

APRIL 3, 2014

# Older Adults and Technology Use

*Adoption is increasing, but many seniors remain isolated from digital life*

**FOR FURTHER INFORMATION  
ON THIS REPORT:**

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## Main Findings

America's seniors have historically been late adopters to the world of technology compared to their younger compatriots, but their movement into digital life continues to deepen, according to newly released data from the Pew Research Center. In this report, we take advantage of a particularly large survey to conduct a unique exploration not only of technology use between Americans ages 65 or older and the rest of the population, but *within* the senior population as well.

Two different groups of older Americans emerge. The first group (which leans toward younger, more highly educated, or more affluent seniors) has relatively substantial technology assets, and also has a positive view toward the benefits of online platforms. The other (which tends to be older and less affluent, often with significant challenges with health or disability) is largely disconnected from the world of digital tools and services, both physically and psychologically.

As the internet plays an increasingly central role in connecting Americans of all ages to news and information, government services, health resources, and opportunities for social support, these divisions are noteworthy—particularly for the many organizations and individual caregivers who serve the older adult population. Among the key findings of this research:

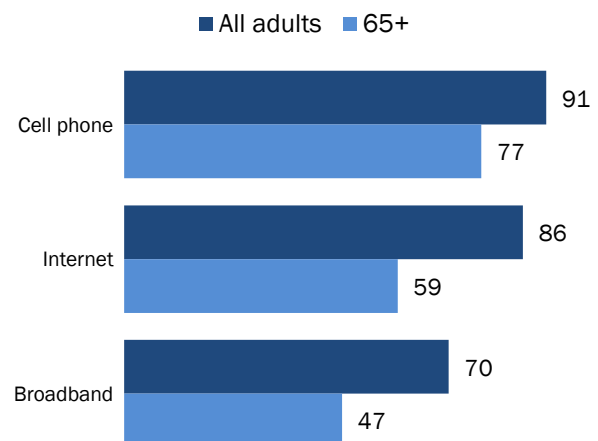
### Six in ten seniors now go online, and just under half are broadband adopters

In April 2012 the Pew Research Center found for the first time that [more than half of older adults](#) (defined as those ages 65 or older) were internet users. Today, 59% of seniors report they go online—a six-percentage point increase in the course of a year—and 47% say they have a high-speed broadband connection at home. In addition, 77% of older adults have a cell phone, up from 69% in April 2012.

But despite these gains, seniors continue to lag behind younger Americans when it comes to tech adoption. And many seniors remain largely unattached from online and mobile life—41% do not use the internet at all, 53% do not have broadband access at home, and 23% do not use cell phones.

### Seniors continue to lag in tech adoption

Seniors vs. all American adults 18+



Pew Research Center's Internet Project July 18-September 30, 2013 tracking survey.

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## Younger, higher-income, and more highly educated seniors use the internet and broadband at rates approaching—or even exceeding—the general population; internet use and broadband adoption each drop off dramatically around age 75

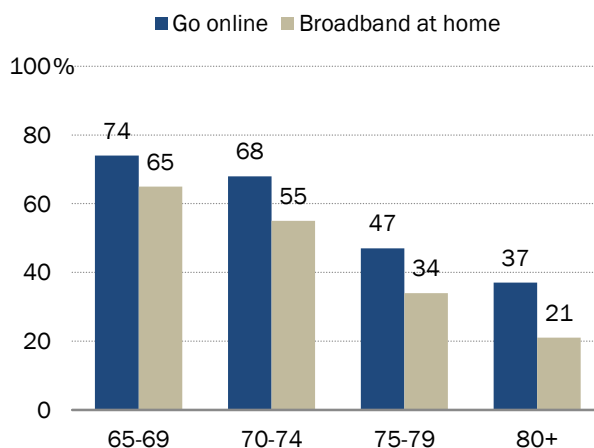
Seniors, like any other demographic group, are not monolithic, and there are important distinctions in their tech adoption patterns, beginning with age itself. Internet use and broadband adoption among seniors each fall off notably starting at approximately age 75. Some 68% of Americans in their early 70s go online, and 55% have broadband at home. By contrast, internet adoption falls to 47% and broadband adoption falls to 34% among 75-79 year olds.

In addition, affluent and well-educated seniors adopt the internet and broadband at substantially higher rates than those with lower levels of income and educational attainment:

- Among seniors with an annual household income of \$75,000 or more, 90% go online and 82% have broadband at home. For seniors earning less than \$30,000 annually, 39% go online and 25% have broadband at home.
- Fully 87% of seniors with a college degree go online, and 76% are broadband adopters. Among seniors who have not attended college, 40% go online and just 27% have broadband at home.

### Among seniors, internet and broadband use drop off around age 75

*% within each age group who ...*



Pew Research Center's Internet Project July 18-September 30, 2013 tracking survey.

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## Older adults face a number of hurdles to adopting new technologies

Older adults face several unique barriers and challenges when it comes to adopting new technologies. These include:

**Physical challenges to using technology:** Many seniors have physical conditions or health issues that make it difficult to use new technologies. Around two in five seniors indicate that they have a “physical or health condition that makes reading difficult or challenging” or a “disability, handicap, or chronic disease that prevents them from fully participating in many common daily

activities”. This group is significantly less likely than seniors who do not face these physical challenges to go online (49% vs. 66%), to have broadband at home (38% vs. 53%), and to own most major digital devices.

**Skeptical attitudes about the benefits of technology:** Older adults who do not currently use the internet are divided on the question of whether that lack of access hurts them or not. Half of these non-users (49%) agree with the statement that “people lacking internet access are at a real disadvantage because of all the information they might be missing,” with 25% agreeing strongly. But 35% of these older non-internet users *disagree* that they are missing out on important information—and 18% of them strongly disagree.

