet users ages 18-29 are more than seven times as likely as

online adults ages 50 and older to use these apps (52% vs. 7%). Looking at subgroups of young adults, those who live in wealthier households earning \$40,000 or more per year are considerably more likely to use ephemeral messaging apps when compared with those who live in lower-income households (66% vs. 45%).

Using a fake profile photo or one that doesn't reveal who you are

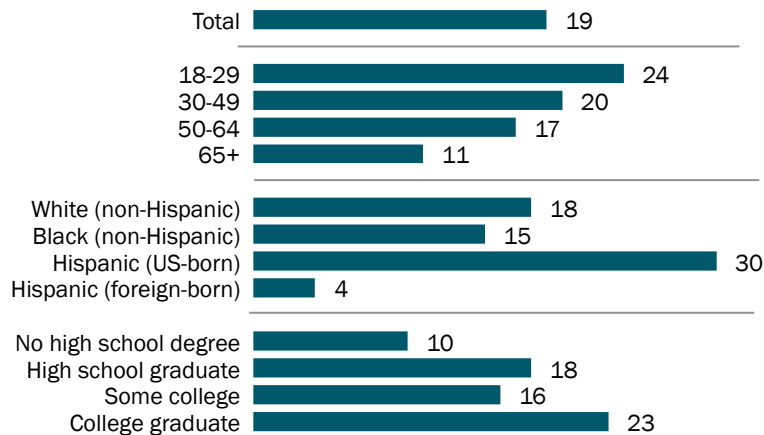
Close to one in five (19%) online adults say they have used a fake profile photo or one that doesn't reveal who they are. Differences by income are not consistent, but there are notable variations according to education level. For instance, college graduates are more than twice as likely as those who have not yet completed high school to have done this (23% vs. 10%).

Looking across racial, ethnic, and nativity groups, U.S.-born Hispanic adults are the most likely to report using a fake profile photo that doesn't reveal who they are—30% say they do this, compared with 18% of white internet users and 15% of black internet users. Meanwhile, just 4% of foreign-born Hispanic internet users say they have used a fake profile photo.

Online men and women are equally likely to display fake profile photos, as are those across various community types. However, online adults under the age of 50 are modestly more likely to do this compared with older adults (21% vs. 15%). Within age groups, differences by education remain significant: while 23% of those ages 30-49 who have attended college say they have used a fake profile photo, just 13% of those with a high school degree or less have done this.

Using a fake or non-personally identifying photo

Among internet users, the % who say they have ever used a fake profile photo or one that doesn't reveal who they are



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

Giving inaccurate or misleading information about yourself

A relatively modest segment of internet users (18%) say they have given inaccurate or misleading information about themselves as a privacy-protection strategy. As with using fake profile photos, internet users across all income groups provide inaccurate or misleading information at comparable levels. However, there are some significant variations between education levels; for instance, college graduates are more likely than those who have not yet completed high school to have provided inaccurate information (21% vs. 12%). In addition, internet users living in urban areas are more likely than those living in rural areas to say they have provided inaccurate or misleading information online (20% vs. 13%).

U.S.-born Hispanics are among the most likely to say they have provided inaccurate or misleading information about themselves—26% have done this. That compares with 17% of white internet users, 15% of black internet users, and just 10% of foreign-born Hispanic internet users.

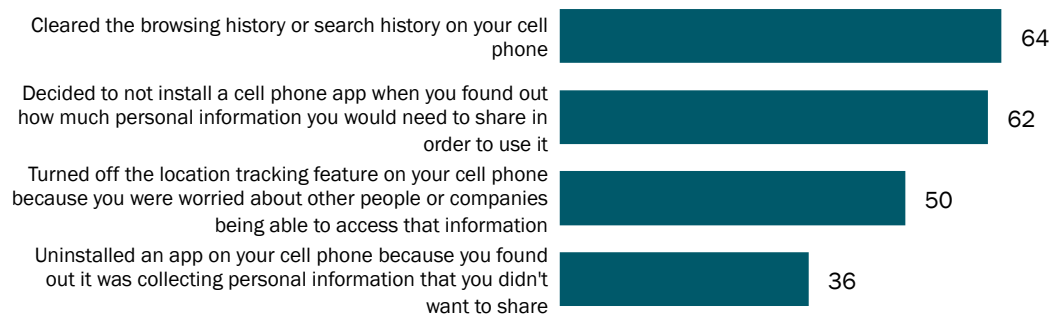
Online men are slightly more likely to do this than women (20% vs. 15%), as are internet users under the age of 50 compared with older adults (21% vs. 11%). Within age groups, differences by education are more pronounced—particularly among those ages 50-64. While 16% of those ages 50-64 who have attended college say they have provided inaccurate or misleading information about themselves online, just 5% of those in this age group with a high school degree or less have done this.

Prevalence of privacy-enhancing practices for mobile

Most smartphone users employ a variety of technical and non-technical privacy-enhancing strategies when using their devices. Among the mobile privacy practices addressed in the survey, the most prevalent are clearing browser or search history and avoiding apps when they requested too much personal information. In addition, about half of smartphone owners say they have turned off location tracking due to concerns about companies having access to that data, and just over one in three say they have removed apps from their phones due to privacy concerns. For most of the questions asked about mobile privacy practices, those with lower levels of education are less likely to say they use these strategies. In addition, foreign-born Hispanics are significantly less likely than whites and U.S.-born Hispanics to say they clear their browsing or search history or turn off location tracking.

Smartphone owners' privacy practices

Among smartphone owners, the % who have ever done the following things



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older. For smartphone owners, n=1,783).

Clearing browser and search history

Almost two in three smartphone owners (64%) say they have cleared their browser or search history on their cell phone. Smartphone owners across all income groups, education levels, and community types are equally likely to clear their browser or search history. However, as with many other privacy-enhancing strategies, foreign-born Hispanics are less likely to engage in this practice compared with other groups: just 49% of foreign-born Hispanic smartphone owners say they clear their browser or search history on their phones, while 75% of U.S.-born Hispanics and 63% of white smartphone owners do this.

In addition, male smartphone owners are more likely than female smartphone owners to clear their phone's browser or search history (67% vs. 60%), as are younger adults relative to older device owners. For instance, 78% of smartphone owners ages 18-29 say they do this, compared with 67% of those ages 30-49, 49% of those ages 50-64, and 41% of those ages 65 and older.

However, while there are no significant socioeconomic differences across broad income and education groups for this question, smartphone owners who are ages 50-64 and have a high school degree or less are notably less likely than those who have at least some college education to say they clear their browser or search history on their phones (35% vs. 54%).

Avoiding apps due to privacy concerns

Nearly two-thirds of smartphone owners (62%) say they decided to not install a cell phone app after they found out how much personal information they would need to share in order to use it. Differences by education are notable, as smartphone owners who have not attended college are less likely to avoid apps due to privacy concerns compared with those who have completed at least some college (50% vs.

67%). In addition, lower-income smartphone owners who live in households earning less than \$40,000 per year are somewhat less likely than those in higher-earning households to say they avoid apps due to privacy concerns (57% vs. 65%).

In general, there are no significant variations by gender, community type, or racial, ethnic, or nativity groups for this question, and smartphone owners across all age groups under the age of 65 are equally likely to say they avoid apps due to privacy concerns. However, within the subgroup of those ages 30-49, there are considerable socioeconomic variations. Smartphone owners ages 30-49 with lower levels of income under \$40,000 are much less likely than those who are in the same age group but have higher incomes to say they avoid apps due to privacy concerns (54% vs. 75%). Similarly, those ages 30-49 who have not attended college are less likely than those who have to say they have avoided apps due to privacy concerns (42% vs. 77%).

Turning off location tracking

About half of smartphone owners (50%) say they have turned off location tracking because they were concerned about other people or companies having access to that information. Those who have less than a high school degree are considerably less likely to do this compared with college graduates (31% vs. 55%). However, smartphone owners across all income groups and community types are equally likely to say they have turned off location tracking on their phones.

As with many previous activities, foreign-born Hispanics are less likely to use this strategy when compared with other groups. Just 34% of foreign-born Hispanic smartphone owners say they have turned off location tracking on their phones, compared with 52% of U.S.-born Hispanics and 50% of white smartphone owners who do this.

In addition, female smartphone owners are more likely than male smartphone owners to have turned off location tracking (54% vs. 46%), and those under the age of 50 are more likely than older adults to have done so (58% vs. 33%). Within age groups, educational differences are particularly notable for those between the ages of 30-49: smartphone owners ages 30-49 who have at least some college education are considerably more likely than those who have a high school degree or less to say they have turned off location tracking on their cell phone due to privacy concerns (61% vs. 37%).

Uninstalling apps due to privacy concerns

Just over one in three smartphone owners (36%) say they have uninstalled an app on their cell phone because they found out it was collecting personal information that they didn't want to share. Smartphone owners across all income groups and community types are equally likely to say they have uninstalled apps on their cell phones. However, those who have a high school degree or less are somewhat less likely to do this when compared with those who have attended at least some college (29% vs. 39%).

Across various racial, ethnic, and nativity categories, white smartphone owners (36%) are more likely to uninstall apps compared with black smartphone owners (27%). Meanwhile, 38% of U.S.-born Hispanics and 26% of foreign-born Hispanic smartphone owners have likewise uninstalled an app on their cell phone because they found out it was collecting personal information that they didn't want to share.

Men and women are equally likely to uninstall apps for these reasons, but younger smartphone owners under the age of 50 are far more likely to do this compared with those ages 50 and older (42% vs. 26%). Within age groups, the aforementioned educational differences are even more pronounced for those between the ages of 30-49. Smartphone owners ages 30-49 who have at least some college education are almost twice as likely as those who have a high school degree or less to say they have uninstalled apps on their cell phone due to privacy concerns (47% vs. 24%).

Negative Experiences and Access to Advice and Resources

Of all the negative privacy- and security-related experiences included in the survey, personal data theft was the most common; one in four U.S. adults say they have had important personal information stolen. By contrast, losing a job or educational opportunity because of something that was posted online was the least-commonly reported harm, with only 2% of internet users saying they have had this experience. However, all of these questions about negative experiences reflect only the segment of the population that has been made aware of a privacy or security-related harm—many data-driven harms are invisible and nearly impossible to redress.³⁷

Despite their feelings of vulnerability, members of low-SES groups are *less* likely than those at the higher end of the socioeconomic spectrum to report certain negative experiences, such as the theft of important personal information. This gap could be associated with having less experience online, a lower level of formal banking overall, or the lower likelihood that they will view a credit report associated with a credit card or application for a loan.

At the same time, online scams are a notable exception. Internet users in households earning less than \$20,000 per year are more than twice as likely as those in the highest-earning group earning \$100,000 or more per year to say they have been the victims of an online scam that caused them to lose money. And regardless of their socioeconomic status, Americans are equally likely to report other data-related harms, such as having health or medical information stolen.

In addition, it is clear that there are considerable disparities in access to tools and strategies for those who want to learn more about protecting their personal information online. Beyond income and education, one of the largest gaps in confidence regarding access to tools and strategies is evident when comparing foreign-born Hispanics with other racial, ethnic, and nativity groups.

Personal data theft

Overall, one in four American adults (25%) say they have had important personal information stolen such as their Social Security Number, credit card, or bank account information. Among internet users, 27% say they have had important data stolen, compared with 15% of those who are not online.

³⁷ For a discussion of how difficult it has become to both see and challenge various data-related harms that affect consequential life decisions and outcomes (particularly for the most vulnerable in society), see Cathy O’Neil, *Weapons of Math Destruction*, 2017 (pp. 10, 200, 202-203).

Adults who live in households earning \$100,000 or more per year report the theft of important personal information in higher numbers when compared with adults in the lowest-earning households making less than \$20,000 per year (33% vs. 23%). Similarly, those with at least some college education are significantly more likely than high school graduates and those who have not yet completed high school to report the theft of personal information (30% vs. 17%).

In general, adults living in suburban areas are more likely than those living in rural areas to report personal information theft (27% vs. 19%). Those living in lower-income households in rural areas are among the least likely to report awareness of personal data theft: just 13% of adults living in rural households earning less than \$40,000 per year say they have had personal information stolen.

Negative online experiences

Among internet users*, the % who have ever experienced the following things



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older. For internet users, n=2,350). *Items marked with ** are based on all adults.

Looking across racial, ethnic, and nativity groups, white adults (27%) are more likely than black adults (19%), U.S.-born Hispanic adults (19%), and foreign-born Hispanic adults (16%) to say they have had important personal information stolen.

Men and women are equally likely to report personal data theft. In terms of age, those ages 30-49 (29%) and 50-64 (28%) are notably more likely than young adults ages 18-29 (18%) and adults ages 65

and older (19%) to say they have had important personal data stolen. However, these age-related gaps are due to differences among higher-income groups who live in households earning \$40,000 or more per year; lower-income adults are equally likely to report the theft of personal information, regardless of age.

Persistent and unwanted contact

Among internet users, about one in five (19%) say they have experienced persistent and unwanted contact from someone online. Those living in households earning less than \$20,000 per year are more likely than those in higher-earning households to report unwanted online contact (26% vs. 18%). However, differences by education level are not consistent. Similarly, there are no notable differences by community type.

Looking across racial, ethnic, and nativity groups, larger shares of U.S.-born Hispanic (29%) report unwanted online contact when compared with white (17%) and foreign-born Hispanic internet users (14%). By comparison, 24% of black internet users say they have experienced persistent and unwanted contact from someone online, which is not notably higher or lower compared with other groups.

Female internet users are significantly more likely than male internet users to report persistent and unwanted contact from someone online (22% vs. 17%). However, persistent and unwanted contact is most often experienced by young adult internet users ages 18-29, among whom 30% say they have experienced unwanted contact, compared with 19% of those ages 30-49, 12% of those ages 50-64, and 15% of internet users ages 65 and older.

Within age groups, differences by income disappear—with one exception: lower-income internet users ages 30-49 who live in households earning less than \$40,000 per year are significantly more likely to experience persistent and unwanted contact compared with higher-income peers in the same age group (27% vs. 15%).

Others posting content without permission

Within the population of online adults, 18% say that someone has posted something about them online that they didn't want shared. In this case, larger shares of *U.S.-born* Hispanic internet users (27%) report having content shared without their permission compared with white internet users (18%), black internet users (17%), and foreign-born Hispanic internet users (16%).

