



University of Pennsylvania
ScholarlyCommons

Departmental Papers (ASC)

Annenberg School for Communication

4-14-2010

How Different Are Young Adults From Older Adults When It Comes to Information Privacy Attitudes & Policies?

Chris Hoofnagle

UC Berkeley School of Law, Berkeley Center for Law and Technology

Jennifer King

UC Berkeley School of Information

Su Li

UC Berkeley School of Law, Center for the Study of Law and Society

Joseph Turow

University of Pennsylvania, jturow@asc.upenn.edu

Follow this and additional works at: https://repository.upenn.edu/asc_papers

 Part of the [Communication Commons](#)

Recommended Citation (OVERRIDE)

Hoofnagle, J.C., King, J., Li, S., and Turow, J. (2010). (listed in alphabetical order), "How Different are Young Adults from Older Adults When It Comes to Information Privacy Attitudes and Policies?" Annenberg School for Communication (University of Pennsylvania) and Berkeley School of Law (University of California, Berkeley).

This paper is posted at ScholarlyCommons. https://repository.upenn.edu/asc_papers/523

For more information, please contact repository@pobox.upenn.edu.

How Different Are Young Adults From Older Adults When It Comes to Information Privacy Attitudes & Policies?

Disciplines

Communication | Social and Behavioral Sciences

Cookie:TShram@google.com/mobile
Cookie:TShram@www.msnbc.msn.com/id250235
Cookie:TShram@tvguide.com/PartnerGrid
Cookie:TShram@www.del.com/...
Cookie:TShram@voip.fabphone.co.uk/voip/promo
Cookie:TShram@www...
Cookie:TShram@www...
Cookie:TShram@www.ebay.com/rtr/main
Cookie:TShram@stat.upe...
Cookie:TShram@www.comcastsupport.com/sdcxuser/rm/
Cookie:TShram@bing.com/search
Cookie:TShram@www.google.com/mobile
Cookie:TShram@onlinestores.metaservices.microsoft.com/swervices/witching
Cookie:TShram@www.b...
Cookie:TShram@www.google.com/...
Cookie:TShram@ytsa.net/tase
Cookie:TShram@community.adobe.com/help/api/thumbs
Cookie:TShram@google.com/verify
Cookie:TShram@google.ca/verify
Cookie:TShram@www.microsoft.com/windows.mobile

HOW DIFFERENT ARE YOUNG ADULTS FROM OLDER ADULTS WHEN IT COMES TO INFORMATION PRIVACY ATTITUDES & POLICIES?

APRIL 14, 2010

SNID
27=1JR2BZwybn9ozsGG7nzQprKfpqOX_Ai6QDcxTmOf4Q=SSDIBYXE3on3iWwc
google.com/verify

“WE SUGGEST...THAT YOUNG-ADULT AMERICANS HAVE AN ASPIRATION FOR INCREASED PRIVACY EVEN WHILE THEY PARTICIPATE IN AN ONLINE REALITY THAT IS OPTIMIZED TO INCREASE THEIR REVELATION OF PERSONAL DATA.” (SEE PAGE 20)

9728
2320728704
30067751
406026352
30030938
*
ach-search
UjiezX7sFgNwJhrie19zsC69Vu8=
community.adobe.com/help/api/v1/thumbs/
1536
2784647552
30759988
3564042032
30025733
*

UC Berkeley School of Law, Berkeley Center for Law and Technology

Chris Hoofnagle

sik_client_guid
47aeeb428-73bc-ada9-bb60-728dc6367a7
www.comcastsupport.com/sdcxuser/rm/
1088
284664448
30089887
2560430544
30016461
*

Jennifer King
UC Berkeley School of Information

UC Berkeley School of Law, Center for the Study of Law and Society

Su Li

SynZCSI
K_25_503=10036:80001
tvguide.com/PartnerGrid

Annenberg School for Communication, University of Pennsylvania

Joseph Turow

Chris Jay Hoofnagle, J.D., is director of the Berkeley Center for Law & Technology's information privacy programs and senior fellow to the Samuelson Law, Technology & Public Policy Clinic. He is an expert in information privacy law. Hoofnagle co-chairs the annual Privacy Law Scholars Conference. He is licensed to practice law in California and Washington, DC.

Jennifer King, MIMS, is a Ph.D. candidate at the UC Berkeley School of Information. Most recently she was a researcher at the Samuelson Law, Technology, and Public Policy Clinic at UC Berkeley's School of Law. Her research areas include information privacy and security, usability and human-computer interaction, video surveillance and other sensor networks. With Chris Hoofnagle, King has published three reports exploring Californians' privacy attitudes, available at SSRN.com.

Su Li, Ph.D., recently joined Berkeley Law as its new Statistician in Empirical Legal Studies. Her research interests include gender and social inequality, economic sociology, social network analysis, and the sociology of education. Li received her Ph.D. in Sociology and a Master's in Mathematical Models for Social Science at Northwestern University. An expert in quantitative methodology, Li was Assistant Professor of Sociology at Wichita State University before joining Berkeley Law.