**Difficulties learning to use new technologies:** A significant majority of older adults say they need assistance when it comes to using new digital devices. Just 18% would feel comfortable learning to use a new technology device such as a smartphone or tablet on their own, while 77% indicate they would need someone to help walk them through the process. And among seniors who go online but do not currently use social networking sites such as Facebook or Twitter, 56% would need assistance if they wanted to use these sites to connect with friends or family members.

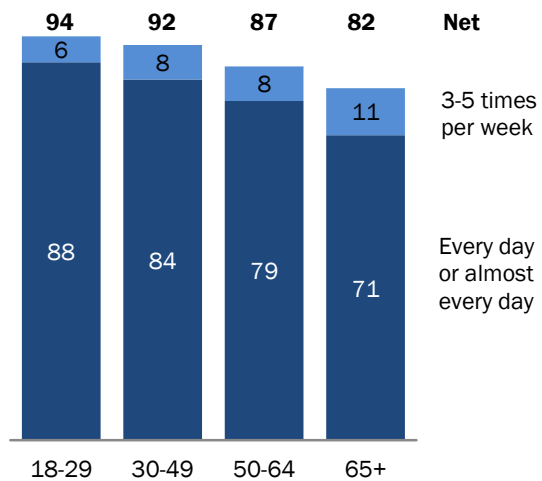
### Once seniors join the online world, digital technology often becomes an integral part of their daily lives

Despite some of these unique challenges facing the older adult population when it comes to technology, most seniors who become internet users make visiting the digital world a regular occurrence. Among older adults who use the internet, 71% go online every day or almost every day, and an additional 11% go online three to five times per week.

These older internet users also have strongly positive attitudes about the benefits of online information in their personal lives. Fully 79% of older adults who use the internet agree with the statement that “people without internet access are at a real disadvantage because of all the information they might be missing,” while 94%

### A majority of older internet users go online on a daily basis

% of internet users in each age group who go online ...



Pew Research Center's Internet Project July 18-September 30, 2013 tracking survey.

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agree with the statement that “the internet makes it much easier to find information today than in the past.”

### Seniors differ from the general population in their device ownership habits

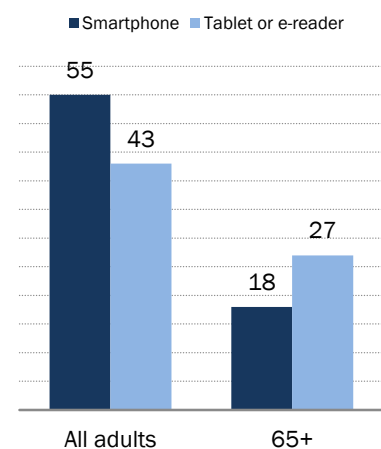
Device ownership among older adults differs notably from the population as a whole in several specific ways:

**Few older adults are smartphone owners:** More than half of all Americans now have a smartphone, but among older adults, adoption levels sit at just 18%. Additionally, smartphone ownership among older adults has risen only modestly in recent years, from 11% in April 2011. A significant majority of older adults (77%) do have a cell phone of some kind, but by and large these tend to be more basic devices.

**Among older adults, tablets and e-book readers are as popular as smartphones:** Among the general public, smartphones are much more common than either tablet computers or e-book readers, such as Kindles or Nooks. But tablets, e-book readers, and smartphones are each owned by an identical 18% of older adults. In fact, the proportion of older adults who own *either* a tablet *or* an e-book reader is actually larger than the proportion owning a smartphone. Some 27% of seniors own a tablet, an e-book reader, or both, while 18% own a smartphone.

### Seniors are more likely to own a tablet or e-book reader than smartphone

*% who own a ...*



Pew Research Center's Internet Project July 18-September 30, 2013 tracking survey.

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## **27% of older adults use social networking sites such as Facebook, but these users socialize more frequently with others compared with non-SNS users**

Today 46% of online seniors (representing 27% of the total older adult population) use social networking sites such as Facebook, and these social network adopters have more persistent social connections with the people they care about.

Some 81% of older adults who use social networking sites say that they socialize with others (either in person, online, or over the telephone) on a daily or near-daily basis. Among older adults who go online but do not use social networking sites, that figure is 71%; and for those who are not online at all, it is 63%.

### **About this survey**

The findings in this report are based on data from telephone interviews conducted by Princeton Survey Research Associates International from July 18 to September 30, 2013, among a sample of 6,010 adults ages 18 and older. Telephone interviews were conducted in English and Spanish by landline and cell phone. The margin of error for those ages 65 or older (n=1,526) is plus or minus 2.9 percentage points. Base sizes and margins of error for the subgroups of the senior population discussed throughout this report can be found in the Methods section.

### **About Pew Research Center**

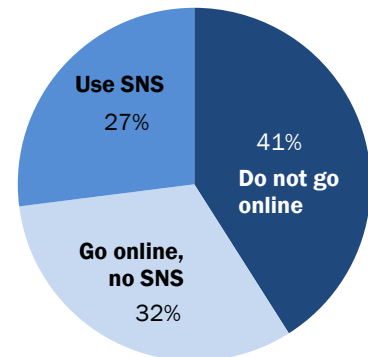
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## **One-quarter of seniors use online social networks**

*% of seniors who ...*



Pew Research Center's Internet Project July 18-September 30, 2013 tracking survey.

