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Pew Internet & American Life Project

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Half of adult cell phone owners have apps on their phones

The percent who download apps nearly doubles in two years, but just 46% of downloaders have paid for an app

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<http://pewinternet.org/Reports/2011/Apps-update.aspx>

Americans' appetite for apps continues to grow

The share of adult cell phone owners who have downloaded an app to their phone nearly doubled in the past two years – rising from 22% in September 2009 to 38% in August 2011 – according to a new survey by the Pew Research Center's Internet & American Life Project. The share of U.S. adults who purchased a phone already equipped with apps also increased five percentage points in the past year, from 38% in May 2010 to 43% in the current survey.

When both groups are accounted for—those whose phones came equipped with apps and those who have downloaded their own—fully half of U.S. adult cell phone owners (50%) now have apps on their phones. In May 2010, that figure stood at 43%. Looking at all U.S. adults, 42% now have cell phones with apps.

In addition to examining mobile app use on cell phones, the current survey included questions about mobile app use on tablet computers. It finds that among the 10% of adults who currently own a tablet, three-quarters (75%) report downloading apps to their tablet. This translates to 8% of all U.S. adults. The vast majority of tablet app downloaders (82%) have also downloaded apps to a cell phone, thus there is considerable overlap across the two groups.

Overall, when cell and tablet app downloaders are combined, 34% of adults report downloading apps to one or both of these devices.

These findings are from a survey conducted from July 25-August 26 among 2,260 adults ages 18 and over, including surveys in English and Spanish and on both landline and cell phones. The margin of error for the total sample is plus or minus 2 percentage points.

An “app” is an end-user software application designed for a mobile device operating system, which extends that device's capabilities. Apps were first introduced in early 2007 with the Apple iPhone. Since then, they have become increasingly popular as other smartphone platforms and now tablet computers have embraced this form of accessing content. Indeed, app use has been a core feature in the broader move away from desktop computers toward mobile computing on handheld device.

App downloading is on the rise, but still concentrated in certain demographic groups

While the portion of adults downloading apps has grown since 2009, their demographic profile has not changed markedly, even with the addition of tablet computers to the mix. App downloading on cell phones remains concentrated among young adults, those with higher incomes and education levels, and those living in urban and suburban areas. In May 2010, cell phone app downloaders were also disproportionately male when compared with the full U.S. adult population, but the gap between men and women has decreased.

Adults who download apps to tablets (the majority of whom are also cell phone app downloaders) skew slightly more female and older than cell phone app downloaders in general. They also tend to be from higher income households, and more highly educated.

Apps reflect a broader mobile trend

The growth in apps downloading is a reflection of the broader trend toward mobile devices the Pew Internet Project has identified over the past decade. Americans have embraced mobile connectivity in the form of laptops, smartphones, tablet computers, and e-readers, while desktop computers have become less popular over time. In February of 2010, Pew Internet reported for the first time that laptops had overtaken desktops in popularity among 18-29 year-olds, and in the current survey, laptop ownership (57%) has equaled desktop ownership (55%) for the full adult population.

Moreover, in May 2011, Pew data showed that 35% of adults in the U.S. owned smartphones. Yet app downloading and use, while growing rapidly, is fairly low given the wide range of activities U.S. adults now engage in on their phones. Because many of these activities require “apps,” one might expect the percent of cell owners who download apps to perform these popular tasks (such as email, playing games, listening to music) to be higher.

Adults regularly use only a portion of the apps they download

Having apps and using apps are not synonymous. In May 2010, Pew Internet data showed that only about two-thirds (68%) of adults who had apps on their phones reported actually using them.

The current survey asked those who reported having apps on a cell phone and/or tablet computer how many apps they use on each device at least once a week. Among adults who have apps on their *cell phone*, roughly half (51%) use a handful of apps at least once a week, while 17% report using no apps on a regular basis. Almost a third (31%) could be called app “power users” in that they use 6 or more apps on a weekly basis. Among adults who have a *tablet computer*, 39% report using 6 or more apps on a weekly basis, while just 8% report using no apps regularly on the device.

Apps serve many purposes

Market data on apps use and downloading indicate that games continue to be most popular and those that adults are most willing to pay for, followed by apps for weather, social networking, maps/navigation/search, music and news.

The current survey asked app users if they had ever downloaded nine different types of apps. The most popular among this list were those that provide regular updates about everyday information such as news, weather, sports, or stocks (74%), those that help people communicate with friends and family (67%) and those that help the user learn about something in which they are interested (64%).

Different types of apps appeal to different demographic groups. For instance, African-Americans and young adults are more likely than others to download apps that help them communicate with friends and family. And overall, men are more likely than women to download apps that help them make purchases and those that help with work-related tasks.

About half of app downloaders have paid for an app

The new survey finds that among adult cell phone users who have downloaded apps, just under half (46%) say they have paid for an app at some point; this is unchanged from the 47% of downloaders who said the same in the May 2010 survey.

Among those in 2011 who report they have paid for an app, about half (52%) report that the highest dollar amount they have paid is \$5 or less. However, 17% have paid more than \$20 for an app. Among app downloaders, the groups most likely to pay for apps are men, adults age 30 and older, college graduates, adults with household incomes of \$50,000 or more, and those living in urban communities.

Part I. Apps use among American adults

The introduction of “apps” for cell phones and other handheld devices has been one of the central features of a more general trend toward mobile connectivity in recent years. The “apps ecosystem” surrounding smartphones, tablet computers, and other mobile devices has generated tens of thousands of new features for handheld gadgets. Mobile apps now range from providing specialized content (such as news, weather or health) to games and even “augmented reality,” providing users with detailed information about landscapes, starscapes, buildings, and even people.

As noted in Pew Internet’s 2010 apps report, the term “app” has become popular parlance for software applications designed to run on mobile device operating systems, yet a standard, industry-wide definition of what is—and is not—an “app” is difficult to pinpoint. While technically any software that runs on a mobile device is an “app,” our data indicate that most users think of apps as specialized software they *download* to their phone, tablet, or other device that helps them perform a particular task. For the purpose of this report, apps are defined as end-user software applications that are designed for a mobile device operating system and which extend that device’s capabilities.

This new tool for accessing information, media, games, and social networks began to emerge after Apple’s introduction of the iPhone in January 2007. Since then, apps have become more popular as other smartphone platforms embraced this method of accessing content. Further boosting app use was the introduction of Apple’s iPad in the spring of 2010, which has been followed by a succession of similar tablet products such as the Motorola Xoom, Samsung Galaxy, and soon-to-be-released Kindle Fire.