Joseph Turow, Ph.D., is Robert Lewis Shayon Professor of Communication at the Annenberg School for Communication, University of Pennsylvania. Among his several books are *Niche Envy: Marketing Discrimination in the Digital Age* (MIT Press, 2006) and *Breaking Up America: Advertisers and the New Media World* (U of Chicago Press, 1997). Since 1999 he has conducted national telephone surveys that have moved forward public discourse on digital media, marketing, and privacy. Several can be found at the Annenberg Public Policy Center website, APPCPenn.org.

This survey was supported by the Rose Foundation for Communities and the Environment, Tim Little, Executive Director, under grant 025629-003, Chris Jay Hoofnagle, Principal Investigator; and by The Annenberg School for Communication—Michael Delli Carpini, Dean.

Overview

Media reports teem with stories of young people posting salacious photos online, writing about alcohol-fueled misdeeds on social networking sites, and publicizing other ill-considered escapades that may haunt them in the future. These anecdotes are interpreted as representing a generation-wide shift in attitude toward information privacy. Many commentators therefore claim that young people “are less concerned with maintaining privacy than older people are.”¹ Surprisingly, though, few empirical investigations have explored the privacy attitudes of young adults.² This report is among the first quantitative studies evaluating young adults’ attitudes. It demonstrates that the picture is more nuanced than portrayed in the popular media.

In July 2009, we commissioned a nationally representative telephone survey (landline and cellular) of Americans in order to understand the public’s views of both online and offline privacy issues. Our first report from this effort, *Americans Reject Tailored Advertising and Three Activities that Enable It*,³ released in October 2009, investigated Americans’ comprehension of online tailored advertising and related privacy concerns. In this report, we compare young adults and older adults with respect to attitudes toward online privacy protection, whether they carry out certain privacy-protecting behaviors, their public policy preferences regarding privacy, and their knowledge of information privacy law that might affect them in their everyday lives. We found that expressed attitudes towards privacy by American young adults (aged 18-24) are not nearly as different from those of older adults as many suggest. With important exceptions, large percentages of young adults are in harmony with older Americans when it comes to sensitivity about online privacy and policy suggestions. For example, a large majority of young adults:

¹ Ariel Maislos, chief executive of Pudding Media, quoted in Louise Story, *Company Will Monitor Phone Calls to Tailor Ads*, New York Times, Sept. 24, 2007, available at: <http://www.nytimes.com/2007/09/24/business/media/24adcol.html>.

² Marwick, A., Murgia-Díaz, D., and Palfrey, J. (2010). Youth, Privacy and Reputation Literature Review. Berkman Center for Internet and Society, Harvard University.

³ Joseph Turow et al., *Americans Reject Tailored Advertising and Three Activities that Enable It*, SSRN ELIBRARY (2009), <http://ssrn.com/paper=1478214>.

- Has refused to give information to a business in cases where they felt it was too personal or not necessary;
- Believes anyone who uploads a photo of them to the internet should get their permission first, even if taken in public;
- Believes there should be a law that gives people the right to know all the information websites know about them; and
- Believes there should be a law that requires websites to delete all stored information about an individual.

In view of these findings, why would so many young adults act in social networks and elsewhere online in ways that would seem to offer quite private information to all comers? A number of answers present themselves, including suggestions that people 24 years and younger approach cost-benefit analyses related to risk differently than do individuals older than 24. An important part of the picture, though, must surely be our finding that higher proportions of 18-24 year olds believe incorrectly that the law protects their privacy online and offline more than it actually does. This lack of knowledge in a tempting environment, rather than a cavalier lack of concern regarding privacy, may be an important reason large numbers of them engage with the digital world in a seemingly unconcerned manner.

Background

Popular writings and comments suggest that America's youngest adults do not care about information privacy, particularly online. As evidence, many point to younger internet users' adoption and prolific use of blogs, social network sites, posting of photos, and general documenting and (over)sharing of their life's details online, from the mundane to the intimate, for all the world to consume. "Young adults," exhorted one newspaper article to that segment of its readers, "you might regret that scandalous Facebook posting as you get older."⁴ More broadly, Robert Iger, CEO of Disney, recently commented categorically that "kids don't care" about privacy issues, contending that complaints generally came from much older consumers. Indeed, he said that when

⁴ Roger [no surname], "There is No Privacy," *Virginia Pilot*, April 4, 2009, p. B9.

he talked to his adult children about their online privacy concerns “they can’t figure out what I’m talking about.”⁵

Iger is not alone in making claims about differences between young people—even college students—and older members of the population when it comes to giving out personal information online. Anecdotes abound detailing how college-age students post photos of themselves unclothed and/or drunken, for the entire world—including potential employers—to see. It is not a leap to argue that these actions are hard-wired into young people. One psychological study found that adolescents (aged 13-16) and what they termed “youths” (those aged 18-22) are “more inclined toward risky behavior and risky decision making than are ‘adults’ (those older than 24 years) and that peer influence plays an important role in explaining risky behavior during adolescence.” Their finding was more pronounced among adolescents than among the youths, but differences between youths and adults were striking in willingness to take risks—particularly when group behavior was involved.⁶ Although the authors do not mention social media, the findings are clearly relevant to these situations. There the benefits of looking cool to peers may outweigh concerns about negative consequences, especially if those potential consequences are not likely to happen immediately. A related explanation for risky privacy behavior on social-networking sites is that they encourage users to disclose more and more information over time.