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## Usage and Adoption

### Internet and broadband adoption rates among seniors are steadily increasing, but still well below the national average

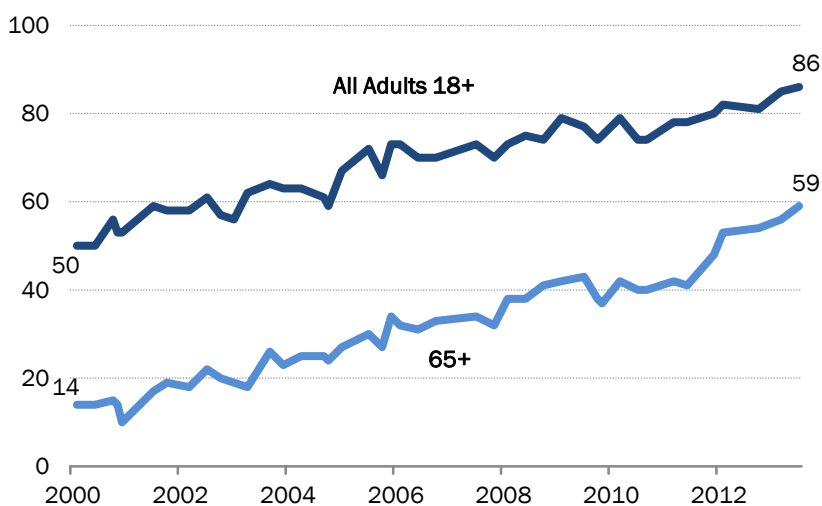
Six in ten seniors—59%—report using the internet. This is a six percentage point year-over-year increase from the 53% of older adults who went online at a similar point in 2012. Five years ago in May 2008, just 35% of older adults were internet users.

However, usage rates among seniors still trail the population as a whole by a substantial margin, as some 86% of all U.S. adults now go online.

The story with broadband adoption is similar. Today 47% of seniors have a high-speed internet connection at home, up from the 39% of seniors with broadband in May 2012, but significantly below the current national broadband adoption rate of 70%. At the same time, broadband adoption among older adults has more than doubled over a five-year period: in May 2008 just 19% of seniors were broadband adopters.

#### Internet adoption over time, seniors vs. all adults

*% of seniors/all adults who go online, 2000-2013*



Pew Research Center's Internet Project tracking surveys.

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### Younger, higher-income, and more highly educated seniors use the internet and broadband at rates approaching the general population

Despite these low overall levels of usage as a group, certain portions of the senior population have internet and broadband adoption rates that are equal to—or in some cases greater than—rates among the general public. Three particular types of seniors tend to stand out in this regard:

- **Those in their mid-to late-60s**—74% of seniors in the 65-69 age group go online, and 65% have broadband at home.
- **Higher-income seniors**—Among seniors with an annual household income of \$75,000 or more, fully 90% go online and 82% have broadband at home.

- **College graduates**—87% of seniors with a college degree go online, and 76% are broadband adopters.

On the other hand, other subgroups of older adults—in particular, those 80 years of age or older, those with low household incomes, and those who have not attended college—tend to be much more removed from online life. For example, slightly more than one third of those 80 years of age or older (37%) use the internet, and just one in five members of this age group—21%—have a broadband connection at home. Overall adoption levels are similar among seniors who have not attended college, as well as among those with an annual household income of less than \$30,000 per year.

### Internet and broadband adoption among seniors

*% of seniors (ages 65 and older) who ...*

	Go online	Broadband at home
Total for all 65+	59%	47%
<b>Age</b>		
65-69	74	65
70-74	68	55
75-79	47	34
80+	37	21
<b>Education</b>		
High school grad or less	40	27
Some college	69	57
College graduate	87	76
<b>Household Income</b>		
<\$30,000	39	25
\$30,000-\$49,999	63	51
\$50,000-\$74,999	86	73
\$75,000+	90	82

Pew Research Center's Internet Project July 18-September 30, 2013 tracking survey.

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### Mobile adoption: A substantial majority of seniors now own cell phones, but smartphones remain rare within the 65-and-older population

Fully 77% of seniors are now cell phone owners. This trails the national average—91% of all Americans own a cell phone—but represents a significant year-to-year increase over the 69% of seniors who owned a cell phone in April 2012. More notably, cell phones are now owned by a majority of seniors in every major demographic subcategory. Even among the oldest seniors (those 80 years of age or older, just 37% of whom use the internet), cell phone adoption sits at 61%.

But even as cell phones are becoming more common among seniors, smartphones have yet to catch on with all but small pockets of the older adult population. Just 18% of seniors are smartphone adopters (this is well below the national adoption rate of 55%) and their rate of smartphone adoption has been growing at a relatively modest pace. Since the Pew Research Center first began tracking data on smartphone ownership in May 2011, smartphone adoption nationally



has increased by 20 percentage points—from 35% to 55% of American adults—but adoption levels among seniors have increased by just seven percentage points, from 11% to 18%.

Smartphone ownership is fairly low along the entire age spectrum of the older adult population, but decreases substantially for seniors in their mid-70s (10% of 75-79 year olds own a smartphone), and becomes nearly non-existent among seniors in their 80s and beyond (just 5% of those 80 and older are smartphone owners).

Even the most affluent seniors (that is, those who live in a household with an annual income of \$75,000 or more) have high levels of smartphone ownership by the standards of the older adult population but

trail members of the general population at a similar income level. Some 42% of older adults at this income level are smartphone owners. This is more than double the rate among seniors as a whole, but roughly half the smartphone ownership rate among high-income adults within the general population, 76% of whom are smartphone adopters.

### **As is the case in the population as a whole, tablets and e-book readers are primarily “elite” devices among older adults**

Some 18% of seniors own an e-book reader, and an identical 18% own a tablet computer. Taken together, 27% of older adults own a tablet, an e-book reader, or both.

E-book reader ownership levels among seniors are slightly lower than the national average (24% of all U.S. adults are e-book reader owners), while tablet ownership levels among seniors are around half the national average (34% of all U.S. adults are tablet owners).

