



Pew Internet
Pew Internet & American Life Project

a project of the
PewResearchCenter

Americans and their cell phones

Mobile devices help people solve problems and stave off boredom, but create some new challenges and annoyances

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<http://pewinternet.org/Reports/2011/Cell-Phones.aspx>

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Key Findings

Mobile phones have become a near-ubiquitous tool for information-seeking and communicating: 83% of American adults own some kind of cell phone. These devices have an impact on many aspects of their owners' daily lives. In a telephone survey conducted from April 26 to May 22, 2011 among a nationally-representative sample of Americans, the Pew Research Center's Internet & American Life Project found that, during the 30 days preceding the interview:

- **Cell phones are useful for quick information retrieval (so much so that their absence can cause problems)** – Half of all adult cell owners (51%) had used their phone at least once to get information they needed right away. One quarter (27%) said that they experienced a situation in the previous month in which they had trouble doing something because they did not have their phone at hand.
- **Cell phones are an important tool in emergency situations** – 40% of cell owners said they found themselves in an emergency situation in which having their phone with them helped.
- **Cell phones can help stave off boredom** – 42% of cell owners used their phone for entertainment when they were bored.
- **Despite their advantages, some cell phone owners just need an occasional break** – 29% of cell owners turned their phone off for a period of time just to get a break from using it.
- **With advantages comes frustration** – 20% of cell owners experienced frustration because their phone was taking too long to download something; 16% had difficulty reading something on their phone because the screen was too small; and 10% had difficulty entering a lot of text on their phone.
- **Cell phones can help prevent unwanted personal interactions** – 13% of cell owners pretended to be using their phone in order to avoid interacting with the people around them.

Young adults (those between the ages of 18 and 29) are especially likely to say that they have encountered several of these situations recently:

- 70% of 18-29 year old cell owners have used their phone for entertainment when they were bored
- 64% have used their phone to quickly retrieve information they needed
- 42% have had trouble doing something because they did not have their phone nearby
- 30% have used their phone to avoid interacting with the people around them

Text messaging and picture taking are the most common uses of cell phones outside of voice calls; Smartphone owners take advantage of a wide range of their phones' capabilities

Text messaging and picture taking continue to top the list of ways that Americans use their mobile phones—three quarters of all cell owners (73%) use their phones for each of these purposes. Other relatively common activities include sending photos or videos to others (54% of cell owners do this) as well as accessing the internet (44%).

One third of American adults (35%) own a smartphone of some kind¹, and these users take advantage of a wide range of their phones' capabilities. Fully nine in ten smartphone owners use text messaging or take pictures with their phones, while eight in ten use their phone to go online or send photos or videos to others. Many activities—such as downloading apps, watching videos, accessing social networking sites or posting multimedia content online—are almost entirely confined to the smartphone population.

Smartphone users vs. other cell owners

% of adult cell phone owners within each group who use their phones to do the following

	Smartphone owners (n=688)	Other cell owners (n=1,226)
Send or receive text messages	92%	59%
Take a picture	92	59
Access the internet	84	15
Send a photo or video to someone	80	36
Send or receive email	76	10
Download an app	69	4
Play a game	64	14
Play music	64	12
Record a video	59	15
Access a social networking site	59	8
Watch a video	54	5
Post a photo or video online	45	5
Check your bank balance or do any online banking	37	5
Access Twitter	15	<1
Participate in a video call or video chat	13	1
Mean (out of 15)	9.0	2.5

Source: The Pew Research Center's Internet & American Life Project, April 26 – May 22, 2011 Spring Tracking Survey. n=2,277 adults ages 18 and older, including 755 cell phone interviews. Interviews were conducted in English and Spanish. n/a indicates that sample size is too small to analyze. All differences are statistically significant.

Several demographic groups use the non-voice features of their mobile phones at high rates. These include young adults, non-whites, urbanites, and those with at least some college experience.

