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Teens and Technology

Youth are leading the transition to a fully wired and mobile nation

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Summary of Findings

Close to nine in ten teens are internet users.

The vast majority of teens in the United States, 87% of those aged 12 to 17, now use the internet. That amounts to about 21 million youth who use the internet, up from roughly 17 million when we surveyed this age cohort in late 2000. Not only has the wired share of the teenage population grown, but teens' use of the internet has intensified. Teenagers now use the internet more often and in a greater variety of ways than they did in 2000. There are now approximately 11 million teens who go online daily, compared to about 7 million in 2000.

- 87% of U.S. teens aged 12-17 use the internet, up from 73% in 2000. By contrast, 66% of adults use the internet, up from 56% in 2000.
- 51% of teenage internet users say they go online on a daily basis, up from 42% in 2000.

At the same time, the scope of teens' online lives has also broadened. One out of every two teens who use the internet lives in a home with a broadband connection. Wired teens are more frequent users of instant messaging. And they are now more likely to play games online, make purchases, get news, and seek health information.

- 81% of teen internet users play games online. That represents about 17 million people and signifies growth of 52% in the number of online gamers since 2000.
- 76% get news online. That represents about 16 million people and signifies growth of 38% in the number of teens getting news online since 2000.
- 43% have made purchases online. That represents about 9 million people and signifies growth of 71% in teen online shoppers since 2000.
- 31% use the internet to get health information. That represents about 6 million people and signifies growth of 47% in the number of teens using the internet this way since 2000.

Still, despite this momentum, 13% of American teenagers — or about 3 million people — still do not use the internet. About half (47%) of teens who say they do not go online have been online before but have since dropped off. Those teens who remain offline are clearly defined by lower levels of income and limited access to technology. They are also disproportionately likely to be African-American. On the opposite end of the spectrum,

This Pew Internet & American Life Project report is based on the findings of a callback telephone survey of a randomly generated sample of youth 12-17 and a parent or guardian. The data was gathered through telephone interviews conducted by Princeton Survey Research Associates between October 26 and November 28, 2004, among a sample of 1,100 parent-child pairs. For results based on the total parent or teen sample, one can say with 95% confidence that the error attributable to sampling and other random effects is +/- 3%. For results based on online teens or online parents, margin of sampling error is +/- 4%. Data cited in the report is also drawn from other Pew Internet Project surveys. For more details on these surveys, please visit the Methodology section on page 42 of this report.
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nearly all teens in households earning more than $75,000 per year are online, most of them with high-speed connections.

Teens are technology rich and enveloped by a wired world.

An overwhelming majority of all teenagers, 84%, report owning at least one personal media device: a desktop or laptop computer, a cell phone or a Personal Digital Assistant (PDA). 44% say they have two or more devices, while 12% have three and 2% report having all four of those types of devices. Only 16% of all teens report that they do not have any of these devices at all.

- 83% of all the teenagers we surveyed state that "most" of the people they know use the internet.
- 10% say that "some" of the people they know use the internet.
- Just 6% say that very few of the people they know use the internet.

45% of teens have cell phones and 33% are texting.

Close to half of teens (45%) own a cell phone, and 33% have used a cell phone to send a text message. Texting on cell phones is particularly common among those who already go online frequently and use other internet tools often. Teens who have cell phones are heavy users of online communication tools. One in four cell phone-owning teens have used their phone to connect to the internet.

Email is still a fixture in teens' lives, but IM is preferred.

For many years, email has been the most popular application on the internet—a popular and "sticky" communications feature that keeps users coming back day after day. But email may be at the beginning of a slow decline as online teens begin to express a preference for instant messaging.

The presence of email in teens' lives has persisted, and the number that uses email continues to surpass those who use IM. However, when asked about which modes of communication they use *most often* when communicating with friends, online teens consistently choose IM over email in a wide array of contexts.

Teens who participated in focus groups for this study said that they view email as something you use to talk to "old people," institutions, or to send complex instructions to large groups. When it comes to casual written conversation, particularly when talking with friends, online instant messaging is the clearly the mode of choice for today's online teens.

Instant messaging has become the digital communication backbone of teens' daily lives. About half of instant-messaging teens — or roughly 32% of *all* teens — use IM every single day. As the platforms for instant messaging programs spread to cell phones and handheld devices, teens are starting to take textual communication with them into their busy and increasingly mobile lives. IM is a staple of teens' daily internet diet and is used for a wide array of tasks — to make plans with friends, talk about homework assignments, joke around, check in with parents, and post "away messages" or notices about what they are doing when they are away from their computers.

- 75% of online teens — or about two-thirds of all teenagers — use instant messaging, compared to 42% of online adults.
- 48% of teens who use instant messaging say they exchange IMs at least once every day.

The landline phone lives on.

While teens have a great appetite for new information technologies, the landline telephone remains the most dominant communication medium in teens' everyday life. Overall, when asked about how they prefer to communicate with friends, just 5% of all online teens say they most often choose email to communicate with friends. In comparison, nearly five times as many teens (24%) prefer instant messaging when talking with friends. Nonetheless, the telephone remains the tool of choice for the majority of teens:

- 51% of online teens usually choose the landline telephone when they want to talk with friends.
- 24% said they will most often use instant messaging.
- 12% prefer to call friends on their cell phone.
- 5% use email most often to communicate with friends.
- 3% prefer to use text messages.

Teens share more than words over IM.

IM is a multi-channel space of personal expression for teens. They typically converse in text, but they also share links, photos, music, and video over IM.

- 50% of IM-using teens have included a link to an interesting or funny article or website in an instant message.
- 45% have used IM to send photos or documents.
- 31% have sent music or video files via IM.

IM and text messaging help teens stay in touch with their parents.

Instant messaging and text messaging are not simply used for conversations with other tech-savvy peers. Almost one in three (29%) teens who use IM or text messaging will use it to communicate with their parents.

Face-to-face time still beats phone and screen time for teens.

Even with their great affection for technology, teens still report, on average, spending more time physically with their friends doing social things outside of school than they report interacting with friends through technology. An average youth between ages 12-17 reports spending 10.3 hours a week with friends doing social activities outside of school and about 7.8 hours talking with friends via technology like the telephone, email, IM or text messaging.

Half of families with teens have broadband.

Families with teens, like much of the rest of online America, are evenly divided between households with broadband and households with dial-up. While families with teens are more likely than other Americans to use the internet, they are no more likely than other Americans to have broadband connections.

- 47% of families with teens who have internet connections at home report dial-up access.
- 51% report broadband access of some kind.
- The same proportion of all online Americans who have connections at home report dial up versus broadband access (47% vs. 51%).[1]

Eight in ten wired teens play games online.

Aside from having a much higher level of exposure to the internet than adults, teens also exhibit some distinctly different online behaviors from adults.

- When compared to adults, teens are more than twice as likely to play games online; 81% of online teens say they are gamers, compared to 32% of online adults who say this.
- Teens are also more inclined to use the internet to get information about a prospective school; 57% of online teens use the internet to search for a school they might attend, while 45% of online adults do this.

However, their interest in some activities falls in line with that of adults:

[1] Pew Internet & American Life Project Post-Election Tracking Survey, November 2004.

- Online teens are just as likely as adult internet users to use email, get news, or seek religious information online.

And other activities continue to be more popular with the "grown-up" crowd:

- 67% of online adults make purchases online compared to 43% of online teens. However, it is important to note that there has been a striking increase in the number of teen shoppers compared to our 2000 survey.
- 44% of online adults seek job information online, compared to 30% of online teens.

Most teens use shared computers at home and growing numbers log on from libraries, school, and other locations.

Though teenagers are prone to log on wherever there is an internet connection—whether at home, at school or at a friend's house—the vast majority of teens go online most frequently from home. And while one-quarter of wired teens have private access in an area like a bedroom, almost three-quarters use computers located in open family areas that are shared with others in the family.

- 26% of teens who go online from home do so from a private area like a bedroom.
- 73% of home teen users go online from a computer located in an open family area.
- 54% of online teens say they have gone online at the library, up from 36% who reported this in 2000.
- 78% of online teens say they have gone online from school, up from 64% in 2000.

The size of the wired teen population surges at the seventh grade mark.

Going to Junior High seems to be the tipping point when many teens who were not previously online get connected. While about 60% of the 6th graders in our sample reported using the internet, by 7th grade, it jumps to 82% who are online. From there, the percent of users in the teen population for each grade climbs steadily before topping out at 94% for eleventh and twelfth graders. Much of the lag among sixth graders appears to come from boys. Fewer than half (44%) of 6th grade boys report going online, compared to 79% of sixth grade girls.

Older girls are power communicators and information seekers.

Older teenage girls (aged 15-17) have driven the growth in many of the communication and information-seeking categories since our last survey. Older teenage girls have a much higher level of engagement with a wide array of these activities than do either boys of the same age or younger boys and girls (aged 12-14). They are more likely to use email, text messaging, search for information about prospective schools, seek health and religious information, and visit entertainment-related websites.

Digital communication can lead to breaches of personal privacy.

About one in five (21%) online teens say they have sent an email, instant or text message to someone that they meant to be private but which was forwarded on to others by the recipient. Teens who use the internet frequently are more likely to report this type of breach.

- 25% of teens who go online daily have experienced this, compared with 16% of those who go online several times per week and 14% of those who go online less often.

What Teens Do Online

The percentage of U.S. internet users, aged 12-17, who do the following online:

	Online Teens
Send or read email	89%
Go to websites about movies, TV shows, music groups, or sports stars you are interested in	84
Play online games	81
Go online to get news or information about current events	76
Send or receive instant messages	75
Go online to get information about a college, university, or other school you are thinking about attending	57
Look for news or information about politics and the presidential campaign	55
Buy things online, such as books, clothing, or music	43
Send or receive text messages using a cell phone	38
Look for health, dieting, or physical fitness information online	31
Look for information about a job online	30
Look for religious or spiritual information online	26
Look for information online about a health topic that's hard to talk about, like drug use, sexual health, or depression	22

Source: Pew Internet & American Life Project: Teens and Parents Survey, October-November 2004 survey. Margin of error for teens online is ± 4 percentage points.

Teens and Technology: Summary of Findings at a Glance

Close to nine in ten teens are wired.
Teens are technology rich and enveloped by a wired world.
45% of teens have cell phones and 33% are texting.
Email is still a fixture in teens' lives, but IM is preferred.
Teens share more than words over IM.
Half of families with teens have broadband.
Face-to-face time still beats phone and screen time.
Most teens use shared computers at home and growing numbers log on from libraries, school, and other locations.
The size of the wired teen population surges at the seventh grade mark.
Older girls are power communicators and information seekers.
Source: Lenhart, A. Madden, M., Hitlin, P., *Teens and Technology: Youth are Leading the Transition to a Fully Wired and Mobile Nation.* Washington, DC: Pew Internet & American Life Project, July 27, 2005.

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About the Pew Internet & American Life Project: The Pew Internet Project produces reports that explore the impact of the internet on children, families, communities, the work place, schools, health care, and civic/political life. The Project aims to be an authoritative source on the evolution of the internet through collection of data and analysis of real-world developments as they affect the virtual world. Support for the non-profit Pew Internet Project is provided by The Pew Charitable Trusts. The Project is an initiative of the Pew Research Center. The Project's Web site: www.pewinternet.org

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Part 1.

Basic Demographics of Online Teens and Their Families

Demographics of Teen Sample *The percentage of each group who go online:*	
Sex	
Boys	85%
Girls	88
Age	
12-14	82%
15-17	92
Grade	
6th	60%
7th	82
8th	85
9th	87
10th	90
11th	94
12th	94
Locale	
Urban	87%
Suburban	87
Rural	83

Source: Pew Internet & American Life Project Teens and Parents Survey, Nov.-Dec. 2004. Margin of error is ±4%.