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### **Cell phone and smartphone adoption among seniors**

*% of seniors (ages 65 and older) who own a ...*

	<b>Cell phone</b>	<b>Smartphone</b>
Total for all 65+	77%	18%
<b>Age</b>		
65-69	84	29
70-74	84	21
75-79	72	10
80+	61	5
<b>Education</b>		
High school grad or less	70	10
Some college	80	19
College graduate	87	35
<b>Household Income</b>		
<\$30,000	67	8
\$30,000-\$49,999	83	15
\$50,000-\$74,999	88	28
\$75,000+	92	42

Pew Research Center's Internet Project July 18-September 30, 2013 tracking survey.

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Nationally, tablets and e-book readers are [most popular among college graduates and higher-income Americans](#), and this is also true among seniors. Seniors who have graduated from college are around three times as likely to own both an e-book reader and a tablet as are seniors who have not attended college, and those with an annual household income of \$75,000 or more per year are around four times as likely to own each device as are those with a household income of less than \$30,000 per year.

### Tablet and e-book reader adoption among seniors

*% of seniors (ages 65 and older) who own a ...*

	e-book reader	Tablet computer
Total for all 65+	18%	18%
<b>Age</b>		
65-69	23	23
70-74	19	18
75-79	18	20
80+	10	9
<b>Education</b>		
High school grad or less	12	11
Some college	19	19
College graduate	30	31
<b>Household Income</b>		
<\$30,000	8	8
\$30,000-\$49,999	17	16
\$50,000-\$74,999	33	28
\$75,000+	33	39

Pew Research Center's Internet Project July 18-September 30, 2013 tracking survey.

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### 46% of online seniors use social networking sites, but just 6% use Twitter

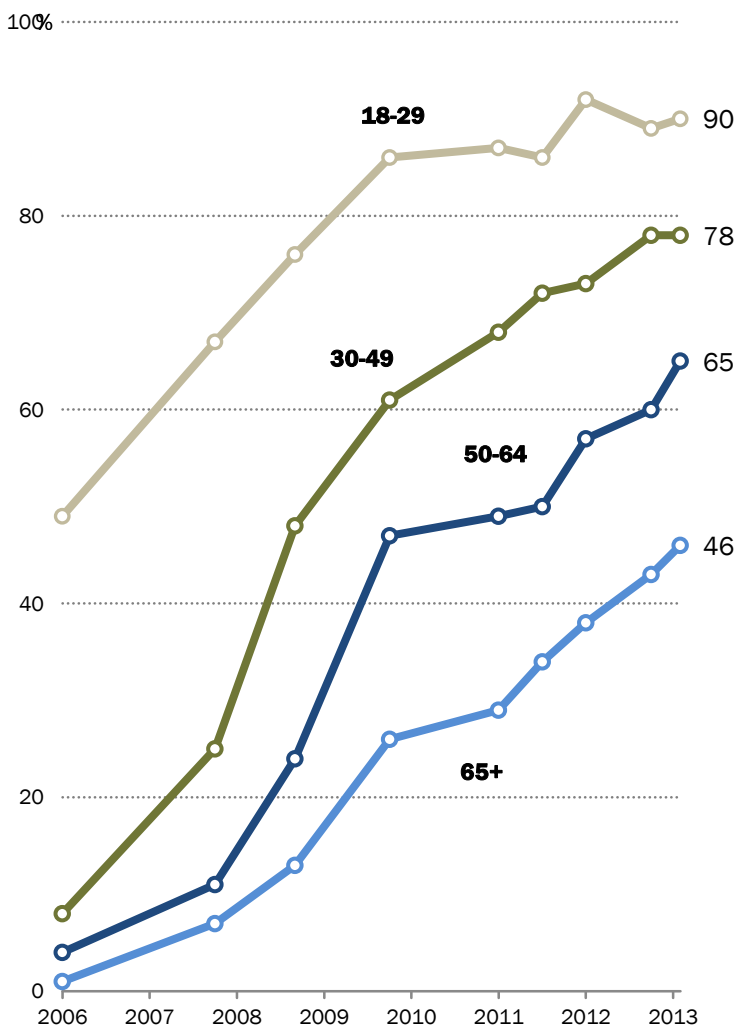
Usage of social networking sites by older Americans has been [steadily increasing in recent years](#), but has not yet reached majority status—among older adults who use the internet, 46% use social networking sites such as Facebook, well below the national average of 73% of adult internet users. On a “total population” basis (that is, accounting for individuals who do not use the internet at all), 63% of all American adults, and 27% of all Americans ages 65 and older, are social networking site users.

As is the case for the online population as a whole, older women are more likely than older men to use social networking sites. Half (52%) of female internet users ages 65+ are social networking site adopters, compared with 39% of older men. Social networking site usage is also more common among the younger cohort of seniors, and adoption drops off dramatically after age 80. Some 54% of internet users ages 65-69 use social networking sites, compared with just 27% of internet users ages 80 and older.

Few older adults use Twitter—just 6% of online seniors report doing so, compared with 19% of all adult internet users. In total, that means that just 3% of *all* American seniors are Twitter users.

### Social networking site use over time, by age group

*% of internet users in each age group who use social networking sites*



Pew Research Center's Internet Project surveys.