The Pew Research Center’s Internet & American Life Project has begun to explore the contours of this relatively new digital phenomenon. In August of 2011, the Project conducted its most recent national survey of the state of apps culture. The survey was conducted from July 25-August 26 among 2,260 adults ages 18 and older in both English and Spanish, 916 of whom were interviewed on their cell phones.

As in prior Pew Internet surveys, cell phone owners were asked about app use and downloading. This survey marks the first time, however, Pew Internet has asked tablet owners about using apps on these newer devices as well.

Cell phone app use and downloading are on the rise, as half of all adult cell owners now have apps on their phones

In August 2011, 84% of U.S. adults reported having a cell phone, and of that group, 38% have downloaded an app to their phone. Overall, that means that 32% of all U.S. adults have downloaded an app to their cell phone. This is a significant increase since May 2010, when 29% of cell phone users (representing 23% of all U.S. adults) reported downloading an app to their phone. And it is almost double the percent of adult cell phone users (22%) who reported downloading apps in September 2009.

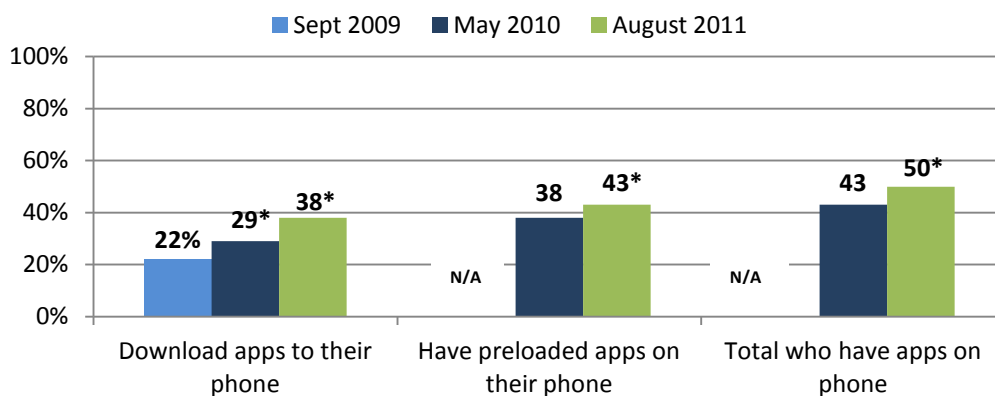
In addition, the number of cell users purchasing phones that come preloaded with apps is also on the rise.¹ In May 2010, 38% of cell owners indicated that their phone came preloaded with apps—that figure now stands at 43% of cell owners, representing 37% of all US adults.

Taken together, that means that half (50%) of cell phone owners (42% of all US adults) now have apps of some kind on their phone—either apps they downloaded themselves, or those that came with their phone when they purchased it. Many cell owners (32%) have both; the overall figure for cell phone app users counts these adults just once.

Overall, the current survey shows a seven percentage point increase in the portion of cell phone owners who have apps on their phones since May 2010, with most growth coming from those who themselves have downloaded apps to their phone.

Figure 1: Cell phone app downloading has steadily increased since 2009

% of U.S. adult cell phone owners in each year who...



Source: Pew Research Center's Internet & American Life Project, July 25-August 26, 2011 Tracking Survey. N=1,948 cell phone owners, margin of error is plus or minus 2.6 percentage points. Interviews conducted in English and in Spanish. May 2010 figures from April 29-May 30, 2010 Tracking Survey. N=1,917 cell phone owners, margin of error is plus or minus 2.7 percentage points. Interviews conducted in English only. September 2009 figures from August 18–September 14, 2009 Tracking Survey. N=1,868 cell phone owners, margin of error is plus or minus 2.7 percentage points. Interviews conducted in English only. An asterisk (*) indicates a significant difference across years at the 95% confidence level.

Some app confusion persists

As was the case in 2010, there continues to be some confusion among cell phone users regarding this new technology—especially when it comes to whether or not their phones came preloaded with apps. May 2010 data indicated that one in ten adults with a cell phone (11%) were not sure if their cell phone came preloaded with any software applications, and this uncertainty about cell phone features was

¹ Many smartphones come preloaded with a suite of apps, including the most popular social networking site apps, work-related apps that increase productivity, games, etc..

most pronounced among cell phone users age 50 and older. (At that time, adult cell users were much more confident when asked whether they had ever downloaded an app, with 29% saying yes, 70% saying no, and less than one half of one percent saying they did not know.)

The August 2011 survey finds similar results, with 10% of cell users unsure if their phone came preloaded with apps. And again, uncertainty around preloaded apps is highest among cell owners age 50 and older: 15% of cell owners in this age group could not answer this question. In contrast, virtually all adult cell users (99%) can tell us with certainty whether they have downloaded an app to their phone or not. This is true across all age groups.

Who downloads apps to their phone?

While the overall percent of adults downloading cell phone apps has increased significantly since May 2011, the demographic profile of this group has not changed substantially in that time. In May 2010, Pew Internet found that cell phone app downloaders were younger, more educated, had higher incomes, tended to live in urban and suburban areas, and were disproportionately male when compared with the full U.S. adult population.² A similar profile exists in August 2011. While in 2011, the gap between men and women has decreased, downloading apps to cell phones is still most common among young adults, adults with higher education levels and incomes, and those living in urban and suburban areas.

² "The Rise of Apps Culture," available at <http://pewinternet.org/Press-Releases/2010/The-Rise-of-Apps-Culture.aspx>.

Figure 2: More adults are downloading cell phone apps, but their demographic profile has not changed markedly over the past year

% of cell phone owners in each group who download apps to their phone...

	August 2011 (n=1,948)	May 2010 (n=1,917)
Gender		
Male	40	34
Female	36	24
Age		
18-29	60	52
30-49	46	31
50+	15	11
Education		
Less than high school	20	21
High school graduate	30	23
Some college	45	32
College graduate	48	35
Annual Household Income		
Less than \$50,000	33	27
\$50,000-\$74,999	38	29
\$75,000+	55	38
Community type		
Urban	40	29
Suburban	40	31
Rural	28	20

Source: Pew Research Center's Internet & American Life Project, July 25-August 26, 2011 Tracking Survey. N=1,948 cell phone owners, margin of error is plus or minus 2.6 percentage points. Interviews conducted in English and in Spanish. May 2010 figures from April 29-May 30, 2010 Tracking Survey. N=1,917 cell phone owners, margin of error is plus or minus 2.7 percentage points. Interviews conducted in English only.

The introduction of tablets has added to the popularity of apps

Pew Internet data have shown slow but steady increase in tablet computer ownership in the U.S. since the project began measuring the device's use in May of 2010.³ To capture the full range of mobile app use among American adults, the current survey included questions measuring app use and downloading among tablet owners.