¹ For more information on smartphone ownership, see our report "Smartphone Adoption and Usage" at <http://pewinternet.org/Reports/2011/Smartphones.aspx>

About this survey

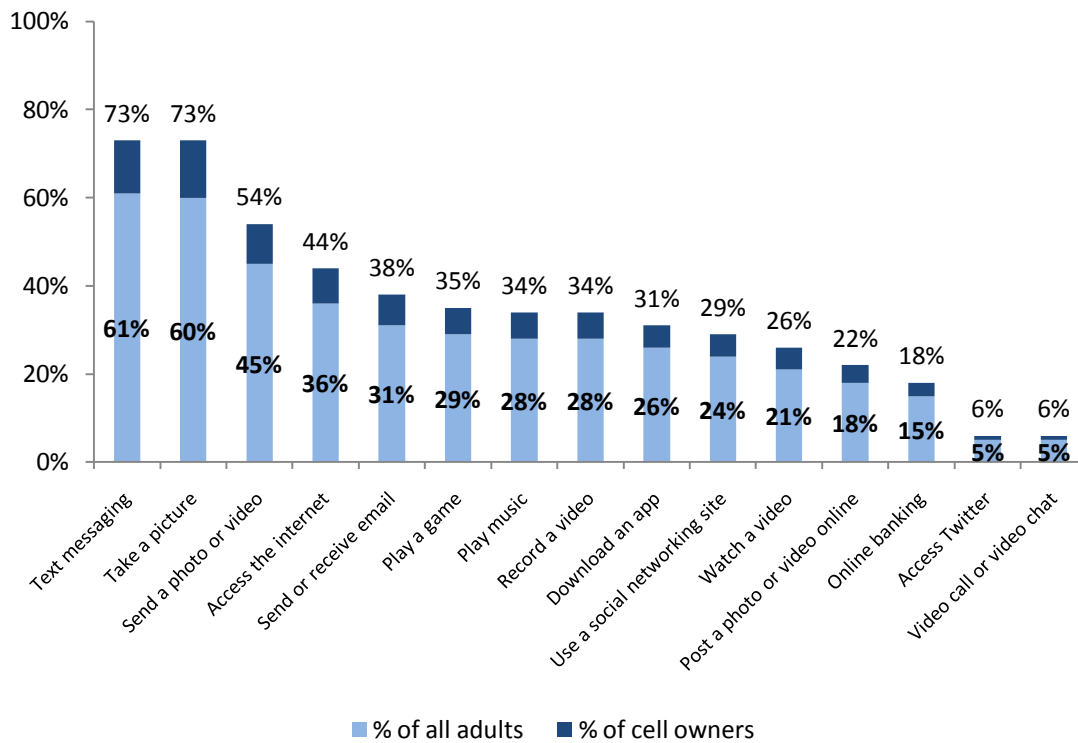
The results reported here are based on a national telephone survey of 2,277 adults conducted April 26-May 22, 2011. 1,522 interviews were conducted by landline phone, and 755 interviews were conducted by cell phone. Interviews were conducted in both English and Spanish. For results based on all adults, the margin of error is +/-2 percentage points; for results based on all cell owners, the margin of error is +/-3 percentage points (n=1,194); and for results based on smartphone owners, the margin of error is +/-4.5 percentage points (n=688).

How Americans use their cell phones

Eight in ten American adults (83%) own a cell phone of some kind, and they use their phones for a variety of purposes. As in previous Pew Internet surveys of mobile usage, texting and picture-taking remain the most common mobile phone activities—73% of cell owners engage in each of these—followed by sending photos or videos to others (54%) and accessing the internet (44%). The two least prevalent activities (among the 15 we inquired about) are accessing Twitter and using one’s phone to take part in a video call or chat (6% of cell owners do each of these).

How Americans use their cell phones

Based on US adults



Source: The Pew Research Center's Internet & American Life Project, April 26 – May 22, 2011 Spring Tracking Survey. n=2,277 adult internet users ages 18 and older, including 755 cell phone interviews. Interviews were conducted in English and Spanish.

Of the twelve activities that we measured in both May 2010 and May 2011 (we did not ask about online banking, Twitter use or video calling in our spring 2010 survey), five grew by a statistically significant amount over that time period. This growth was primarily oriented around accessing or sharing multimedia content such as photos or videos, as well as using the internet and email:

- Sending a photo or video to someone rose from 36% of cell owners in May 2010 to 54% of cell owners in May 2011
- Accessing the internet—from 38% to 44%
- Sending or receiving email—from 34% to 38%
- Watching a video—from 20% to 26%
- Posting a photo or video online—from 15% to 22%

Younger cell owners (those between the ages of 18 and 29) are especially active mobile users—although those ages 30-49 engage in a relatively wide range of mobile behaviors as well. Mobile usage drops off starting around age 50, as cell owners ages 50-64 engage in roughly half as many activities as those in the 30-49 age group.