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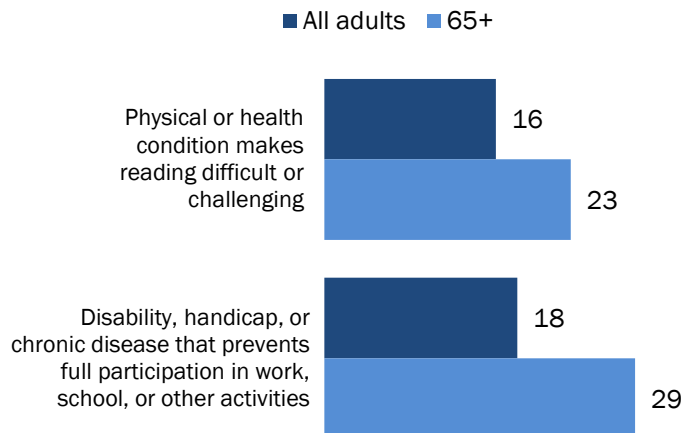
## Attitudes, Impacts, and Barriers to Adoption

### Many seniors face physical challenges to using new digital devices

Not only do seniors use many common technologies at relatively low rates, they also face unique barriers and challenges to increasing those adoption levels.<sup>1</sup> For example, many seniors have physical conditions or health issues that make using these tools a challenge: 23% of older adults indicate that they have a “physical or health condition that makes reading difficult or challenging,” while 29% have a “disability, handicap, or chronic disease that prevents them from fully participating in many common daily activities.”<sup>2</sup>

#### Older adults more likely to have physical or health conditions that make tech use challenging

*% of adults in each age group who have ...*



Pew Research Center's Internet Project July 18-September 30, 2013 tracking survey.

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In total, some 39% of older adults fall into one of these two categories, and they are significantly less likely than seniors who do not face these physical challenges to go online (49% vs. 66%), to have broadband at home (38% vs. 53%), to own a cell phone (69% vs. 82%), and to have a smartphone (13% vs. 22%).

Interestingly, differences in technology adoption between these “physically challenged” seniors and the rest of the older adult population are somewhat more modest when it comes to tablets and e-book readers. Some 22% of seniors with a life-impacting disability or chronic disease, or a physical condition that makes reading difficult, own either a tablet computer or an e-book reader,

<sup>1</sup> In previous Pew Research surveys on this subject, we have found that many seniors take a skeptical view towards the potential benefits of new technologies and their relevance to their lives. For example, a [recent Pew Research study of smartphone adoption](#) found that older adults were especially likely to cite a lack of need or relevance—as opposed to price—as the main reason why they have not upgraded from a basic cell phone to a smartphone.

<sup>2</sup> We have previously reported that 75% of seniors live with a chronic health condition and have documented the role of technology in their lives (see <http://www.pewinternet.org/2013/11/26/part-one-who-lives-with-chronic-conditions/>). That study was based on a more expansive series of questions about specific health conditions (diabetes, high blood pressure, cancer, etc.), while this study defines “physically challenged” seniors using the simpler, two-part set of questions noted above.

just eight percentage points lower than the 30% ownership rate among seniors who do not have any of these conditions.

### **Most older adults say they would need assistance learning how to use new devices and digital services**

In addition to the issues of health or disability discussed above, a substantial majority of seniors express trepidation about using new digital tools or devices without assistance. When asked how they would learn how to use a new technology device such as a tablet computer or smartphone if they wished to do so, only a small proportion of seniors—18%—express comfort with learning how to do so without assistance, while 77% indicate that they would need someone else to help them.

Not surprisingly, this concern about “going it alone” with new technologies is especially acute among seniors with limited exposure to these devices. Among seniors who do not currently own a smartphone, a tablet computer, or an e-book reader, just 13% would feel comfortable attempting to use a new technology device without assistance. At the same time, even those with some level of exposure to technology express a fair amount of trepidation about branching out to new devices without assistance. Among older adults who do own one or more of the devices listed above, 29% would feel comfortable using new devices on their own—but 70% think they would need to ask for assistance.

This general discomfort with new technologies also extends to online communications platforms such as Facebook. Among seniors who do use the internet but do not currently use social networking sites such as Facebook or Twitter, 56% say they would require assistance if they wished to use these sites to connect with friends or family members. Just 24% of these seniors feel comfortable jumping into the social media environment without someone there to guide them (the other 20% of these non-SNS-users were unsure how they would react or were unable to answer the question). Older adults who currently use a social networking site of some kind have more confidence in their abilities: some 68% of these seniors would feel comfortable using social media on their own to connect with family or friends.

### **Once online, most seniors make the internet a daily part of their lives and view it in a positive light. Non-users are divided on the relative merits of going online.**

Although seniors are less likely than the rest of the population to go online in the first place, once there they tend to make the internet a part of their daily routine. Among seniors who use the internet, 71% go online every day or almost every day and 11% go online three to five times per week. The subset of seniors who have a smartphone or a home broadband connection go online

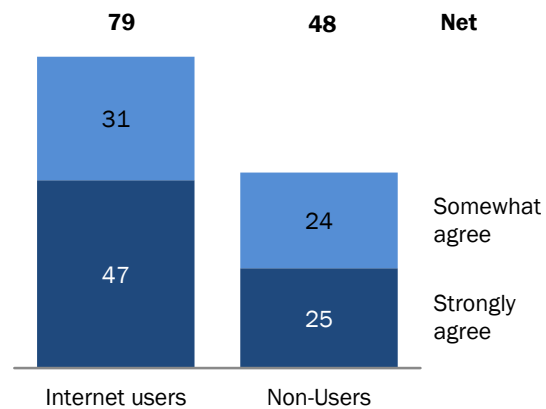
with even greater frequency: 78% of older broadband users go online every day or almost every day, as do 84% of older smartphone owners.

In addition to using digital tools with some frequency, seniors who have integrated the internet and other digital technologies into their lives tend to view them as essential resources that positively impact their daily life. Fully 79% of older adults who use the internet agree (47% strongly) with the statement that “people without internet access are at a real disadvantage because of all the information they might be missing.” And 94% agree (77% strongly) with the statement that “the internet makes it much easier to find information today than in the past.”

Seniors who do not currently go online, on the other hand, are much more divided when it comes to the benefits of technology. Half of these non-users (48%) agree that people lacking internet access are at a disadvantage and missing out on important information, with 25% agreeing strongly. But 35% of older non-internet users *disagree* with the assessment that they are missing out on important information—with 18% of them disagreeing strongly.