According to the latest Pew Internet & American Life Project telephone survey fielded in October and November 2004, 87% of American youth aged 12 to 17 go online.[2] That represents roughly 21 million teens who use the internet in some aspect of their lives. The online teen population has increased by roughly 24% since we last asked this question in a survey in December 2000.[3] On the flip side, 13% of American teenagers do not use the Internet. About half (47%) of teens who say they do not go online have been online before but have since dropped off.

Parents of teens are also much more likely to go online than the average American adult. Some 80% of parents who have teenagers go online, compared to 66% of all American adults. Parents with teenagers who use the internet have even higher levels of connectivity, with 84% of them reporting internet use.

African-Americans are the least likely to be online[4]

In our current survey, white and English-speaking Hispanic[5] teens are more likely than African-American teens to report going online. Among whites, 87% of teens say they go online. Similarly, 89% of Hispanic youth in this study say they go online. By comparison, 77% of African-American youth go online. All three of these groups are more likely to be online than the overall population of American adults, of whom, 66%

[2] Throughout this report, we refer to the age cohort of 12- to-17-year-olds as "teenagers." The standard telephone surveys conducted by the Pew Internet & American Life Project involve those age 18 and older, so we do not include them in our surveys of younger Americans.

[3] Lenhart, A. Rainie, L. & Lewis, O., *Teenage Life Online: The rise of the instant-message generation and the Internet's impact on friendships and family relationships*, Pew Internet & American Life Project, June 21, 2001. http://www.pewinternet.org/PPF/r/36/report_display.asp.

[4] Race and ethnicity in this survey is asked of parents. The question reads as follows: "What is your race or ethnicity?" While we extrapolate this race report to the child, it is possible that in certain circumstances that some youth do not self-identify with the same race or ethnicity as their parent.

[5] The Pew Internet Project conducts its surveys in English. Thus, anyone not able to complete a survey in English would be excluded from the study.

go online. Teens of all races are also more likely to be online than their parents. As mentioned previously, 80% of parents go online, and 84% of parents of online teens go online themselves. When broken down by race, 82% of white parents and 81% of English-speaking Hispanic parents go online. By stark contrast, just 62% of African-American parents go online. In all cases, however, parents are more likely to go online than non-parents, regardless of race or ethnicity.

Most teens have logged on by the 7th grade.

Starting Junior High seems to be the moment when most teens who were not previously online get connected. About 60% of the 6th graders in our sample reported using the Internet. By 7th grade, this number jumps to 82% of teens who are online. From there, the percentage of internet users in the teen population for each grade climbs steadily before topping out at 94% for all 11th and 12th graders. Much of the lag among 6th graders appears to come from boys. Less than half (44%) of 6th grade boys report going online, compared to 79% of 6th grade girls.

Demographics of Online Families

Percentage of each group whose teens go online:

Race	
White	87%
Black	77
Hispanic	89
Parent's Educational Attainment	
High school diploma or less	81%
Some college	91
College degree or more	93
Family Income	
Less than $30,000	73%
$30,000 to $50,000	89
More than $50,000	90
Parents' Martial Status	
Married	88%
Divorced/Separated	82
Widowed	87
Single	63

Source: Pew Internet & American Life Project Teens and Parents Survey, Oct.-Nov. 2004. Margin of error is ±4%.

Older teens, aged 15-17, go online more frequently than younger teens. Some 59% of wired teens aged 15-17 go online once a day or more, while 43% of younger teens report going online that frequently. By comparison, 11% of 12- to 14-year-olds say they go online every few weeks, compared to just 6% of older teens.

Only 6% of 6th graders go online several times a day compared to one-quarter (25%) of 8th graders and close to 2 in 5 (39%) 12th graders. On the other side of the use spectrum, one in five (20%) of 6th graders go online just every few weeks compared to a mere 8% of 8th graders and 5% of high school seniors.

Teens from the poorest families lag behind.

As is the case with adult use of the internet, teens from the lowest-income families are the least likely to report use of the internet. Teens from households earning under $30,000 per year are less likely than any other income group to report internet use. Less than three-quarters (73%) of teens from these families use the internet. By contrast, 90% of teens from families earning more than $30,000 a year go online. At the highest income levels, households earning more than $75,000 a year, 93% of teens go online.

Teens with married parents are significantly more likely to go online than teens of single parents. Eighty-nine percent of teens with parents who are married go online compared to 76% of teens with parents who are divorced, separated, widowed, or who have never been married.

Part 2.

Conditions of Internet Use

In order to understand the nature of teens' internet access, we asked: How often do they go online? Where do they usually go online? Do they access the internet from more than one place? What speed is their access? What does home access look like for today's American teen? In the sections that follow, we lay out the context of teens' internet access and use, to gain a better understanding of factors that may influence how a teen uses the internet and to more fully understand the online and offline behaviors of teens as a whole.

Half of teens use the internet every day.

More than half (51%) of those approximately 21 million teens who use the internet say they go online at least daily. Some 24% of online teens report going online several times a day, and 27% report going online once a day. This 51% reflects an increase from when we asked this question previously as a part of our December 2000 survey,[6] when 42% of teens reported daily internet use.

About a third (35%) of online teen users say they go online weekly, with 21% reporting 3-5 days a week of internet use and 13% 1-2 days of internet use per week. These weekly figures reflect a drop from our 2000 survey, when 45%, the largest percentage of online teens reported going online on a weekly basis.

There is another small but significant group of online teens who have comparatively low frequencies of internet use. About 14% of adolescent internet users report going online less often than weekly — 8% say they go online every few weeks and the remainder say they go online less often. This 14% figure reflects no statistically significant change from when we first recorded that 13% of youth go online less often than once a week in 2000.

Teens log on most often from home, but library use grows more than any other location.

The vast majority of online teens report going online from home and say that it is the place they go online most often. Close to nine in ten (87%) of teen internet users say they go online from home, a number virtually unchanged from when we first asked the question in 2000.

[6] http://www.pewinternet.org/PPF/r/36/report_display.asp

Seventy-eight percent of online teens report that they go online from school, up from 64% of online teens in 2000. Accessing the internet from a friend or relative's house is also on the rise, with 74% of teens reporting that they access the internet from those locations, up from 64% in 2000.

More than half (54%) of all online teens say they have gone online from a library, up from a little more than a third of teens (36%) who reported utilizing library internet resources in 2000. Nine percent of teens say they access the internet from a community center, like a Boys' or Girls' club, or a religiously affiliated youth center.

When asked where they go online most often, three-quarters of internet-using teens (74%) say they go online most often from home. Another 17% of wired teens say that they go online most often from school, and 9% say they go online most from someplace else, like a youth center, a library or a friend's house. Since 2000, more teens report going online most frequently from places other than their home. In 2000, of teens who went online from more than one place, 83% went online mostly from home, 11% mostly from school and 5% from someplace else. These changes over the past four years may reflect the impact of the e-Rate program bringing better and more comprehensive connectivity to schools, the dropping price of personal computers, and the increasing importance of the internet in the academic and personal lives of teens.

Where teens log on

The places where teens have ever gone online and where they go online most often:

	Ever	Most often
Home	87%	74
School	78	17
A Friend's House	74	N/A
Library	54	N/A
Community Center, Youth Center, House of Worship	9	N/A

Source: Pew Internet & American Life Project Teens and Parents Survey, Nov.-Dec. 2004. Margin of error is ±4%.

The home internet environment is dominated by the desktop.

Desktop computers are the front door to the online world for most teens. Seventy-three percent of all teenagers we surveyed report having a desktop computer — about the same percentage as adults (75%) who say they have a personal computer of any kind, including desktop or laptop, in their home.[7] Three-quarters (75%) of online teens who go online from home have logged on from a desktop. However, teens are by no means tied exclusively to their desktops. Eighty-four percent of those with a desktop computer will also use an alternate device to go online.

At the same time, 18% of teenagers say they have a laptop computer and 72% of those use their laptop to connect to the web. Seventy-five percent of teens report having a

[7] Pew Research Center for the People and the Press survey on media consumption, May 2004

computer (either a desktop or laptop) of some kind. Fifteen percent of teenagers report having *both* a desktop and a laptop computer.

Half of online teens have a broadband connection at home.

Roughly the same number of teens with home internet access use a dial-up connection as those who use some type of high-speed connection. Almost half, 47%, of teens who go online at home have a dial-up connection while 28% have a high-speed cable modem, 21% have a DSL-enabled phone line, and 2% have a wireless connection. That means that 51% of teens who go online from home have some type of high-speed connection.[8]

In addition to the racial divide in the number of teens who go online, there is also a difference in the types of internet connections they are using from home. Overall, white teenagers are more likely to be online than African-American teenagers, and whites are online at about the same rate as English-speaking Hispanic teenagers. However, white teens are also more likely to have a high-speed connection from home. One-half of white teenagers who go online from home have a high-speed connection compared to 39% of African-American teenagers and 42% of Hispanic teenagers.

As discussed in other Pew Internet Project reports,[9] broadband internet connectivity changes how individuals use the Internet, and teens are no exception. As a part of this research study, we conducted four focus groups with high school and middle schoolers, two at a university in a large city in the Midwest and two at a small college in a small town at the exurban edge of a large Southern city. When asked specifically about how broadband has impacted their online behavior, several teens noted that they download files more often and aren't as "picky" about what they download. These teens have grown up in a world that is overflowing with information and entertainment, and they have come to expect that most content can be found online for free. One male participant told us: "You can download anything you want. [When buying a game offline] I'll pay $50, but on here, I can get it for free."

Three out of four teens go online from "public" areas in their home.

Project findings on computer location, sharing and online filters suggest that the majority of teens who use the internet at home have a relatively public and monitored level of access.[10] While 67% of parents of online teens believe that the internet is a good thing for their child, there is also great concern among parents about the safety of the internet. For example, more than four out of five parents believe that most teens are not careful enough

[8] The results listed above about home connection speed are as reported by parents of online teens. When teens were asked the same question, their responses were quite similar. For teens who went online from home, 47% reported a dial-up connection while 46% said some type of high-speed connection and 6% said they did not know.

[9] Most recently in Horrigan, John, "Broadband Penetration on the Upswing," April 2004, available from http://www.pewinternet.org/PPF/r/121/report_display.asp

[10] For the full discussion of location, sharing and filtering in the home environment, please see our *Protecting Teens Online* report at http://www.pewinternet.org/PPF/r/152/report_display.asp

about the information they give out about themselves online, and many parents are using a variety of methods to protect their children from potential dangers including using filters and placing their computer in a public space.

In an attempt to address some of those concerns, many families have tried a variety of strategies. For instance, almost three-quarters of teenagers who go online from home do so from a computer that is located in an open family area such as a living room or den. Placing a computer in a public space in the home allows other family members to casually and easily observe each others' internet use and better monitor or regulate the online habits of the household. About one-quarter say that the computer that connects them to the web is in a private area such as a bedroom. This proportion is practically identical to our December 2000 survey, which showed that 70% of online teenagers said their internet-connected computer was in an open family area compared to 27% who said their computer was in a private space.

The percentages of online teenagers with an internet-connected computer in a public location within the house do not vary much by age or sex of the teen.

Home Computer Location and Computer Sharing

Of teens who connect to the web from home, the percentage that falls into each category (N=868)

		Computer Sharing	
		Yes	No
Home Computer Location	Private Area	18%	8%
	Open Family Area	72	1

Source: Pew Internet & American Life Project October-November 2004 survey. N=868 12-17 year-olds. Margin of error is ± 4 percentage points at 95% confidence level.

Teenagers with at least one parent who is not an internet user are also more likely to have a computer in a private space. Forty percent of teens with a parent who does not go online say their computer is in a private location compared to one quarter of teens with online parents. Families with wireless internet access are also more likely to have a family computer located in a private space.

The percentage of online teenagers who report that other members of their family use the same internet-connected computer is relatively unchanged from when we asked an identical question in December 2000. In our current survey, 90% of teenagers who go online say that other family members also use the connected computer compared to only 10% who said they were the only person to use the computer.