Cell phone usage by different ages

Based on adult cell owners

	18-29 (n=321)	30-49 (n=535)	50-64 (n=572)	65+ (n=430)
Send or receive text messages	95%***	85%**	58%*	24%
Take a picture	91%***	81%**	60*	37
Access the internet	64%***	54%**	26*	10
Send a photo or video to someone	72%**	65%**	40*	16
Send or receive email	51%**	46%**	26*	10
Download an app	49%***	37%**	17*	7
Play a game	53%***	44%**	18*	7
Play music	58%***	39%**	16*	4
Record a video	53%***	42%**	19*	3
Access a social networking site	50%***	36%**	13*	2
Watch a video	44%***	32%**	10*	3
Post a photo or video online	37%***	26%**	9*	5
Check your bank balance or do any online banking	29%**	22%**	10	6
Participate in a video call or video chat	14%***	5%**	2	2
Mean (out of 14)	7.6	6.2	3.2	1.4

Source: The Pew Research Center's Internet & American Life Project, April 26 – May 22, 2011 Spring Tracking Survey. n=2,277 adult internet users ages 18 and older, including 755 cell phone interviews. Interviews were conducted in English and Spanish.
 ***significant difference compared with all other age groups **significant difference with 50-64 and 65+ *significant difference with 65+. Due to sample size limitations, Twitter use is not included in this analysis.

Other groups with relatively high levels of mobile usage include:

- **Those with some college education or a college degree** – These cell owners are more likely to engage in nearly every non-voice application we measured relative to cell owners with a high school diploma or less.
- **Urban and suburban residents** – Urban and suburban cell owners are more likely than rural cell owners to take part in all of the activities we measured in our survey. Additionally, urban residents are more likely than both rural and suburban dwellers to use their phone to play games (43% of urban cell owners do this), access a social networking site (35%), watch a video (31%), do online banking (25%) or take part in a video call or chat (10%).
- **Parents** – With some exceptions (such as using social networking sites and video calling), parents of children ages 17 and under are more likely to use their phones for most activities than are other adult cell owners.
- **African Americans and Latinos** – These groups have high rates of usage, compared with white cell owners, across a wide range of mobile applications.

Cell phone use by race/ethnicity

Based on adult cell owners

	White, non-Hispanic (n=1343)	Black, non-Hispanic (n=232)	Hispanic (n=196)
Send or receive text messages	70%	76%	83%*
Take a picture	71	70	79*
Access the internet	39	56*	51*
Send a photo or video to someone	52	58	61*
Send or receive email	34	46*	43*
Download an app	28	36*	36*
Play a game	31	43*	40*
Play music	27	45*	47*
Record a video	30	41*	42*
Access a social networking site	25	39*	35*
Watch a video	21	33*	39*
Post a photo or video online	18	30*	28*
Check bank balance or do online banking	15	27*	25*
Participate in a video call or video chat	4	10*	12*
Mean (out of 14)	4.7	6.1	6.2

Source: The Pew Research Center's Internet & American Life Project, April 26 – May 22, 2011 Spring Tracking Survey. n=2,277 adults ages 18 and older, including 755 cell phone interviews. Interviews were conducted in English and Spanish. *indicates significant differences compared with whites. Due to sample size limitations, Twitter use is not included.

How Americans view their phones—benefits, challenges and attitudes

In addition to asking about the specific tasks and activities that cell owners engage in using their phones, we included a series of questions in our spring survey asking about various experiences that cell owners have encountered in the course of using their phones. These responses indicate that cell owners value their phones for quick information retrieval, for entertainment, and for assistance in emergency situations. At the same time, a number of cell owners report that they have turned off their phone to get a break from using it, and that they can have trouble accomplishing desired tasks when their phone is not available. In the 30 days preceding our survey:

- 51% of cell owners *used their phone to get information they needed right away.*
- 42% *used their phone for entertainment when they were bored,* and 40% *were in an emergency situation in which having their phone with them really helped.*
- 29% *turned their phone off for a period of time just to get a break from using it,* and 27% *experienced a situation in which they had trouble doing something because they did not have their phone at hand.*
- Frustrations with cell phones were somewhat less common, as one in five cell owners (20%) *experienced frustration because their phone was taking too long to download something,* 16% *had difficulty reading something on their phone because the screen was too small,* and one in ten (10%) *had difficulty entering a lot of text on their phone* at some point in the preceding 30 days.
- Just over one in ten cell owners (13%) said that they had *pretended to be using their phone in order to avoid interacting with the people around them.*

Young cell owners are among the most active users of their mobile devices, and cell owners between the ages of 18 and 29 also stand out from their elders when it comes to their experiences with their phones. Specifically, young cell owners are much more likely than older adults to use their phone for entertainment or to relieve boredom (70% of 18-29 year old cell owners have done this in the preceding 30 days), to have trouble doing something when their phone is not available (42% have experienced this) and to use their phone as a way to avoid interacting with others (30%).