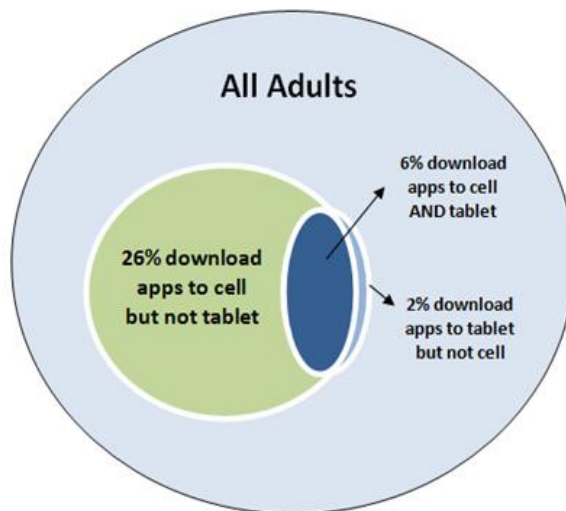
Results indicate that 10% of U.S. adults report having a tablet computer such as an iPad, Samsung Galaxy or Motorola Xoom. [Note: The survey was conducted before the Kindle Fire was on the market.] In May 2010, just 3% of adults reported having a tablet.

Among the 10% of adults who currently own a tablet, three quarters (75%) report downloading apps to the device, which equates to 8% of all adults. The vast majority of tablet app downloaders (82%) have also downloaded apps to their cell phone, thus there is considerable overlap across the two groups.

Overall, when cell and tablet app downloaders are combined, 34% of adults report downloading apps to one or both of these devices.

Figure 3: 34% of U.S. adults download apps to a cell phone and/or a tablet computer

Most of those (26%) download apps only to a cell phone



Source: Pew Research Center's Internet & American Life Project, July 25-August 26, 2011 Tracking Survey. N=2,260 adults age 18 and older, including 916 interviews conducted on cell phones. Interviews conducted in English and in Spanish. Margin of error is plus or minus 2 percentage points.

One might expect that adults who download apps to tablets are similar demographically to those who download apps to their phones, since a majority of tablet downloaders are also cell phone app downloaders. However, the tablet app downloading population skews slightly more female than the overall cell app downloading population, and is also slightly older, from higher income households, and more highly educated.

³ "E-reader Ownership Doubles in Six Months," available at <http://pewinternet.org/Reports/2011/E-readers-and-tablets.aspx>.

Figure 4: Tablet app downloaders differ slightly from cell phone app downloaders

	% of cell phone app downloaders who are... (n=629)	% of tablet app downloaders who are... (n=153)
Gender		
Male	52	46
Female	48	54
Race/Ethnicity		
White	66	65
African American	14	13
Hispanic	14	13
Age		
18-29	41	32
30-49	44	49
50+	15	19
Education		
Less than high school	6	4
High school	27	19
Some college	29	21
College graduate	38	56
Household income		
< \$50,000	40	31
\$50,000 - \$74,999	12	12
\$75,000+	33	44
Community type		
Urban	32	34
Suburban	50	53
Rural	12	9

Source: Pew Research Center's Internet & American Life Project, July 25-August 26, 2011 Tracking Survey. N=2,260 adults age 18 and older, including 916 interviews conducted on cell phones. Interviews conducted in English and in Spanish. Margin of error for cell phone app downloaders is plus or minus 4.7 percentage points. Margin of error for tablet app downloaders is plus or minus 9.5 percentage points.

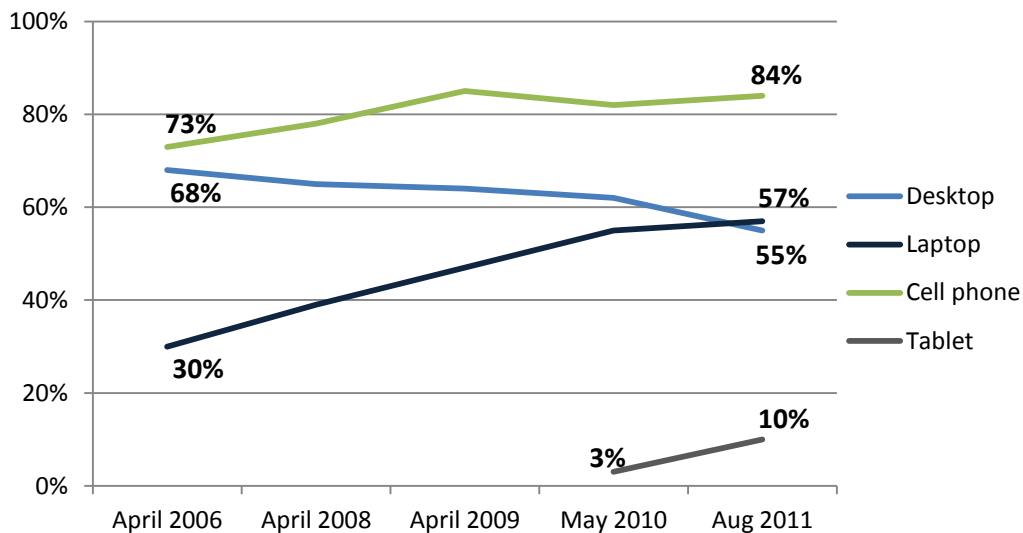
Part II. Apps are only part of Americans' preference for mobile devices

The growing apps culture is a reflection of a broader trend in which mobile devices have become standard pathways to connect to the internet. Over the past decade, desktop computers—once the mainstay of internet use in the U.S.—have steadily decreased in popularity. At the same time, the use of mobile devices to connect to the internet has grown steadily, particularly among young adults. In February of 2010, Pew Internet reported for the first time that laptops had overtaken desktops in popularity among 18-29 year-olds.⁴

While this mobile charge was led by the shift from desktop to laptop computers, it has come of age with smartphones and now tablet computers. In May 2011, Pew data showed that 35% of adults in the U.S. owned smartphones.⁵

Figure 5: In the past decade, mobile devices have gained popularity while desktop computer use has steadily decreased

% of U.S. adults age 18 and older who own each device, by year ...



Source: Pew Research Center's Internet & American Life Project Tracking Surveys. Margin of error on all surveys of U.S. adult population is plus or minus 2 percentage points.

⁴ "Social Media and Young Adults," available at <http://pewinternet.org/Reports/2010/Social-Media-and-Young-Adults.aspx>.

⁵ "Smartphone Adoption and Usage," available at <http://pewinternet.org/Reports/2011/Smartphones.aspx>.