Young people’s use of social media does not in itself mean that they find privacy irrelevant.⁷ Indeed, the Pew Internet & American Life Project found in 2007 that teenagers used a variety of techniques to obscure their real location or personal details on social networking sites.⁸ That study fits with the findings of other researchers, who have

⁵ Gina Keating, “Disney CEO Bullish on Direct Marketing to Consumers,” Reuters, July 23, 2009, <http://www.reuters.com/article/idUSTRE56M0ZY20090723?pageNumber=2&virtualBrandChannel=0>

⁶ Margo Gardner and Laurence Steinberg, “Peer Influence on Risk Taking, Risk Preference, and Risky Decision Making in Adolescence and Adulthood: An Experimental Study,” *Developmental Psychology* 41:4, 625-635. No one 23 or 24 years of age was in the sample.

⁷ Raynes-Goldie, Kate. “Aliases, creeping, and wall cleaning: Understanding privacy in the age of Facebook” *First Monday* [Online], Volume 15 Number 1 (2 January 2010); Lenhart, Amanda and Madden, Mary. “Teens, Privacy, and Online Social Networks.” Pew Internet & American Life Project, April 18, 2007. Available at: <http://www.pewinternet.org/Reports/2007/Teens-Privacy-and-Online-Social-Networks.aspx>; and more generally danah boyd’s excellent bibliography of Social Networking Studies at: <http://www.danah.org/researchBibs/sns.html>.

⁸ Lenhart and Madden, *Id.*

urged the importance of reframing the issue to ask *what dimensions* of privacy younger adults care about.⁹ While differences between young adults and those older than they may be important, other more subtle commonalities may be ignored. In recent years older age groups have rushed to social networking in large numbers with discussions of personal issues and details. A common anecdotal observation is that young adults and adolescents are more likely than their elders to post racy photos or document episodes of untoward behavior. If research shows this distinction is accurate, the question nevertheless remains whether the same, higher, or lower percentages of Americans over 24 years old reveal more subtle but important private information about themselves that might lead to embarrassing and unfortunate incidents, such as identity theft.

In spite of vigorous social concerns and discussions, there does not appear to be research that shows definitively that young adults are fundamentally different from older Americans when it comes to privacy attitudes. Moreover, comparisons of what people of different ages do online must be placed within a context of how they understand the norms and laws of privacy in their society. What, if anything, have they done to protect their privacy? What do they believe about privacy norms when presented with the opportunity to think rationally about them? And what protections do they believe laws afford them when they do present themselves in various online environments? The extent to which Americans of different ages have similar or different answers to these questions will suggest whether they converge on similar policy approaches despite seemingly different decisions in the heat of online activities. That is the topic we chose for this study.

In our earlier report on tailored advertising we compared age groups' responses to three questions that asked, "Please tell me whether or not you want websites you visit to show you *ads* [another question substituted *discounts* and a third *news*] that are tailored to your interests." We found that while young adults' concerns were lower compared to other age categories, substantial proportions nevertheless said they did not want tailoring of ads, discounts, and news (55%, 37%, and 54% respectively). Moreover, the percentages saying no rose to very high levels when the young adults were told that the information required to tailor advertisements would come from following them on the

⁹ See Raynes-Goldie (2010).

website they were visiting (67% said no), on other websites they have visited (86% said no) and what they do offline—for example, in stores (90% said no).¹⁰ The findings led us to believe that these tendencies might apply to young adults’ approaches to privacy in general. We hypothesized a dual dynamic: A smaller percentage of young adults than older adults would evidence privacy concerns, but that percentage would still be large, typically exceeding 50% of young adults. We did find this dynamic at work. But we also noted that differences in privacy attitudes and practices between young adults and older ones were at times so small as to not be statistically significant.

Methods

In 2009, we commissioned a survey on behalf of the Berkeley Center for Law and Technology at the University of California, Berkeley School of Law in order to gauge the American public’s attitudes towards and knowledge of the rules and practices surrounding the collection and use of personal information. In this report, we present a summary of our findings for a subset of our survey questions.¹¹ These questions were part of a survey of Americans’ opinions about and understanding of a variety of online and offline privacy issues. We cast our population net broadly. We included people in our study if they were 18 years or older said yes to one of the following questions: “Do you go on online or use the internet, at least occasionally?” and “Do you send or receive email, at least occasionally?”