Online men and women report others posting content about them without their permission in equal proportions, but unwanted content is much more likely to be experienced by younger users. For instance, among internet users ages 18-29, 31% say they have had this experience, compared with just

7% of those ages 50 and older. By comparison, there are no consistent variations across income and education groups or by community type.

Others accessing email or social media accounts without permission

Among all internet users, 18% say they have had an email or social networking account of theirs compromised or taken over without their permission by someone else. Those who have at least some college experience report having accounts compromised in slightly higher proportions compared with those who have a high school degree or less (20% vs. 14%). However, there are no consistent patterns by income or community type.

Internet users across all racial, ethnic, and nativity groups are equally likely to report having an account compromised, with one exception: just 6% of foreign-born Hispanic internet users report having this experience.

Online men and women are equally likely to report having an account compromised, but younger internet users under the age of 50 are considerably more likely to report this experience compared with older users (22% vs. 12%).

Inaccurate information appearing in a credit report

Among all American adults, 18% say they have had inaccurate information show up in their credit report. Among internet users, 19% say they have discovered such errors, compared with 12% of adults who are not online. Adults living in households earning between \$75,000 and \$100,000 per year are more likely than those in either higher or lower income brackets to report this—29% say that they have encountered inaccurate information in their credit report. Those who have attended least some college are more likely to have seen anomalies in their credit report compared with those who have a high school degree or less (21% vs. 13%). Greater shares of adults living in suburban areas report seeing anomalies in their credit reports compared with those living in rural areas (20% vs. 14%).

Adults across all racial, ethnic, and nativity groups are equally likely to say they have spotted errors in their credit reports, and both men and women are equally likely to report inaccuracies. However, differences by age group follow the same pattern as the experiences of those who have had important personal information stolen, with adults in the middle age groups most likely to report inaccurate information. Specifically, those ages 30-49 (23%) and 50-64 (21%) are more likely than young adults ages 18-29 (10%) and adults ages 65 and older (12%) to say they had inaccurate information appear in their credit reports.

Within broad income groups, higher-income adults ages 50-64 who live in households earning

\$40,000 or more per year are notably more likely than those who are the same age but in lower-earning households to report inaccuracies in their credit reports (26% vs. 16%).

Trouble in a relationship or friendship because of something posted online

Among internet users, 16% have experienced trouble in a relationship or friendship because of something that was posted online. Those living in households earning less than \$40,000 per year are only slightly more likely than those in higher-earning households to report having relationship trouble due to online content (20% vs. 15%). There are no significant differences by education or community type.

Internet users across all racial, ethnic, and nativity groups are equally likely to report having trouble in a relationship due to something posted online, with one exception: just 8% of foreign-born Hispanic internet users report having trouble in a relationship because of online content, which is significantly lower than every other group.

Online men and women are equally likely to report relationship trouble because of something that was posted online, but younger internet users under the age of 50 are considerably more likely to report this experience compared with older users (23% vs. 6%); these age-related differences persist regardless of income.

Losing money through an online scam

Fewer than one in ten internet users (7%) say they have been the victim of an online scam and lost money as a result. Internet users in the lowest-income bracket—in households earning less than \$20,000 per year—are more than twice as likely as those earning \$100,000 or more per year to say they have been the victims of an online scam that caused them to lose money (11% vs. 4%). Similarly, internet users who say they can't meet their monthly expenses are more than twice as likely as those who say they live comfortably to have lost money from an online scam (12% vs. 5%).

However, the group that reports the highest levels of victimization from online scams overall is those who have also had personal information stolen. Among this group, 14% said they had also been the victim of an online scam and lost money as a result, compared with just 5% of those who have not had important personal data stolen. Online adults across all educational backgrounds and community types are equally likely to report being the victim of an online scam that caused them to lose money, as are those across racial, ethnic, and nativity groups. Similarly, the same share of internet users report this experience regardless of gender or age.

Having medical or health information stolen

Among all American adults, just 4% report that they have had medical or health information stolen. Internet users and non-users are equally likely to report being aware that they have had medical or health information stolen (4% of both groups report this), but non-users are more likely to say that they don't know whether this has happened to them. Among internet users, 7% say they are not sure or don't know if they have had medical or health data stolen, compared with 12% of those who are not online.

While equally small shares of those in various income groups report having health data stolen, there is one notable variation by education level: those with less than a high school degree are more likely than those who have graduated college to say they are not sure or don't know if they have had medical information stolen (11% vs. 5%). Across various racial, ethnic, and nativity groups, foreign-born Hispanics are the most uncertain about the fate of their health and medical data. Some 14% of Hispanics born outside of the U.S. say they aren't sure if their personal health data has been stolen, compared with 7% of whites and 4% of U.S.-born Hispanic adults.

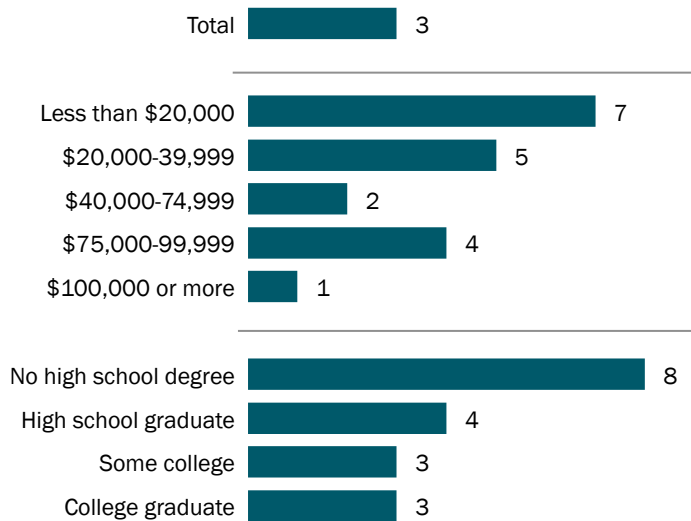
Similarly modest segments of men and women say they have had health or medical information stolen; however, uncertainty about health-related data theft is notably higher among internet users ages 30 and older. While just 4% of adults ages 18-29 say they “don't know” if they have had medical information stolen, 10% of those ages 65 and older say they don't know.

Having difficulty paying off a loan or cash advance

A very small proportion of internet users (3%) say they have had difficulty paying off a loan or cash advance that they signed up for online. Those with less than a high school degree are more likely than those with a college degree to say they have had difficulty paying off a loan or cash advance that they signed up for online (8% vs. 3%). Internet users in the lowest-income bracket—in households earning less than \$20,000 per year—are seven times as likely as those in the highest-earning group earning \$100,000 or more per year to say they have had a hard time paying off a loan or cash advance they received online (7% vs. 1%). And looking at those who did not attend college and live in households earning less than \$20,000 per year annually, 10% say they have had difficulty paying off a loan or cash advance that they signed up for online.

Having difficulty paying off an online loan or cash advance

Among internet users, the % who say they have had difficulty paying off a loan or cash advance that they signed up for online, by household income and education



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older).

U.S.-born Hispanic internet users (8%) and black internet users (7%) are both more likely than white internet users (2%) to report difficulty paying off an online loan or cash advance. And among black internet users, those living in households earning less than \$40,000 per year are considerably more likely than those in higher-earning households to report this (12% vs. 2%). The reverse is true when looking at Hispanic internet users as a whole (both foreign-born and U.S.-born)—among those living in households earning less than \$40,000 per year, just 5% say they have had trouble paying off a loan or cash advance they signed up for online, compared with 13% of those in higher-earning households.

There are no significant differences by gender or community type for this question, and only minor variations by age group.

Losing a job or educational opportunity because of something posted online

Among all online adults, just 2% say they lost a job opportunity or educational opportunity because of something that was posted online. However, this finding reflects only the segment of the population that is aware of a connection between their online postings and the loss of a job or educational opportunity. In many cases, job applicants and prospective students may never learn why they are denied or passed over for an opportunity. Differences by education and income are minor; for

instance, 5% of those with less than a high school degree report this compared with just 1% of those with a college degree. Similarly, 4% of those in households earning less than \$20,000 per year report losing an opportunity in this way, compared with just 1% of those in households earning \$100,000 or more per year. Among those who have a high school degree or less and are living in the lowest-earning households, 6% say they have lost an opportunity because of something that was posted online.

Online adults across all racial, ethnic, and nativity groups and community types are equally likely to say they have lost an opportunity due to something that was posted online. Online men are slightly more likely to report this compared with online women (3% vs. 1%), but there are no significant variations by age.

Turning to others for advice

When internet users are asked if they have turned to certain people or places for advice about how to protect their personal information online, the most commonly cited resources are friends (39%) and family (38%). In addition, one in five (20%) say they have turned to a co-worker for advice about how to protect their personal data online, while 16% say they have turned to a website run by a private organization. Another 10% say they have turned to a government website, 7% have turned to a teacher, and 5% say they have turned to a librarian or resources at their library. In addition, 8% say they have relied on some other source.

Differences by income are modest but significant when looking at those who have turned to co-workers or the websites of private organizations. Among internet users living in households earning less than \$20,000 per year, 14% say they have sought advice from co-workers, compared with 22% of those in households above that threshold. Similarly, 11% of internet users living in households earning less than \$20,000 per year say they have sought advice from a website run by a private organization, compared with 17% of those in higher-earning households.

However, differences by education are much more notable. Internet users who have not yet completed high school are less likely than college graduates to say they have turned to friends or peers (22% vs. 45%), a family member (27% vs. 40%), a co-worker (11% vs. 27%), or a website run by a private organization (2% vs. 24%) for advice about how to protect their personal data online.

In general, across racial, ethnic, and nativity groups, foreign-born Hispanic internet users are considerably less likely than other groups to turn to a range of people and resources for advice about how to protect their personal data. For example, while 47% of U.S.-born Hispanic internet users say they have turned to friends or peers for advice, just 21% of foreign-born Hispanic internet users have done this. Similarly, although 41% of U.S.-born Hispanic internet users say they have turned to family members for advice, only 23% of foreign-born Hispanic internet users say they do this.

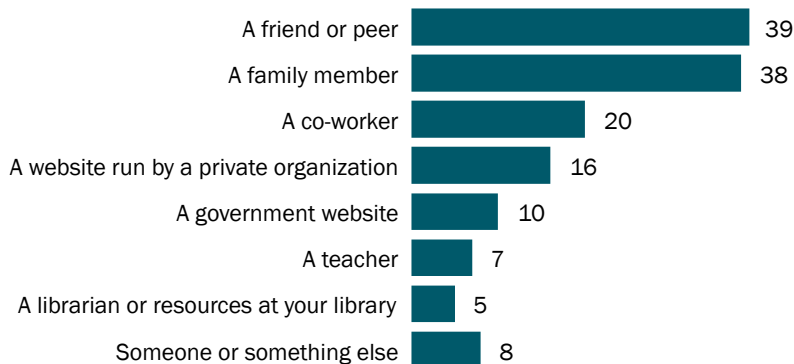
Internet users living in urban areas are more likely than those in rural areas to seek advice from friends or peers (43% vs. 33%), co-workers (23% vs. 14%), and websites run by private organizations (17% vs. 11%).

Men and women turn to all of the advice sources in equal numbers, with one exception: female internet users are far more likely than male internet users to report that they turn to family members for advice (46% vs. 29%).

Across age groups, the most notable differences are for those who seek advice from friends. Half (50%) of young adult internet users ages 18-29 say they have turned to friends for advice about how to protect their personal information online, compared with just 20% of those ages 65 and older. However, notable differences by income persist despite these variations by age group, particularly among those ages 50-64. Just 16% of lower-income internet users ages 50-64 who live in households earning less than \$40,000 per year have sought privacy-related advice from friends, compared with 46% of those in the same age group who live in higher-earning households.

Where people turn for advice about online privacy

Among internet users, the % who have asked for advice about how to protect their personal information online



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older. For internet users, n=2,350).

Ease in accessing tools and strategies for help

If they wanted to learn more about protecting their personal information online, most internet users feel as though it would be at least somewhat easy to find the tools and strategies that would help them. Some 40% of internet users say finding such tools and strategies would be “very easy,” while 38% think it would be “somewhat easy” to do so. Another 13% said it would be “somewhat difficult” to find the

tools and strategies to help them if they wanted to learn more about protecting their personal information online, and just 7% believe that it would be “very difficult.”

Differences between income groups are significant. Among internet users living in households earning less than \$20,000 per year, 31% say it would be very or somewhat difficult to find the tools and strategies they would need, compared with just 17% of those in higher-earning households. Similarly, low-income social media users below the \$20,000 per year threshold are more likely than higher-earning social media users to feel as though it would be “somewhat” or “very” difficult to find tools and strategies that would help them protect their personal information online (25% vs. 15%).

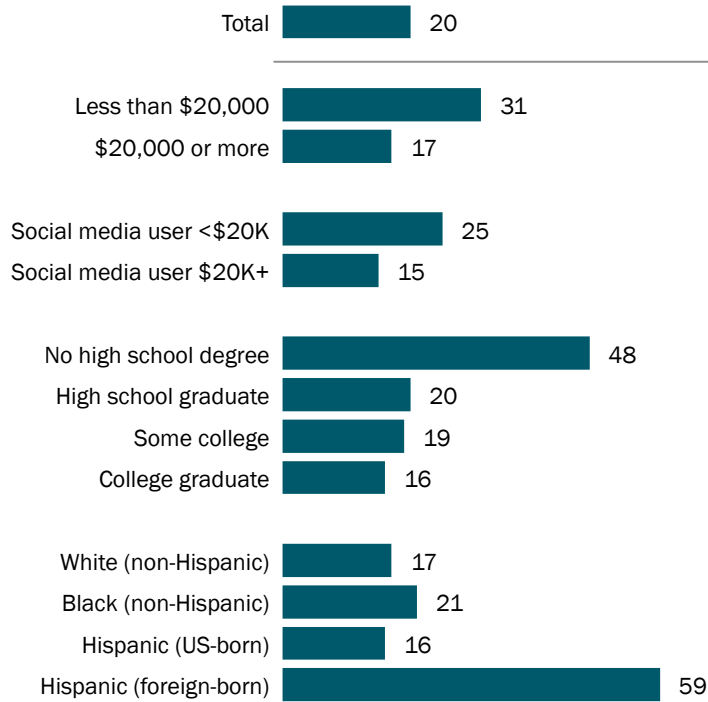
The educational variations for this question are even more pronounced. Among internet users with less than a high school degree, fully 48% of them feel as though it would be very or somewhat difficult for them to find the tools and strategies they need if they wanted to learn more about protecting their personal information online. For high school graduates who have not gone on to college, that proportion drops to 20%. And among those with at least some college education, only 18% think it would be very or somewhat difficult to find the resources they need to learn more about protecting their data online.