Apps downloading in the context of popular mobile activities

While apps downloading on mobile devices is growing, it is lower than might be expected given the high percentage of cell phone owners using their phones for various activities and tasks. Many of these activities actually require “apps,” which may come preloaded on the phone. Still, given how many cell owners use their phones to access the internet, send and receive email, play games, listen to music, etc., one might expect the percent who download apps to be higher than it is.

Figure 6: App downloading in the context of popular cell phone activities

% of cell phone owners who use a cell phone to do each of following...

Download an app	38%
Send or receive text messages	73
Take a picture	73
Send a photo or video	54
Access the internet	44
Send or receive email	38
Play a game	35
Record a video	34
Play music	34

Source: Pew Research Center's Internet & American Life Project, July 25-August 26, 2011 Tracking Survey. N=1,948 cell phone owners, margin of error is plus or minus 2.6 percentage points. Interviews conducted in English and in Spanish.

Part III. Do people use the apps they download?

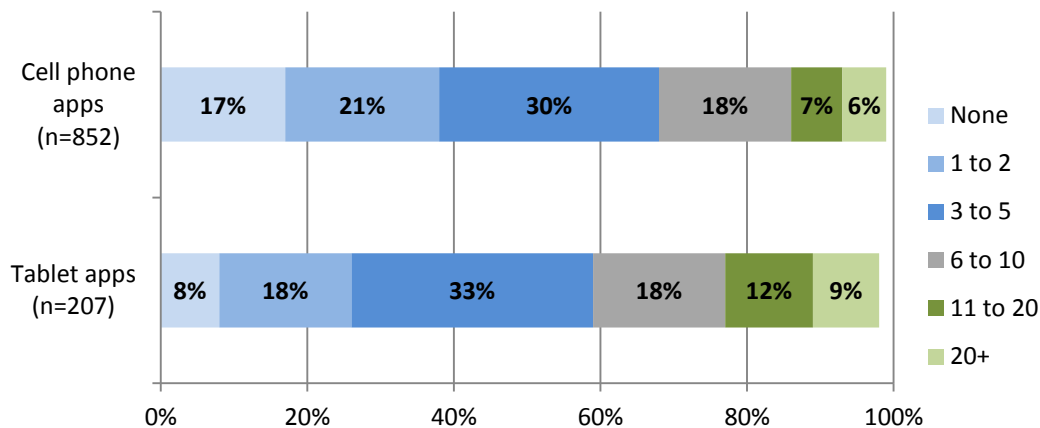
Having apps and using apps are not synonymous. In May 2010, Pew Internet data showed that among adults with apps on their phones, only about two-thirds (68%) reported actually using them. Overall, that meant that while 35% of U.S. adults had apps on their phone, just 24% of adults actually used them.

The current survey asked those who reported having apps on a cell phone and/or reported having a tablet computer how many apps they use on each device at least once a week.

Among adults who have apps on their *cell phone*, roughly half of this group (51%) use a handful of apps at least once a week while 17% report using no apps on a regular basis. Almost a third (31%) could be called app “power users” in that they use 6 or more apps on a weekly basis. Among adults who have a *tablet computer*, 39% report using 6 or more apps on a weekly basis, while just 8% report using no apps regularly on the device. Differences between the groups are not statistically significant, given the small sample size (and large margin of error) for tablet owners.

Figure 7: Among those with apps, most report using five or fewer on a regular basis

How many apps do you use at least once a week?



Source: Pew Research Center's Internet & American Life Project, July 25-August 26, 2011 Tracking Survey. N=2,260 adults age 18 and older, including 916 interviews conducted on cell phones. Interviews conducted in English and in Spanish. Margin of error for owners of cell phones with apps is plus or minus 4 percentage points. Margin of error for tablet owners is plus or minus 8 percentage points.

When these figures are computed as a percentage of *all adults*, apps use is put in clearer perspective. Figure 8 shows the percent of *all adults* who use apps on a cell phone or tablet computer on a regular basis. Among all U.S. adults, only one in three (35%) report using any apps on their cell phone on a regular, weekly basis. And just one in ten adults (9%) report using apps on a tablet computer at least once a week.

Figure 8: What percent of *all adults* are using apps regularly on cell phones or tablet computers?

The % of U.S. adults age 18 and older who...

	Cell Phone	Tablet
Use at least once a week on device...		
No apps	7%	1%
1 to 2 apps	9	2
3 to 5 apps	13	3
6 to 10 apps	8	2
11 to 20 apps	3	1
20 or more apps	2	1
Don't know how many	*	*
Do not have apps on device	42	n/a
Do not have device	16	90

Source: Pew Research Center's Internet & American Life Project, July 25-August 26, 2011 Tracking Survey. N=2,260 adults age 18 and older, including 916 interviews conducted on cell phones. Interviews conducted in English and in Spanish. Margin of error is plus or minus 2 percentage points.

Young adults use more apps on a regular basis

Not only are younger adults more likely to download apps, they are also more intense users of the apps they have. In fact, age is the strongest predictor of app use.

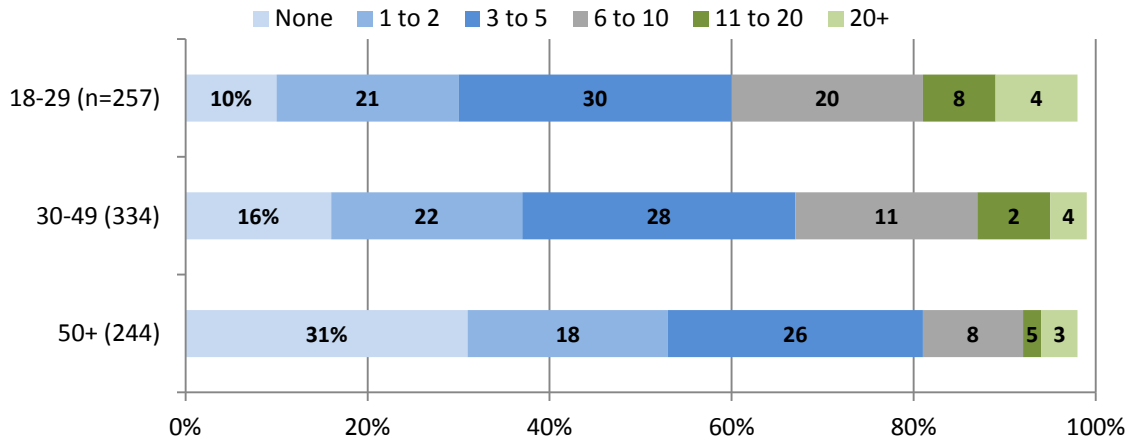
This generational impact was also apparent in Pew Internet's May 2010 survey, in which the youngest adult cell phone users (age 18-29) were 50% more likely than those ages 50 and older to say they used their apps, and had, on average, a greater number of apps on their phones. At that time, younger adults were also the most frequent app downloaders; while 10% of all adult cell phone users in May 2010 reported downloading an app in the past week, the figure was 20% among cell users under age 30.