### Many older non-internet users don't think they are missing out on much

*% of those 65 and older who agree with the statement: “People without internet access are at a real disadvantage because of all the information they might be missing”*



Pew Research Center's Internet Project July 18-September 30, 2013 tracking survey

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### Older social networking site users socialize more frequently with friends and family members than do non-users.

For a variety of reasons (such as physical distance from family members and/or lack of mobility) some older adults often have difficulty connecting with friends and family members in person. For these seniors, social networking sites can offer an additional venue for connection and socializing with others—and indeed, older adults who use social networking sites such as Facebook are more likely to regularly socialize with friends, whether online, in person, or over the telephone, compared with seniors who are not social networking site users. Some 81% of older adults who use social networking sites say they socialize with others on a daily or near-daily basis. Among older adults who go online but do not use social networking sites, that figure is 71%; and for those who are not online at all, it is 63%. And this correlation between social networking site use and

increased socialization with others persists even when we control for common demographic factors such as age, income, or geographic area of residence.<sup>3</sup>

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<sup>3</sup> In previous studies of the general population, we have found that Facebook users are more trusting, get more support from their friends, and have a larger number of close relationships compared with non-Facebook users. See <http://www.pewinternet.org/2011/06/16/social-networking-sites-and-our-lives/> for more details.

## Appendix—Detailed Demographic Tables

### Internet usage for older adults

*% of those 65 and older who use the internet or email*

Total for all 65+ (n=1,526)	59%
<b>Gender</b>	
a Male (n=612)	65 <sup>b</sup>
b Female (n=914)	55
<b>Age</b>	
a 65-69 (n=531)	74 <sup>cd</sup>
b 70-74 (n=401)	68 <sup>cd</sup>
c 75-79 (n=244)	47 <sup>d</sup>
d 80+ (n=350)	37
<b>Education</b>	
a High school grad or less (n=598)	40
b Some college (n=381)	69 <sup>a</sup>
c College graduate (n=537)	87 <sup>ab</sup>
<b>Household Income</b>	
a <\$30,000 (n=467)	39
b \$30,000-\$49,999 (n=282)	63 <sup>a</sup>
c \$50,000-\$74,999 (n=192)	86 <sup>ab</sup>
d \$75,000+ (n=274)	90 <sup>ab</sup>
<b>Community Type</b>	
a Urban (n=413)	60 <sup>c</sup>
b Suburban (n=758)	63 <sup>c</sup>
c Rural (n=355)	50

Pew Research Center's Internet Project July 18-September 30, 2013 tracking survey.

Note: Columns marked with a superscript letter (<sup>a</sup>) or another letter indicate a statistically significant difference between that row and the row designated by that superscript letter. Statistical significance is determined inside the specific section covering each demographic trait.

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## Broadband adoption for older adults

*% of those 65 and older with broadband at home*

	Total for all 65+ (n=1,526)	47%
<b>Gender</b>		
a	Male (n=612)	53 <sup>b</sup>
b	Female (n=914)	43
<b>Age</b>		
a	65-69 (n=531)	65 <sup>bcd</sup>
b	70-74 (n=401)	55 <sup>cd</sup>
c	75-79 (n=244)	34 <sup>d</sup>
d	80+ (n=350)	21
<b>Education</b>		
a	High school grad or less (n=598)	27
b	Some college (n=381)	57 <sup>a</sup>
c	College graduate (n=537)	76 <sup>ab</sup>
<b>Household Income</b>		
a	<\$30,000 (n=467)	25
b	\$30,000-\$49,999 (n=282)	51 <sup>a</sup>
c	\$50,000-\$74,999 (n=192)	73 <sup>ab</sup>
d	\$75,000+ (n=274)	82 <sup>abc</sup>
<b>Community Type</b>		
a	Urban (n=413)	48
b	Suburban (n=758)	50 <sup>c</sup>
c	Rural (n=355)	40

Pew Research Center's Internet Project July 18-September 30, 2013 tracking survey.

Note: Columns marked with a superscript letter (<sup>a</sup>) or another letter indicate a statistically significant difference between that row and the row designated by that superscript letter. Statistical significance is determined inside the specific section covering each demographic trait.

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## Cell phone ownership for older adults

*% of those 65 and older who have a cell phone of some kind*

Total for all 65+ (n=1,526)	77%
<b>Gender</b>	
a Male (n=612)	82 <sup>b</sup>
b Female (n=914)	73
<b>Age</b>	
a 65-69 (n=531)	84 <sup>cd</sup>
b 70-74 (n=401)	84 <sup>cd</sup>
c 75-79 (n=244)	72 <sup>d</sup>
d 80+ (n=350)	61
<b>Education</b>	
a High school grad or less (n=598)	70
b Some college (n=381)	80 <sup>a</sup>
c College graduate (n=537)	87 <sup>ab</sup>
<b>Household Income</b>	
a <\$30,000 (n=467)	67
b \$30,000-\$49,999 (n=282)	83 <sup>a</sup>
c \$50,000-\$74,999 (n=192)	88 <sup>a</sup>
d \$75,000+ (n=274)	92 <sup>ab</sup>
<b>Community Type</b>	
a Urban (n=413)	77 <sup>c</sup>
b Suburban (n=758)	80 <sup>c</sup>
c Rural (n=355)	69

Pew Research Center's Internet Project July 18-September 30, 2013 tracking survey.

Note: Columns marked with a superscript letter (<sup>a</sup>) or another letter indicate a statistically significant difference between that row and the row designated by that superscript letter. Statistical significance is determined inside the specific section covering each demographic trait.