However, one of the largest gaps in confidence regarding access to tools and strategies is evident when comparing foreign-born Hispanic internet users with other racial, ethnic, and nativity groups. Looking at foreign-born Hispanic adults who are online, 59% say that if they wanted to learn more about protecting their personal information, it would be very or somewhat difficult to find the tools and strategies they would need. That compares to just 16% of U.S.-born Hispanic internet users, 17% of white internet users, and 21% of black internet users.

Online men and women report similar access to the resources they need, as do users across different community types. Older users are notably less confident when compared with younger users, but differences between broad income groups persist for all users age 30 and older. For instance, lower-income internet users ages 50-64 who live in households earning less than \$40,000 per year are twice as likely as those in who are in the same age group but living in wealthier households to say that it would be very or somewhat difficult for them to find the tools and strategies they need to learn more about protecting their personal information online (42% vs. 21%).

Low-SES and foreign-born Hispanic internet users far more likely to say it would be difficult to find resources to protect their personal information online

Among internet users, the % who think it would be somewhat/very difficult to access the tools and strategies that would help them protect their personal information online



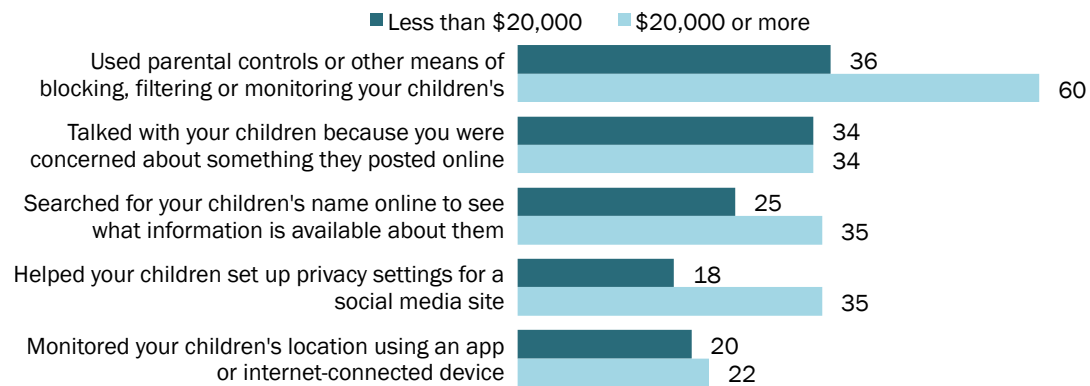
Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=3,000 U.S. adults age 18 and older. For internet users, n=2,350).

Parents' Privacy and Security Practices and Perceptions

Parents in the survey were asked a series of questions about how they manage the privacy and security of their children's activities, both online and offline.³⁸ The most notable differences by income relate to the fact that parents in lower-income households are considerably less likely than those in higher-income households to say they use or help their children use certain technical strategies to support their safety online. In particular, they are less likely to report the use of parental controls or other means of blocking, filtering, or monitoring their children's online activities and they are also less likely to say they have helped their children set up privacy settings for a social media site. In contrast, parents across the socioeconomic spectrum are equally likely to say they have intervened in a non-technical way—about one in three parents have talked with their children out of concern about something they posted online. At the same time, using apps and other devices to track the location of children is one exception to this trend; this practice, which is largely enabled by increasing ubiquity of cellphones, is equally popular in low-income and higher-income households.

How parents' privacy and security practices vary by income

Among parents in each income group, the % who say they have ever done the following things



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=423 U.S. adults age 18 and older).

³⁸ The questions in this section were asked of a subgroup of parents who received a split-form module of questions in the survey (n=423). The size of this group limits the analysis of race and ethnicity to comparisons of white and non-white respondents.

White parents and those with higher levels of income and education are more likely to say they use parental controls.

About half (52%) of parents say they have used parental controls or other means of blocking, filtering, or monitoring their children's online activities. This is true regardless of the parent's gender or general age group. However, there are significant differences in the prevalence of monitoring by race or ethnicity, household income, and education levels.

While a majority (61%) of white parents have blocked, filtered, or monitored their children's online activities, just 42% of non-white parents have done so. Monitoring or otherwise mediating children's online activities is also more common among parents living in households earning more than \$20,000 per year, where 60% have done this, compared with 36% of those in households earning less than \$20,000. Similarly, a majority (58%) of parents with at least some college experience have used parental controls or monitoring methods, compared with 44% of parents with lower levels of education.

Regardless of socioeconomic status, about one in three parents have talked with their children out of concern about something they posted online.

In contrast to differences in technical privacy and security practices, parents from all socioeconomic backgrounds are equally likely to intervene in a non-technical way. One in three (33%) parents say they have talked with their children because they were concerned about something they posted online, and this is consistent regardless of race or ethnicity, household income, or education levels. However, older parents—who may be more likely to have children in middle school or high school—are more likely to have spoken to their children about something they posted online when compared with younger parents: 54% of parents ages 50 and older have done this, compared with 29% of parents under age 50.

Parents with lower levels of education are less likely to search for their children's name online to see what information is available about them.

About three in ten parents (31%) have searched for their children's name online to see what information is available about them. There were notable differences in the prevalence of this activity by education level: 38% of parents with some college experience have searched for their children's name online, compared with 21% of those who have not attended college. However, parents were equally likely to search for their children's names regardless of the parents' age, race or ethnicity, or income.

Lower-income parents are less likely to say they have helped their children set up privacy settings for a social media site.

Three in ten parents (30%) have helped their children set up privacy settings for a social media site. Parents with higher household incomes were significantly more likely to say they had helped their

children set up social media privacy settings, with 35% of those in households earning \$20,000 or more per year saying they have done this compared with 18% of those earning less than \$20,000 per year. There were no statistically significant differences in the proportion of parents who have done this in terms of the parents' age group, race or ethnicity, or education level.

Regardless of income, about one in five parents monitor their children's location using an app or internet-connected device.

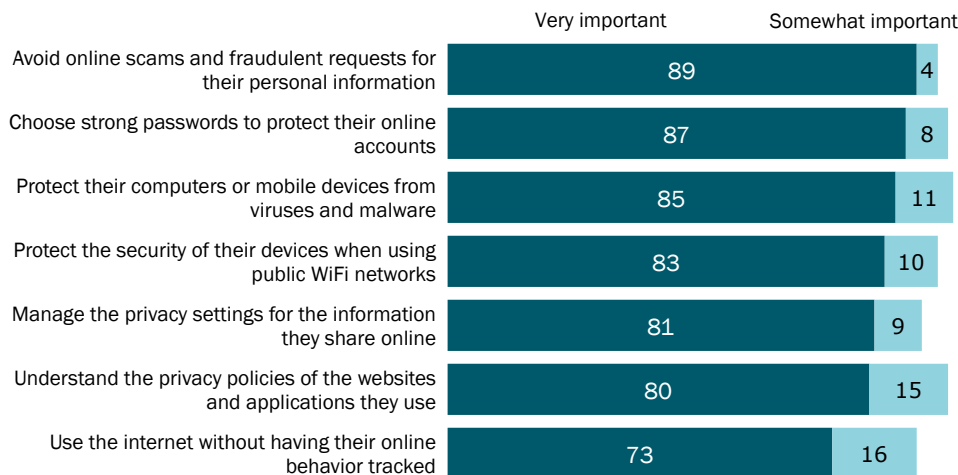
About one in five parents (21%) have monitored their children's location using an app or internet-connected device. There were no statistically significant differences in terms of the parent's age group, race or ethnicity, or household income. However, among parents who have less than a high school degree, fewer than one in ten monitor their child's location. This group of parents is quite small (n=79), but these differences suggest that there may be meaningful variations according to a parent's education level that could be more pronounced in a larger sample.

Parents from all backgrounds feel that it is very important for their children to know about a range of privacy and security practices

A majority of parents said it was "very important" for their children to know each of the online privacy and security practices discussed in the survey. This was consistent when comparing mothers and fathers, parents who live in higher- or lower-income households, younger or older parents, and white and non-white parents. There were, however, a few differences between respondents with different levels of education. Parents were significantly more likely to say it was "very" important for their children to know how to manage the privacy settings for the information they share online if the parents had some college experience (86%) than if they had not attended college (75%). Similarly, parents with college experience (94%) were more likely than those without college experience (81%) to say it is "very" important for their children to know how to avoid online scams and fraudulent requests for their personal information. Nonetheless, the vast majority of parents in all subgroups said that each of these privacy and security practices were important for their children to know how to do.

Parents express strong views about the importance of privacy and security education for their children

Among parents, the % who say it is "very" or "somewhat" important for their children to know how to do the following things



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=423 U.S. adults age 18 and older).

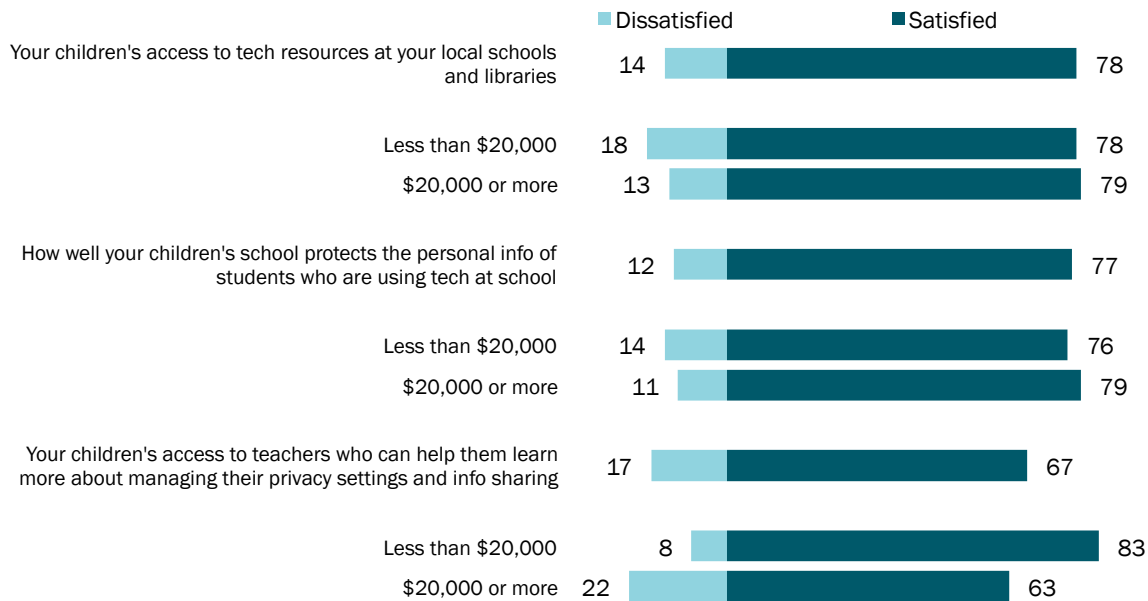
Across a range of socioeconomic backgrounds, parents are largely satisfied with the technology and privacy resources and instruction at their children's schools.

When asked about their schools' technology resources and privacy practices, most parents report that they are satisfied with their schools in terms of the issues covered by the survey. For instance, 78% of parents say that they are satisfied with their children's access to technology resources at their local schools and libraries, and 67% say they are satisfied with their children's access to teachers who can help them learn more about managing their privacy settings and information sharing online. Additionally, 77% of parents say they are satisfied with how well their children's school protects the personal information of students who are using technology at school.

The sample size of parents who were asked these questions limits the analysis to broad socioeconomic groups. However, in general, parents with higher education levels and those living in higher-income households are less likely than low-SES groups to say they are satisfied with their children's access to teachers who can help them learn about online privacy and information sharing. However, there were no statistically significant differences for any of these three practices between fathers and mothers, or between white parents and non-white parents.

Overview of parents' satisfaction with schools' technology and privacy practices

Among parents, the % who say they are satisfied or dissatisfied



Source: Data & Society Privacy and Security Experience of Low-Socioeconomic Status Populations Survey, November 18-December 23, 2015, including an oversample of adults living in households earning less than \$40,000 per year. Interviews were conducted in English and Spanish (Total n=423 U.S. adults age 18 and older).

Most parents say that, on the whole, they are happy with their children's **access to technology resources at their local schools and libraries**: 78% say they are satisfied, while 14% say they are dissatisfied. These views are consistent across younger and older parents, between white and non-white parents, between parents living in lower- and higher-income households, and regardless of the level of the parents' education.

Some 77% of parents say that they are satisfied with **how well their children's school protects the personal information of students who are using technology at school**, while 12% say they are dissatisfied. Younger parents under age 50 (74%) were less likely than older parents (89%) to say they were satisfied with how well their children's school protects students' privacy in this context. However, there were no significant differences between white and non-white parents, or by the parent's household income or education level.

Parents were also asked whether they were generally satisfied with their **children's access to teachers who can help them learn more about managing their privacy settings and information sharing online**. Two-thirds (67%) of parents reported being satisfied with their children's level of access privacy instruction, while 17% said they were dissatisfied.

While there were no notable differences between white and non-white parents for this question, there were several significant differences between different subgroups, notably by age group, income, and education. Young parents under the age of 50 were less likely than older parents to say they were satisfied with their children's level of access to teachers who can teach them about privacy practices (65% vs. 80%). In addition, parents in higher-income households and those with higher levels of education were less likely to say they were satisfied with their children's access to privacy instruction. For instance, while 83% of parents in households earning less than \$20,000 per year said they were satisfied with their children's access to teachers who can help them learn more about privacy practices, 63% of parents in households earning more than \$20,000 per year said they were satisfied. Finally, 60% of parents with some college experience said they were satisfied with their children's access to privacy instruction, compared with 76% of parents who have not attended college.