The survey was conducted from June 18 to July 2, 2009 by Princeton Survey Research Associates International. PSRA conducted telephone interviews with a nationally representative, English-speaking sample of 1,000 American adults living in the continental United States. A combination of landline (n=725) and wireless (n=275) random digit dial (RDD) samples was used to represent all adults in the continental United States who have access to either a landline or cellular telephone. The interviews averaged 20 minutes. Based on a seven callback procedure and using the American Association of Public Opinion research (AAPOR) RR3 method, a standard for this type of survey, the overall response rates were a typical 18 percent for the landline sample and

¹⁰ *Id.* at Fn. 3.

¹¹ *Id.*

22 percent for the cellular sample. Statistical results are weighted to correct known demographic discrepancies.¹² The margin of sampling error for the complete set of weighted data is ± 3.6 percent at the 95 percent confidence level. The margin of error is higher for smaller subgroups within the sample.

Table 1 presents the characteristics of the sample. For this report, we created cross-tabulations of a subset of our survey questions to compare responses across typical age categories (18-24, 25-34, 35-44, 45-54, 55-64, and 65+). Because some people didn't reveal their age, the total for this study's sample is 975 individuals. We considered chi-square values for each table significant at the level of $p < .05$. When the chi-square tests were significant, we used two sample t-tests to discover whether there are statistically significant differences between the 18-24 year olds and all the older adults (i.e. 18-24 compared to 25-65+). We also used Scheffe post-hoc tests to examine if any two age groups are significantly different from each other (e.g. 18-24 vs. 25-34 or 18-24 vs. 35-44) on each possible answer to the question being asked in the tables. For both t-tests and Scheffe tests¹³ we considered significance to be at the level of $p < .05$.

All tables presented in this paper are based on the weighted sample of the data,

¹² A two-stage procedure was used to weight this dual-frame sample. A first-stage weight was applied to account for the overlapping sample frames. The first stage weight balanced the phone use distribution of the entire sample to match population parameters. The phone use parameter was derived from an analysis of the most recently available National Health Interview Survey (NHIS) data along with data from recent dual-frame surveys. (See Blumberg SJ, Luke JV, "Wireless substitution: Early release of estimates from the National Health Interview Survey, July-December, 2008." National Center for Health Statistics. May 2009.) This adjustment ensures that the dual- users are appropriately divided between the landline and cell sample frames.

The second stage of weighting balanced the total sample demographics to population parameters. The total sample was balanced to match national population parameters for sex, age, education, race, Hispanic origin, region (U.S. Census definitions), population density, and telephone usage. The basic weighting parameters came from a special analysis of the Census Bureau's 2008 Annual Social and Economic Supplement (ASEC) that included all households in the continental United States. The population density parameter was derived from Census 2000 data. The telephone usage parameter came from the analysis of NHIS data.

We conducted all analyses in this report using SPSS on a weighted random sample. Due to the unique way that SPSS handles weight, we applied the standardized weight in all analyses so that the sample was corrected by population proportion but not by population size. That is, the sample size was not inflated to the original population size in our analysis. Using the standardized weight prevents the risk of unduly reducing standard errors in significance tests and thereby prevents the risk of having type I errors in the analysis.

¹³ Since Tables 15 and 16 involve indexed variables, on top of the tests on the comparisons of percentages we conducted additional t-tests and Scheffe tests to compare the means of the created indexed variables. See text for details.

with a valid sample size of 975. However, applying weights causes rounding errors in cross-tabulations, which is the reason that the Ns in all tables, except for Table 11, appear as a number other than 975.

Table 1: Characteristics of U.S. Adults in Sample (N=1,000)*

	%
Sex	
Male	48
Female	52
Age	
18-24	14
25-34	21
35-44	20
45-54	19
55-64	15
65+	8
Refused	3
Race	
White	78
Black or African American	9
Asian or Pacific Islander	4
American Indian or Alaskan Native	1
Mixed Race	2
Other/Don't Know/Refused	6
Hispanic or Latino Background?	
Yes	11
No	88
Don't Know/Refused	1
Household Income	
Under \$30,000	21
\$30,000 to under \$50,000	19
\$50,000 to under \$75,000	17
\$75,000 and Over	33
Don't Know/Refused	10
Region of the Country	
Northeast	19
Midwest	22
South	33
West	26

*When the numbers don't add to 100% it is because of a rounding error.

Findings

The following tables will elaborate on a basic theme: Large percentages of young adults (those 18-24 years) are in harmony with older Americans regarding concerns about online privacy, norms, and policy suggestions. In several cases, there are no statistically significant differences between young adults and older age categories on these topics. For most of the questions we asked, there is a statistically significant difference between the youngest adults and older age categories. However, even in these cases over half of the young adult-respondents did answer in the direction of older adults. There clearly is *social significance* in that large numbers of young adults—in some cases, 80-90 percent—agree with older Americans on issues of information privacy.