Families with dial-up access are only slightly more likely to report computer sharing, with 93% of dial-up households sharing compared to 87% of families with broadband. Families with a parent who reports having five years or fewer of internet experience are more likely to report computer sharing than families where the parent has been online for six years or more. The percentages of families with a shared computer do not vary across household socioeconomic status, age of children, or whether or not a parent uses the internet.

Seventy-two percent of teenagers who go online from home live in households where other members of the family share the computer. Only 8% of teenagers who go online from home do so with a computer that no one else in their family uses and is located in a private area.

More than half of parents with online teens use filters and most restrict use in some way.

Many parents use various methods of filtering and monitoring to keep an eye on their teens online.[11] Fifty-four percent of parents use internet filters, up from 41% in December 2000. At the same time, 62% of parents of online teens report that they check up on their child's web surfing habits and 64% say they set rules for their child's time online. However, even with all of those monitoring methods, 65% of all parents and 64% of all teens say they think that teens do things online they would not want their parents to know about.

[11] For more information about teens and filtering, refer to our March 2005 report entitled *Protecting Teens Online* which is available at http://www.pewinternet.org/PPF/r/152/report_display.asp.

Part 3.

Technological and Social Contexts

Beyond understanding the conditions of internet access inside the home, it is important to understand how the internet and other communication technologies fit into teens' external environments and increasingly complex lives. For most teenagers, technology plays a crucial role in their everyday lives, and the internet is the backbone of their overall media milieu. For our investigation of teenagers, we wanted to discover the content and context of their technological surroundings and how it relates to their daily offline experience.

The vast majority of teenagers own some type of media device.

As part of our survey, we asked teens whether or not they had any of four types of devices that can be connected to the internet: desktop computers, laptop computers, cell phones, and personal digital devices such as Sidekicks or Blackberries. An overwhelming majority of all teenagers, 84%, report they had at least one of these four types of devices. Forty-four percent say they have two or more of these devices while 12% have three and 2% report having all four. Only 16% of all teens report that they do not have any of these devices at all.

Device ownership does not differ significantly for boys and girls. However, as might be expected, older teenagers have more devices than younger teenagers. Eighty-eight percent of teenagers aged 15-17 have at least one of the media devices while 79% of teenagers aged 12-14 do. Fifty-three percent of teenagers aged 15-17 report having two or more types of devices compared to 36% of teenagers aged 12-14. Yet, the biggest difference in device ownership for teens by age is for cell phones. About one-third of teens aged 12-14 have a cell phone compared to 57% of teens aged 15-17.

There is also a substantial variation in device ownership among teens with online parents compared to those with offline parents. Eighty-eight percent of teenagers with an online parent have at least one device and 47% have at least two devices. That compares to 69% of teens with offline parents who have at least one device and 35% who have two or more devices.

Teens and Media Devices

For device ownership, age matters more than gender

	All Teens	Boys	Girls	Teens Aged 12-14	Teens Aged 15-17
Percentage of each group who have the following media devices:					
Desktop computer	73%	75%	71%	69%	76%
Laptop computer	18	17	19	18	18
Cell phone	45	**40**	**49**	**32**	**57**
Personal Digital Device like a Sidekick or Blackberry	7	7	7	7	7
Number of media devices:					
None	16%	17%	16%	**21%**	**12%**
One or more types of media device	84	83	84	**79**	**88**
Two or more types of media devices	44	43	46	**36**	**53**
Three or more types of media devices	12	12	12	**8**	**15**
All four types of media devices	2	2	2	2	2

Source: Pew Internet & American Life Project October-November 2004 survey. N=1,100 12-17 year-olds. Margin of error is ± 3 percentage points at 95% confidence level.

Note: Numbers in bold indicate a statistically significant difference at the 95% level.

Close to half of all teens have a cell phone.

Cell phones are also a widely-used communication device for teenagers. Close to half of the teenagers we surveyed, 45%, say they have a cell phone. This percentage is less than the 68% of adults who have a cell phone,[12] but it still represents a significant proportion of teens. Of the roughly 11 million teenagers with a cell phone, only 10% use it to connect to the internet.

For many teens with a cell phone, the use of that phone is a central method of communication in daily life. Forty-five percent of teens with cell phones say they spend more time talking with their friends on their cell phone than on a regular landline phone. Nevertheless, slightly more of these cell-phone-owning teens (53%) report using a landline phone more than their cell.

Cell phones also change the behaviors and expectations of family and friends. One member of a high school focus group described how her cell phone altered her interactions with her mother.

> "… before I got the phone, it was kind of like, 'I'm going to be here, for this length of time before I leave,' and now I can go out because …I don't have to say I'm leaving, I can go. If she's not around, I can just go, and she'll get home and see [that I'm not there] and just call. So it's a lot easier."

[12] Pew Research Center for the People and the Press survey on media consumption, May 2004.

Other teens feel like the phone was given to them by parents to make them less independent and more in touch with their families. But as one female teen points out:

> "When I'm out and my parents are trying to get a hold of me, they can call but that also doesn't mean that I'm going to pick it up when it's them…. I do! I swear I do. But if I didn't want to then I wouldn't have to."

Personal digital devices such as a Sidekick or Blackberry are not nearly as popular as any of the other types of devices we inquired about. Only 7% of teenagers say they have a personal digital device and less than a third of those teens use it to connect to the web.

Teens say they are enveloped in a wired world.

Teenagers are not only surrounded by the technological tools that allow them to connect to the internet, but they are equally enveloped by friends and family who go online. Eighty-three percent of all the teens we surveyed state that "most" of the people they know use the internet while only 6% say that very few or none of the people they know use the internet.

Teens and Online Perceptions

Overall, would you say that most of the people you know use the internet, only some of the people you know use the internet, or do very few or none of the people you know use the internet?

Response	All Teens	Online Teens	Teens Not Online
Most	83%	88%	51%
Some	10	8	27
Very few or none	6	4	19
Don't know/Refused	1	1	2

Source: Pew Internet & American Life Project October-November 2004 survey. N=1,100 12-17 year-olds. Margin of error for all teens (N=1,100) and for online teens (N=971) is ± 3 percentage points at 95% confidence level. Margin of error for teens not online (N=129) is ± 9 percentage points at 95% confidence level.

This familiarity holds true across most cross-sections of teens. About the same number of girls and boys answer that most of the people they know use the internet while 86% of teenagers aged 15-17 and 80% of teenagers aged 12-14 also answer the same way. White teenagers are somewhat more likely to answer "most" people than African-Americans or Hispanics, although significant majorities of all races say that most people they know are on the internet. Eighty-seven percent of white teenagers, 70% of Hispanic teenagers, and 69% of African-American teenagers respond that way. Eighteen percent of African-American teenagers responded to the question by saying that very few or none of the people they knew were using the web compared to 10% of Hispanic teens and only 4% of white teens.

While the majority of teenagers answer that most of the people they know use the internet, there are differences in the numbers of teens who agree depending on their internet access or the access of their parents. For teens who go online themselves, 88% say most of the people they know go online compared to only 51% of teens who are not online themselves. For teenagers with parents who go online, 86% answer "most," compared to 69% of teens whose parents are not users of the internet.

Even though there is a discrepancy between teenagers' perceptions of the people around them depending on their parent's online status, almost seven in ten teens whose parents are not online still assert that most of the people they know are online (n=185). This suggests that their perception of how wired the world is around them may be influenced by other teens and adults outside of their own home.

Teens lead active offline lives.

Also as part of our survey, we wanted to find out about the types of offline recreational activities teenagers participated in to better understand the organization and complexity of teens' daily lives. We asked all teens if they participate in any of four types of group activities. These activities included a school club like a drama or language club, a school sports program, an extracurricular activity like a band, or a club or sports program that is not affiliated with a school such as a church youth group, recreation league, or volunteer organization.

Of all teenagers, 83% say that they belong to at least one of these groups while only 17% claim that they are not involved in any of these activities. More girls (87%) participate in any one of these activities than boys (79%). Overall, 34% of teenagers say they are involved with a school club, 48% with a school sports program, 41% with an extracurricular activity, and 54% belong to a club or sports program not affiliated with their school.

Most teens say they maintain robust networks of friends.

In addition to the participation in certain types of social activities, we included other questions to further gauge the amount of social contact teenagers had. We asked teens to estimate the number of friends they keep in touch with on a regular basis, meaning at least once a week. The average for all the teens was 20 friends per teen. Older teens, aged 15-17, report keeping in touch with an average of 22 friends while teens aged 12-14 report an average of 17 friends. Boys also report keeping in touch with more friends with an average of 22 friends while girls report an average of 17 friends.

Outside of school, teenagers average 10.26 hours per week of social activity with their friends (with a median of 6 hours per week). Boys average slightly more, with 11.29 hours per week, while girls average 9.18 hours per week. Older teens, aged 15-17, also report spending more time at 11.84 hours per week compared to teens aged 12-14 who report spending 8.55 hours per week in social activities and with friends outside of school.

Parents don't see the internet as a boon to the quality of teens' social lives.

While the relationship between a teen's social and technological milieu and internet access is not clear, parents' believe that the internet is not beneficial to teens' social lives. Of the parents of teenagers we interviewed, 62% say they disagree with the notion that teens who use the internet to stay in touch with their friends have better social lives than teens who don't use the internet. Teenagers themselves are slightly less likely to disagree. Almost half of all teenagers agree that the internet can help teens have better social lives while 51% disagree.

Advances in technology and personal growth change teens' internet use over time.

Many of our teenage focus group participants noted that the nature of their internet use has changed as they have become older and their interests have shifted. At the same time, the availability of new internet-enabled technologies and faster access speeds have altered the types of activities teens will carry out online:

> "I definitely think it's about both age and technology. Because I know when I first started, you know, using the internet seriously, it was all you could do was like, research and games because there wasn't an instant messaging type of service set up." – High School Female

Similarly, many teens who participated in our focus groups have experienced the broadband difference firsthand. In their younger years, dial-up connections were more prevalent, and as they got older and their online activities became more complex, they came to rely on the ease of high-speed access. One respondent noted the following changes in her online habits:

> "I know I rely a lot more on the internet for everyday stuff — looking up things that you know, I would have to call a couple of people to find out, or [having the ability to do] better research, or instant messaging. I know I rely on the internet a lot more as I've gotten older. All my college applications were online and that was so much better." – High School Female

Another focus group participant describes the changes in her internet use over time:

> "I use it more on a daily basis than I did when I was younger. I would get online maybe in the evenings or something, if I had nothing else to do. But now, it's kind of like you get home, sign-on, turn your music on." – High School Female

Part 4.

Communications Tools and Teens

Communication tools have long been at the heart of the popularity and utility of the internet for teens and adults. Email remains the most commonly reported activity among all groups of internet users. While many families initially acquire a computer and internet access for educational purposes, entertainment and communications functions generally eclipse school-focused online activities.

This section of the report charts the changes in the use of communications applications by teens over the past four years and places them in contrast to adult use of the same technology. As rapidly as the internet was adopted in the U.S., the defining characteristics of its use evolve at an even greater pace. Teen use of communications applications has undergone rapid changes in recent years. While statistically, the proportion of teens that have ever used email or instant messaging has remained stable, teen internet users report that they choose to use instant messaging more often than email and prefer it when talking with friends. Beyond tethered communications, teens are going mobile, using cellular phones for voice calls and text messaging. The landscape of communications options has changed radically since our last survey, and teens are often in the vanguard of adoption for these new technologies.

Email is still a fixture in teens' lives, but IM is preferred.

For many years, email has been, hands down, the most popular application on the internet — a communications tool with a popularity and a "stickiness" that keeps users of all ages coming back frequently. But email is losing some of its appeal to these trend-setting young internet users as growing numbers express a preference for instant messaging. Almost half (46%) of online teens say they most often choose IM over email and text messaging for written conversations with friends. Only a third (33%) say they most often use email to write messages to friends, and about 15% prefer text messaging for written communication.