Implications

In both their concerns and patterns of technology use, low-SES Americans have a different experience of privacy vulnerabilities compared with higher-SES groups. While technology companies and lawmakers often face pressure to develop privacy tools and regulations with a one-size-fits-all approach, these findings suggest that a range of tailored approaches may be needed to respond more effectively to the needs and concerns of specific subgroups of users. In particular, this research highlights several key areas where a better understanding of low-SES communities can have a significant impact on strategic business and policy decisions moving forward.

#1: The digital privacy and security concerns of low-SES Americans are deeply intertwined with a wide array of offline concerns regarding physical safety and security.

Most Americans with lower levels of income and education face precarious conditions in their daily lives. Most say they either just meet or don't have enough to meet their basic expenses. Most say they live in communities where the economic conditions are only fair or poor. And most express concerns about losing their jobs. These economic realities help explain why majorities say they are "very concerned" about the loss or theft of financial information, even though relatively few say they have experienced personal data theft firsthand. At the same time, many low-SES Americans express heightened concerns about their *physical* safety; majorities say they worry about becoming a victim of violent crime in their community and say they are concerned about being unfairly targeted by law enforcement. At the same time, there are large variations across racial, ethnic and nativity groups; blacks and foreign-born Hispanics are considerably more likely than whites to express these anxieties, which overlap with low levels of trust in law enforcement to protect their personal data. By contrast, higher-status Americans' privacy concerns are largely informational in nature and do not reflect the matrix of online and offline vulnerabilities that low-SES Americans face.

#2: Many of the survey findings underscore the importance of "mobile-first" approaches to privacy communications, design and policy.

Low-SES users' disproportionate reliance on mobile internet connectivity raises a number of important privacy implications. While some features of mobile devices (such as encrypted messaging by default) may provide robust privacy protections to users, there have also been many well-documented security vulnerabilities associated with mobile devices and applications.³⁹ For instance, mobile users may be subject to a wide range of surveillance practices that they may be unaware of,

³⁹ See Paarijaat Aditya, et al. *Brave new world: privacy risks for mobile users*, PROCEEDINGS OF THE ACM MOBI-COM WORKSHOP ON SECURITY AND PRIVACY IN MOBILE ENVIRONMENTS (2014), http://www.cs.umd.edu/projects/ebn/risks_spme2014.pdf.

including advertisers' cross-device tracking,⁴⁰ cell site simulators⁴¹ and in-store tracking by retailers.⁴² In addition, various security vulnerabilities have been associated with the operating systems on mobile devices,⁴³ and many third-party applications access more of users' data than is necessary for the app to function.⁴⁴

While low-SES users are less likely to use privacy settings, this may be at least partially influenced by the design of certain platforms. Mobile applications have not always offered consistent access to privacy policies or privacy controls for information sharing.⁴⁵ For certain kinds of apps—particularly with older versions of social media applications—a user must navigate to the website associated with a given app in order to change default settings.⁴⁶ Technology and communications companies who would like their brand to be associated with strong privacy values can distinguish themselves by prioritizing these kinds of mobile privacy considerations.

#3 The demand for educational resources about privacy and security is particularly strong among foreign-born Hispanic internet users; this represents a significant opportunity for outreach and engagement.

Large majorities of immigrant Hispanic internet users say they “would like to learn more” about various privacy and security skills, such as managing the privacy settings of the information they share online, avoiding online scams and fraudulent requests, and using the internet without having their online behavior tracked. At the same time, foreign-born Hispanic internet users are one of the least likely groups to use privacy settings (less than half do so), are the least likely to express confidence in their ability to understand the privacy policies of the websites and applications they use, and are the most likely to automatically share their physical location on social media platforms. A majority of foreign-born Hispanic users also say that if they wanted to learn more about protecting their personal information, it would be somewhat or very difficult to find the tools and strategies they would need. In light of these findings, educators, librarians, and advocates may consider prioritizing their engagement with the immigrant Hispanic community, which is particularly vulnerable to disproportionate levels of law enforcement surveillance in the current political environment.

⁴⁰ Michael Whitener, *Cookies Are So Yesterday; Cross-Device Tracking Is In—Some Tips*, THE PRIVACY ADVISOR, Jan. 27, 2015, available at: <https://iapp.org/news/a/cookies-are-so-yesterday-cross-device-tracking-is-insome-tips/>.

⁴¹ See Kim Zetter, *Turns Out Police Stingray Spy Tools Can Indeed Record Calls*, WIRED MAG., Oct. 28, 2015, available at: <http://www.wired.com/2015/10/stingray-government-spy-tools-can-record-calls-new-documents-confirm/>

⁴² See FTC Press Release, *Retail Tracking Firm Settles FTC Charges it Misled Consumers About Opt Out Choices*, Apr. 23, 2015, available at: <https://www.ftc.gov/news-events/press-releases/2015/04/retail-tracking-firm-settles-ftc-charges-it-misled-consumers>

⁴³ See ACLU Complaint, *Request For Investigation and Complaint for Injunctive Relief*, Apr. 16, 2013, available at https://www.aclu.org/files/assets/aclu_-_android_ftc_complaint_-_final.pdf.

⁴⁴ See, e.g., the analysis done by THE WALL STREET JOURNAL: <http://blogs.wsj.com/wtk-mobile/> and THE PEW RESEARCH CENTER: <http://www.pewinternet.org/2015/11/10/apps-permissions-in-the-google-play-store/>.

⁴⁵ See, e.g., the Future of Privacy Forum June 2012 *Mobile Apps Study*, which found that just over half (53%) of the 75 paid apps reviewed for the study provided users access to a privacy policy, <https://fpf.org/wp-content/uploads/Mobile-Apps-Study-June-2012.pdf>

⁴⁶ This was the case with older versions of the Facebook mobile app, which did not have the inline audience selector. Changing the audience for the content shared on these older versions of the app requires users to navigate on the website to specific settings for “Old versions of Facebook for mobile.” See: <https://www.facebook.com/help/260276693997558/?ref=u2u>

Methods

The survey on Privacy and Security Experiences of Low-Socioeconomic Status Populations, sponsored by the Data & Society Research Institute, obtained telephone interviews with a nationally representative sample of 3,000 adults ages 18 and older living in the United States. Interviews were completed in both English and Spanish, according to the preference of the respondent. The survey was conducted by Princeton Survey Research Associates International (PSRAI). The interviews were administered by Princeton Data Source from November 18 to December 23, 2015. A combination of landline and cell phone random-digit dial (RDD) samples was used to reach respondents regardless of the types of telephone they have access to. Both samples were disproportionately-stratified to target low-income households. A total of 1,050 interviews were conducted with respondents on landline telephones and 1,950 interviews were conducted with respondents on cellular phones, including 1,193 who live in a household with no landline telephone access.

Statistical results are weighted to correct for the disproportionate sample design, the overlapping landline and cell sample frames and disproportionate non-response across demographic groups that might bias results. The final weighted total sample is representative of all adults ages 18 and older living in the United States. The margin of sampling error for the complete set of weighted data is ± 2.7 percentage points.

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

Design and Data Collection Procedures

Sample Design

The sample was designed to generalize to the U.S. adult population and to allow separate analyses of low-income respondents. PSRAI employed an overlapping dual-frame sample design that included both RDD landline and RDD cell samples. Additionally, both samples were disproportionately-stratified to increase the incidence of low-income respondents.

The stratification took place at the county level and divided the population into ten strata based on average household income. Strata were defined so that each one covered approximately one-tenth of the continental U.S. population. Telephone numbers from the lower income strata were oversampled while telephone numbers from the higher income strata were under-sampled.

The telephone samples were provided by Survey Sampling International (SSI) according to PSRAI specifications. The landline sample was drawn using standard list-assisted random digit dialing (RDD) methodology. Within each stratum, phone numbers were drawn with equal probabilities from active blocks of telephone numbers (area code + exchange + two-digit block number) that contained one or more residential directory listings. 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 were purged.

The cellular sample was not list-assisted because no list of cell phone numbers exists. Instead cellular telephone numbers within strata were drawn with equal probabilities through a systematic sampling from dedicated wireless 100-blocks and shared service 100-blocks with no directory-listed landline numbers.

Questionnaire Development and Testing

The questionnaire was developed by the Data & Society Research Institute in collaboration with PSRAI. In order to improve the quality of the data, the questionnaire was pretested with a small number of respondents using both RDD landline and RDD cell samples. Pretest interviews were monitored by PSRAI staff and conducted using experienced interviewers who could best judge the quality of the answers given and the degree to which respondents understood the questions. Some final changes were made to the questionnaire based on the monitored pretest interviews. The final questionnaire was translated into Spanish. All interviews, both English and Spanish, were conducted using a fully-programmed computer-assisted telephone interviewing, or CATI, instrument.

In addition, a project summary and the questionnaire were voluntarily submitted for independent review through Chesapeake IRB. The expedited review resulted in a determination that the project should be exempt from further review.

Contact Procedures

Interviews were conducted from November 18 to December 23, 2015. As many as three attempts were made to conduct an interview at 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 when necessary.

For the landline sample, interviewers asked to speak with the youngest adult male or 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 other gender. 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 phone interviews.

For the cellular sample, interviews were conducted with the person who answered the phone. Interviewers verified that the person was an adult and in a safe place before administering the survey.

Weighting and Analysis

Weighting is generally used in survey analysis to adjust for effects of the sample design and to compensate for patterns of nonresponse that might bias results. The weighting was accomplished in multiple stages to account for the disproportionately-stratified samples, the overlapping landline and cell sample frames, household composition, and differential non-response associated with sample demographics.

The first stage of weighting corrected for different probabilities of selection associated with the number of adults in each household and each respondent's telephone usage patterns.⁴⁷ This weighting also adjusts for the overlapping landline and cell sample frames and the relative sizes of each frame and each sample. Since we employed a disproportionately-stratified sample design, the first-stage weight was computed separately for each stratum in each sample frame.

The first-stage weight for the i^{th} case from stratum h can be expressed as:

$$WT_{hi} = \left[\left(\frac{S_{LLh}}{F_{LLh}} \times \frac{1}{AD_{hi}} \times LL_{hi} \right) + \left(\frac{S_{CP_h}}{F_{CP_h}} \times CP_{hi} \right) - \left(\frac{S_{LLh}}{F_{LLh}} \times \frac{1}{AD_{hi}} \times LL_{hi} \times \frac{S_{CP_h}}{F_{CP_h}} \times CP_{hi} \right) \right]^{-1}$$

Where S_{LLh} = the size of the landline sample in stratum h

F_{LLh} = the size of the landline sample frame in stratum h

S_{CP_h} = the size of the cell sample in stratum h

F_{CP_h} = the size of the cell sample frame in stratum h

AD_{hi} = Number of adults in household i of stratum h

$LL_{hi}=1$ if respondent i of stratum h has a landline phone, otherwise $LL_{hi}=0$.

$CP_{hi}=1$ if respondent i of stratum h has a cell phone, otherwise $CP_{hi}=0$.

This first-stage weight was used as an input weight for the demographic raking. The data was first divided into three groups – blacks, Hispanics, and others. Each group was raked separately to population parameters for sex, age, education, region and number of adults in the household.

After the raking by race and ethnicity, the combined dataset was raked to total adult population parameters for sex, age, education, region, number of adults in the household, household telephone usage, population density, and race and ethnicity.

The telephone usage parameter was derived from an analysis of recently available National Health Interview Survey data⁴⁸. The population density parameter is county-based and was derived from

⁴⁷ i.e., whether respondents have only a landline telephone, only a cell phone, or both kinds of telephone.

⁴⁸ Blumberg SJ, Luke JV. Wireless substitution: Early release of estimates from the National Health Interview Survey, July-December, 2014. National Center for Health Statistics. June 2015.

Census 2010 data. All other weighting parameters were derived from an analysis of the 2013 American Community Survey 1-year PUMS file.

Each stage of weighting incorporated previous weighting adjustments. Raking was accomplished using SPSSINC RAKE, an SPSS extension module that simultaneously balances the distributions of all variables using the GENLOG procedure. The raking corrects for differential non-response that is related to particular demographic characteristics of the sample. The weight ensures that the demographic characteristics of the sample closely approximate the demographic characteristics of the target population. Table 1 compares weighted and unweighted total sample demographics to population parameters.

Table 1. Sample Demographics

| | <u>Parameters</u> | <u>Unweighted</u> | <u>Weighted</u> |
|--------------------------|-------------------|-------------------|-----------------|
| <u>Sex</u> | | | |
| Male | 48.2% | 52.4% | 48.7% |
| Female | 51.8% | 47.6% | 51.3% |
| <u>Age</u> | | | |
| 18-29 | 20.9% | 16.3% | 20.1% |
| 30-49 | 34.7% | 24.6% | 32.6% |
| 50-64 | 26.0% | 28.8% | 25.4% |
| 65+ | 18.4% | 27.0% | 18.6% |
| <u>Education</u> | | | |
| LT HS | 13.3% | 12.8% | 12.6% |
| HS graduate | 28.0% | 27.4% | 27.8% |
| Some college | 31.0% | 24.0% | 30.0% |
| College graduate | 27.7% | 34.6% | 28.7% |
| <u>Region</u> | | | |
| Northeast | 18.0% | 13.7% | 17.3% |
| Midwest | 21.3% | 13.6% | 20.3% |
| South | 37.3% | 46.2% | 38.5% |
| West | 23.4% | 26.6% | 23.8% |
| <u># of adults in HH</u> | | | |
| 1 | 16.5% | 27.4% | 17.5% |
| 2 | 51.9% | 48.9% | 51.3% |
| 3+ | 31.6% | 23.8% | 31.2% |
| <u>HH phone use</u> | | | |
| LLO | 7.4% | 4.7% | 6.4% |
| Dual | 44.8% | 55.5% | 45.2% |
| CPO | 47.8% | 39.8% | 48.4% |

Continued...