On the other hand, cell owners of all ages are about equally likely to use their phones for assistance in emergency situations, and are also about equally likely to say that they have taken a break from using their phones in the previous 30 days.

Cell phone experiences by age group

% of adult cell owners in each group who have experienced the following in the past 30 days

	18-29 (n=321)	30-49 (n=535)	50-64 (n=572)	65+ (n=430)
Used your phone for entertainment or when you were bored	70***	51**	20*	7
Used your phone to get information you needed right away	64**	57**	42*	28
Been in an emergency situation where having your cell phone really helped	44**	41	37	34
Been frustrated because your phone was taking too long to download something	32**	25**	9*	3
Had trouble doing something because you didn't have your phone with you	42***	24	23	19
Turned your phone off for a period of time just to get a break from using it	32*	30*	26	23
Had difficulty reading something on your phone because the screen or text was too small	13	18*	19*	10
Pretended to be using your phone to avoid interacting with people around you	30***	11**	6*	2
Had difficulty entering a lot of text on your phone	13*	10*	9*	3

Source: The Pew Research Center's Internet & American Life Project, April 26 – May 22, 2011 Spring Tracking Survey. n=2,277 adult internet users ages 18 and older, including 755 cell phone interviews. Interviews were conducted in English and Spanish.
 ***significant difference compared with all other age groups **significant difference compared with 50-64 and 65+ *significant difference compared with 65+.

Focus on smartphone owners

One-third of American adults (35%) own a smartphone of some kind as of May 2011, and these users stand in marked contrast to cell owners with more basic devices in terms of how they utilize their mobile devices and incorporate them into their lives.

Picture taking and text messaging are the most ubiquitous functions used by smartphone adopters (92% of smartphone owners do each of these activities, compared with 59% of those with some other type of phone). In addition, eight in ten smartphone owners use their phone to access the internet or send photos or videos to others; three quarters use their phone for email; two thirds download apps or use their phones to play music or games; and six in ten record videos or access social networking sites on their phones. On the other end of the spectrum, just over one in ten smartphone owners use their phones to access Twitter or participate in a video call or video chat.

Smartphone users vs. other cell owners

% of adult cell phone owners within each group who use their phones to do the following

	Smartphone owners (n=688)	Other cell owners (n=1,226)
Send or receive text messages	92%	59%
Take a picture	92	59
Access the internet	84	15
Send a photo or video to someone	80	36
Send or receive email	76	10
Download an app	69	4
Play a game	64	14
Play music	64	12
Record a video	59	15
Access a social networking site	59	8
Watch a video	54	5
Post a photo or video online	45	5
Check your bank balance or do any online banking	37	5
Access Twitter	15	<1
Participate in a video call or video chat	13	1
Mean (out of 15)	9.0	2.5

Source: The Pew Research Center's Internet & American Life Project, April 26 – May 22, 2011 Spring Tracking Survey. n=2,277 adults ages 18 and older, including 755 cell phone interviews. Interviews were conducted in English and Spanish. n/a indicates that sample size is too small to analyze. All differences are statistically significant.

Compared with smartphone owners, those who own more basic phones use them for a much narrower range of activities (these users engage in an average of just 2.5 activities, compared with an average of nine for smartphone owners). As with smartphone owners, texting and picture taking are the most common activities among owners of more basic phones. Much smaller numbers use their phones for more advanced functions such as listening to music, playing games or accessing the internet.