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## Smartphone ownership for older adults

*% of those 65 and older who own a smartphone*

	Total for all 65+ (n=1,526)	18%
<b>Gender</b>		
a	Male (n=612)	22 <sup>b</sup>
b	Female (n=914)	15
<b>Age</b>		
a	65-69 (n=531)	29 <sup>bcd</sup>
b	70-74 (n=401)	21 <sup>cd</sup>
c	75-79 (n=244)	10 <sup>d</sup>
d	80+ (n=350)	5
<b>Education</b>		
a	High school grad or less (n=598)	10
b	Some college (n=381)	19 <sup>a</sup>
c	College graduate (n=537)	35 <sup>ab</sup>
<b>Household Income</b>		
a	<\$30,000 (n=467)	8
b	\$30,000-\$49,999 (n=282)	15 <sup>a</sup>
c	\$50,000-\$74,999 (n=192)	28 <sup>ab</sup>
d	\$75,000+ (n=274)	42 <sup>abc</sup>
<b>Community Type</b>		
a	Urban (n=413)	20 <sup>c</sup>
b	Suburban (n=758)	20 <sup>c</sup>
c	Rural (n=355)	12

Pew Research Center's Internet Project July 18-September 30, 2013 tracking survey.

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## Tablet computer ownership for older adults

*% of those 65 and older who own a tablet computer*

Total for all 65+ (n=1,526)	18%
<b>Gender</b>	
a Male (n=612)	20
b Female (n=914)	17
<b>Age</b>	
a 65-69 (n=531)	23 <sup>d</sup>
b 70-74 (n=401)	18 <sup>d</sup>
c 75-79 (n=244)	20 <sup>d</sup>
d 80+ (n=350)	9
<b>Education</b>	
a High school grad or less (n=598)	11
b Some college (n=381)	19 <sup>a</sup>
c College graduate (n=537)	31 <sup>ab</sup>
<b>Household Income</b>	
a <\$30,000 (n=467)	8
b \$30,000-\$49,999 (n=282)	16 <sup>a</sup>
c \$50,000-\$74,999 (n=192)	28 <sup>ab</sup>
d \$75,000+ (n=274)	39 <sup>abc</sup>
<b>Community Type</b>	
a Urban (n=413)	20 <sup>c</sup>
b Suburban (n=758)	19
c Rural (n=355)	14

Pew Research Center's Internet Project July 18-September 30, 2013 tracking survey.

Note: Columns marked with a superscript letter (<sup>a</sup>) or another letter indicate a statistically significant difference between that row and the row designated by that superscript letter. Statistical significance is determined inside the specific section covering each demographic trait.

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## E-book reader ownership for older adults

*% of those 65 and older who own an e-book reader*

Total for all 65+ (n=1,526)	18%
<b>Gender</b>	
a Male (n=612)	17
b Female (n=914)	19
<b>Age</b>	
a 65-69 (n=531)	23 <sup>d</sup>
b 70-74 (n=401)	19 <sup>d</sup>
c 75-79 (n=244)	18 <sup>d</sup>
d 80+ (n=350)	10
<b>Education</b>	
a High school grad or less (n=598)	12
b Some college (n=381)	19 <sup>a</sup>
c College graduate (n=537)	30 <sup>ab</sup>
<b>Household Income</b>	
a <\$30,000 (n=467)	8
b \$30,000-\$49,999 (n=282)	17 <sup>a</sup>
c \$50,000-\$74,999 (n=192)	33 <sup>ab</sup>
d \$75,000+ (n=274)	33 <sup>ab</sup>
<b>Community Type</b>	
a Urban (n=413)	19
b Suburban (n=758)	19
c Rural (n=355)	15

Pew Research Center's Internet Project July 18-September 30, 2013 tracking survey.

Note: Columns marked with a superscript letter (<sup>a</sup>) or another letter indicate a statistically significant difference between that row and the row designated by that superscript letter. Statistical significance is determined inside the specific section covering each demographic trait.

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## Social networking site usage for older adults

*% of those 65 and older who use social networking sites*

	Based on <u>internet users 65+</u>	Based on <u>all adults 65+</u>
All 65+	46%	27%
<b>Gender</b>		
a Male	39	25
b Female	52 <sup>a</sup>	29
<b>Age</b>		
a 65-69	54 <sup>bd</sup>	40 <sup>bcd</sup>
b 70-74	42 <sup>d</sup>	29 <sup>d</sup>
c 75-79	46 <sup>d</sup>	21 <sup>d</sup>
d 80+	27	10
<b>Education</b>		
a High school grad or less	44	18
b Some college	44	31 <sup>a</sup>
c College graduate	48	42 <sup>ab</sup>
<b>Household Income</b>		
a <\$30,000	41	16
b \$30,000-\$49,999	47	30 <sup>a</sup>
c \$50,000-\$74,999	49	42 <sup>ab</sup>
d \$75,000+	51	46 <sup>ab</sup>
<b>Community Type</b>		
a Urban	47	28
b Suburban	45	28
c Rural	47	23

Pew Research Center's Internet Project July 18-September 30, 2013 tracking survey.

Note: Columns marked with a superscript letter (<sup>a</sup>) or another letter indicate a statistically significant difference between that row and the row designated by that superscript letter. Statistical significance is determined inside the specific section covering each demographic trait.

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## Twitter usage for older adults

*% of those 65 and older who use Twitter*

All 65+	Based on <u>internet users 65+</u>	Based on <u>all adults 65+</u>
	6%	3%
<b>Gender</b>		
a Male	6	4
b Female	5	3
<b>Age</b>		
a 65-69	8 <sup>bd</sup>	6 <sup>bcd</sup>
b 70-74	4	3
c 75-79	4	2
d 80+	4	1
<b>Education</b>		
a High school grad or less	4	2
b Some college	6	4
c College graduate	7	6 <sup>a</sup>
<b>Household Income</b>		
a <\$30,000	9 <sup>c</sup>	3
b \$30,000-\$49,999	4	3
c \$50,000-\$74,999	3	2
d \$75,000+	8 <sup>c</sup>	7 <sup>bc</sup>
<b>Community Type</b>		
a Urban	6	4
b Suburban	6	4 <sup>c</sup>
c Rural	3	1

Pew Research Center's Internet Project July 18-September 30, 2013 tracking survey.