Table 2 – Refused to Provide Information

Have you ever refused to give information to a business or a company because you thought it was not really necessary or was too personal?	Total	18-24	25-34	35-44	45-54	55-64	65 +
<i>Yes, have</i>	88%	82%	84%	91%	93%	92%	85%
<i>No, have not</i>	11%	18%	13%	9%	7%	7%	14%
<i>Don't know/refused</i>	1%	0%	3%	0%	0%	1%	1%
<i>Total</i>	974	139	206	197	195	151	86

$\chi^2 = 34.158$, $df = 10$, $p < .001$

Table 3 – Uploading Where I am Recognizable

Generally speaking, anyone who uploads a photo or video of me to the internet where I am clearly recognizable should first get my permission.	Overall	18-24	25-34	35-44	45-54	55-64	65 +
<i>Strongly agree or Agree</i>	86%	84%	81%	86%	90%	91%	88%
<i>Strongly disagree or Disagree</i>	13%	16%	18%	13%	9%	9%	8%
<i>Don't know/refused</i>	1%	0%	2%	1%	1%	0%	3%
<i>Total</i>	973	140	206	197	195	150	85

$\chi^2 = 22.8$, $df = 10$, $p < .05$; Differences are significant but not related to young adults vs. older adults. See text.

Table 4 – Right To Know

Do you think there should be a law that gives people the right to know everything that a website knows about them, or do you feel such a law is not necessary?	Overall	18-24	25-34	35-44	45-54	55-64	65 +
<i>Yes, should be a law</i>	68%	62%	68%	73%	71%	64%	69%
<i>No, law is not necessary</i>	30%	35%	31%	24%	28%	31%	30%
<i>Don't know/refused</i>	2%	3%	2%	3%	1%	5%	1%
<i>Total</i>	976	141	206	197	196	150	86

$\chi^2 = 12.3$, $df = 10$, $p = .27$: Differences not significant

Table 5 – Right To Delete

Do you think there should be a law that requires websites and advertising companies to delete all stored information about an individual, or do you feel such a law is not necessary?	Overall	18-24	25-34	35-44	45-54	55-64	65 +
<i>Yes, should be a law</i>	92%	88%	91%	90%	94%	94%	90%
<i>No, law is not necessary</i>	8%	11%	7%	10%	5%	5%	9%
<i>Don't know/refused</i>	1%	1%	1%	0%	1%	1%	1%
<i>Total</i>	975	139	207	197	195	150	87

$\chi^2 = 10.6$, $df = 10$, $p = .39$: Differences not significant

These dynamics are visible quite clearly in Tables Two through Five, which report on Americans' sensitivity regarding privacy issues. Large proportions of all age groups have refused to provide information to a business for privacy reasons. They agree or agree strongly with the norm that a person should get permission before posting a photo of someone who is clearly recognizable to the internet, even if that photo was taken in public. They agree that there should be a law that gives people the right to know "everything that a website knows about them." And they agree that there should be a law that requires websites and advertising companies to delete "all stored information" about an individual. In the case of the first issue (see Table Two), a statistically significant lower proportion of 18-24 year olds agrees with these positions, but this proportion of young adults agreeing or agreeing strongly was nevertheless over 80%.¹⁴ With respect to

¹⁴ In Table 2, when comparing the 18-24 year olds to the rest of the sample, the differences in the percentages between the two groups are statistically significant at .05 level according to a two-sample t-test. Interestingly, the Scheffe tests of differences between 18-24 year olds and each of the other groups show no significance at .05 level. With respect to Table 3, although answers to this question are

the other three issues (see Tables Three through Five), the differences between the 18-24 year olds and the other adults are not statistically significant: both young and old alike are in agreement.

Privacy Practices

We also sought to determine whether young adults were different from other adult categories when it came to common privacy-related practices—whether they read privacy policies, how frequently they erase their browser cookies, whether or not they had ever changed their mind about an online purchase because of a privacy or security concern, and how frequently they check their credit report. In the case of reading privacy policies, there are no statistical differences among age groups. As Table 6 shows, about half the adult population, including young adults, says it reads policies often or sometimes. When it comes to erasing cookies (Table 7), 58% of young adults say they erase cookies often or sometimes. Statistical tests beyond the chi-square also indicate that age differences are essentially not statistically significant. The t-test tells us that the only statistically significant finding involves the higher proportion of 18-24 year olds answering “hardly ever” compared to the rest of adults. The Scheffe test finds no significance at all between the answers of young adults and the other age groups when it comes to erasing cookies.

About half of young adults have changed their mind about a purchase because of some privacy concern. Post hoc comparisons of the data in Table 8 show no significant difference between young adults and the rest of the population.

We did find a difference regarding checking credit reports. A substantially lower percentage of 18-24 year olds does that, with statistically significant differences from the other age groups centering on their answers of “about once a year,” and “less often than once a year.” Young adults have a significantly higher proportion of people who answered “never” than the other age groups.¹⁵ This distinction between young adults and the others is understandable because credit reports become relevant to older adults, as they buy homes and use credit cards that are not cosigned by their parents.

significantly related to age, neither Scheffe tests nor t-tests show clear patterns of significance between young adults and the rest of the sample or between the youngest adults and each of the older groups.