In the current survey, younger adults report more regular app use on both cell phones and tablet computers, though the sample size for tablet users is too small to report age breakouts reliably. Figure 9 below shows how the frequency of cell phone app use breaks down by age.

Figure 9: Young adults use more cell phone apps on a weekly basis

How many of the apps on your cell phone do you use at least once a week?

Based on adults who have apps on their cell phone (n=852)



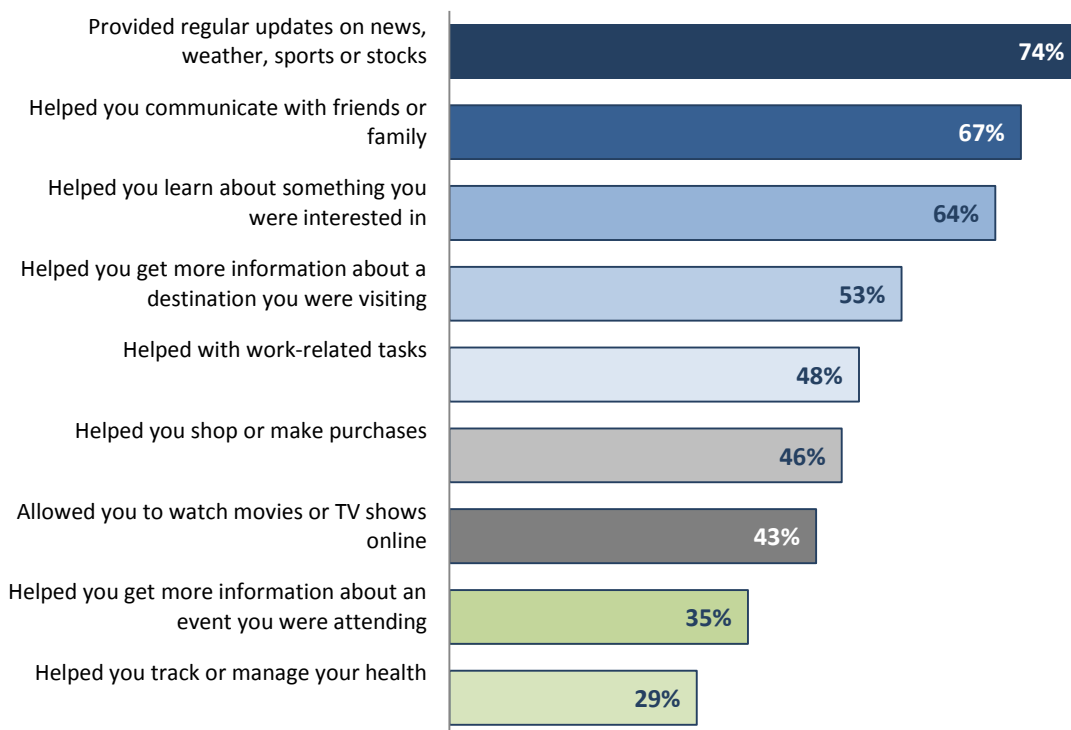
Source: Pew Research Center's Internet & American Life Project, July 25-August 26, 2011 Tracking Survey. N=852 cell phone owners with apps on their phones. Margin of error is plus or minus 7 percentage points for 18-29 year-olds, plus or minus 6 percentage points for 30-49 year-olds, and plus or minus 7.5 percentage points for adults 50+. Interviews conducted in English and in Spanish.

Part IV. What types of apps are adults downloading?

Apps serve many functions, from communication to information gathering, productivity and entertainment. The current survey asked app downloaders if they had ever downloaded apps for any of nine different purposes. Overall, apps that provide regular updates about everyday information (news, weather, sports, or stocks) and those that help people communicate are the most commonly downloaded.

Figure 10: What types of apps do adults download?

% of app downloaders who have downloaded an app that...



Source: Pew Research Center's Internet & American Life Project, July 25-August 26, 2011 Tracking Survey. N=658 app downloaders, margin of error is plus or minus 4.5 percentage points. Interviews conducted in English and in Spanish.

Demographic patterns emerge in downloads of different types of apps

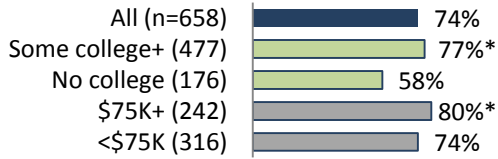
The type of apps an adult downloads is correlated with a variety of demographic factors, including age, race/ethnicity, gender, education and income. Figure 11 shows which demographic groups are most likely to download each of the nine types of apps asked about. Overall...

- **Male** downloaders are more likely than their female counterparts to download apps that help them shop and make purchases, as well as apps that help with work-related tasks
- **Young adults** (18-29) are more likely than older cohorts to download apps that help them communicate with friends and family, while 30-49 year-olds are the leading age cohort for downloading apps that allow the user to watch movies or TV shows online
- **African-Americans** who download apps are more likely than their white counterparts to download apps that help them communicate with friends and family and those that help the user shop or make purchases
- App downloaders who have **attended college** are more likely than those who have not to download apps that provide updates about news, weather, sports or stocks, apps that help the user learn about something he is interested in, and those that help with work-related tasks
- App downloaders in **higher income** categories are more likely than others to download apps that provide updates about news, weather, sports scores or stocks, and those that help the user shop or make purchases
- App downloaders living in **urban or suburban** areas are more likely than their rural counterparts to download apps that help them get information about a destination they are visiting and apps that allow them to watch movies or TV shows online
- **Suburbanites** are also particularly likely to download apps that provide information about an event they are attending

Figure 11: Which demographic groups are most likely to download each type of app?

% of app downloaders in each group who have downloaded an app that...