In all, 89% of online teens report ever using email. This represents no statistically significant change from when we last asked this question in 2000. However, responses to other questions in our survey and our qualitative research with middle-school- and high-school-aged teens suggest that the popularity of email and the intensity of its use are waning in favor of instant messaging.

More girls than boys use email, with 93% of all online girls reporting email use and 84% of boys saying the same. Much of the difference between boys and girls seems to be located in the email habits of online girls 15-17, of whom a whopping 97% report using email. Younger girls and older boys show similar use levels, with 89% of the younger

(12-14) girls and 87% of the older (15-17) boys reporting email use. All of these groups report greater levels of use than younger boys, only 81% of whom say they use email.

Age alone is also a factor in email use. Independent of a teen's sex, younger teens use email less. Particularly the 12-year-olds, and to a lesser extent, the 13-year-olds in our study are less likely to say that they have ever used email. Only 75% of 12-year-olds use email, while 87% of 13-year-olds are email users. Teens aged 14 and older are marginally more likely to say they use email, with 92% reporting use.

White teens are more likely than African-American teens to say they use email. Fully 90% of online white youth say they have ever used email, compared to 78% of African-American teens. Teens who have parents with higher levels of education are also more likely to use email, though a family's household income is not a statistically significant factor influencing email use.

Teens who go online more frequently are more likely to use email. Of teens who go online on a daily basis, 95% report using email. Teens who go online several times a week are slightly less likely to report using email (88%) and those who use the internet less often than several times a week are significantly less likely to use email (68%).

Teens' IM use still eclipses that of adults.

Teens' love affair with instant messaging has continued full-throttle since 2000. Overall, three-quarters of online teens (75%) — and 65% of all teens — say they use instant messaging, almost the same percentage as the 74% of online teens who reported using IM in 2000. The overall number of teen IM users has grown as the population of online teens has grown. According to our most recent current survey, about 16 million teens have used instant messaging, up from close to 13 million in 2000.

Adults continue to lag far behind teens in adoption of instant messaging. Overall, only 42% of online adults reported using instant messaging in our most recent survey of adults.[13]

Just 64% of online African-American teens use instant messaging, which is a far lower percentage than the 78% of online whites who use IM. In comparison, Hispanics fall in between both groups at 71%. Overall, this means that 68% of all white teens use IM, 50% of all African-American teens use IM, and 63% of all English-speaking Hispanic teens use IM. Higher-income families, those earning more than $50,000 in annual household income were more likely to have kids who use instant messaging (80%) than lower-income households (69%).

Overall, use of instant messaging varies according to age more than the sex of the teen. Older teens are more likely to use instant messaging than younger teens, with 84% of

[13] From the Pew Internet Project's May-June 2004 survey. (n=1,399)

online teens aged 15-17 reporting IM use compared 65% of younger teens. As with email, the 12-year-olds are much less likely than all of the older teens 13-17 to use IM with only 45% reporting use. Among 13-year-olds, reported use jumps to 72% of all online teens that age. In contrast to the findings on age, boys and girls show little difference in their instant messaging use, with 74% of boys and 77% of girls using IM.

About half of instant-messaging teens use IM every single day.

Instant messaging has become a staple of teens' daily lives. As more companies offer IM on phones, and more pocket-sized devices become available with keyboards and internet access, teens are starting to take textual communication with them into their busy and increasingly mobile lives. While the overall proportion of teens who use instant messaging has not changed significantly in the past four years, the intensity of teen's use of the tool has increased.

Almost half (48%) of those approximately 16 million teens who use instant messaging say they use it daily, with almost 30% of IM-using teens saying they use it several times a day, and another 18% saying they use it once a day. Another 18% of teens say they use the software/services three to five days a week, and 11% say they use it one to two days a week. Twenty-two percent of instant messaging using teens say they use it less often than once or twice a week.

Teens' Fervor for IM

How often do you use instant messaging or IM?

	Daily	Weekly	Less Often
	%	%	%
2004 Teen IM users	48%	29%	22%
2004 Adult IM users	36	27	37
2000 Teen IM users	35	47	18

Source: Pew Internet & American Life Project Teens and Parents Survey, Oct.- Nov. 2004. Margin of error is ±4% for online teens.

In contrast to overall use of IM, the frequency of IM use varies more according to gender than age. Instant-messaging girls are somewhat more frequent users than boys. While 52% of all IM-using girls report instant messaging once or more per day, 45% of all IM-using boys report similar behavior. In comparison, younger and older instant-messaging teens communicate at about the same pace; 48% of those aged 12-14 say that they use IM once or more per day, while 49% of teens aged 15-17 say the same.

Teens in households with broadband access are more likely to report using instant messaging with 83% of broadband teens using IM versus 72% of teens with dial-up internet access. Unsurprisingly, broadband-using teens also use IM more frequently than dial-up users; 37% of broadband users say they use IM several times a day, compared to one quarter (24%) of dial-up users.

Teens' current fervor for instant messaging surpasses the frequency with which teens used the technology when we last surveyed on the topic in 2000, and also exceeds adults' current enthusiasm for the technology.

In December 2000, 35% of teens were using IM daily and 47% reported weekly use of the technology. Only 18% used it less often. In February 2004, 36% of adults who use instant messaging reported using IM daily, and 27% reported using it weekly. Thirty-seven percent said they used IM less often than weekly, with the largest chunk of those users signing on less often than every few weeks.

Teens' enthusiasm for IM leads them to select it more frequently than other methods of written communication when talking with friends. When offered the choice among instant messaging, email and text messaging, teens are significantly more likely to choose instant messaging than email or text messaging. Fully 46% of teens said they choose instant messaging most often when communicating by text with friends, compared with a third (33%) who choose email and 15% who most often use text messaging.

IM is especially pervasive in the lives of daily internet users.

Instant messaging activity varies according to how frequently a teen goes online. Similar to the findings with email, IM is a technology that uses "presence" or the ability to see others who are online at the same time to talk. And for those with less reliable or less frequent access or less time to talk, instant messaging may not be as useful a tool for communication.

Teens who go online daily are more likely than teens who go online less frequently to IM. Eighty-six percent of daily internet users use IM; 70% of teens who go online several times a week use IM; and less than half (48%) of those who go online less frequently use IM.

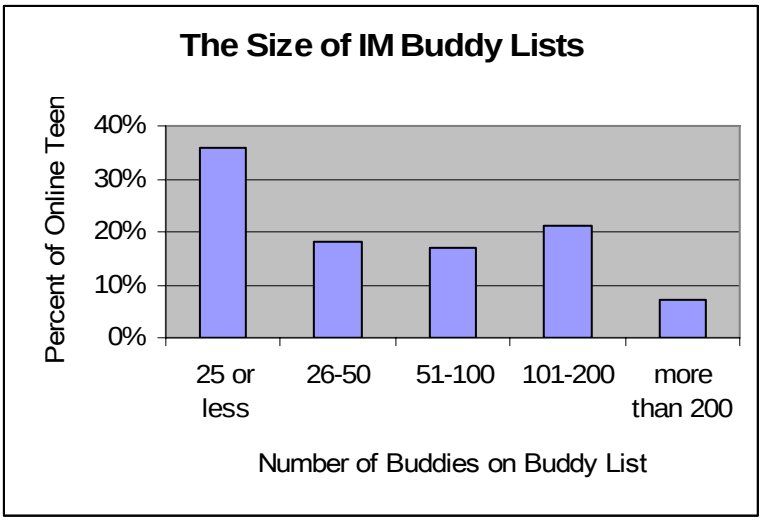
Teens are now clocking in longer hours on IM.

Teens are also using instant messaging for longer periods of time.[14] On a typical day, the largest group of teens (37%) say they instant message for a half-hour to an hour. One-quarter (27%) say they IM for less than a half-hour a day, and another quarter (24%) say they IM for 1- 2 hours a day. A small but dedicated subgroup (11%), IM for more than two hours on a typical day. Since 2000, there are more teens reporting lengthy average use times. In the past, 21% reported using IM for more than an hour on a typical day, compared to 35% of teens today. Not surprisingly, teens who use IM the most often also report using it for the longest amounts of time.

The size of a teen's buddy list varies with the intensity of IM use.

As mentioned above, one of the major features of instant messaging is something called "presence" — that is, the ability for the user to know who else is available on the network

[14] It is important to note here that it can be quite difficult to ascertain what is meant by "using IM." For some users it may mean simply being logged into the system, and for others it may mean active exchanges.



to talk at any given time. Teens know the makeup and size of their network through the buddy list.

Buddy list size is directly related to the intensity and duration of IM use. Teens who use instant messaging more frequently, and/or for longer periods of time, report having larger buddy lists than young people who use the tool less often and in shorter sessions.

Teen IM users generally have sizeable buddy lists, and frequently report that they are not quite sure which screen name goes with which person for certain names. They also report that some of the screen names on their list are older screen names that were adopted but then abandoned by a friend. One male teen from a focus group explains the secret of the big buddy lists. "I don't talk to all 200 of them [people on buddy list]. I only talk to maybe a dozen of them, and a bunch of people have multiple screen names — that's how it fills up." Another female focus group participant said "I have like 100 [screen names on my buddy list] except a lot of them are people's old names that I just haven't deleted."

A buddy list holds all of the screen names of conversation partners that a user has entered into his or her account, and shows which of those users are online and logged into the instant messaging program at any given time.

The largest group of teens, making up one-third of all teen instant message users (36%) say they have fewer than 25 buddies on their list. But one in five teens (21%), the next largest group, say that they have between 100 and 200 buddies on their list. Eighteen percent said they have between 25 and 50 buddies and 17% said they have between 50 and 100 screen names on their lists. Only 7% of IM-using teens say they have 200 or more buddies on their list.

Teens tend to IM with a core group of family and friends and stick to using one screen name.

Despite the large size of these IM buddy lists, most teens have a relatively small group of friends and family with whom they IM on a regular basis. Two in five teens (39%) report IMing with three to five other people on a regular basis. Almost a quarter, 24%, report IMing with 6 to 10 others, 20% IM with more than ten people regularly and 15% report one or two regular IM partners. Teens with larger numbers of regular conversation

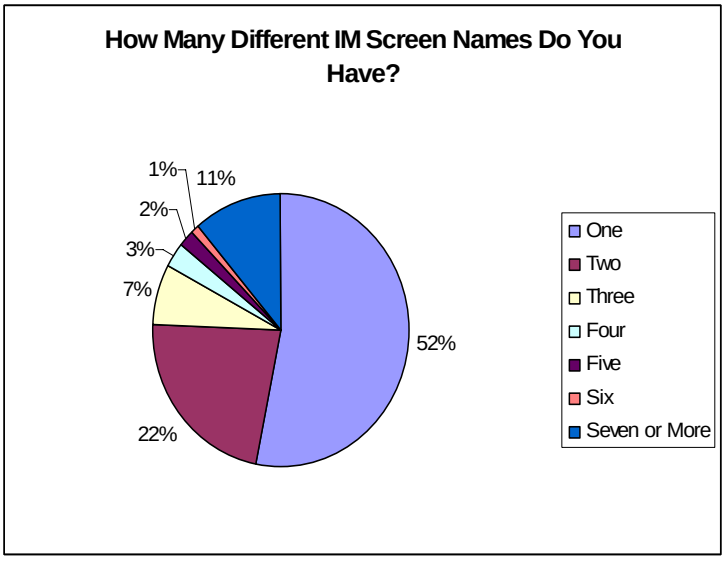
partners generally tend to log into IM more frequently (and for a longer duration) than those who have smaller IM networks.

Unsurprisingly, teens with larger IM networks spend longer periods of time instant messaging each day than teens with smaller networks. Close to six in ten of instant messaging users who have one or two people with whom they IM on a regular basis say they IM for about a half-hour or less each day. Meanwhile, only 8% of those with 11 or more regular buddies IM for a half-hour or less per session. On the other end of the spectrum, only 7% of IM users with one or two regular buddies use the program for one to two hours per session, compared to more than a third (37%) of those with 11 or more regular IM buddies.