¹⁵ The comparison between the 18-24 year olds and the rest of the sample was statistically significant at .05 level according a two sample t-test.

Table 6 – Reading Privacy Policies

Do you read the privacy policies of websites ...	Overall	18-24	25-34	35-44	45-54	55-64	65 +
<i>Often</i>	14%	14%	12%	16%	15%	14%	15%
<i>Sometimes</i>	36%	37%	32%	40%	34%	39%	36%
<i>Hardly ever</i>	32%	31%	32%	28%	37%	32%	27%
<i>Never</i>	18%	16%	24%	16%	13%	14%	22%
<i>Don't know/refused</i>	1%	1%	0%	1%	0%	1%	0%
<i>Total</i>	974	141	207	196	195	149	86

$\chi^2 = 21.9$, $df = 20$, $p = .349$: Differences not significant

Table 7 – Erasing Cookies

When using the internet, do you erase your cookies ...	Overall	18-24	25-34	35-44	45-54	55-64	65 +
<i>Often</i>	39%	33%	36%	51%	40%	39%	33%
<i>Sometimes</i>	24%	25%	31%	19%	20%	28%	16%
<i>Hardly ever</i>	17%	25%	12%	18%	20%	13%	13%
<i>Never</i>	12%	14%	14%	7%	12%	13%	17%
<i>Not familiar with cookies</i>	6%	4%	3%	3%	5%	7%	17%
<i>Don't know/refused</i>	3%	0%	4%	3%	4%	1%	5%
<i>Total</i>	974	139	206	196	195	150	88

$\chi^2 = 73.7$, $df = 25$, $p < .001$

Table 8 – Changing Mind About Purchase

Have you ever changed your mind about buying something online because of a privacy or security concern?	Overall	18-24	25-34	35-44	45-54	55-64	65 +
<i>Yes, have</i>	56%	49%	55%	66%	58%	56%	41%
<i>No, have not</i>	38%	44%	39%	29%	38%	39%	47%
<i>Does not shop online</i>	6%	7%	6%	5%	4%	5%	12%
<i>Don't know/refused</i>	0%	0%	0%	1%	1%	1%	0%
<i>Total</i>	974	140	207	196	196	150	85

$\chi^2 = 27.7$, $df = 15$, $p < .05$

Table 9 – Checked Credit Report

In general, how often do you check your credit report?	Overall	18-24	25-34	35-44	45-54	55-64	65 +
<i>At least once a month</i>	10%	14%	9%	12%	5%	9%	9%
<i>Every few months (quarterly)</i>	18%	13%	19%	17%	17%	22%	17%
<i>About once a year</i>	34%	16%	40%	39%	40%	33%	31%
<i>Less often than once a year</i>	18%	5%	17%	24%	21%	21%	20%
<i>Never</i>	19%	48%	14%	8%	17%	15%	21%
<i>Don't know/refused</i>	1%	4%	1%	1%	1%	1%	1%
<i>Total</i>	972	139	206	197	194	150	86

$\chi^2 = 144.4$, $df = 25$, $p < .001$

Levels of Concern

The tendencies noted above carry over to levels of privacy concern. We fielded a two-prong question. The first asked the individual whether his or her privacy concern was greater, the same, or less than five years ago; the responses are in Table 10. Answers are significantly associated with age, but the 18-24 group was not significantly different than all older respondents, or any single group. Contributing to the significance in this table is the 65+ group, which is more concerned than the 25-34 year olds ($p < .05$).

The obvious problem with Table 10 is that there is no baseline—we don't know the level of concern at which the person began five years ago. But we pursued the question so we could ask people whose privacy concerns increased to note “the most important reason” for the rise. The responses, in Table 11, reveal no statistically significant association with age or differences between the 18-24 year olds and the other age groups.

Table 10 – Concern About Privacy Issues

Compared to five years ago, would you say you are more concerned about privacy issues on the internet, less concerned, or that you have the same level of concern?	Overall	18-24	25-34	35-44	45-54	55-64	65 +
<i>More concerned</i>	55%	54%	44%	59%	55%	60%	67%
<i>Less concerned</i>	6%	9%	8%	5%	6%	5%	4%
<i>Same level</i>	38%	36%	47%	36%	39%	35%	29%
<i>Don't know/refused</i>	1%	1%	2%	1%	1%	0%	0%
<i>Total</i>	974	140	206	196	196	150	86