Along with using a much wider range of their phones' capabilities, smartphone owners also stand out in interesting ways from other cell users when it comes to their experiences using their mobile devices:

- **Smartphone owners lean heavily on their phones for distraction and quick information retrieval.** Fully 79% of smartphone owners say that they used their phones to quickly access information they needed in the 30 days preceding our survey, and 72% used their phone to entertain themselves when they were bored over the same time period.
- **On the list of common smartphone frustrations, slow download speeds outpace small screens and tricky text entry.** More than one-third of smartphone owners (36%) have become frustrated at slow download speeds on their phones in the preceding 30 days. By contrast, 22% say that they had trouble reading something on their phone over the same time period and just 12% experienced difficulty entering large quantities of text on their phone.
- **Smartphone owners can be at a loss without their mobile devices.** One third of smartphone owners (34%) have had trouble doing something in the past 30 days because they did not have their phone with them.
- **Don't bother me, I'm on my phone.** One in five smartphone owners (20%) say that they have used their phone to avoid interacting with people around them in the preceding 30 days.

While smartphone owners differ dramatically from the rest of the mobile population on almost all measures, there is one area in which smartphone owners *did not* differ appreciably from other cell owners—turning off their phone just to get a break from using it. Roughly one in three smartphone owners (31%) say that they took a break from using their phone in the preceding 30 days, a figure that is almost identical to the 27% of other cell phone owners who did this over the same time period.

Smartphone owners and their experiences using their phones

% of adult cell owners in each group who have experienced the following in the last 30 days

	Smartphone owners	Other cell owners
Used your phone to get information you needed right away	79*	31
Used your phone for entertainment or when you were bored	72*	21
Been in an emergency situation where having your cell phone really helped	43*	37
Been frustrated because your phone was taking too long to download something	36*	8
Had trouble doing something because you didn't have your phone with you	34*	22
Turned your phone off for a period of time just to get a break from using it	31	27
Had difficulty reading something on your phone because the screen or text was too small	22*	13
Pretended to be using your phone to avoid interacting with people around you	20*	8
Had difficulty entering a lot of text on your phone	12*	8

Source: The Pew Research Center's Internet & American Life Project, April 26 – May 22, 2011 Spring Tracking Survey. n=2,277 adults ages 18 and older, including 755 cell phone interviews. Interviews were conducted in English and Spanish. "Smartphone owners" include those who say their phone is a smartphone, or who describe their phone as running on the Android, Blackberry, iPhone, Palm or Windows platforms.

Smartphone owners of all age groups are intense users of their mobile phones

Compared with those under the age of 50, older adults have relatively low rates of smartphone adoption: one in five Americans age 50 and older own a smartphone of some kind, compared with roughly half of those under the age of 50. But older adults who have purchased a more advanced phone use those devices for a relatively wide range of purposes. Among smartphone owners ages 50 and up, eight in ten use their phones for texting and picture taking, around two-thirds use them to access the internet, send photos or videos to others or use email, and half have downloaded apps. In effect, smartphone owners over the age of 50 have the same usage patterns as the overall cell owner population of 30-49 year olds.

How young and older smartphone owners use their phones

% of smartphone owners within each age group who use their phones to do the following:

	<u>18-29</u> <u>(n=177)</u>	<u>30-49</u> <u>(n=256)</u>	<u>50+</u> <u>(n=240)</u>
Smartphone ownership	52%	45%	19%
% of smartphone owners who use their phone to:			
Send or receive text messages	99	95	78
Take a picture	98	93	83
Access the internet	94	87	66
Send a photo or video to someone	89	83	64
Send or receive email	82	78	62
Download an app	82	69	51
Play a game	76	67	41
Play music	83	63	39
Record a video	73	62	37
Access a social networking site	76	61	32
Watch a video	72	58	25
Post a photo or video online	58	47	24
Check bank balance or do online banking	46	38	24
Participate in a video call or video chat	25	9	7
Mean (out of 14)	10.5	9.1	6.3

Source: The Pew Research Center's Internet & American Life Project, April 26 – May 22, 2011 Spring Tracking Survey. n=2,277 adults ages 18 and older, including 755 cell phone interviews. Interviews were conducted in English and Spanish. "Smartphone owners" include those who say their phone is a smartphone, or who describe their phone as running on the Android, Blackberry, iPhone, Palm or Windows platforms. Due to sample size limitations, Twitter use is not included in this analysis.