Table 1. Sample Demographics (continued)

| | <u>Parameters</u> | <u>Unweighted</u> | <u>Weighted</u> |
|---------------------------|-------------------|-------------------|-----------------|
| <u>Population Density</u> | | | |
| 1-Lowest | 19.9% | 30.3% | 20.7% |
| 2 | 20.0% | 18.6% | 20.0% |
| 3 | 20.1% | 14.6% | 19.9% |
| 4 | 20.0% | 13.3% | 19.4% |
| 5-Highest | 20.0% | 23.3% | 20.0% |
| <u>Race/ethnicity</u> | | | |
| White, not Hispanic | 65.8% | 58.1% | 62.8% |
| Black, not Hispanic | 11.5% | 14.0% | 11.8% |
| Hispanic, U.S. born | 7.5% | 8.9% | 7.8% |
| Hispanic, foreign born | 7.5% | 9.7% | 7.8% |
| Other, not Hispanic | 7.6% | 6.7% | 7.4% |

Effects of Sample Design on Statistical Inference

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

$$deff = \frac{n \sum_{i=1}^n w_i^2}{\left(\sum_{i=1}^n w_i \right)^2}$$

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:

$$\hat{p} \pm \left(\sqrt{deff} \times 1.96 \sqrt{\frac{\hat{p}(1 - \hat{p})}{n}} \right)$$

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 — one around 50%. For example, the margin of error for the total sample is ± 2.7 percentage points. This means that in 95 out every 100 samples using the same methodology, estimated proportions based on the entire sample will be no more than 2.7 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 measurement error, may contribute additional error of greater or lesser magnitude.

Response Rate

Table 2 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. Response rates are computed according to American Association for Public Opinion Research standards.⁴⁹ The response rate for the landline samples was 6%. The response rate for the cellular samples was 8%.

(A detailed sample disposition is provided on the next page.)

⁴⁹ The American Association for Public Opinion Research. 2011. Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys. 7th edition. AAPOR.

Table 2. Sample Disposition

| <u>Landline</u> | <u>Cell</u> | |
|-----------------|-------------|--|
| 3,155 | 673 | Non-residential/Business |
| 12 | 0 | Cell in landline frame |
| 3,167 | 673 | OF = Out of Frame |
| 60,285 | 29,487 | Not working |
| 2,616 | 93 | Computer/fax/modem |
| 62,901 | 29,580 | NWC = Not working/computer |
| 6,410 | 2,580 | UHUN _{NC} = Non-contact, unknown if household/unknown other (NA/busy all attempts) |
| 6,811 | 14,969 | Voice mail |
| 73 | 45 | Other non-contact (deaf/disabled/deceased) |
| 6,884 | 15,014 | UO _{NC} = Non-contact, unknown eligibility |
| 6,412 | 14,182 | Refusals |
| 1,722 | 4,749 | Callbacks (INCLUDE Spanish CBs) |
| 8,134 | 18,931 | UO _R = Refusal, unknown if eligible |
| | | O = Other (language) |
| | 1,745 | Child's cell phone |
| 80 | 233 | Landline ineligible |
| 80 | 1,978 | SO = Screen out |
| 417 | 1,270 | R = Refusal, known eligible (breakoffs and qualified CBs) |
| 1,050 | 1,950 | I = Completed interviews |
| 89,043 | 71,976 | T = Total numbers sampled |
| 20.0% | 56.4% | $e1 = (I+R+SO+O+UO_R+UO_{NC})/(I+R+SO+O+UO_R+UO_{NC}+OF+NWC)$ - Est. frame eligibility of non-contacts |
| 94.8% | 61.9% | $e2 = (I+R)/(I+R+SO)$ - Est. screening eligibility of unscreened contacts |
| 54.2% | 59.4% | $CON = [I + R + (e2*[O + UO_R])]/[I + R + (e2*[O + UO_R + UO_{NC}]) + (e1*e2*UHUN_{NC})]$ |
| 11.4% | 13.0% | $COOP = I/[I + R + (e2*[O + UO_R])]$ |
| 6.2% | 7.8% | AAPOR RR3 = $I/[I+R+[e2*(UO_R+UO_{NC}+O)]+[e1*e2*UHUN_{NC}]$ = $CON*COOP$ |

Topline Questionnaire

PRIVACY AND SECURITY EXPERIENCES OF LOW-SOCIOECONOMIC STATUS POPULATIONS

PRINCETON SURVEY RESEARCH ASSOCIATES INTERNATIONAL
FOR
DATA & SOCIETY RESEARCH INSTITUTE

TOPLINE RESULTS

| | |
|------------------------|--|
| Total: | 3,000 U.S. adults age 18 and older Margin of error: Plus or minus 2.7 percentage points |
| Income under \$40,000: | 1,385 U.S. adults age 18 and older Margin of error: Plus or minus 4.0 percentage points |
| Income under \$20,000: | 669 U.S. adults age 18 and older Margin of error: Plus or minus 5.8 percentage points |
| Internet users: | 2,350 U.S. adults age 18 and older Margin of error: Plus or minus 3.0 percentage points |
| Smartphone owners: | 1,783 U.S. adults age 18 and older Margin of error: Plus or minus 3.4 percentage points |
| Social media users: | 1,613 U.S. adults age 18 and older Margin of error: Plus or minus 3.6 percentage points |
| Total Employed: | 1,582 U.S. adults age 18 and older Margin of error: Plus or minus 3.6 percentage points |
| Employed module: | 1,339 U.S. adults age 18 and older Margin of error: Plus or minus 4.0 percentage points |
| Total Parents: | 655 U.S. adults age 18 and older Margin of error: Plus or minus 5.4 percentage points |
| Parents module: | 423 U.S. adults age 18 and older Margin of error: Plus or minus 6.7 percentage points |
| Interviewing dates: | November 18-December 23, 2015 |

LANDLINE INTRO:

Hello, my name is _____ and I'm calling for Princeton Survey Research. We are conducting a telephone opinion survey about some important issues today and would like to include your household. This is NOT a sales call.

May I please speak with the YOUNGEST [RANDOMIZE: (MALE / FEMALE)], age 18 or older, who is now at home? [IF NO MALE/FEMALE, ASK: May I please speak with the YOUNGEST (FEMALE / MALE), age 18 or older, who is now at home?]

CELL PHONE INTRO:

Hello, my name is _____ and I'm calling for Princeton Survey Research. We are conducting a telephone opinion survey about some important issues today and would like to include you. I know I am calling you on a cell phone. This is NOT a sales call.

[IF R SAYS DRIVING/UNABLE TO TAKE CALL: Thank you. We will try you another time...]

VOICEMAIL MESSAGE [LEAVE ONLY ONCE -- THE FIRST TIME A CALL GOES TO VOICEMAIL:] I am calling for Princeton Survey Research. We are conducting a national opinion survey of cell phone users. This is NOT a sales call. We will try to reach you again.

CELL PHONE SCREENING INTERVIEW:

S1 Are you under 18 years old, OR are you 18 or older? [CONTINUE IF 18 OR OLDER]

READ TO ALL CELL PHONE RESPONDENTS BEFORE CONTINUING WITH MAIN INTERVIEW: If you are now driving a car or doing any activity requiring your full attention, I need to call you back later. The first question is...

NOTES: BECAUSE PERCENTAGES ARE ROUNDED, THEY MAY NOT TOTAL 100%.
AN ASTERISK (*) INDICATES LESS THAN 0.5%.

MAIN INTERVIEW

Q1 Overall, how would you rate the economic situation in your community today... excellent, good, only fair or poor?

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|-------------------|
| 6 | 5 | 5 | Excellent |
| 33 | 28 | 26 | Good |
| 38 | 38 | 40 | Only Fair |
| 21 | 26 | 28 | Poor |
| 2 | 2 | 2 | (VOL.) Don't know |
| * | * | * | (VOL.) Refused |

Q2 How would you describe your household's financial situation? Would you say you... [READ IN ORDER]

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|---|
| 31 | 14 | 8 | Live comfortably |
| 27 | 23 | 19 | Meet your basic expenses with a little left over for extras |
| 26 | 37 | 37 | Just meet your basic expenses, OR |
| 14 | 24 | 34 | Don't even have enough to meet basic expenses? |
| 1 | 1 | 2 | (VOL.) Don't know |
| 1 | * | * | (VOL.) Refused |

Q3 Now I would like to read you some different issues facing people in this country today. For each of the following, please tell me how concerned, if at all, you are about these issues on a typical day. (First,) what about... [INSERT ITEM; RANDOMIZE]?

[READ FOR FIRST ITEM, THEN AS NECESSARY: Are you very, somewhat, not too or not at all concerned about this on a typical day?]

| | VERY CONCERN. | SOME-WHAT CONCERN. | NOT TOO CONCERN. | NOT AT ALL CONCERN. | (VOL.) DOESN'T APPLY | (VOL.) ALREADY PROBLEM | (VOL.) DK ⁵⁰ | (VOL.) REF ⁵¹ |
|--|---------------|--------------------|------------------|---------------------|----------------------|------------------------|-------------------------|--------------------------|
| a. Losing your primary source of income, such as your job | | | | | | | | |
| Total: | 31 | 16 | 17 | 24 | 11 | 1 | * | * |
| Under \$40K: | 42 | 12 | 12 | 17 | 15 | 1 | 1 | * |
| Under \$20K: | 48 | 10 | 8 | 15 | 17 | 1 | 1 | * |
| b. Not being able to access or afford the healthcare you or your family needs | | | | | | | | |
| Total: | 38 | 23 | 15 | 21 | 1 | * | * | 1 |
| Under \$40K: | 49 | 22 | 11 | 15 | 1 | * | * | 1 |
| ⁵⁴ Under \$20K: | 56 | 17 | 8 | 15 | 1 | 1 | * | 2 |
| c. Having your financial information lost or stolen | | | | | | | | |
| Total: | 46 | 30 | 13 | 10 | * | * | * | * |
| Under \$40K: | 55 | 21 | 12 | 11 | 1 | * | * | * |
| Under \$20K: | 60 | 14 | 11 | 12 | 2 | * | 1 | * |

⁵⁰ The abbreviation DK stands for "Don't know"
⁵¹ The abbreviation REF stands for "Refused"
⁵² The abbreviation DK stands for "Don't know"
⁵³ The abbreviation REF stands for "Refused"
⁵⁴

| | | | | | | | | | |
|--|--------------|----|----|----|----|---|---|---|---|
| d. Being unfairly targeted by law enforcement | Total: | 25 | 12 | 20 | 42 | * | * | 1 | * |
| | Under \$40K: | 33 | 14 | 18 | 33 | 1 | 0 | 1 | * |
| | Under \$20K: | 38 | 14 | 14 | 31 | 1 | 0 | 1 | * |
| e. Being the victim of an Internet scam or fraud | Total: | 32 | 27 | 16 | 22 | 2 | * | * | * |
| | Under \$40K: | 41 | 20 | 14 | 21 | 3 | 1 | * | * |
| | Under \$20K: | 48 | 13 | 12 | 21 | 4 | 1 | * | 0 |
| f. Becoming a victim of violent crime in the area where you live | Total: | 22 | 21 | 27 | 28 | * | * | 1 | * |
| | Under \$40K: | 33 | 20 | 21 | 24 | * | * | 1 | 1 |
| | Under \$20K: | 36 | 18 | 18 | 24 | * | * | 2 | 1 |
| g. You or someone in your family being the target of online harassment | Total: | 22 | 17 | 21 | 36 | 1 | * | 1 | 1 |
| | Under \$40K: | 31 | 16 | 17 | 32 | 2 | * | 1 | * |
| | Under \$20K: | 38 | 13 | 12 | 30 | 4 | 1 | 1 | 1 |
| h. Not knowing what personal information is being collected about you by companies or how it is being used | Total: | 42 | 31 | 14 | 11 | * | * | 2 | * |
| | Under \$40K: | 48 | 25 | 12 | 13 | * | * | 2 | * |
| | Under \$20K: | 52 | 21 | 9 | 15 | * | * | 2 | * |

[READ TO ALL:] On a different subject...

EMINUSE Do you use the internet or email, at least occasionally?

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|-------------------|
| 80 | 67 | 58 | Yes |
| 20 | 33 | 42 | No |
| * | * | * | (VOL.) Don't know |
| 0 | 0 | 0 | (VOL.) Refused |

INTMOB Do you access the internet on a cell phone, tablet or other mobile handheld device, at least occasionally?

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|-----|
| 71 | 60 | 58 | Yes |
| 29 | 39 | 42 | No |

| | | | |
|---|---|---|-------------------|
| * | * | * | (VOL.) Don't know |
| * | * | 0 | (VOL.) Refused |

SUMMARY TABLE OF INTERNET USE

EMINUSE Do you use the internet or email, at least occasionally?

INTMOB Do you access the internet on a cell phone, tablet or other mobile handheld device, at least occasionally?

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|----------------------|
| 82 | 71 | 64 | Internet user |
| 18 | 29 | 36 | Not an internet user |

HOME3NW Do you ever use the internet at HOME?

BASED ON ALL INTERNET USERS

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-----------|-------------|-------------|-------------------|
| 91 | 85 | 82 | Yes |
| 9 | 15 | 18 | No |
| * | * | 0 | (VOL.) Don't know |
| 0 | 0 | 0 | (VOL.) Refused |
| [n=2,350] | [n=929] | [n=396] | |

BBHOME1 Is your internet connection AT HOME through a slow-speed connection such as dial-up... OR do you have a high-speed, broadband connection such as DSL, cable, or FIOS?

BASED ON THOSE WHO USE THE INTERNET AT HOME

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-----------|-------------|-------------|---|
| 5 | 9 | 12 | Slow-speed/Dial-up |
| 89 | 80 | 71 | High-speed/Broadband |
| * | 1 | 1 | (VOL.) Both Slow-speed/Dial-up and High-speed/Broadband |
| 1 | 2 | 3 | (VOL.) Access internet only using cell phone or tablet |
| 1 | 2 | 3 | (VOL.) No home internet access |
| 4 | 7 | 9 | (VOL.) Don't know |
| 1 | * | * | (VOL.) Refused |
| [n=2,104] | [n=759] | [n=306] | |

FREEINT In the past 12 months, have you accessed the internet or used a computer for FREE someplace other than home, work or school?

BASED ON INTERNET USERS WHO DO NOT USE THE INTERNET AT HOME

| TOTAL | UNDER \$40K | UNDER \$20K | |
|---------|-------------|-------------|-------------------|
| 26 | 27 | 26 | Yes |
| 74 | 73 | 74 | No |
| * | 0 | 0 | (VOL.) Don't know |
| 0 | 0 | 0 | (VOL.) Refused |
| [n=244] | [n=169] | [n=90] | |

DEVICE1a Next, do you have a cell phone, or not?⁵⁵

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|-------------------|
| 91 | 86 | 82 | Yes |
| 9 | 14 | 18 | No |
| 0 | 0 | 0 | (VOL.) Don't know |
| 0 | 0 | 0 | (VOL.) Refused |

SMART1 Some cell phones are called “smartphones” because of certain features they have. Is your cell phone a smartphone such as an iPhone, Android, Blackberry or Windows phone, or are you not sure?