A majority of teens report using a single IM screen name. More than half (52%) of teens say they have one screen name for instant messaging, while another 22% say they have two. Thirteen percent of teens who use IM say they have three to six screen names and 11% of teens say they have seven or more IM screen names. Since most IM programs used by teens are free, it is possible to create an almost unlimited number of names.

Furthermore, many teens report having multiple screen names so that they can have more people on their buddy lists. Some of the most popular programs have a 200 buddy limit for lists. Some users also report creating additional screen names to get around being blocked by other users, as the blocker appears to be constantly offline to the blocked messager. By creating a new screen name, users can, under certain circumstances, ascertain if that person is online. Certain IM programs also allow users to link screen names together, enabling then to toggle back and forth between different online identities.

Many teens with multiple screen names report that they really only use one of the screen names. These screen names are often remnants of "earlier years" which the teen has not bothered to delete, names which now seem silly or juvenile to older teens, or screen names that were abandoned because of compromised passwords.



Teens who use IM more often are more likely to report having more than one screen name. The exception to this is for teens who use IM less often than every few weeks, who are slightly more likely than teens who go online a few times a week to have more than one screen name. These teens may have multiple screen names due to lost or forgotten passwords as a result of infrequent use.

IM offers ways for teens to express their identity and reshape technology to their purposes.

Some IM programs offer the option to post a profile that is visible to other IM users and may be made public to the world at large. More than half (56%) of all instant messaging users — or 36% of all teens — report they have created an IM profile and have posted it so that others can see it. In comparison, our survey of adults (18 and older) in early 2004 showed that just one-third (34%) of IM users had posted a profile.

Many teens have played with features of their software in ways that may not have been anticipated by designers. For instance, most IM programs allow users to post an "away" message when they are not sitting at a computer using IM. A large number of teens have started using the away message features to telegraph much more than just "I'm away." By remaining logged into the system, IM users can receive messages from other users that will be waiting for them, like a sticky note on a desktop, when they return to their machine.

Eighty-six percent of instant messaging teens — or about 56% of all teens — have ever posted an away message, compared to 45% of instant message-using adults. Among teen IM users, almost two in five (39%) post an away message every day or almost every day. Among adults, that number drops to 18%.

Teens are not just using the standard options provided by their instant messaging programs; 55% of the approximately 14 million away message users say they do not generally post one of the standard away messages, instead they post their own. Among adults who use away messages, only a little more than a third (37%) report deviating from the standard away message options. It should be noted that some IM programs, (like MSN) do not offer the option to customize away messages, instead giving users a list of approximately ten standard messages to choose from. Thus some users do not have the ability to post their own messages.

Sixty-two percent of the roughly 16 million IM-using teens have posted a specific away message about what they are doing or why they are away, and 28% have posted a phone number where they can be reached in an away message. Only 45% of adults have posted a specific away message and merely 12% have publicly posted a phone number where they can be reached.

Research by Naomi Baron at American University on the uses of away messages by college students outlined a number of purposes for away message use in this population. She found that in some cases, messages are simply conveying "I'm Away." But in other instances, messages are intended to initiate contact with others, help plan a social event,

send messages to particular other people, convey personal information about the message poster, or entertain those who might be reading them.[15]

Respondents to our focus groups chimed in with further examples of how instant messagers use away messages. One middle school boy told us that "… a whole bunch of people at my school have ten different away messages. [They're posting] stuff like 'I have to do piano—screw piano' and what not." A high school focus group participant describes his away messages this way: "Maybe about half the time they're true. The other half, it's just like random things, like movie quotes and stuff." Others spoke of posting song lyrics, sayings or even things they make up that will be funny to certain friends.

Most IM teens have also chosen icons or avatars to represent themselves online.

Many instant messaging programs offer places to upload a graphic or photo to serve as a user's icon or avatar.[16] Sixty percent of teen IM users have posted a buddy icon that they associate with their user name. Icons can be anything from a photo of the user to an image of her favorite movie star, sports star, or cartoon character. Other times, IM users may post short video loops, animations or something that they found online and thought was funny or amusing. Other teens report creating their own icon by drawing and scanning something or creating an image or a graphic through a graphic design program. And some instant messaging programs allow users to build cartoon avatars or virtual representations of themselves, or whatever else they'd like to be — allowing them to choose their gender, hair, eye and skin color, clothes, and a background or location.

Beyond selecting an icon or avatar, some instant messaging programs allow teens to customize how their instant messaging window appears to others by choosing a font, font color, window color, or even entire "skins" or design themes. "The color of the font and the background color is the important part for identifying just at a glance who you're talking to..." explains one high school male.

A few focus group participants felt confined by the choices in instant messaging and resisted attempts to have their "personality defined by the computer and the service." One young man said, "I'd rather be viewed and judged on the merit of my ideas expressed, as opposed to by what I put on there to look at or something."

[15] Baron, N. "Tethered or Mobile? Use of Away Messages in Instant Messaging by American College Students" (with Lauren Squires, Sara Tench, and Marshall Thompson), to appear in R. Ling and P. Pederson, eds. *Front Stage - Back Stage: Mobile Communication and the Renegotiation of the Social Sphere*. Springer-Verlag, forthcoming.

[16] Avatar: an "avatar" is an icon or representation of a user in a shared virtual reality. The term originated with a Hindu term indicating the incarnation or manifestation of a god, usually Vishnu. Definition derived from *The Jargon file 4.4.7*. http://www.catb.org/~esr/jargon/html/A/avatar.html.

IM is the backbone of communication multi-tasking for teens.

Teens are using IM to converse with their friends. Notably, close to half of instant messaging teens (45%), say that when they use IM they engage in several separate IM conversations at the same time on a daily or almost daily basis. Only 16% of adult IM users report similar behavior. Overall, only 4% of IM-using teens say they *never* engage in multiple simultaneous conversations over IM, compared with 38% of adults.

Less frequently, instant messaging teens report setting up group conversations with their friends where everyone is in the same IM space at the same time. While 82% of IMing teens say they have ever set up a group chat, they do not do it very frequently. Of instant messaging teens, 37% report setting up group chats a few times a year or less. In contrast, only 38% of IM-using adults have *ever* set up a group conversation. Like their teen counterparts, adult IM users who hold group conversations over instant messaging only utilize this IM function infrequently, with the largest group of adult group IM chatters (20%) reporting using it less than every few months.

Teens are also using IM as a stealth mode of communication. Almost two in five (38%) teens who instant message report IMing someone who is in the same location. This could be anything from IMing your mom as she works at another family computer upstairs at home or sending an IM to someone who is in the same classroom. Adults do this as well, but to a lesser degree. One-quarter of IM-using adults report IMing someone who was in the same location.

Sending an instant message to someone in the same location is often used as a way to communicate with another person relatively privately. Rather than engaging in a spoken conversation that others could overhear, the only noise from an IM conversation is the sound of typing on a keyboard, allowing users to have some measure of privacy as they converse. However, the privacy of IM and other written modes of digital communication can easily be compromised. Many teens have had the experience of someone saving the text of an IM conversation and sharing it with others at a later time. Indeed, 21% of online teens say they have sent an email, instant or text message to someone that they meant to be private but which was forwarded on to others by the recipient. One-quarter (25%) of teens who go online daily have experienced this, compared with 16% of those who go online several times per week and 14% of those who go online less often.

In addition to being a tool that allows for quiet and relatively private conversation, instant messaging is also a nearly, but not completely synchronous place for exchange. While IM feels to its users like a conversation, there are still lag times built into the system of exchange. Delays can occur when a user takes time when composing and typing a response or when a respondent is conversing with someone else over IM.

Teens have long harnessed these small moments during IM conversations to enable them to accomplish other tasks while conversing. When teens go online, they will use IM as a "conversational" centerpiece while conducting other business in the time gaps. One female high school student said in a focus group:

> "I usually check my email and I have an online journal and so I'll write in that, chat with my other friends, and if I have little things to do around the house then I can do it [while instant messaging] because unless it's somebody that responds quickly, then I can just go around and do something real quick and come back."

Teens who have dial-up internet connections are also particularly fond of multi-tasking, as it takes advantage of the long waits for downloading large files to send instant messages or accomplish other tasks.

> "I do more than one thing at once [while online] because my connection is so slow. If I dedicated my attention to one webpage, I'd go crazy waiting for it to load every time." — High School Male

Teens use IM to stay in touch with far-away friends.

Teens say that instant messaging is a vital tool in helping them manage their increasingly complex schedules. Almost all of the 16 million teens who use instant messaging (90%) said they use IM to keep in touch with friends who don't live nearby or who do not go their school. This proportion is unchanged from when we asked the same question of IM using teens in December of 2000.

IM is also a popular way for teens to manage the demands of daily life.

Teens use instant messaging to make social plans with friends — 80% of IM-using teens report they employ IM to make plans.

IM is also a place to start, establish and end romantic relationships. Teens use IM to conduct sensitive conversations around romantic subjects, as well as other types of discussions that they may not have the courage to broach face-to-face. One in five teens (20%) said they had asked someone out over IM and a similar number (19%) said they had broken up with someone with an instant message. These proportions have remained relatively stable since we last asked the questions in December of 2000. At that time, 17% of teens had asked someone out on IM and 13% had broken up with someone. Teens report that instant messaging makes these awkward conversations easier, since the mediated nature of the communication protects the instigator from having to see the body language or even hear the tone of voice of the other person in the conversation.

IM is not just a way to establish and maintain relationships but is also a venue for discussing school work. Nearly eight in ten (78%) instant messagers said they talked about homework, tests, or school work over instant messaging.

Instant messaging is also a conduit for information outside of the conversation taking place. Teens use IM to send files, images, photos, documents and links to other online material.

Next-generation IM is also starting to take hold. Some IM programs now make it possible to use audio or video streaming, sometimes in combination with typed conversation. While not widespread or necessarily enabled in all instant messaging programs, more than one in five teens (22%) have used streaming audio or video to hear or see the people they instant message. This compares to just 14% of adults who have done this.

Instant Messages as Entertainment Conduits: Teens v. Adults

Asked of instant messaging users

Have you…?	Teens (n=736)	Adults (n=511)
Used IM to send photos or documents	45%	30%
Included a link to a funny article or website in an instant message	50	31
Sent music or video files through instant messaging	31	5

Source: Pew Internet & American Life Project survey of teens and parents, October-November 2004 and February/March 2004 survey of adults. Margin of error for teens is ±4% and is ±5% for adults.

Instant messaging has such wide-ranging functionality that for some teens their usernames or screen names have replaced their phone numbers as a preferred way to establish contact with others. Focus group participants reported that they no longer give out their phone number, but instead give potential new friends and romantic partners their screen name. Said one high school male: "People will give me their screen name…before they'll give you a phone number."

In many cases IM allows teens to remain in touch with or talk to people that they wouldn't talk to in other ways.

> "It's a good way to talk to people that you couldn't usually call or that live far away…or people that you don't know well enough. It's a good way to get to know people." – High School Male

IM is also a good way to efficiently maintain relationships with friends. One high school female in our focus group explained:

> "If you only have like an hour and a half to spend on the internet then you could talk to like maybe ten people. Whereas you can only talk to three people if you were going to call."

Most teens will block messages from those they want to shun or avoid.

Communication via instant messaging is not always a positive exchange of pleasantries and conversation. Many instant-message-using teens report blocking someone from communicating with them through IM. In all, 82% of the roughly 16 million IM-using teens have ever blocked someone, compared to 47% of IM-using adults who report engaging in this behavior. Generally teens and adults do not need to do this very often,

with more than half (52%) of teens reporting blocking someone less than every few months, and 26% of adult instant messagers reporting the same. In our previous study of teens, we found that 57% of online teens said that they had ever blocked an instant message from someone they did not wish to hear from. These questions cannot be directly compared due to different question wording; nevertheless, the similarity of the question and difference in the responses suggests that blocking behavior has increased.