Survey questions

Spring Change Assessment Survey 2011 Data for April 26–May 22, 2011

Final Topline

5/25/2011

Princeton Survey Research Associates International
for the Pew Research Center's Internet & American Life Project

Sample: n= 2,277 national adults, age 18 and older, including 755 cell phone interviews
Interviewing dates: 04.26.2011 – 05.22.2011

Margin of error is plus or minus 2 percentage points for results based on Total [n=2,277]

Margin of error is plus or minus 3 percentage points for results based on internet users [n=1,701]

Margin of error is plus or minus 3 percentage points for results based on cell phone users [n=1,914]

Margin of error is plus or minus 3 percentage points for results based on SNS or Twitter users [n=1,015]

Q14 Please tell me if you ever use your cell phone to do any of the following things. Do you ever use your cell phone to [INSERT ITEMS; ALWAYS ASK a-b FIRST in order; RANDOMIZE c-h]?²

Based on cell phone users

	YES	NO	DON'T KNOW	REFUSED
a. Send or receive email				
Current [N=1,914]	38	62	0	*
December 2010 [N=1,982]	38	62	*	*
November 2010 [N=1,918]	34	66	0	*
September 2010 [N=2,485]	34	66	*	0
May 2010 [N=1,917]	34	66	0	0
January 2010 [N=1,891]	30	70	0	0
December 2009 [N=1,919]	29	70	*	*
September 2009 [N=1,868]	27	73	*	0
April 2009 [N=1,818]	25	75	*	0
December 2007 [N=1,704]	19	81	0	--
b. Send or receive text messages				
Current	73	27	0	0
December 2010	74	26	*	*

² In May 2011, the question was asked of all Form B cell phone users and Form A cell phone users who said in CELL7 that they do more than make calls on their phone. The percentages are based on all cell phone users, counting as "no" Form A cell phone users who said in CELL7 they use their phones only for making calls. Prior to May 2011, question was asked of all cell phone users. Prior to January 2010, question wording was "Please tell me if you ever use your cell phone or Blackberry or other device to do any of the following things. Do you ever use it to [INSERT ITEM]?" In January 2010, question wording was "Please tell me if you ever use your cell phone or Blackberry or other handheld device to do any of the following things. Do you ever use it to [INSERT ITEMS]?" For January 2010, December 2009, and September 2009, an answer category "Cell phone can't do this" was available as a volunteered option; "No" percentages for those trends reflect combined "No" and "Cell phone can't do this" results.

	YES	NO	DON'T KNOW	REFUSED
November 2010	71	28	*	0
September 2010	74	26	*	0
May 2010	72	28	0	0
January 2010	69	31	*	0
December 2009	68	32	*	0
September 2009	65	35	*	0
April 2009	65	35	*	0
December 2007	58	42	0	--
c. Take a picture				
Current	73	27	*	0
May 2010	76	24	*	*
d. Play music				
Current	34	66	0	0
May 2010	33	67	0	0
September 2009	27	73	0	0
April 2009	21	79	*	0
December 2007	17	83	*	--
e. Download a software application or "app" ³				
Current	31	69	*	0
September 2009	22	78	1	0
f. Record a video				
Current	34	66	0	*
May 2010	34	66	*	0
April 2009	19	81	0	0
December 2007	18	82	0	--
g. Play a game				
Current	35	65	0	0
May 2010	34	66	*	0
April 2009	27	73	*	0
December 2007	27	73	0	--
h. Access the internet ⁴				
Current	44	56	0	0
December 2010	42	58	*	*
November 2010	39	61	*	*
September 2010	39	61	*	0
May 2010	38	62	0	0
January 2010	34	66	0	0
December 2009	32	67	*	0
September 2009	29	71	*	0
April 2009	25	74	*	*
December 2007	19	81	0	--

³ In September 2009, item wording was "Download an application for your cell phone"

⁴ In December 2007, item wording was "Access the internet for news, weather, sports, or other information"

Q17 Thinking of some other things that people might do on their cell phones, do you ever use your cell phone to... [INSERT ITEMS; ALWAYS ASK a-c FIRST IN ORDER; RANDOMIZE d-g; ALWAYS ASK h-i LAST IN ORDER]?⁵