BASED ON THOSE WHO HAVE A CELL PHONE

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-----------|-------------|-------------|----------------------|
| 71 | 59 | 53 | Yes, smartphone |
| 20 | 28 | 32 | No, not a smartphone |
| 9 | 14 | 16 | Not sure/Don't know |
| * | * | * | (VOL.) Refused |
| [n=2,777] | [n=1,228] | [n=574] | |

Q4 Overall, when you use the internet, do you do that mostly using your cell phone or mostly using some other device like a desktop, laptop or tablet computer?

BASED ON INTERNET USERS WHO HAVE A SMARTPHONE

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-----------|-------------|-------------|--------------------------|
| 39 | 59 | 63 | Mostly on cell phone |
| 41 | 27 | 22 | Mostly on something else |
| 20 | 14 | 14 | (VOL.) Both equally |
| * | * | * | (VOL.) Depends |
| * | * | 1 | (VOL.) Don't know |
| 0 | 0 | 0 | (VOL.) Refused |
| [n=1,724] | [n=579] | [n=237] | |

[READ TO ALL INTERNET USERS:] Moving on...

Q5 Please tell me if you ever use the internet to do any of the following things. [INSERT FOR FIRST TWO RANDOMIZED ITEMS: Do you ever use the internet to... [INSERT ITEMS;

⁵⁵ DEVICE1a was asked only of landline sample. Results shown here are based on Total respondents. Cell phone sample is included in the 'Yes' responses.

RANDOMIZE]?) How about to [INSERT NEXT ITEM]? [READ AS NECESSARY: Do you ever use the internet to (ITEM)?]

BASED ON ALL INTERNET USERS

| | YES, DO THIS | NO, DO NOT DO THIS | (VOL.) DK | (VOL.) REF | (N) |
|---|--------------|--------------------|-----------|------------|---------|
| a. Use social media, such as Facebook, Twitter or Instagram | | | | | |
| Total: | 74 | 26 | * | * | (2,350) |
| Under \$40K: | 78 | 22 | * | * | (929) |
| Under \$20K: | 81 | 19 | * | 0 | (396) |
| b. Apply for a job | | | | | |
| Total: | 50 | 50 | * | * | (2,350) |
| Under \$40K: | 52 | 48 | 0 | 0 | (929) |
| Under \$20K: | 48 | 52 | 0 | 0 | (396) |
| c. Apply for government benefits or assistance | | | | | |
| Total: | 23 | 77 | * | * | (2,350) |
| Under \$40K: | 28 | 71 | * | 0 | (929) |
| Under \$20K: | 29 | 70 | 1 | 0 | (396) |
| d. Apply for a loan or cash advance | | | | | |
| Total: | 15 | 85 | * | * | (2,350) |
| Under \$40K: | 10 | 90 | * | 0 | (929) |
| Under \$20K: | 10 | 90 | 0 | 0 | (396) |
| e. Search for sensitive health information | | | | | |
| Total: | 50 | 49 | * | * | (2,350) |
| Under \$40K: | 49 | 50 | 1 | 0 | (929) |
| Under \$20K: | 46 | 53 | 1 | 0 | (396) |
| f. Buy a product, such as books, toys, music or clothing | | | | | |
| Total: | 78 | 22 | * | * | (2,350) |
| Under \$40K: | 68 | 32 | * | 0 | (929) |
| Under \$20K: | 60 | 40 | 0 | 0 | (396) |

Q6 Thinking about how you use social media, such as Facebook, Twitter or Instagram... Are any of your social media accounts currently set up so that they automatically include your LOCATION on your posts?

BASED ON SOCIAL MEDIA USERS

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|-------------------|
| 23 | 27 | 32 | Yes |
| 70 | 66 | 60 | No |
| 6 | 7 | 8 | (VOL.) Don't know |
| * | 0 | 0 | (VOL.) Refused |

[n=1,613] [n=662] [n=305]

Q7 Still thinking about how you use social media... Do you ever “like” or “follow” businesses or brands in order to receive coupons or discounts, or don't you do this?

BASED ON SOCIAL MEDIA USERS

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-----------|-------------|-------------|--------------------|
| 30 | 31 | 26 | Yes, do this |
| 70 | 69 | 74 | No, do not do this |
| * | * | * | (VOL.) Don't know |
| * | 0 | 0 | (VOL.) Refused |
| [n=1,613] | [n=662] | [n=305] | |

Q8 Thinking about the times you applied online for a job... How confident do you feel that the personal information you provided as part of the application process will remain private and secure? [READ]

BASED ON ONLINE JOB APPLICANTS

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-----------|-------------|-------------|-----------------------|
| 24 | 24 | 18 | Very confident |
| 47 | 43 | 45 | Somewhat confident |
| 19 | 22 | 25 | Not too confident, OR |
| 10 | 11 | 11 | Not at all confident? |
| * | * | * | (VOL.) Doesn't apply |
| * | * | 0 | (VOL.) Don't know |
| 0 | 0 | 0 | (VOL.) Refused |
| [n=1,016] | [n=409] | [n=172] | |

Q9 Thinking about the times when you have applied for government benefits or assistance online... How confident do you feel that the personal information you submitted as part of the application process will remain private and secure? [READ]

BASED ON ONLINE GOVERNMENT BENEFITS/ASSISTANCE APPLICANTS

| TOTAL | UNDER \$40K | UNDER \$20K | |
|---------|-------------|-------------|-----------------------|
| 26 | 24 | 26 | Very confident |
| 49 | 53 | 47 | Somewhat confident |
| 13 | 13 | 14 | Not too confident, OR |
| 11 | 9 | 13 | Not at all confident? |
| 1 | 1 | 1 | (VOL.) Doesn't apply |
| * | 0 | 0 | (VOL.) Don't know |
| * | 0 | 0 | (VOL.) Refused |
| [n=487] | [n=240] | [n=109] | |

Q10 Next, thinking about how the internet affects you overall... Would you say that the internet has had a mostly POSITIVE or mostly NEGATIVE impact, or no impact at all on... [INSERT ITEMS; RANDOMIZE]? How about on... [INSERT NEXT ITEM]? [READ AS NECESSARY: Has the internet had a mostly POSITIVE, mostly NEGATIVE, or no impact at all on...(ITEM)?]

BASED ON ALL INTERNET USERS

| | MOSTLY POSITIVE | MOSTLY NEGATIVE | NO IMPACT | (VOL.) ABOUT EQUAL | (VOL.) DOESN'T APPLY | (VOL.) DK | (VOL.) REF | (N) |
|---|-----------------|-----------------|-----------|--------------------|----------------------|-----------|------------|---------|
| a. Your ability to complete everyday tasks like shopping or paying bills | | | | | | | | |
| Total: | 66 | 3 | 25 | 1 | 5 | * | * | (2,350) |
| Under \$40K: | 56 | 5 | 33 | * | 6 | * | 0 | (929) |
| Under \$20K: | 56 | 8 | 30 | * | 5 | * | 0 | (396) |
| b. Your ability to keep your personal information secure | | | | | | | | |
| Total: | 38 | 24 | 32 | 2 | 2 | 2 | * | (2,350) |
| Under \$40K: | 39 | 23 | 32 | 1 | 2 | 2 | * | (929) |
| Under \$20K: | 39 | 22 | 33 | 2 | 1 | 2 | * | (396) |
| c. Your ability to find jobs or people who can help you get a job | | | | | | | | |
| Total: | 48 | 4 | 38 | 1 | 9 | * | * | (2,350) |
| Under \$40K: | 45 | 6 | 37 | 1 | 10 | 1 | * | (929) |
| Under \$20K: | 47 | 9 | 35 | 1 | 7 | * | * | (396) |
| d. Your ability to share your ideas and opinions with many different people | | | | | | | | |
| Total: | 56 | 4 | 33 | 1 | 5 | 1 | * | (2,350) |
| Under \$40K: | 54 | 7 | 34 | 1 | 4 | 1 | * | (929) |
| Under \$20K: | 49 | 10 | 38 | 1 | 2 | * | 0 | (396) |
| e. Your ability to meet others who share your interests | | | | | | | | |
| Total: | 51 | 3 | 39 | 1 | 4 | 1 | * | (2,350) |
| Under \$40K: | 53 | 6 | 36 | 1 | 3 | 1 | 0 | (929) |
| Under \$20K: | 52 | 10 | 33 | 2 | 3 | * | 0 | (396) |
| f. Your ability to share private information with the people you trust | | | | | | | | |
| Total: | 47 | 8 | 37 | 1 | 6 | 1 | * | (2,350) |
| Under \$40K: | 47 | 10 | 36 | 1 | 5 | 1 | 0 | (929) |
| Under \$20K: | 45 | 10 | 38 | 1 | 5 | 1 | 0 | (396) |

NO QUESTION 11

Q12 And now thinking about various online activities... [INSERT FOR FIRST TWO RANDOMIZED ITEMS: Do you feel as though you already know enough about [INSERT ITEMS; RANDOMIZE], or would you like to learn more about this?] Next, [INSERT NEXT ITEM]? [READ AS NECESSARY: Do you feel as though you already know enough about how to do this, or would you like to learn more?]

BASED ON ALL INTERNET USERS

| | ALREADY KNOW ENOUGH | WOULD LIKE TO LEARN MORE | (VOL.) DOESN'T APPLY | (VOL.) DK | (VOL.) REF | (N) |
|---|---------------------------|-----------------------------------|----------------------------|-----------|---------------|---------|
| a. Choosing strong passwords to protect your online accounts | | | | | | |
| Total: | 84 | 14 | 1 | * | * | (2,350) |
| Under \$40K: | 78 | 20 | 1 | * | * | (929) |
| Under \$20K: | 73 | 26 | 1 | * | * | (396) |
| b. Managing the privacy settings for the information you share online | | | | | | |
| Total: | 71 | 26 | 3 | 1 | * | (2,350) |
| Under \$40K: | 68 | 29 | 2 | 1 | * | (929) |
| Under \$20K: | 61 | 35 | 3 | 1 | * | (396) |
| c. Understanding the privacy policies of the websites and applications you use | | | | | | |
| Total: | 70 | 26 | 2 | 1 | 1 | (2,350) |
| Under \$40K: | 68 | 29 | 2 | 1 | * | (929) |
| Under \$20K: | 60 | 36 | 2 | 1 | * | (396) |
| d. Protecting the security of your devices when using public WiFi networks | | | | | | |
| Total: | 59 | 28 | 12 | 1 | * | (2,350) |
| Under \$40K: | 56 | 31 | 11 | 1 | * | (929) |
| Under \$20K: | 54 | 35 | 10 | 1 | 1 | (396) |
| e. Protecting your computer or mobile devices from viruses and malware | | | | | | |
| Total: | 70 | 26 | 2 | 1 | * | (2,350) |
| Under \$40K: | 65 | 31 | 3 | 1 | * | (929) |
| Under \$20K: | 59 | 37 | 3 | 2 | * | (396) |

| | | | | | | | |
|--|----|----|---|---|---|---------|--|
| f. Using the internet without having your online behavior tracked | | | | | | | |
| Total: | 61 | 33 | 3 | 2 | 1 | (2,350) | |
| Under \$40K: | 60 | 35 | 3 | 2 | 1 | (929) | |
| Under \$20K: | 54 | 39 | 3 | 3 | 2 | (396) | |
| g. Avoiding online scams and fraudulent requests for your personal information | | | | | | | |
| Total: | 73 | 24 | 2 | 1 | * | (2,350) | |
| Under \$40K: | 67 | 29 | 2 | 1 | 1 | (929) | |
| Under \$20K: | 63 | 34 | 1 | 1 | * | (396) | |

[READ TO ALL:] On a different subject...

EMPLOY Are you now employed full-time, part-time, or not employed?

[IF R SAYS THEY ARE SELF-EMPLOYED, PROBE: "Are you self-employed working full-time hours or part-time hours?" AND THEN RECORD AS CODE FT OR PT]

[IF R SAYS THEY WORK IN THE HOME, I.E. CARING FOR THEIR KIDS OR BEING A HOMEMAKER, ASK: Are you now employed FOR PAY full-time, part-time, or not employed for pay?]

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|--------------------|
| 44 | 31 | 20 | Employed full-time |
| 14 | 16 | 17 | Employed part-time |
| 41 | 52 | 63 | Not employed |
| * | * | * | (VOL.) Don't know |
| * | * | 0 | (VOL.) Refused |

NOTW Which of the following best describes you? Are you... [READ]

BASED ON THOSE WHO ARE NOT EMPLOYED

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-----------|-------------|-------------|--------------------------------------|
| 45 | 40 | 32 | Retired |
| 16 | 16 | 16 | A homemaker |
| 10 | 5 | 3 | A student |
| 11 | 14 | 18 | Unemployed and looking for work, OR |
| 8 | 10 | 14 | Unemployed and NOT looking for work? |
| 10 | 14 | 17 | (VOL.) Disabled/Unable to work |
| 1 | * | 1 | (VOL.) Don't know |
| * | * | * | (VOL.) Refused |
| [n=1,402] | [n=801] | [n=441] | |

PAR Are you the parent or guardian of any children under age 18 now living in your household?