Away messages can also be used to dodge conversation partners. Focus group teens describe setting up an away message that remains up even when the user has returned to the screen. One young woman told us:

> "I have a version where I can have my away message up, but I can still talk to people and my away message won't go down. So if I don't want to talk to somebody, then I just put up [that] away message and talk to the people that I want to and the other people I can avoid."

Said another teen girl:

> "Some times I just get tired of being online. I'll put my [away] message up and then don't come back for a day or so."

IM pranks are increasingly common among teens.

Teens also love to play practical jokes with instant messaging. Almost two in five (39%) of teens have ever played a trick on someone online by pretending to be someone else over IM. Sometimes teens have hijacked an instant messaging program that someone else failed to log out of on a shared computer. Other times they may have discovered or were told someone else's password, allowing them to login under their screen name. One member of a high school focus group explained how some pranksters get access to the passwords of others:

> "Sometimes if you go to someone else's house, it might save automatically [when you use IM on their computer]. Your password might save onto their computer. You can uncheck the box [on the IM program] and it won't save, but most people just don't bother with that."

And in some cases, teens make up new screen names and then IM their peers pretending to be someone else. This joking behavior has increased since we first asked, up from 26% in late 2000, an 88% increase over four years in the proportion of IM users who are IM mischief-makers.

One young woman caught a prankster in the act:

> "I was on IM under a different screen name, and then I saw myself sign on, and I was like, hmmmm….I was just really confused. I started talking to them, and I'm like 'Who is this?' I'm like 'Why are you on my screen name?' But I just found out it was my neighbor, so I didn't really care. I got a new screen name. So they can't—and I

know they wouldn't—do anything bad with it. I didn't really worry about it."—High School female

As mentioned above, teens have also noticed the disinhibiting effects of computer-mediated communication. Close to a third of teens (31%) report having written something over instant messaging that they wouldn't say to someone's face. This is a slight decline from the proportion of IM users who reported this when we first asked the question in 2000. At that time 37% of IMing teens reported writing things online they would not say to someone's face. Of course, the things that are said over IM that wouldn't be said face-to-face could be of both a positive and negative nature. Sometimes these statements or comments can be hurtful, but other times they can be positive. IM often allows teens and adults to say things that might otherwise cause embarrassment, or to have a discussion that clears the air after a conflict, conversations that might be harder to have in a face-to-face manner.

Nearly half of teens have cell phones.

Close to half of all teens (45%) own their own cell phone. A similar proportion of internet users (47%) report cell phone ownership. Girls are more likely than boys to own a cell phone, with half of girls (49%) and a little more than two in five boys (40%) saying they have a mobile phone.

Younger teens are much less likely to have phones than older teens — less than a third (32%) of teens aged 12-14 have a cell phone, compared to more than half (57%) of older teens aged 15-17. When we break it down by grade, we see a big jump in cell phone ownership when teens enter middle school. A little more than one in ten (11%) 6th graders has a cell phone, compared to a quarter (25%) of 7th graders. The next jump comes when teens go to high school. Under a third (29%) of 8th graders have a phone, but nearly half (48%) of 9th graders do. The last big jump comes among high school juniors and seniors, of whom two-thirds (66%) have cell phones.

Urban teens are the most likely of all teens to have a cell phone. More than half (51%) of urban teens own a cell phone, followed closely by suburban with 46% reporting cell phones and trailed by rural teens, of whom only a little more than a third (35%) report owning a cell phone. Of course, given that cell phone coverage is best in the most densely populated parts of the country, it makes sense that a cell phone may be less useful in rural and far outer suburban areas than in center cities.

Teens with broadband home internet access are somewhat more likely to have a cell phone than dial-up users. Nearly 43% of dial-up users have a cell phone, compared to half (51%) of home broadband users. Broadband access is intimately tied to other economic factors, and thus families able to invest in broadband access at home are more likely to have disposable income to pay for cell phones for teens.

Cell-phone-owning internet users are more likely than others to engage in other online communication activities. More cell phone users report having ever sent instant messages than other internet users, and they are more likely to have ever sent a text message and use email. Nearly 86% of cell phone users use instant messaging, compared to only 65% of teens who do not have a cell phone. Sixty-four percent of cell phone owners send text messages, compared to 15% of those without cell phones. Cell phone owners are slightly more likely to use email that those without a phone — 93% of cell phones send and receive email messages versus 85% of the cell-phone-less. Notably, 7% of teen cell phone owners say they do not go online. However, even though cell phone owners are more likely to have ever done these activities, they are not necessarily more likely to choose to use these tools most often when communicating with peers.

Cell phone text messaging emerges as a formidable force.

American teens have begun to embrace text messaging. While they still lag behind many of their European and Asian counterparts, one-third (33%) of all American teens report sending text messages using a cell phone, and 64% of teens who own a cell phone say that they have sent a text message.

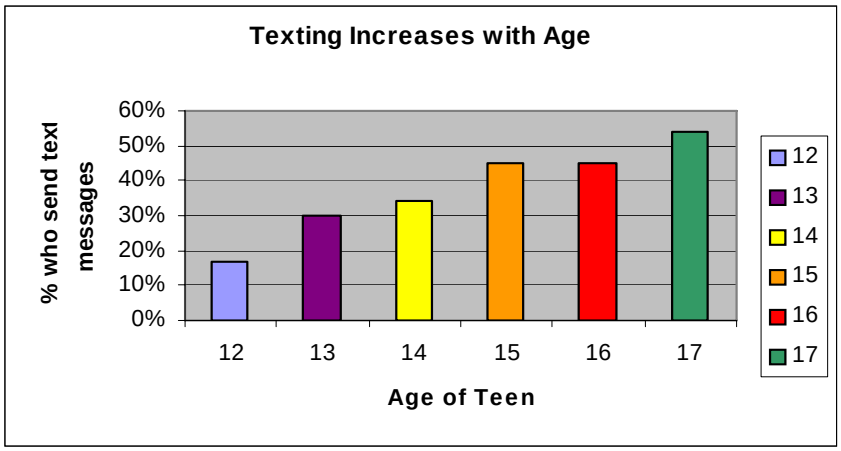
Text Messaging, also called texting or short message service (SMS), is a service that allows a user to send a message of no more than 160 characters from a cell phone or a computer to a cell phone user. Text messages may also be sent from cell phones to email addresses, instant messaging programs, and landline telephones.[17]

Text messages are generally sent using the keypad on a cellular phone, with each number on the pad standing in for three or four letters of the alphabet. The user addresses the message to a phone number or address, types in the words using the keypad, and then hits send. The recipient, if their phone is on and able to receive texts, will receive notification of the receipt of the message, often accompanied by a tone or sound.

[17] Definition based on Wikipedia's "Short Message Service" entry http://en.wikipedia.org/wiki/Text_messaging, accessed on July 5, 2005.

Older girls are the most enthusiastic users of text messaging.

Older girls have embraced cell phone-based text messaging, with 57% of online girls aged 15-17 having sent or received them. Older boys are the next most enthusiastic group, with 40% of online boys reporting using text messaging. Among younger teens aged 12-14, 30% of online girls and 24% of online boys have ever sent texts. Use of text messaging in this group may be suppressed due to lower levels of cell phone ownership among younger teens — 32% of teens aged 12-14 own a cell phone, while 57% of teens aged 15-17 do. Girls are also slightly more likely than boys (49% vs. 40%) to own a cell phone.



Overall, 45% of online girls have sent a text message, compared to one-third of all online boys (33%). We see a similar break between younger and older teens. Almost half (48%) of teens aged 15-17 have sent text messages, versus only 27% of teens aged 12-14. When we look at the individual age or grade level, teens show a steady increase in reported text message use as they grow older, from 17% of 12-year-olds reporting text messaging, to 34% of 14-year-olds, 45% of 15-year-olds, and 54% of 17-year-olds sending texts. There is no significant difference among racial and ethnic groups, household income, or parent education levels when it comes to text messaging on a cell phone.

Daily internet users are more likely to use text messaging.

Daily use of the internet is associated with a greater likelihood of use of text messaging on a cell phone. About 44% of all teens who go online daily send text messages, as do a little more than a third (36%) of those who go online several times a week. About a quarter of teens who go online less often send text messages.

Text messaging's appeal lies in both its mobile nature and its similarities to instant messaging. Text messaging allows the user to send short messages quickly and privately to a specific individual. A high-school-aged girl in our focus group told of sending text messages in school, describing it as "the same as passing notes." Other teens told of the utility of being able to send a message to a cell phone "that doesn't have to be answered, like a phone call" but rather can be accessed and read by the recipient at a convenient time.

Still, there are some who have tried text messaging and have found it frustrating. One teen told us that "it takes too long, depending on what you have to say" and another chimed in:

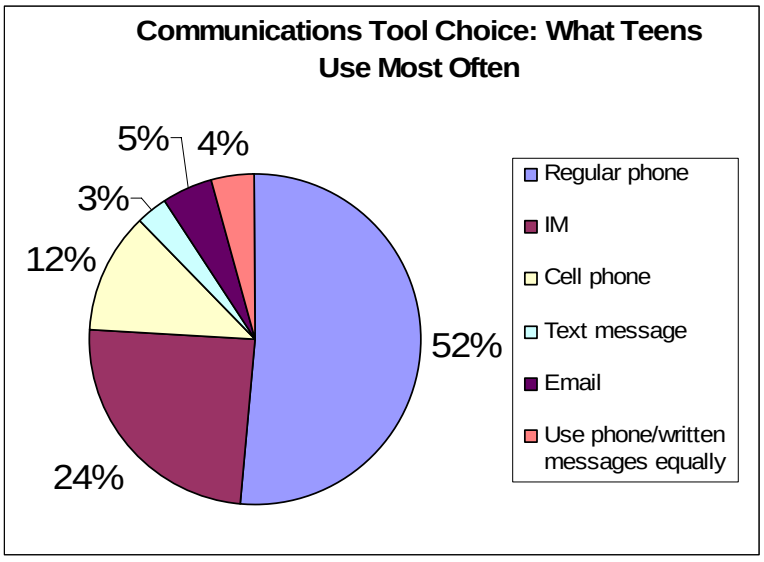
> "I think text messaging is still too new. It's too expensive and it doesn't come with enough programs. And it's not compatible enough between different kinds of cell phones and stuff for it to work as well as instant messaging yet. Maybe it will be someday, but right now, it's not worth it." — High School female

Part 5.

Communications Choices

Face-to-face and phone time still beats screen time.

Even with their great affection for technology, teens still report, on average, spending more time physically with their friends doing social things outside of school than they report interacting with friends through technology. An average youth between ages 12 and 17 reports spending 10.3 hours a week with friends doing social activities outside of school and about 7.8 hours talking with friends via technology like the telephone, email, IM, or text messaging.



Asked in general how they most often communicate with their friends over voice or text, teens report that they use the phone. Close to two-thirds (63%) report calling friends on the phone to talk with them most often, while about one-third (32%) said they most often write messages to their friends. A very small percentage (4%) say they do both equally.

Just more than half of all online teens say they prefer the landline telephone to other methods of communicating with friends. Instant messaging is the next most popular option, with a quarter of online teens reporting that they use it most. Among all online teens, the cell phone is the next most frequent choice, with 12% of all online teens selecting it as their favorite. Regular email is the preference of just 5% of online teens, and text messaging rings in with 3% of online teens saying they use it most.

Even though statistics regarding teens' overall use of email and IM have remained stable over the past four years, when asked what they choose to use most often, the telephone still trumps all forms of written communication. Within the written choices, instant messaging consistently beats email, as well as text messaging, as the method of choice for talking with friends.