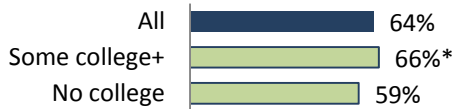
Provides updates about news, weather, sports or stocks



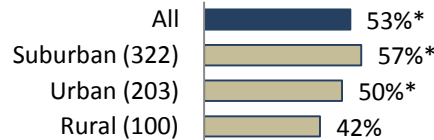
Helps you communicate with friends or family



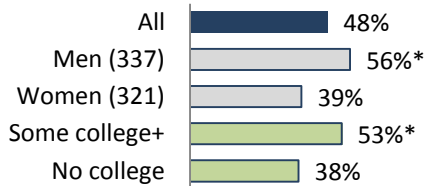
Helps you learn about something you're interested in



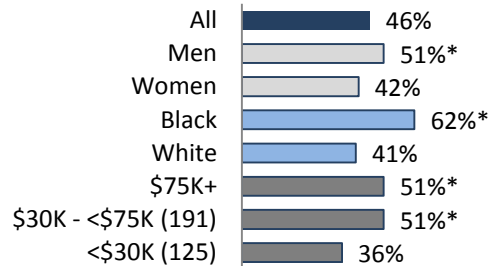
Helps you get more information about a destination you're visiting



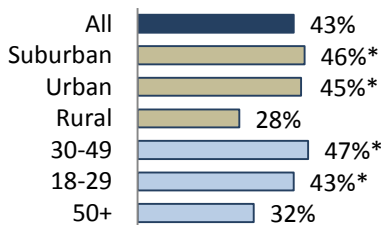
Helps with work-related tasks



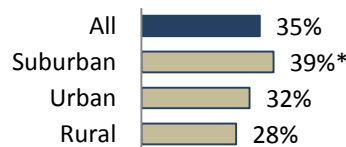
Helps you shop or make purchases



Allows you to watch movies or TV shows online



Helps you get more information about an event you are attending



Source: Pew Research Center's Internet & American Life Project, July 25-August 26, 2011 Tracking Survey. N=658 app downloaders. Interviews conducted in English and in Spanish. An asterisk (*) indicates a significant difference at the 95% confidence level.

Health apps

Health apps are of particular interest to those in the public health and epidemiology arenas, and Pew Internet has been measuring use of these apps for more than a year. In September 2010, data showed that 9% of all adult cell users had an app that “helped them track or manage their health.”⁶ This captures a wide range of software applications, from those that count calories and help manage an exercise routine, to more advanced apps that monitor vital signs and help individuals manage serious health conditions.

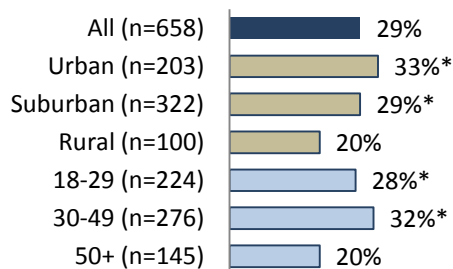
In 2010, cell users who reported having health apps on their phones were disproportionately young, African-American, and living in urban areas. Specifically, 15% of cell phone users age 18-29 reported having mobile health apps, compared with 8% of cell users ages 30-49. And while 15% of African-American cell users had a health app on their phone, the same was true of just 7% of white and 11% of Latino cell phone users.

In August 2011, the question was asked of adults who have downloaded an app to a cell phone or tablet computer, rather than all cell phone users. More than a quarter of this population (29%) report downloading a health app. Looking just at adults who download apps to a cell phone, this translates to 11% of all adult cell phone users having downloaded an app that helps them manage their health, a

statistically insignificant difference from the 9% of adult cell users who reported having a mobile health app in September 2010.

Figure 12: Demographic groups most likely to download an app that helps them track or manage their health

% of app downloaders in each group who have downloaded a health app...



Source: Pew Research Center's Internet & American Life Project, July 25-August 26, 2011 Tracking Survey. N=658 app downloaders. Interviews conducted in English and in Spanish. An asterisk (*) indicates a significant difference at the 95% confidence level.

2011 results are also similar in the sense that adults living in urban areas are most likely to report downloading an app that helps them track or manage their health. And again, younger adults are more likely than older adults to download this type of app; however, in the current survey, 30-49 year-olds are as likely as 18-29 year-olds to download a health app. It is only adults age 50 and older who lag behind. Also, in August 2011, there are no significant differences across racial/ethnic groups where downloading health apps is concerned.

⁶ “Mobile Health 2010,” available at <http://pewinternet.org/Reports/2010/Mobile-Health-2010.aspx>.

Nielsen's research shows games are the most widely used apps

It is helpful to put the current survey findings about the types of apps adults download in broader context. According to Nielsen's quarterly Mobile Insights Survey, games continue to be the most popular apps in terms of use in the 30 days prior to the survey.⁷ In the second quarter of 2011, Nielsen reported that 64% of app downloaders in their survey had used a game app in the prior 30 days. Next most widely used were weather apps (60%), followed by social networking (56%), maps/navigation/search (51%), music (44%) and news (39%). Less widely used by their sample were health apps, used by just 13% of downloaders in the month prior to the survey, and education apps (11%).

Nielsen also finds that downloaders are more willing to pay for game apps than other category. Among their sample of app downloaders, 93% said they are willing to pay for the games they play. Large percentages of downloaders also said they were willing to pay for entertainment apps (87%), productivity apps (84%), maps/navigation/search apps (84%), food apps (77%) and news apps (76%).

⁷ See http://blog.nielsen.com/nielsenwire/online_mobile/games-most-popular-mobile-app-category.

Part V. Paying for apps

In May 2010, we found that among the one-third of adult cell phone users who downloaded apps, just under half (47%) had paid for an app at some point. Put in broader context, that equated to 13% of all adult cell phone users paying to download an app to their phone in May 2010.

The current survey again asked app downloaders (both cell phone and tablet) if they had ever paid for an app, or only download apps that are free. If they had paid for an app, they were asked the highest dollar amount they had ever paid.

As Figure 13 shows, 46% of adults who download apps report having paid for one at some point, which is statistically equivalent to the 47% who reported doing so in May 2010. However, since the app downloading population as a whole has grown, that means that 16% of *all U.S. adults* have ever paid for an app, compared with 13% in May 2010. This is a small but statistically significant increase.

Among those who have paid for apps, half (52%) report that the highest dollar amount they have paid for an app is \$5 or less. However, 17% have paid more than \$20 for an app.

As a percentage of *all app downloaders* (Figure 13), roughly one quarter say the highest dollar amount they have ever paid is \$5 or less, and 8% have paid more than \$20 for an app. Figure 13 also shows that adults who download apps to a tablet are more likely to pay for apps, and also tend to pay more for their most expensive apps than those who download apps to cell phones.

Figure 13: How many adults pay for apps?