$\chi^2 = 26.7$, $df = 15$, $p < .05$

Table 11 – Concern About Privacy Issues – Most Important Reason

Please tell me which one of the following is the most important reason you are more concerned about privacy issues on the internet than you were five years ago.	Overall	18-24	25-34	35-44	45-54	55-64	65 +
<i>You know more about privacy risks online</i>	48%	42%	59%	41%	51%	47%	46%
<i>You have more to lose if your privacy were violated</i>	30%	32%	23%	29%	29%	32%	39%
<i>You have had an experience that has changed your mind about privacy</i>	17%	22%	13%	23%	15%	17%	12%
<i>Some other reason?</i>	3%	0%	4%	6%	3%	2%	4%
<i>Don't know/refused</i>	2%	4%	0%	2%	2%	2%	0%
<i>Total</i>	532 ¹⁶	74	90	115	107	89	57

$\chi^2 = 23.0$, $df = 20$, $p = .29$: Differences not significant

Penalties for Information Misuse

One way to judge a person's concern about privacy laws is to ask about the penalties that companies or individuals should pay for breaching them. We asked respondents one question related to the monetary penalties a firm should pay and another regarding what should happen to executives involved in illegal privacy breaches. As seen in Tables 12 and 13, the two tendencies we have seen throughout can be found here. Table 12 shows a clear majority of 18-24 year olds selecting the highest dollar amount of punishment offered (more than \$2,500), though a t-test demonstrates that they were

¹⁶ N is small because only people who answered "more concerned" in the previous question were asked this question.

significantly less likely to choose that amount than the rest of the population ($p < .001$), and more likely to select \$1,000 ($p < .05$).

In Table 13, around half of the sample chose the harshest penalties for the companies or individuals—being put out of business and facing jail time, while a third or more thought the company should fund efforts to protect privacy. Though answers to this question are associated with age, 18-24 year olds differed¹⁷ significantly from all other age groups only in selecting “The company should not be punished in any of those ways” ($p < .01$).

Table 12 – Illegal Use of Personal Information

If a company purchases or uses someone’s personal information illegally, about how much—if anything—do you think that company should be fined?	Overall	18-24	25-34	35-44	45-54	55-64	65 +
<i>\$100</i>	2%	3%	3%	1%	1%	1%	2%
<i>\$500</i>	4%	5%	5%	5%	5%	1%	3%
<i>\$1,000</i>	9%	14%	10%	10%	8%	7%	6%
<i>\$2,500</i>	7%	11%	9%	6%	7%	3%	5%
<i>More than \$2,500</i>	69%	54%	63%	68%	76%	79%	77%
<i>It depends</i>	4%	10%	1%	5%	3%	5%	2%
<i>Don’t know/refused</i>	4%	3%	8%	5%	1%	5%	5%
<i>Total</i>	979 ¹⁸	141	207	196	196	152	87

$\chi^2 = 70.8$, $df = 35$, $p < .001$

Table 13 – Punishing Companies for Illegal Uses of Information

Beyond a fine, companies that use a person’s information illegally might be punished in other ways. Which ONE of the following ways to punish companies do you think is most important?	Overall	18-24	25-34	35-44	45-54	55-64	65 +
<i>The company should be put out of business</i>	18%	16%	19%	18%	14%	20%	22%
<i>The company should fund efforts to help people protect privacy</i>	38%	33%	46%	33%	43%	36%	31%
<i>Executives who are responsible should face jail time</i>	35%	40%	29%	40%	33%	34%	40%
<i>The company should not be punished in any of those ways</i>	3%	7%	2%	5%	2%	2%	2%
<i>It depends</i>	2%	0%	2%	2%	2%	3%	2%
<i>Don’t know/refused</i>	4%	4%	3%	3%	7%	5%	2%
<i>Total</i>	973	139	206	197	195	151	85

$\chi^2 = 39.0$, $df = 25$, $p < .05$

¹⁷ 18-24 year olds have a higher percentage choosing the no penalty option.

¹⁸ The slightly inconsistent N is caused by rounding errors as explained in the methods section.

Privacy Knowledge

Do the similarities between young adults and other age groups carry over to knowledge of existing privacy laws? In order to explore this question, we gave the respondents a set of true/false statements to evaluate and answer. (See Table 14.) All of the answers are false. Consistently answering *true* reflects a belief that the law protects an individual’s online and offline privacy more than it does in these common circumstances. We read the statements in separate clusters relating to online and offline privacy; within these clusters, we read the statements in random order. To simplify presentation of the findings, we created a composite index tallying the number correct for each age group.