About 45% of American teens have cell phones. Within this group, teens are slightly more likely to report spending more time talking with friends on *landline* phones than cell phones. More than half (53%) of cell-phone-owning teens say they spend more time on a landline, compared to 45% of the same group who say they mostly use a cell phone.

Even though the phone is used most often for a variety of conversations, there are some instances where a significant number of teens report that instant messaging, email, or face-to-face conversations would be their preferred mode of communication.

Online Teens' Communication Choices

When you want to ____, do you usually use the phone, email, instant messaging, or text messaging?

	Phone	Email	IM	Text Messaging	Face-to-Face[a]	None/ Other Method
Have a quick conversation with a friend that you see on a regular basis	59%	5%	26%	7%	2%	*%
Talk with a friend about something really serious or important	74	6	9	3	7	1
Have a private conversation with someone that you don't want anyone else to find out about	60	9	18	6	6	1

* indicates a response of less than 1%. [a] The Face-to-Face response was volunteered by respondents.

Source: Pew Internet. & American Life Teen and Parents Survey, October-November 2004. Margin of error ±4% for online teens. In some cases, percentages may not total 100% because of non-response to the question.

When conversing with friends through the written word, teens prefer instant messaging to almost any other mode of textual communication. Fully 46% of teens say they use IM most often when using written communications to talk to friends. Another third (33%) say they use email to send notes or letters to friends when sending written messages. Fifteen percent of teens say they most often text message (or SMS) with their friends. The remainder said they communicated by the written word some other way, or refused to answer the question.

Serious conversations usually happen offline.

The mode of communication that a teen chooses also varies according to the nature of the message. Online teens generally prefer the phone (landline or cell phone) to other communications choices, regardless of the type of conversation they are having. When talking about something really serious or important with a friend, almost three-quarters of online teens (74%) say that they typically use the phone. Just 9% say they usually choose

instant messaging for discussing weighty matters. Another 6% will turn to email, and 3% rely on text messaging.

However, for quick conversations with familiar friends, just 59% of online teens rely on the phone, while 26% routinely use instant messaging. Only 5% of online teens say they regularly use email for brief conversations with friends they see on a regular basis, while 7% point to text messaging as their mode of choice for a quick chat.

Online teens who want to have a private conversation with someone are more likely to turn to instant messaging on a regular basis (18%) than they are to email (9%) or text message (6%). Still, 60% usually use their landline phone or cell phone to engage in conversations they don't want anyone else to know about.

While telephone conversations have the risk of being overheard, email and IM conversations can be easily saved and shared. As noted previously, 21% of online teens report that a private email, instant message or text message that they sent in confidence had been forwarded on to someone else.

Still, despite the general tendency to pick the phone for most conversations, teens did tell us that there were times when they preferred IM to a phone call. A male high school student in one of our focus groups explained that IM is better than the phone because it "allows you talk to more than one person at once, which can be useful in certain cases."

Yet, instant messaging and text messaging aren't simply used for conversations with other tech-savvy peers. Almost one in three (29%) teens report that they IM or text message with their parents.

When asked how they decided how to communicate with others, teens reported that a number of factors came into play. How quickly you need to talk to someone, how far away they were, and what kind of technology they had access to were all a part of the quick mental calculus. Said one teen:

> "Well, obviously it's based on how urgently you need to speak to the person. Like, if you're asking your parents to extend your curfew, you're not going to send them a letter. You'd probably prefer a phone call."

Other teens discussed IMing a sister away at college rather than calling her and saving the long distance telephone charges. One teen discussed the limitations of IM as a communications choice:

> "The problem with instant messaging is you have to be connected and into the network and so do they, as opposed to an email which you can send to them and they can pick it up at their own convenience and read it…. It also depends on how much information you're transmitting, I guess. If you're sending a lot of information, you'd almost use just regular mail or email, but you wouldn't read a letter to someone over the phone."

Cell phones influence teens' communication choices.

The acquisition of a cell phone appears to influence the communication choices of teens. In particular, cell phone users are much less likely to choose to use email than teens without cell phones. When asked which medium teens used to send written messages to friends most often, teens with cell phones were much more likely to select instant messaging and text messaging than email, while teens without mobile phones were more likely to choose email or instant messaging as their most favored textual method of communicating with friends.

As discussed previously, 45% of all teens have a cell phone, and 47% of teen internet users own one. Of teens with mobile phones, 51% said they most often conversed by text through instant messaging, 25% said they most often text messaged on their phones, and 22% picked email as their most frequent mode of written communication.

Teens without phones were just as likely to pick email (43%) as instant messaging (41%) as their most often selected mode of written communications. A scant 5% selected text messaging as their most popular form of written communication. These users may be texting by borrowing a friend's phone, or by using a text messaging program through a desktop or laptop computer.

Teens with a web-enabled cell phone who report using it to go online (about 10% of teens online) are even more likely to report using text messaging most often for written communication. More than a third of these teens (36%) report using cell-phone-based texts, 45% select instant messaging and a mere 19% say that email is the way they most often write to friends.

Cell phones do not seem to keep teens away from the landline. On a typical day, cell-phone-owning teens report using landlines more often than their cell phones. Fifty-three percent of cell phone users report using their landline phone most often, and 45% report using their cell phones most.

And while all teens are more likely to say they most often talk on the phone when communicating with their friends, teens with cell phones are more likely than teens without to say that they most often communicate with friends by written messages rather than the phone. Sixty-seven percent of teens without cell phones say they use a phone most often when communicating with their friends, compared to 58% of teens with a cell phone. So even though they potentially have more opportunities to talk on the phone than teens without cell phones, cell phone owners prefer to communicate with friends via written communication.

Having a driver's license increases teens' mobile phone ownership.

For many teens, a driver's license is a potent symbol of independence and mobility. More than a third (37%) of teens aged 15 and older have a driver's license. But when it comes to technology use, the driver's license does not have a particularly large impact. One place it does make a difference is in cell phone ownership. Of those aged 15-17, 75% of drivers have cellular phones, as compared to only 47% of non-drivers in that age group.

Part 6.

Information-Seeking and Leisure Activities

The nature of teens' online activities changes with age and access.

In the same way that age matters when looking at patterns of internet use among different generations of adults, teens continue to demonstrate different phases of internet use as they grow older and new technologies become available to them. Some of these changes in behavior are visible in age-specific trends in various internet activities that have been consistent over time. For instance, though the gap has narrowed since 2000, younger teens (aged 12-14) continue to be more interested in online gaming than older teens (aged 15-17). Similarly, it is as true now as it was four years ago that older teens lead the pack for instant messaging, online news gathering and online shopping.

However, other changes in internet activity levels over time can be attributed, in part, to the evolution of the technology that is accessible to the teen of today. At the most basic level, we have found that the connection speed a teen has access to affects his or her likelihood to engage in certain activities. Beyond that, there are a host of other factors that can influence the landscape of activities that teens engage in on a typical day.

Online Teens: Change Over Time

Online teens are more likely to do some activities now than they were in 2000:

	2004 [1]	2000 [2]
Play online games[18]	81%	66%
Get news or info about current events	76%	68%
Buy things, such as books, clothing, or music	43%	31%
Look for health, dieting or fitness info	31%	26%
But for some activities, online teens are just as likely to do these activities now as they were in 2000:		
Send or read email	89%	92%
Go to websites about movies, TV shows, music groups, or sports stars	84%	83%
Send or receive instant messages[19]	75%	74%

[1] Source: Pew Internet & American Life Project Teens and Parents Survey, Oct.-Nov. 2004. Margin of error is ± 4% for online teens.

[2] Source: Pew Internet & American Life Project Teens and Parents Survey, Nov.-Dec. 2000. Margin of error is ± 4% for online teens.

As was discussed earlier in the report, the type of "technological environment" that surrounds a teen shapes his or her online life.

The discussion of online activities in this section of the report is generally limited to the genres of information-seeking and leisure activities. For the purposes of this report, we have excluded all of the questions that relate to creating, sharing and

[18] In the November-December 2000 Survey, this item read, "Play games online or download games."

[19] In the November-December 2000 Survey, this item read, "Send instant messages to someone who is also online."

downloading content online. These activities will be included in a forthcoming report from the Project.

Growing numbers of teens shop and play online.

Online shopping, gaming, news seeking and health searches have all become considerably more popular among teens since we last surveyed them in the fall of 2000. The percentage of online teens who buy products online has grown 39% since our last survey, while the proportion of online gamers jumped 23%. In contrast, some of the tried-and-true online pastimes for teens, such as email, instant messaging and entertainment website searching remain unchanged.

Teens of all ages are now more likely to make online purchases.

Becoming an online consumer is a rite of passage that many Americans now experience during their teenage years. Teens of all ages are now more likely to buy things like books, clothing or music online than they were in 2000. Just 31% of all teens had made online

Teens vs. Adults

Teens are more likely to engage in some online activities than adults. The percentages of each group that have done the following online:

	Online Teens[a]	Online Adults[b]
Play online games	81%	32%
Send or receive instant messages[20]	75%	42%
Get info about a school you might attend[21]	57%	45%
Though some activities show a negligible difference between teens and adults:		
Send or read email	89%	90%
Get news or info about current events[22]	76%	73%
Look for news or info about politics and the presidential campaign	55%	58%
Look for religious or spiritual info	26%	30%
And there are some activities favored by adults:		
Buy things, such as books, clothing, or music[23]	43%	67%
Look for health, dieting or fitness info[24]	31%	66%
Look for info about a job	30%	44%

[a] Source for Online Teens data: Pew Internet & American Life Project Teens and Parents Survey, Oct.-Nov. 2004. Margin of error is ± 4% for online teens

[b] Source for Online Adult data: Pew Internet. & American Life Project Surveys, Dec. 2002 & November 2004-January 2005. The Margin of error ±3% for online adults for all surveys except for November 2004. The margin of error for the November 2004 survey is ± 5% for online adults.

[20] In the January 2005 adult survey, this item read, "Send instant messages to someone who's online at the same time."
[21] In the January 2005 adult survey, this item read, "Get information online about a college, university, or other school you or another family member is thinking of attending."
[22] In the January 2005 adult survey, this item read, "Get news online."
[23] In the November 2004 adult survey, this item read, "Buy a product online, such as books, music, toys, or clothing."
[24] In the December 2002 adult survey, this item read, "Look for health or medical information."

purchases in our first survey, while 43% now report online shopping. This compares to 67% of adult internet users who say they have purchased products online.[25]

Older teens, who may be more likely than younger teens to have credit cards, are better positioned to be online consumers.[26] About half of online teens aged 15-17 (52%) have purchased something online compared to a third (33%) of those aged 12-14. In 2000, just 36% of 15- to 17-year-olds and 26% of 12- to 14-year-olds had made online purchases.

Girls vs. Boys

The percentages of online teens who do the following activities, by gender:

	Online Girls N=496	***Online Boys N=475***
What online girls are more likely to do:		
Send or read email	93%	84%
Go to websites about movies, TV shows, music groups, or sports stars	88%	81%
Get info about a school you might attend	61%	53%
Send or receive text messages with a cell phone	45%	33%
Look for health, dieting or fitness info	37%	26%
Look for info on a health topic that's hard to talk about	27%	18%
What online boys are more likely to do:		
Play online games	76%	86%
What online girls and boys do at about the same level:		
Send or receive instant messages	77%	74%
Get news or info about current events	77%	75%
Look for news or info about politics and the presidential campaign	57%	53%
Buy things, such as books, clothing, or music	42%	45%
Look for religious or spiritual info	29%	24%
Look for info about a job	28%	32%

Source: Pew Internet & American Life Project Teens and Parents Survey, Oct.-Nov. 2004. Margin of error is ±5% for online girls and ±5% for online boys.

On the whole, online girls and boys are equally as likely to have made a purchase on the internet. Yet, most of the growth that we have observed in recent years has stemmed from the increased shopping activity of online girls aged 15-17; 34% of online girls in this age group had bought something online in 2000, compared to 51% who reported this in 2004.