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|-------------------|
| 27 | 25 | 23 | Yes |
| 73 | 75 | 77 | No |
| 0 | 0 | 0 | (VOL.) Don't know |
| * | * | * | (VOL.) Refused |

Q13 Please tell me how much you trust each of the following to protect your personal information. (First,/Next,) how about... [INSERT ITEMS; RANDOMIZE]? [READ FOR FIRST ITEM, THEN AS NECESSARY: Do you trust (ITEM) a lot, some, only a little, or not at all to protect your personal information?]

| | A LOT | SOME | ONLY A LITTLE | NOT AT ALL | (VOL.) DOESN'T APPLY | (VOL.) DK | (VOL.) REF | (N) |
|---|-------|------|---------------|------------|----------------------|-----------|------------|---------|
| a. Federal government agencies | | | | | | | | |
| Total: | 21 | 31 | 19 | 26 | * | 1 | * | |
| Under \$40K: | 24 | 30 | 22 | 22 | * | 1 | * | |
| Under \$20K: | 22 | 29 | 24 | 23 | 1 | 1 | * | |
| b. Your local law enforcement or police department | | | | | | | | |
| Total: | 43 | 28 | 12 | 13 | 1 | 2 | * | |
| Under \$40K: | 43 | 26 | 15 | 13 | * | 1 | * | |
| Under \$20K: | 37 | 28 | 19 | 15 | * | 1 | 1 | |
| c. Your health insurance provider | | | | | | | | |
| Total: | 45 | 27 | 13 | 10 | 3 | 1 | * | |
| Under \$40K: | 48 | 24 | 14 | 8 | 5 | 1 | 1 | |
| Under \$20K: | 47 | 22 | 17 | 9 | 4 | 1 | 1 | |
| <i>ITEM D: BASED ON CELL PHONE OWNERS</i> | | | | | | | | |
| d. Your cell phone service provider | | | | | | | | |
| Total: | 27 | 36 | 19 | 15 | 1 | 1 | * | (2,777) |
| Under \$40K: | 30 | 34 | 22 | 12 | 1 | 1 | * | (1,228) |
| Under \$20K: | 28 | 32 | 26 | 12 | 1 | * | * | (574) |
| <i>ITEMS E-G: BASED ON ALL INTERNET USERS</i> | | | | | | | | |
| e. Search engine providers such as Google or Bing | | | | | | | | |
| Total: | 16 | 32 | 23 | 25 | 3 | 1 | * | (2,350) |
| Under \$40K: | 19 | 31 | 22 | 22 | 4 | 1 | * | (929) |
| Under \$20K: | 19 | 27 | 24 | 22 | 5 | 2 | * | (396) |

f. Your internet service provider

| | | | | | | | | |
|--------------|----|----|----|----|---|---|---|---------|
| Total: | 25 | 40 | 18 | 15 | 2 | 1 | * | (2,350) |
| Under \$40K: | 29 | 32 | 20 | 15 | 4 | 1 | * | (929) |
| Under \$20K: | 27 | 25 | 26 | 17 | 5 | * | 0 | (396) |

| | A LOT | SOME | ONLY A LITTLE | NOT AT ALL | (VOL.) DOESN'T APPLY | (VOL.) DK | (VOL.) REF | (N) |
|--|-------|------|---------------|------------|----------------------|-----------|------------|-----|
|--|-------|------|---------------|------------|----------------------|-----------|------------|-----|

g. Online shopping companies such as Amazon or eBay

| | | | | | | | | |
|--------------|----|----|----|----|----|---|---|---------|
| Total: | 21 | 34 | 20 | 18 | 7 | 1 | * | (2,350) |
| Under \$40K: | 20 | 29 | 21 | 19 | 10 | 1 | * | (929) |
| Under \$20K: | 18 | 25 | 22 | 26 | 9 | * | * | (396) |

ITEM H: BASED ON SOCIAL MEDIA USERS

h. Social media companies such as Facebook or Twitter

| | | | | | | | | |
|--------------|----|----|----|----|---|---|---|---------|
| Total: | 8 | 31 | 26 | 34 | * | * | * | (1,613) |
| Under \$40K: | 10 | 32 | 27 | 30 | * | * | * | (662) |
| Under \$20K: | 7 | 28 | 30 | 34 | * | 0 | 0 | (305) |

ITEM I: BASED ON TOTAL EMPLOYED

i. Your employer

| | | | | | | | | |
|--------------|----|----|----|---|---|---|---|---------|
| Total: | 61 | 22 | 9 | 6 | 3 | * | * | (1,582) |
| Under \$40K: | 61 | 20 | 11 | 5 | 3 | * | * | (582) |
| Under \$20K: | 57 | 20 | 14 | 6 | 3 | * | 0 | (227) |

ITEM J: BASED ON TOTAL PARENTS

j. Your local public schools

| | | | | | | | | |
|--------------|----|----|----|----|---|---|---|-------|
| Total: | 37 | 31 | 18 | 10 | 3 | 1 | 1 | (655) |
| Under \$40K: | 41 | 27 | 21 | 7 | 2 | * | 2 | (297) |
| Under \$20K: | 38 | 29 | 22 | 8 | * | * | 3 | (141) |

Q14 Let's think about a typical day in your life as you spend time at home, outside your home, and getting from place to place. As you go through a typical day, how much control do you feel you have over how much personal information is collected about you and how it is being used? [READ]

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|----------------------------|
| 26 | 29 | 31 | A lot of control |
| 39 | 36 | 31 | Some control |
| 22 | 21 | 21 | Only a little control, OR |
| 12 | 12 | 13 | No control at all? |
| * | 1 | 1 | (VOL.) Doesn't apply to me |
| 1 | 1 | 2 | (VOL.) Don't know |
| * | * | 1 | (VOL.) Refused |

Q15 While using the internet, have you ever done any of the following things? First, have you ever [INSERT ITEMS; RANDOMIZE] while you used the internet? How about [INSERT NEXT ITEM]? [READ AS NECESSARY: Have you ever done that while you used the internet?]

BASED ON ALL INTERNET USERS

| | YES | NO | (VOL.) DOESN'T APPLY | (VOL.) DK | (VOL.) REF | (N) |
|--|-----|----|----------------------------|-----------|------------|---------|
| a. Given inaccurate or misleading information about yourself | | | | | | |
| Total: | 18 | 81 | 1 | * | * | (2,350) |
| Under \$40K: | 17 | 82 | 1 | 1 | * | (929) |
| Under \$20K: | 19 | 81 | 1 | * | 0 | (396) |
| b. Used a search engine or web browser that doesn't keep track of your search history | | | | | | |
| Total: | 31 | 60 | 1 | 7 | * | (2,350) |
| Under \$40K: | 31 | 61 | 2 | 6 | 0 | (929) |
| Under \$20K: | 33 | 59 | 3 | 5 | 0 | (396) |
| c. Used a fake profile photo or one that doesn't reveal who you are | | | | | | |
| Total: | 19 | 79 | 2 | 1 | * | (2,350) |
| Under \$40K: | 17 | 81 | 1 | * | 0 | (929) |
| Under \$20K: | 22 | 77 | 1 | * | 0 | (396) |
| d. Set your browser to turn off cookies or notify you before you receive a cookie | | | | | | |
| Total: | 52 | 42 | 2 | 4 | 0 | (2,350) |
| Under \$40K: | 43 | 49 | 3 | 5 | 0 | (929) |
| Under \$20K: | 41 | 54 | 2 | 3 | 0 | (396) |
| e. Used a service that allows you to browse the web anonymously, such as a proxy server, Tor software, or a virtual personal network | | | | | | |
| Total: | 22 | 73 | 1 | 4 | * | (2,350) |
| Under \$40K: | 18 | 76 | 2 | 4 | 0 | (929) |
| Under \$20K: | 20 | 76 | 2 | 1 | 0 | (396) |
| f. Used an ad blocking service like Adblock Plus or Ghostery | | | | | | |
| Total: | 24 | 72 | 1 | 3 | 0 | (2,350) |
| Under \$40K: | 22 | 74 | 1 | 3 | 0 | (929) |
| Under \$20K: | 24 | 71 | 1 | 4 | 0 | (396) |

| | YES | NO | (VOL.) DOESN'T APPLY | (VOL.) DK | (VOL.) REF | (N) |
|--|-----|----|----------------------|-----------|------------|---------|
| g. Decided not to use a website because they asked for your real name or email address | | | | | | |
| Total: | 51 | 46 | 2 | 1 | * | (2,350) |
| Under \$40K: | 44 | 52 | 3 | 1 | 0 | (929) |
| Under \$20K: | 42 | 54 | 3 | 1 | 0 | (396) |
| h. Avoided communicating online when you had sensitive information to share | | | | | | |
| Total: | 56 | 38 | 4 | 1 | * | (2,350) |
| Under \$40K: | 47 | 48 | 5 | 1 | * | (929) |
| Under \$20K: | 46 | 49 | 5 | * | 0 | (396) |
| i. Used privacy settings to limit who can see what you post online | | | | | | |
| Total: | 65 | 31 | 4 | 1 | * | (2,350) |
| Under \$40K: | 61 | 35 | 3 | 1 | 0 | (929) |
| Under \$20K: | 57 | 38 | 3 | 2 | 0 | (396) |
| j. Used an app that automatically deletes the messages you send like Snapchat or Wickr | | | | | | |
| Total: | 20 | 77 | 3 | 1 | 0 | (2,350) |
| Under \$40K: | 22 | 74 | 3 | 1 | 0 | (929) |
| Under \$20K: | 21 | 76 | 2 | 1 | 0 | (396) |

Q15X If you wanted to learn more about protecting your personal information online, how easy do you think it would be for you to find tools and strategies that would help you? [READ]

BASED ON ALL INTERNET USERS

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-----------|-------------|-------------|------------------------|
| 40 | 34 | 29 | Very easy |
| 38 | 36 | 39 | Somewhat easy |
| 13 | 17 | 17 | Somewhat difficult, OR |
| 7 | 11 | 14 | Very difficult? |
| 1 | 2 | 1 | (VOL.) Don't know |
| * | * | * | (VOL.) Refused |
| [n=2,350] | [n=929] | [n=396] | |

[READ TO ALL:] Now on a different subject...

Q16 As far as you know, have you ever had any of these experiences? [INSERT ITEMS; RANDOMIZE]. Have you ever had this experience, or not, or are you not sure? How about

[INSERT NEXT ITEM]? [READ FOR FIRST ITEM, THEN AS NECESSARY: Have you ever had this experience, or not, or are you not sure?]

| | YES | NO | NOT SURE/ DK | (VOL.) REF | (N) |
|---|-----|----|-----------------|------------|---------|
| a. Had important personal information stolen such as your Social Security Number, your credit card, or bank account information | | | | | |
| Total: | 25 | 70 | 5 | * | |
| Under \$40K: | 21 | 73 | 6 | * | |
| Under \$20K: | 23 | 71 | 6 | * | |
| b. Had medical or health information stolen | | | | | |
| Total: | 4 | 88 | 8 | * | |
| Under \$40K: | 4 | 89 | 7 | 0 | |
| Under \$20K: | 5 | 88 | 7 | 0 | |
| c. Had inaccurate information show up in your credit report | | | | | |
| Total: | 18 | 72 | 10 | * | |
| Under \$40K: | 15 | 73 | 12 | * | |
| Under \$20K: | 14 | 75 | 11 | 0 | |
| <i>ITEMS D-J: BASED ON ALL INTERNET USERS</i> | | | | | |
| d. Had an email or social networking account of yours compromised or taken over without your permission by someone else | | | | | |
| Total: | 18 | 78 | 4 | * | (2,350) |
| Under \$40K: | 17 | 77 | 6 | 0 | (929) |
| Under \$20K: | 18 | 71 | 10 | 0 | (396) |
| e. Had difficulty paying off a loan or cash advance that you signed up for online | | | | | |
| Total: | 3 | 95 | 1 | * | (2,350) |
| Under \$40K: | 5 | 93 | 2 | * | (929) |
| Under \$20K: | 7 | 90 | 3 | 0 | (396) |
| f. Been the victim of an online scam and lost money | | | | | |
| Total: | 7 | 91 | 1 | * | (2,350) |
| Under \$40K: | 9 | 90 | 2 | 0 | (929) |
| Under \$20K: | 11 | 87 | 2 | 0 | (396) |
| g. Experienced persistent and unwanted contact from someone online | | | | | |
| Total: | 19 | 79 | 2 | * | (2,350) |

| | | | | | | |
|--|--------------|----|----|---|---|---------|
| | Under \$40K: | 24 | 74 | 2 | * | (929) |
| | Under \$20K: | 26 | 71 | 3 | 0 | (396) |
| h. Lost a job opportunity or educational opportunity because of something that was posted online | | | | | | |
| | Total: | 2 | 96 | 3 | * | (2,350) |
| | Under \$40K: | 3 | 94 | 3 | 0 | (929) |
| | Under \$20K: | 4 | 92 | 4 | 0 | (396) |
| i. Experienced trouble in a relationship or friendship because of something that was posted online | | | | | | |
| | Total: | 16 | 82 | 1 | * | (2,350) |
| | Under \$40K: | 20 | 77 | 2 | 0 | (929) |
| | Under \$20K: | 21 | 76 | 4 | 0 | (396) |
| j. Had someone post something about you online that you didn't want shared | | | | | | |
| | Total: | 18 | 77 | 5 | * | (2,350) |
| | Under \$40K: | 22 | 73 | 5 | * | (929) |
| | Under \$20K: | 18 | 74 | 8 | * | (396) |

Q17 Next... Have you ever turned to any of the following people or places for advice about how to protect your personal information online? (First,/Next,) [INSERT ITEMS; RANDOMIZE; ITEM 'SOMEONE OR SOMETHING ELSE' ALWAYS LAST]? [READ IF NECESSARY: Have you ever turned there for advice about how to protect your personal information online?]