Table 14 – Online and Offline Privacy Questions

Online Questions	Answer
If a website has a privacy policy, it means that the site cannot share information about you with other companies, unless you give the website your permission.	False
If a website has a privacy policy, it means that the site cannot give your address and purchase history to the government.	False
If a website has a privacy policy, it means that the website must delete information it has about you, such as name and address, if you request them to do so.	False
If a website violates its privacy policy, it means that you have the right to sue the website for violating it.	False
If a company wants to follow your internet use across multiple sites on the internet, it must first obtain your permission.	False
Offline Questions	Answer
When you subscribe to a newspaper or magazine by mail or phone, the publisher is not allowed to sell your address and phone number to other companies without your permission.	False
When you order a pizza by phone for home delivery, the pizza company is not allowed to sell your address and phone number to other companies without your permission.	False
When you enter a sweepstakes contest, the sweepstakes company is not allowed to sell your address or phone number to other companies without your permission.	False
When you give your phone number to a store cashier, the store is not allowed to sell your address or phone number to other companies without your permission.	False

As Table 15 indicates, the savvy that many attribute to younger individuals about the online environment doesn’t appear to translate to privacy knowledge. The entire population of adult Americans exhibits a high level of online-privacy illiteracy; 75 percent answered only two or fewer questions correctly, with 30 percent getting none right. But the youngest adults perform the worst on these measures: 88 percent answered

only two or fewer correctly, and 42 percent could answer none correctly. A t-test shows that the difference between the average number correct for 18-24 year olds and the other adults—1.12 correct compared to 1.61 for the others—is statistically significant ($p < .001$). When focusing particularly on how these differences play out between young adults and the particular groups, a Scheffe test reveals that the 18-24 year olds were more likely to get none correct than the 25-34 and 35-44 year olds ($p < .05$ in both cases). Young adults were also less likely to get 3-4 correct than the 35-44 and 55-64 groups ($p < .05$ in both cases). In all of these statistically significant cases, a substantially larger percentage of young adults know less about online privacy regulations.

When it came to our offline privacy knowledge questions, the differences between young adults and the other age groups were even more pronounced. Eighty-eight percent of 18-24 year olds answered two or fewer of our offline questions correctly, compared to 74 percent overall. A t-test showed that 18-24 year olds only answered 0.9 correctly compared to 1.8 for the other groups ($p < .001$). Moreover, Scheffe tests note statistical significance compared to each of the other groups. Young adults were more likely to answer no questions correctly than any other age group; conversely, they were less likely to answer 3-4 questions correctly than any other age group.

Getting these questions right is important because it indicates whether the respondents know that privacy laws protect them in common commercial transactions. We found that while young adults tend to be similar to older adults in attitudes, practices, and policy preferences regarding information privacy, they are quite more likely than older adults to be wrong in judging whether the legal environment protects them.

Table 15 - Online Privacy Knowledge Questions (5 total)

Age Range	0 Correct	1-2 Correct	3-4 Correct	5 Correct
18-24 (N=139)	42%	46%	11%	1%
25-34 (N=206)	25%	58%	16%	2%
35-44 (N=197)	24%	38%	30%	8%
45-54 (N=196)	26%	48%	24%	3%
55-64 (N=150)	39%	32%	28%	1%
65 and Older (N=86)	31%	43%	24%	1%
Overall (N=974)	30%	45%	22%	3%

$\chi^2 = 73.1, df = 15, p < .001$

Table 16 - Offline Privacy Knowledge Questions (4 total)

Age Range	0 Correct	1-2 Correct	3-4 Correct
18-24 (N=139)	50%	38%	12%
25-34 (N=206)	34%	37%	29%
35-44 (N=197)	24%	33%	43%
45-54 (N=196)	26%	41%	34%
55-64 (N=150)	26%	32%	42%
65 and Older (N=86)	27%	37%	36%
Overall (N=974)	27%	35%	38%

$\chi^2 = 69.9, df = 20, p < .001$

Conclusion

In policy circles, it has become almost a cliché to claim that young people do not care about privacy. Certainly there are many troubling anecdotes surrounding young individuals' use of the internet, and of social networking sites in particular. Nevertheless, we found that in large proportions young adults do care about privacy. The data show that they and older adults are more alike on many privacy topics than they are different. We suggest, then, that young-adult Americans have an aspiration for increased privacy even while they participate in an online reality that is optimized to increase their revelation of personal data.

Public policy agendas should therefore not start with the proposition that young adults do not care about privacy and thus do not need regulations and other safeguards. Rather, policy discussions should acknowledge that the current business environment along with other factors sometimes encourages young adults to release personal data in order to enjoy social inclusion even while in their most rational moments they may espouse more conservative norms. Education may be useful. Although many young adults are exposed to educational programs about the internet, the focus of these programs is on personal safety from online predators and cyberbullying with little emphasis on information security and privacy.¹⁹ Young adults certainly are different from older adults when it comes to knowledge of privacy law. They are more likely to believe that the law protects them both online and off. This lack of knowledge in a tempting environment, rather than a cavalier lack of concern regarding privacy, may be an important reason large numbers of them engage with the digital world in a seemingly unconcerned manner.

But education alone is probably not enough for young adults to reach aspirational levels of privacy. They likely need multiple forms of help from various quarters of society, including perhaps the regulatory arena, to cope with the complex online currents that aim to contradict their best privacy instincts.

¹⁹ "Enhancing Child Safety and Online Technologies: Final Report of the Internet Safety Technical Task Force." The Berkman Center for Internet & Society, December 31, 2008. Available at: <http://cyber.law.harvard.edu/pubrelease/isttf/>