	All downloaders (n=658)	Download apps to cell (n=629)	Download apps to tablet (n=153)	All adults (n=2,260)
Total have paid for an app	46%	46	68	16
\$1 to \$2 [^]	10	11	10	3
\$3 to \$5	14	15	22	5
\$6 to \$10	8	9	15	3
\$11 to \$20	5	4	9	2
More than \$20	8	4	10	3
Don't know/Can't remember	1	3	2	*
Total have not paid for an app/DK	54	54	32	18
Total do not download apps				66

[^] category includes \$.01 to \$.99

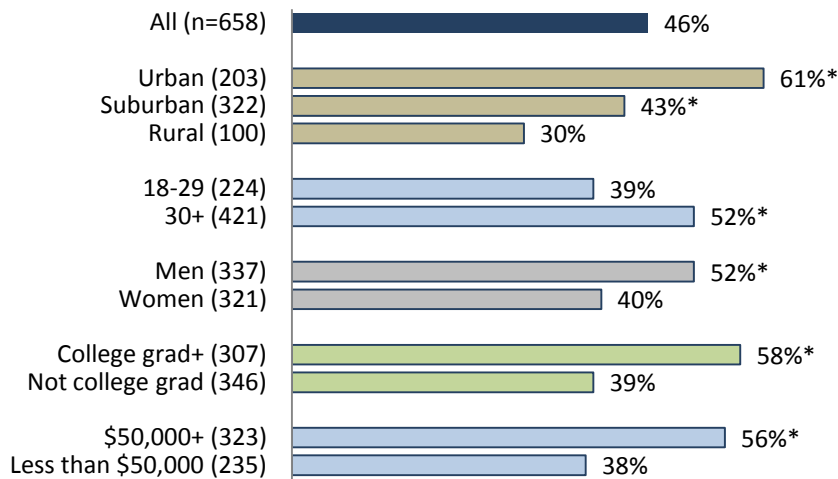
Source: Pew Research Center's Internet & American Life Project, July 25-August 26, 2011 Tracking Survey. N=2,260 adults age 18 and older, including 916 interviews conducted on cell phones. Interviews conducted in English and in Spanish.

Some demographic groups are more likely to pay for apps

Among app downloaders, the demographic groups most likely to pay for apps are men, adults age 30 and older, college graduates, adults with household incomes of \$50,000 or more, and those living in urban communities.

Figure 14: Some demographic groups are more likely than others to pay for an app

% of app downloaders in each group who have paid for an app...



Source: Pew Research Center's Internet & American Life Project, July 25-August 26, 2011 Tracking Survey. N=658 app downloaders. Interviews conducted in English and in Spanish. An asterisk (*) indicates a significant difference at the 95% confidence level.

Survey questions

August Tracking Survey 2011

Final Topline

8/30/2011

Data for July 25–August 26, 2011

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

Sample: n=2,260 national adults, age 18 and older, including 916 cell phone interviews
Interviewing dates: 07.25.2011 – 08.26.2011

Margin of error is plus or minus 2 percentage points for results based on Total [n=2,260]

Margin of error is plus or minus 3 percentage points for results based on internet users [n=1,716]

Margin of error is plus or minus 3 percentage points for results based on cell phone owners [n=1,948]

Margin of error is plus or minus 3 percentage points for results based on SNS or Twitter users [n=1,047]

Q10 As I read the following list of items, please tell me if you happen to have each one, or not. Do you have... [INSERT ITEMS IN ORDER]?

	YES	NO	DON'T KNOW	REFUSED
a. A desktop computer				
Current	55	45	*	*
May 2011	57	42	*	*
November 2010	61	39	0	*
September 2010	59	40	*	*
May 2010	62	38	*	*
January 2010	59	41	0	*
December 2009	58	42	*	*
September 2009	62	37	0	*
April 2009	64	36	*	*
April 2008	65	34	*	--
Dec 2007	65	35	*	--
April 2006	68	32	*	--
b. A laptop computer or netbook ⁸				
Current	57	43	*	*
May 2011	56	44	*	*
January 2011	57	43	*	*
December 2010	53	47	*	*
November 2010	53	47	*	*
September 2010	52	48	*	*
May 2010	55	45	*	0
January 2010	49	51	*	*

Q10 continued...

⁸ Through January 2010, item wording was "A laptop computer [IF NECESSARY: includes a netbook]."

Q10 continued...

	YES	NO	DON'T KNOW	REFUSED
December 2009	46	53	*	*
September 2009	47	53	*	*
April 2009	47	53	*	*
April 2008	39	61	*	--
Dec 2007	37	63	*	--
April 2006	30	69	*	--
c. A cell phone or a Blackberry or iPhone or other device that is also a cell phone ⁹				
Current	84	15	*	*
May 2011	83	17	*	0
January 2011	84	16	*	*
December 2010	81	19	*	*
November 2010	82	18	0	*
September 2010	85	15	*	*
May 2010	82	18	*	0
January 2010	80	20	0	*
December 2009	83	17	0	*
September 2009	84	15	*	*
April 2009	85	15	*	*
Dec 2008	84	16	*	*
July 2008	82	18	*	--
May 2008	78	22	*	0
April 2008	78	22	*	--
January 2008	77	22	*	--
Dec 2007	75	25	*	--
Sept 2007	78	22	*	--
April 2006	73	27	*	--
January 2005	66	34	*	--
November 23-30, 2004	65	35	*	--

Q10 continued...

⁹ Question was asked of landline sample only. Results shown here have been recalculated to include cell phone sample in the "Yes" percentage. In past polls, question was sometimes asked as an independent question and sometimes as an item in a series. In January 2010, question wording was "Do you have...a cell phone or a Blackberry or iPhone or other handheld device that is also a cell phone." In Dec 2008, Nov 2008, May 2008, January 2005 and Nov 23-30 2004, question wording was "Do you happen to have a cell phone?" In August 2008, July 2008 and January 2008, question wording was "Do you have a cell phone, or a Blackberry or other device that is also a cell phone?" In April 2008, Dec 2007, Sept 2007 and April 2006, question wording was "Do you have a cell phone?" Beginning December 2007, question/item was not asked of the cell phone sample, but results shown here reflect Total combined Landline and cell phone sample.

Q10 continued...

	YES	NO	DON'T KNOW	REFUSED
d. An electronic Book device or e-Book reader, such as a Kindle or Nook ¹⁰				
Current	9	90	*	*
May 2011	12	88	*	0
November 2010	6	94	*	*
September 2010	5	95	*	*
May 2010	4	96	*	*
September 2009	3	97	*	*
April 2009	2	98	*	*
e. A tablet computer like an iPad, Samsung Galaxy or Motorola Xoom ¹¹				
Current	10	90	*	*
May 2011	8	92	*	0
January 2011	7	92	*	*
November 2010	5	95	*	*
September 2010	4	96	*	*
May 2010	3	97	*	0

¹⁰ Through November 2010, item wording was "An electronic book device or e-Book reader, such as a Kindle or Sony Digital Book".

¹¹ Through January 2011, item wording was "A tablet computer like an iPad"

Q13 Next I have a few questions about your cell phone... 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 IN ORDER]?¹²

Based on cell phone owners

	YES	NO	DON'T KNOW	REFUSED
a. Send or receive email				
Current [N=1,948]	42	58	*	0
May 2011 [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	76	24	*	*
May 2011	73	27	0	0
December 2010	74	26	*	*
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	--

Q13 continued...