BASED ON ALL INTERNET USERS

| | YES | NO | (VOL.) DOESN'T APPLY | (VOL.) DK | (VOL.) REF | (N) |
|---|--------------|----|----------------------|-----------|------------|-----------|
| a. A friend or peer | | | | | | |
| | Total: | 39 | 61 | * | * | 0 (2,350) |
| | Under \$40K: | 36 | 63 | 0 | 1 | 0 (929) |
| | Under \$20K: | 35 | 64 | 0 | 1 | 0 (396) |
| b. A family member | | | | | | |
| | Total: | 38 | 62 | * | * | 0 (2,350) |
| | Under \$40K: | 37 | 63 | 0 | 0 | 0 (929) |
| | Under \$20K: | 33 | 67 | 0 | 0 | 0 (396) |
| c. A co-worker | | | | | | |
| | Total: | 20 | 79 | 1 | * | 0 (2,350) |
| | Under \$40K: | 16 | 83 | 1 | * | 0 (929) |
| | Under \$20K: | 14 | 84 | 2 | 0 | 0 (396) |
| d. A librarian or resources at your library | | | | | | |
| | Total: | 5 | 94 | * | * | 0 (2,350) |
| | Under \$40K: | 6 | 94 | * | * | 0 (929) |

| | | | | | | | |
|----|---|----|----|---|---|---|---------|
| | Under \$20K: | 7 | 91 | 1 | * | 0 | (396) |
| e. | A government website | | | | | | |
| | Total: | 10 | 90 | * | * | 0 | (2,350) |
| | Under \$40K: | 10 | 90 | * | * | 0 | (929) |
| | Under \$20K: | 10 | 90 | * | * | 0 | (396) |
| f. | A website run by a private organization | | | | | | |
| | Total: | 16 | 84 | * | * | * | (2,350) |
| | Under \$40K: | 10 | 90 | * | * | 0 | (929) |
| | Under \$20K: | 11 | 89 | * | * | 0 | (396) |
| g. | A teacher | | | | | | |
| | Total: | 7 | 93 | * | * | 0 | (2,350) |
| | Under \$40K: | 7 | 92 | 1 | * | 0 | (929) |
| | Under \$20K: | 8 | 91 | * | 0 | 0 | (396) |
| h. | Someone or something else (SPECIFY) | | | | | | |
| | Total: | 8 | 90 | * | 1 | * | (2,350) |
| | Under \$40K: | 6 | 93 | * | 1 | 1 | (929) |
| | Under \$20K: | 6 | 91 | * | 1 | 1 | (396) |

SM1 Thinking now about your smartphone... Have you ever [INSERT ITEMS; RANDOMIZE]?

BASED ON SMARTPHONE OWNERS

| | | YES | NO | (VOL.) DK | (VOL.) REF | (N) |
|----|--|-----|----|-----------|------------|---------|
| a. | Decided to not install a cell phone app when you found out how much personal information you would need to share in order to use it | | | | | |
| | Total: | 62 | 38 | * | * | (1,783) |
| | Under \$40K: | 57 | 42 | * | 0 | (614) |
| | Under \$20K: | 55 | 44 | * | 0 | (254) |
| b. | Uninstalled an app on your cell phone because you found out it was collecting personal information that you didn't want to share | | | | | |
| | Total: | 36 | 63 | 1 | * | (1,783) |
| | Under \$40K: | 34 | 65 | 1 | * | (614) |
| | Under \$20K: | 31 | 68 | 1 | * | (254) |
| c. | Turned off the location tracking feature on your cell phone because you were worried about other people or companies being able to access that information | | | | | |
| | Total: | 50 | 49 | 1 | * | (1,783) |
| | Under \$40K: | 47 | 53 | 1 | * | (614) |

| | | | | | | |
|----|---|----|----|---|---|---------|
| | Under \$20K: | 44 | 56 | 0 | 0 | (254) |
| d. | Cleared the browsing history or search history on your cell phone | | | | | |
| | Total: | 64 | 35 | 1 | * | (1,783) |
| | Under \$40K: | 64 | 36 | * | * | (614) |
| | Under \$20K: | 61 | 38 | * | * | (254) |

Question module: random assignment

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|-----------------------------|
| 48 | 41 | 30 | Employed module |
| 17 | 16 | 18 | Parent module |
| 35 | 43 | 52 | Neither employed nor parent |

[READ IF EMPLOYED MODULE:] For these next few questions, please think about your MAIN job – that is, the one where you spend the most time.

occup1 Which one of the following BEST describes the kind of work you do? [READ]

BASED ON EMPLOYED MODULE

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-----------|-------------|-------------|---|
| 28 | 12 | 10 | Professional worker |
| 9 | 3 | 2 | Manager, executive, or official |
| 5 | 2 | 1 | Business owner with two or more employees |
| 6 | 6 | 4 | Clerical or office worker |
| 4 | 6 | 4 | Sales worker |
| 5 | 6 | 4 | Sales representative |
| 10 | 17 | 22 | Service worker |
| 13 | 17 | 10 | Skilled trade or craft worker |
| 3 | 4 | 4 | Semi-skilled worker |
| 10 | 17 | 22 | Laborer, OR |
| 7 | 8 | 15 | Something else? (SPECIFY) |
| 1 | 1 | * | (VOL.) Don't know |
| 1 | 1 | 1 | (VOL.) Refused |
| [n=1,339] | [n=494] | [n=184] | |

Q18 As far as you know, does your workplace do any of the following? (First,/Next,) [INSERT ITEMS; RANDOMIZE]. [READ AS NECESSARY: As far as you know, does your workplace do this, or not?]

BASED ON EMPLOYED MODULE

| YES | NO | (VOL.) DOESN'T APPLY | (VOL.) DK | (VOL.) REF | (N) |
|-----|----|----------------------|-----------|------------|-----|
|-----|----|----------------------|-----------|------------|-----|

| | | | | | | |
|---|----|----|---|----|---|---------|
| a. Monitor your internet, email or social media use at work | | | | | | |
| Total: | 38 | 57 | 1 | 3 | * | (1,339) |
| Under \$40K: | 25 | 70 | 2 | 3 | 0 | (494) |
| Under \$20K: | 27 | 69 | 2 | 2 | 0 | (184) |
| b. Track your performance using technologies such as surveillance cameras, badges or GPS monitoring | | | | | | |
| Total: | 37 | 60 | 1 | 2 | * | (1,339) |
| Under \$40K: | 35 | 62 | 1 | 2 | 0 | (494) |
| Under \$20K: | 32 | 64 | 1 | 3 | 0 | (184) |
| c. Use software or computer monitoring to evaluate your performance | | | | | | |
| Total: | 28 | 66 | 1 | 5 | * | (1,339) |
| Under \$40K: | 26 | 66 | 2 | 7 | 0 | (494) |
| Under \$20K: | 26 | 62 | 2 | 10 | 0 | (184) |

Q19 Which of the following statements comes closest to describing how you feel about the way your employer uses technology to monitor your performance at work, even if neither is exactly right? [READ AND RANDOMIZE]

BASED ON EMPLOYED MODULE AND WORKPLACE IS MONITORED

| TOTAL | UNDER \$40K | UNDER \$20K | |
|---------|-------------|-------------|--|
| 88 | 92 | 95 | The way my employer uses technology to monitor my performance at work does not usually bother me |
| 9 | 7 | 5 | The way my employer uses technology to monitor my performance at work sometimes feels intrusive |
| 1 | * | 0 | (VOL.) Don't know |
| 1 | 0 | 0 | (VOL.) Refused |
| [n=714] | [n=223] | [n=83] | |

TELEPHONE USE (QL1A AND QC1) AND PARENT MODULE (Q20-Q22) QUESTIONS NOT REPORTED IN THIS TOPLINE. [READ TO ALL:] A few last questions for statistical purposes only...

SEX RECORD RESPONDENT SEX [DO NOT ASK]

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|--------|
| 49 | 42 | 36 | Male |
| 51 | 58 | 64 | Female |

AGE What is your age?

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|-------|
| 13 | 14 | 13 | 18-24 |

| | | | |
|----|----|----|-------------------|
| 15 | 17 | 18 | 25-34 |
| 16 | 15 | 17 | 35-44 |
| 18 | 16 | 15 | 45-54 |
| 16 | 15 | 16 | 55-64 |
| 19 | 22 | 20 | 65 or older |
| * | * | * | (VOL.) Don't know |
| 3 | 1 | 1 | (VOL.) Refused |

MARITAL Are you currently married, living with a partner, divorced, separated, widowed, or have you never been married? [IF R SAYS "SINGLE" PROBE TO DETERMINE APPROPRIATE CATEGORY]

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|-----------------------|
| 45 | 31 | 20 | Married |
| 6 | 8 | 8 | Living with a partner |
| 10 | 14 | 18 | Divorced |
| 3 | 5 | 6 | Separated |
| 7 | 11 | 11 | Widowed |
| 25 | 30 | 34 | Never been married |
| * | * | * | (VOL.) Don't know |
| 2 | 1 | 2 | (VOL.) Refused |

HH1 How many adults age 18 and over currently live in your household, INCLUDING YOURSELF?

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|-------------------|
| 18 | 23 | 29 | 1 |
| 49 | 45 | 39 | 2 |
| 31 | 31 | 31 | 3 or more |
| * | * | * | (VOL.) Don't know |
| 2 | 1 | * | (VOL.) Refused |

EDUC2 What is the highest level of school you have completed or the highest degree you have received? [DO NOT READ]

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|---|
| 13 | 23 | 31 | NET Less than high school Less than high school (Grades 1-8 or no formal schooling) / High school incomplete (Grades 9-11 or Grade 12 with NO diploma) |
| 28 | 37 | 32 | NET High school graduate High school graduate (Grade 12 with diploma or GED certificate) |
| 30 | 30 | 29 | NET Some college Some college, no degree (includes some community college) / Two year associate degree from a college or university |
| 29 | 11 | 8 | NET College graduate or more |

Four year college or university degree/Bachelor's degree (e.g., BS, BA, AB) / Some postgraduate or professional schooling, no postgraduate degree / Postgraduate or professional degree, including master's, doctorate, medical or law degree (e.g., MA, MS, PhD, MD, JD)

| | | | |
|---|---|---|------------|
| * | * | 1 | Don't know |
| 1 | * | 0 | Refused |

VET1 Are you currently serving or have you ever served in the U.S. military or the military reserves?

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|---|
| 12 | 9 | 8 | Yes, currently serving or have served on active duty in the past |
| 88 | 90 | 92 | No, have never served in the U.S. military or the military reserves |
| * | * | 0 | (VOL.) Don't know |
| * | 0 | 0 | (VOL.) Refused |

DISA Does any disability, handicap, or chronic disease keep you from participating fully in work, school, housework, or other activities, or not?

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|-------------------|
| 16 | 24 | 33 | Yes |
| 83 | 75 | 66 | No |
| * | 1 | 1 | (VOL.) Don't know |
| * | * | * | (VOL.) Refused |

PUBLIC Have you, or any member of your immediate family, ever received government benefits such as food stamps, free or reduced price school lunches, welfare, Medicaid or CHIP, or housing assistance?

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|-------------------|
| 39 | 56 | 64 | Yes |
| 59 | 42 | 35 | No |
| 1 | 1 | 1 | (VOL.) Don't know |
| 1 | * | 1 | (VOL.) Refused |

PARTY In politics TODAY, do you consider yourself a Republican, Democrat, or independent?

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|-------------|
| 23 | 15 | 15 | Republican |
| 28 | 30 | 29 | Democrat |
| 35 | 37 | 35 | Independent |

| | | | |
|---|----|----|----------------------|
| 9 | 11 | 12 | (VOL.) No preference |
| 1 | * | * | (VOL.) Other party |
| 3 | 5 | 7 | (VOL.) Don't know |
| 2 | 1 | 2 | (VOL.) Refused |

SUMMARY TABLE OF PARTY IDENTIFICATION

PARTY In politics TODAY, do you consider yourself a Republican, Democrat, or independent?

PARTYLN [IF IND/NO PREFERENCE/OTHER/DK/REFUSED:] As of today, do you lean more to the Republican Party or more to the Democratic Party?

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|------------------------------|
| 35 | 26 | 22 | Republican / Lean Republican |
| 40 | 45 | 45 | Democrat / Lean Democrat |
| 24 | 29 | 33 | Refused to lean |

SUMMARY TABLE OF RACE/ETHNICITY

HISP Are you of Hispanic, Latino, or Spanish origin, such as Mexican, Puerto Rican or Cuban?

RACE Which of the following describes your race? You can select as many as apply. White, Black or African American, Asian or Asian American or some other race. [RECORD UP TO FOUR IN ORDER MENTIONED BUT DO NOT PROBE FOR ADDITIONAL] [IF R VOLS MIXED BIRACIAL, PROBE ONCE: What race or races is that?]

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|---|
| 63 | 54 | 47 | White, not Hispanic |
| 12 | 16 | 20 | Black or African-American, not Hispanic |
| 8 | 11 | 9 | Hispanic, born in U.S. |
| 8 | 13 | 16 | Hispanic, foreign born |
| 7 | 6 | 7 | Other, not Hispanic |
| 2 | 1 | 1 | (VOL.) Don't know/Refused |

BIRTH_HISP Were you born in the United States, on the island of Puerto Rico, or in another country?

BASED ON HISPANICS

| TOTAL | UNDER \$40K | UNDER \$20K | |
|---------|-------------|-------------|-------------------|
| 47 | 43 | 33 | U.S. |
| 2 | 3 | 5 | Puerto Rico |
| 50 | 54 | 62 | Another country |
| * | 0 | 0 | (VOL.) Don't know |
| * | 0 | 0 | (VOL.) Refused |
| [n=560] | [n=387] | [n=195] | |

INC Last year -- that is in 2014 -- what was your total family income from all sources, before taxes? Just stop me when I get to the right category... [READ]

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|----------------------------|
| 10 | 22 | 49 | Less than \$10,000 |
| 10 | 23 | 51 | 10 to under \$20,000 |
| 12 | 27 | 0 | 20 to under \$30,000 |
| 9 | 20 | 0 | 30 to under \$40,000 |
| 7 | 0 | 0 | 40 to under \$50,000 |
| 11 | 0 | 0 | 50 to under \$75,000 |
| 10 | 0 | 0 | 75 to under \$100,000 |
| 8 | 0 | 0 | 100 to under \$150,000, OR |
| 7 | 0 | 0 | \$150,000 or more? |
| 6 | 5 | 0 | (VOL.) Don't know |
| 10 | 3 | 0 | (VOL.) Refused |

SUMMARY TABLE OF INCOME

INC Last year -- that is in 2014 -- what was your total family income from all sources, before taxes?

INC1. [IF INC=DK/REFUSED:] It's important for us to have some information about household finances to make sure our survey is accurate. Keeping in mind that this is a completely confidential survey, can you please tell me if your total family income BEFORE taxes last year was under \$40,000... or \$40,000 or more?

| TOTAL | UNDER \$40K | UNDER \$20K | |
|-------|-------------|-------------|-------------------|
| 45 | 100 | 100 | Under \$40,000 |
| 48 | 0 | 0 | \$40,000 or more |
| 3 | 0 | 0 | (VOL.) Don't know |
| 5 | 0 | 0 | (VOL.) Refused |

THANK RESPONDENT: That completes the interview. Thank you very much for your time and cooperation. Have a nice day/evening.