Note: Columns marked with a superscript letter (<sup>a</sup>) or another letter indicate a statistically significant difference between that row and the row designated by that superscript letter. Statistical significance is determined inside the specific section covering each demographic trait.

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## Methods

The Pew Research Center Library Survey, sponsored by the Pew Research Center's Internet & American Life Project and the Gates Foundation, obtained telephone interviews with a nationally representative sample of 6,224 people ages 16 and older living in the United States. Interviews were conducted via landline (nLL=3,122) and cell phone (nC=3,102, including 1,588 without a landline phone). The survey was conducted by Princeton Survey Research Associates International. The interviews were administered in English and Spanish by Princeton Data Source from July 18 to September 30, 2013. Statistical results are weighted to correct known demographic discrepancies. The margin of sampling error for results based on the complete set of weighted data is  $\pm 1.4$  percentage points. Results based on the 5,320 internet users have a margin of sampling error of  $\pm 1.5$  percentage points.

A combination of landline and cellular random digit dial (RDD) samples was used to represent all adults in the United States who have access to either a landline or cellular telephone. Both samples were provided by Survey Sampling International, LLC (SSI) according to PSRAI specifications. Numbers for the landline sample were drawn with probabilities in proportion to their share of listed telephone households from active blocks (area code + exchange + two-digit block number) that contained three or more residential directory listings. The cellular sample was not list-assisted, but was drawn through a systematic sampling from dedicated wireless 100-blocks and shared service 100-blocks with no directory-listed landline numbers.

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### Sample sizes and margins of error for older adults

*Based on adults ages 65 and older*

	Unweighted sample size	Plus or minus...
All 65+	1,526	2.9 percentage point
Men	612	4.6 ppt
Women	914	3.8 ppt
65-69	531	5.0 ppt
70-74	401	5.7 ppt
75-79	244	7.3 ppt
80+	350	6.1 ppt
HS Grad or less	598	4.7 ppt
Some college	381	5.8 ppt
College grad	537	4.9 ppt
<\$30,000 HH income	467	5.3 ppt
\$30,000-<\$50,000	282	6.8 ppt
\$50,000-<\$74,999	192	8.2 ppt
\$75,000 or more	274	6.9 ppt
Urban	413	5.6 ppt
Suburban	758	4.1 ppt
Rural	355	6.1 ppt

Pew Research Center's Internet Project July 18-September 30, 2013 tracking survey.

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Interviews were conducted from July 18 to September 30, 2013. As many as 10 attempts were made to contact every sampled telephone number. Sample was released for interviewing in replicates, which are representative subsamples of the larger sample. Using replicates to control the release of sample ensures that complete call procedures are followed for the entire sample. Calls were staggered over times of day and days of the week to maximize the chance of making contact with potential respondents. Interviewing was spread as evenly as possible across the days in field. Each telephone number was called at least one time during the day in an attempt to complete an interview.

For the landline sample, interviewers asked to speak with the youngest male or female ages 16 or older currently at home based on a random rotation. If no male/female was available, interviewers asked to speak with the youngest person age 16 or older 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 interviewing.

For the cellular sample, interviews were conducted with the person who answered the phone. Interviewers verified that the person was age 16 or older and in a safe place before administering the survey. Cellular respondents were offered a post-paid cash reimbursement for their participation. Weighting is generally used in survey analysis to compensate for sample designs and patterns of non-response that might bias results. The sample was weighted to match national adult general population parameters. A two-stage weighting procedure was used to weight this dual-frame sample.

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. This weighting also adjusts for the overlapping landline and cell sample frames and the relative sizes of each frame and each sample.

The second stage of weighting balances sample demographics to population parameters. The sample is balanced to match national population parameters for sex, age, education, race, Hispanic origin, region (U.S. Census definitions), population density, and telephone usage. The Hispanic origin was split out based on nativity; U.S born and non-U.S. born. The White, non-Hispanic subgroup was also balanced on age, education and region. The basic weighting parameters came from the US Census Bureau's 2011 American Community Survey data. The population density parameter was derived from Census 2010 data. The telephone usage parameter came from an analysis of the July-December 2012 National Health Interview Survey.

Weighting was accomplished using Sample Balancing, a special iterative sample weighting program that simultaneously balances the distributions of all variables using a statistical technique called the Deming Algorithm. Weights were trimmed to prevent individual interviews from having too much influence on the final results. The use of these weights in statistical analysis ensures that the demographic characteristics of the sample closely approximate the demographic characteristics of the national population.

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 respondents in the sample that were ultimately interviewed. At PSRAI it is calculated by taking the product of three component rates:

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

**Table 2: Sample Disposition**

<u>Landline</u>	<u>Cell</u>	
116,709	61,496	Total Numbers Dialed
5,165	1,052	Non-residential
4,316	225	Computer/Fax
30	0	Cell phone
70,002	25,290	Other not working
5,084	497	Additional projected not working
32,113	34,432	Working numbers
27.5%	56.0%	Working Rate
1,695	166	No Answer / Busy
8,341	6,795	Voice Mail
116	50	Other Non-Contact
21,961	27,421	Contacted numbers
68.4%	79.6%	Contact Rate
843	3,543	Callback
17,666	19,219	Refusal
3,452	4659	Cooperating numbers

15.7%	17.0%	Cooperation Rate
204	228	Language Barrier
0	1,250	Child's cell phone
3,248	3,181	Eligible numbers
94.1%	68.3%	Eligibility Rate
126	78	Break-off
3,122	3,103	Completes
96.1%	97.5%	Completion Rate
10.3%	13.2%	Response Rate

Thus the response rate for the landline sample was 10 percent. The response rate for the cellular sample was 13 percent.