Based on cell phone users

	YES, DO THIS	NO, DO NOT DO THIS/ HAVE NOT DONE THIS	(VOL.) CELL PHONE CAN'T DO THIS	DON'T KNOW	REFUSED
a. Watch a video					
Current [N=1,914]	26	74	*	0	0
April 2009 [N=1,818]	14	86	n/a	*	0
December 2007 [N=1,704]	10	90	n/a	0	--
b. Send a photo or video to someone					
Current	54	45	*	0	0
c. Post a photo or video online					
Current	22	78	*	*	0
<i>Item D: Based on cell users who use SNS</i>					
d. Access a social networking site like MySpace, Facebook or LinkedIn					
Current [N=953]	52	48	0	0	0
<i>Item E: Based on cell users who use Twitter</i>					
e. Access Twitter					
Current [N=188]	55	45	0	0	0
f. Check your bank account balance or do any online banking					
Current	18	81	*	0	*
g. Participate in a video call or video chat ⁶					
Current	6	94	*	0	0
September 2010	7	93	n/a	*	*

⁵ In May 2011, the question was asked of all Form B cell phone users and Form A cell phone users who said in CELL7 that they do more than make calls on their phone. The percentages are based on all cell phone users, counting as “no” Form A cell phone users who said in CELL7 they use their phones only for making calls. Prior to May 2011, question was asked of all cell phone users and question wording was “Please tell me if you ever use your cell phone or Blackberry or other device to do any of the following things. Do you ever use it to [INSERT ITEM]?”

⁶ September 2010 item wording was “Participate in a video call, video chat or teleconference”

Methodology

This report is based on the findings of a survey on Americans' use of the Internet. The results in this report are based on data from telephone interviews conducted by Princeton Survey Research Associates International from April 26 to May 22, 2011, among a sample of 2,277 adults, age 18 and older. Telephone interviews were conducted in English and Spanish by landline (1,522) and cell phone (755, including 346 without a landline phone). For results based on the total sample, one can say with 95% confidence that the error attributable to sampling is plus or minus 2.4 percentage points. For results based on Internet users (n=1,701), the margin of sampling error is plus or minus 2.7 percentage points. In addition to sampling error, question wording and practical difficulties in conducting telephone surveys may introduce some error or bias into the findings of opinion polls.

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

New sample was released daily and was kept in the field for at least five days. The sample was released in replicates, which are representative subsamples of the larger population. This ensures that complete call procedures were followed for the entire sample. At least 7 attempts were made to complete an interview at a sampled telephone number. The calls were staggered over times of day and days of the week to maximize the chances of making contact with a potential respondent. Each number received at least one daytime call in an attempt to find someone available. 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, interviewers asked to speak with the youngest adult of the other gender. 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. Cellular sample respondents were offered a post-paid cash incentive for their participation. All interviews completed on any given day were considered to be the final sample for that day.

Weighting is generally used in survey analysis to compensate for sample designs and patterns of non-response that might bias results. A two-stage weighting procedure was used to weight this dual-frame sample. The first-stage weight is the product of two adjustments made to the data – a Probability of Selection Adjustment (PSA) and a Phone Use Adjustment (PUA). The PSA corrects for the fact that respondents in the landline sample have different probabilities of being sampled depending on how many adults live in the household. The PUA corrects for the overlapping landline and cellular sample frames.

The second stage of weighting balances sample demographics to population parameters. The sample is balanced by form to match national population parameters for sex, age, education, race, Hispanic origin, region (U.S. Census definitions), population density, and telephone usage. The White, non-Hispanic subgroup is also balanced on age, education and region. The basic weighting parameters came from a special analysis of the Census Bureau's 2010 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 cell phone usage parameter came from an analysis of the January-June 2010 National Health Interview Survey. Following is the full disposition of all sampled telephone numbers:

Table 2: Sample Disposition

Landline	Cell	
32,909	19,899	Total Numbers Dialed
1,416	364	Non-residential
1,428	35	Computer/Fax
32	----	Cell phone
16,833	8,660	Other not working
1,629	287	Additional projected not working
11,571	10,553	Working numbers
35.2%	53.0%	Working Rate
543	96	No Answer / Busy
3,091	3,555	Voice Mail
53	10	Other Non-Contact
7,884	6,892	Contacted numbers
68.1%	65.3%	Contact Rate
489	1,055	Callback
5,757	4,618	Refusal
1,638	1,219	Cooperating numbers
20.8%	17.7%	Cooperation Rate
56	33	Language Barrier
----	426	Child's cell phone
1,582	760	Eligible numbers
96.6%	62.3%	Eligibility Rate
60	5	Break-off
1,522	755	Completes
96.2%	99.3%	Completion Rate
13.6%	11.5%	Response Rate

The disposition reports all of the 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

Thus the response rate for the landline sample was 13.6 percent. The response rate for the cellular sample was 11.5 percent.