¹² In May 2011, the question was asked of all Form B cell phone owners and Form A cell phone owners who said in CELL7 that they do more than make calls on their phone. The percentages shown here are based on all cell phone users, counting as “no” Form A cell phone owners who said in CELL7 they use their phones only for making calls. Prior to May 2011, question was asked of all cell phone owners. 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.

Q13 continued...

	YES	NO	DON'T KNOW	REFUSED
c. Access the internet ¹³				
Current	48	52	*	0
May 2011	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	*	*

Q14 Have you ever downloaded a software application or “app” to your cell phone, or have you never done this?¹⁴

Based on cell phone owners

	CURRENT		MAY 2011	SEPT 2009
%	38	Yes, have done this	31	22
	61	No, have never done this	69	78
	1	Phone cannot download apps (VOL.)	n/a	n/a
	*	Don't know	*	1
	0	Refused	0	0
	[n=1,948]		[n=1,914]	[n=1,868]

Q15 Some cell phones come PRELOADED with “apps.” Did your cell phone happen to come with any preloaded apps, or not?¹⁵

Based on cell phone owners

	CURRENT		MAY 2010
%	43	Yes	38
	46	No	52
	10	Don't know	11
	*	Refused	0
	[n=1,948]		[n=1,917]

¹³ In December 2007, item wording was “Access the internet for news, weather, sports, or other information”

¹⁴ Prior to August 2011, cell phone app downloads were asked as part of a series of activities. In May 2011, question wording was “Do you ever use your cell phone to...Download a software application or app?” In September 2009, question wording was “Do you ever use your cell phone to... Download an application for your cell phone?”

¹⁵ May 2010 question wording was slightly different: “Some phones come preloaded with apps. Did your cell phone happen to come with any preloaded apps, or not?”

Q16 How many of the apps on your cell phone do you use on a regular basis, meaning you use them at least once a week? [READ 1-6]

Based on those who have apps on their cell phone [N=852]

	<u>CURRENT</u>	
%	17	None
	21	1 to 2
	30	3 to 5
	18	6 to 10
	7	11 to 20
	6	More than 20
	2	(DO NOT READ) Don't know
	*	(DO NOT READ) Refused

TAB1 Earlier you said you have a tablet computer like an iPad, Samsung Galaxy or Motorola Xoom. Do you ever download software applications or "apps" to your tablet computer, or do you not do this?

Based on those who have a tablet computer [N=207]

	<u>CURRENT</u>	
%	75	Yes
	24	No
	1	Don't know
	0	Refused

TAB2 How many of the apps on your tablet computer do you use on a regular basis, meaning you use them at least once a week? [READ 1-6]

Based on those who have a tablet computer [N=207]

	<u>CURRENT</u>	
%	8	None
	18	1 to 2
	33	3 to 5
	18	6 to 10
	12	11 to 20
	9	More than 20
	2	(DO NOT READ) Don't know
	*	(DO NOT READ) Refused

APP1 Thinking about ALL of the apps you have downloaded, to either a cell phone or tablet computer, have you ever PAID for an app, or do you only download apps that are free?¹⁶

Based on those who download apps to their cell phone or tablet computer

	CURRENT		MAY 2011	MAY 2010
%	46	Yes, have paid for apps	38	47
	53	Only download apps that are free	61	52
	*	Don't know	1	1
	*	Refused	*	*
	[n=658]		[n=474]	[n=432]

APP2 What is the HIGHEST dollar amount you have ever paid to download a single app?

Based on those who pay for apps [N=309]

	CURRENT	
%	22	\$1 to \$2
	30	\$3 to \$5
	18	\$6 to \$10
	10	\$11 to \$20
	17	More than \$20
	3	Don't know
	*	Refused

¹⁶ Prior to August 2011, question was asked of those who download apps to their cell phone. Trend question wording was slightly different: "Earlier you said you have downloaded apps to your cell phone. Thinking about all of the apps you have downloaded, have you ever PAID for an app, or have you only downloaded apps that are free?"

APP5 Have you ever downloaded an app that... [INSERT ITEMS; ITEMS a-b ALWAYS FIRST IN ORDER THEN RANDOMIZE]?

Based on those who download apps to their cell phone or tablet computer [N=658]

	YES	NO	DON'T KNOW	REFUSED
a. Helped you get more information about an event you were attending	35	64	1	0
b. Helped you get more information about a destination you were visiting	53	46	*	*
c. Helped you learn about something you were interested in	64	36	*	0
d. Provided regular updates on news, weather, sports or stocks	74	26	0	0
e. Allowed you to watch movies or TV shows online	43	57	*	0
f. Helped you with work-related tasks	48	52	0	0
g. Helped you shop or make purchases	46	54	0	0
h. Helped you communicate with friends or family	67	33	0	0
i. Helped you track or manage your health	29	71	*	*

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 July 25 to August 26, 2011, among a sample of 2,260 adults, age 18 and older. Telephone interviews were conducted in English and Spanish by landline (1,344) and cell phone (916, including 425 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 2.3 percentage points. For results based on Internet users (n=1,716), the margin of sampling error is plus or minus 2.6 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 corrected for different probabilities of selection associated with the number of adults in each household and each respondent's telephone usage patterns.¹⁷ 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 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

¹⁷ i.e., whether respondents have only a landline telephone, only a cell phone, or both kinds of telephone.

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 July-December 2010 National Health Interview Survey.¹⁸

Following is the full disposition of all sampled telephone numbers:

Sample Disposition		
Landline	Cell	
27,999	21,600	Total Numbers Dialed
1,138	323	Non-residential
1,348	54	Computer/Fax
2	---	Cell phone
13,357	8,166	Other not working
1,565	262	Additional projected not working
10,589	12,795	Working numbers
37.8%	59.2%	Working Rate
522	87	No Answer / Busy
3,398	4,396	Voice Mail
35	8	Other Non-Contact
6,634	8,304	Contacted numbers
62.7%	64.9%	Contact Rate
521	1,331	Callback
4,700	5,475	Refusal
1,413	1,498	Cooperating numbers
21.3%	18.0%	Cooperation Rate
36	49	Language Barrier
---	509	Child's cell phone
1,377	940	Eligible numbers
97.5%	62.8%	Eligibility Rate
33	24	Break-off
1,344	916	Completes
97.6%	97.4%	Completion Rate
13.0%	11.4%	Response Rate

¹⁸ Blumberg SJ, Luke JV. Wireless substitution: Early release of estimates from the National Health Interview Survey, July-December, 2010. National Center for Health Statistics. June 2011.

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 percent. The response rate for the cellular sample was 11.4 percent.