Conversely, online boys aged 12-14 have exhibited the least growth; 29% of this age group had tried online shopping in 2000 while 34% reported this in our most recent survey.

Our research on adults has repeatedly found that having high-speed access at home translates into a greater likelihood that one will make purchases online. Our latest data reveal a similar trend among teens; 52% of teens with broadband connections at home make purchases online compared to 39% of those with dial-up.

[25] Pew Internet & American Life Project Tracking Survey, November 2004.

[26] The 2005 *JA Interprise Poll on Teens and Personal Finance* found that credit card ownership among teens increased with age. However, this poll was not a representative sample of teens in the U.S. A discussion of the poll's findings is available here: http://www.ja.org/files/polls/personal_finance_2005.pdf

Teens are just as likely as adults to get news and information about current events online.

When we first surveyed teens in December 2000, they were leading the trend in online news consumption: 68% of online teens were using the internet to get news compared to 61% of online adults. However, over the course of four years and many major news moments, growing numbers of both groups have turned to the internet to get news and current events information such that online teens and adults are now equally as likely to do this. Three-quarters (76%) of online teens and 73% of online adults say they get news online.[27]

Girls and boys are equally as likely to be online news-seekers. Yet, older teens (aged 15-17) are somewhat more connected to online news than younger teens (aged 12-14); 79% of older teens seek news online while 73% report this.

As is the case with adults, teens who have high-speed connections at home seek online news in greater numbers than those with dial-up; 82% of broadband teens use the internet to get news, while 72% of dial-up teens do so.

More than half of teens report political news-seeking.

Searching online for political news or information related to the presidential campaign is a more specialized activity and less prevalent among teens than general news searching. Still, more than half of all online teens (55%) said they seek political news online, about the same share as the 58% of all online adults who seek political news.[28]

The gender gap that exists in political information-seeking for adults does not appear to resonate with teens. While boys and girls are equally as likely to seek news about politics and the presidential campaign online, adult men have consistently reported higher levels of engagement with this activity.

Entertainment information continues to rank highly among teens' online pastimes.

Using the internet to access pop culture and entertainment information has consistently been one of the most widely cited activities teens engage in online. Aside from email use and online games, there are few online pastimes that rank as highly in the average teen's playbook. In all, 84% of online teens have visited websites about movies, TV shows,

[27] Data for adult internet users comes from a January 2005 Pew Internet & American Life Project Tracking Survey.

[28] Data for adult internet users comes from a November 2004 Post-Election Pew Internet & American Life Project Tracking Survey, fielded November 4-22, 2004. The survey of Parents and Teens was fielded during roughly the same period around the 2004 elections: October 26-November 28, 2004.

music groups or sports stars they are interested in. This figure remains essentially the same as it was in 2000, when 83% of teens reported visiting entertainment websites.

Online girls are slightly more likely than online boys to visit entertainment websites (88% vs. 81%). Specifically, girls between the ages of 15 and 17 lead the pack: 90% say they go to these sites, compared to 82% of boys in this age range.

Teens are more than twice as likely as adults to play online games.

Online games, which may be used for both entertainment and educational purposes, play a role in most teens' lives. While just one-third of adult internet users play online games, more than twice as many online teens (81%) report this. That translates into more than two-thirds of the total teen population (aged 12-17) who play games on the internet.

Broadband Teens vs. Dial-ups

Teens with high-speed connections to the internet at home are more likely to do some activities online:

	Teens with broadband [1]	Teens with dial-up [2]
Send or receive instant messages	83%	72%
Get news or info about current events	82%	72%
Buy things, such as books, clothing, or music	52%	39%
Send or receive text messages with a cell phone	43%	32%
But for some activities, the differences between broadband and dial-up users are negligible or nonexistent:		
Send or read email	89%	89%
Go to websites about movies, TV shows, music groups, or sports stars	86%	82%
Play online games	80%	80%
Get info about a school you might attend	60%	53%
Look for news or info about politics and the presidential campaign	58%	55%
Look for info about a job	26%	31%
Look for health, dieting or fitness info	31%	29%
Look for religious or spiritual info	24%	28%
Look for info on a health topic that's hard to talk about	23%	19%

Source: Pew Internet & American Life Project Teens and Parents Survey, Oct.-Nov. 2004. Margin of error is ±5% for teens with broadband and ±6% for teens with dial-up.

[1] Teens whose parents report high-speed internet connections at home, n=425.

[2] Teens whose parents report dial-up internet connections at home, n=374.

Online gaming among teens has grown notably over the past four years. When we last asked this question of teens in our 2000 survey — with somewhat different wording — just 66% reported playing or downloading games online.[29]

Teens with broadband at home and those with dial-up connections report exposure to online gaming in equal numbers. Though some of the more sophisticated multiplayer online games that are popular with teens demand fast internet connections, there are also many free games available online for which a dial-up connection is sufficient.

Online gaming is especially prevalent among teens in the 12-14 age range; 88% in this group report gaming while 76% of those aged 15-17 report this activity. And while there are no significant gender differences among adult internet users who play online games, more online boys (86%) report internet gaming than online girls (76%).

Most online teens will turn to the internet when searching for schools.

Fully 57% of online teenagers say they have gone online to get information about a college, university, or other school they are thinking about attending.

The likelihood that an online teen has used the internet to search for college or other schools goes up with age: 27% of the 12-year-old internet users have done this, compared to 85% of the 17-year-olds (generally high school juniors or seniors).

Girls lead the way in using the internet to hunt for colleges and other schools. More than two-thirds (61%) of all the online girls aged 12-17 have used the internet to get information about schools, compared to 53% of boys. Older teenage girls are the most likely to do this: 79% of the online girls aged 15-17 say they have gotten information about schools, compared to 70% of the boys in that age cohort.

Interestingly, there is no significant difference between the proportion of teens with broadband and those with dial-up access who gather research about schools on the internet. Just over half (53%) of teens who have slower internet connections at home report seeking information about furthering their education and 60% of those with high-speed connections at home report this.

In a separate survey of adults in January, 45% reported going online to get information about a college, university, or other school they are thinking about attending or which other members of their family are examining.

In both the survey of teens and the survey of adults, it was the first time that the Pew Internet & American Life Project asked this question in its ongoing tracking of internet use.

[29] The 2000 teen survey question wording read, "Do you ever play games online, or download games?" The 2004 teen survey question wording simply read, "Do you ever play online games?"

Contrary to what we find with teens, there is no notable gender difference for online adults who investigate schools. Another departure from teen trends, prospective school searching is more popular among the broadband cohort of adult internet users than it is with dial-ups. Naturally, young adults, who are more likely to be in school themselves, are more engaged in online school hunting than older adults.

Fewer than one in three online teens have used the internet to look for a job.

Just 30% of all online teens have looked for a job on the internet. That compares to 44% of all online adults who seek job information on the web.[30] However, not surprisingly, teens' online job searching varies greatly according to age. While 18% of online teens aged 12-14 will use the internet to search for employment information, 41% of those aged 15-17 will take their job hunt online. Research by the Kaiser Family Foundation suggests that a mere 16% of American youth hold jobs.[31] Boys and girls are equally likely to use the internet to search for jobs, a trend that's consistent with the adult population for this activity.

Younger Teens vs. Older Teens

Older teens continue to be heavier users of the Web than their younger counterparts, with a few exceptions.

	Aged 12-14 N=445	Aged 15-17 n=526
What younger teens do online more than older teens:		
Play online games	88%	76%
What older teens do online more than younger teens:		
Send or read email	85%	92%
Send or receive instant messages	65%	84%
Send or receive text messages with a cell phone	27%	48%
Buy things, such as books, clothing, or music	33%	52%
Get info about a school you might attend	37%	74%
Look for info on a health topic that's hard to talk about	18%	26%
Look for info about a job	18%	41%
Look for health, dieting or fitness info	25%	37%
Get news or info about current events	73%	79%
What older teens and younger teens do at about the same level:		
Go to websites about movies, TV shows, music groups, or sports stars	82%	86%
Look for news or info about politics and the presidential campaign	54%	57%
Look for religious or spiritual info	25%	28%

Source: Pew Internet & American Life Project Teens and Parents Survey, Oct.-Nov. 2004. Margin of error is ±5% for online teens aged 12-14 and ±5% for online teens aged 15-17.

[30] Pew Internet & American Life Project Tracking Survey, January 2005.
[31] Henry J. Kaiser Family Foundation, "Generation M: Media in the Lives of 8-18 Year-olds," March 2005.

Teens' online health-seeking grows.

Teens who use the internet are now more likely to seek out health, dieting or physical fitness information online than they were in 2000. Three in ten (31%) online teens say they will look for this type of health information, compared to 26% who reported this in our last survey.

Online girls aged 15-17 are almost twice as likely as those aged 12-14 to look for health, dieting or physical fitness content; 47% of older girls seek this information while 25% of younger girls report this. Older girls are also much more likely than either age group of boys to research health online; just 25% of boys aged 12-14 and 27% of those aged 15-17 say they turn to the internet as a health information resource. This trend is consistent with our 2000 data.

When we ask adult internet users if they ever go online to simply look for "health or medical information" (which reflects slightly different wording than the question asked of teens), 66% report doing so. However, when we ask about a wide range of health topics (e.g., "Have you ever looked online for information about exercise or fitness?" or "For information about immunizations or vaccinations?") 80% of adult Internet users say they have researched at least one of those specific health topics at some point.[32]

Older girls are also the most likely to research a difficult health topic.

For the first time, we asked teens if they ever look for information online about a health topic that's hard to talk about, like drug use, sexual health, or depression. Just over one in five (22%) said they will use the internet to research a difficult health topic like this.

As is the case with general health information, older girls aged 15-17 are much more likely than any other group to seek out sensitive health information online. Fully 34% of older girls will search for this information compared to 18% of boys in the same age group. Just 19% of online girls and 18% of online boys aged 12-14 will research difficult health topics.

Teens' interest in religious and spiritual information rivals that of adults.

Our latest survey was also the first time we asked teens about using the internet to find religious and spiritual material. In all, 26% of teens who use the internet say they will look for religious or spiritual information online. That compares to 30% of adult internet users who reported this in a November 2004 survey.

[32] Fox, Susannah. *Internet Health Resources*. July 16, 2003. Available at: http://www.pewinternet.org/PPF/r/95/report_display.asp

Once again, older girls drive the trend; 34% of online girls aged 15-17 seek religious and spiritual information compared to 23% of boys in that age group. Similarly, 24% of online girls and 25% of online boys aged 12-14 will research difficult health topics.

Methodology

The Parents & Teens 2004 Survey sponsored by the Pew Internet and American Life Project obtained telephone interviews with a nationally representative sample of 1,100 teens 12 to 17 years-old and their parents living in continental United States telephone households. The interviews were conducted in English by Princeton Data Source, LLC from October 26 to November 28, 2004. Statistical results are weighted to correct known demographic discrepancies. The margin of sampling error for the complete set of weighted data is ±3.3%.

Four focus groups were also conducted with a total of 38 high school and middle school students. Amanda Lenhart, Christina Fiebich and Kelli Burns moderated the focus groups. Groups were audio or video taped and the participants were offered an incentive of two movie passes to a local theater. A short online survey was administered to each participant prior to the focus group.

Three of the focus groups were predominately high schoolers and one consisted of middle school students. 66% of the participants were boys, 34% were girls. No race or ethnicity data was collected from the participants. Ages ranged from 11 to 17. Two focus groups drew from predominately suburban and urban populations and two from predominately small town or rural/exurban populations.

A total of 9 teens took an online survey of multiple choice, open-ended and short answer-style questions that covered many of the same themes address in the focus groups. While no statistical data collected in this survey is used here, some open-ended responses by the teen respondents may be included in this report. The sample was collected by the snowball method, and is not representative.

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

Design and Data Collection Procedures

Sample Design

The sample was designed to represent all teens aged 12 to 17 in continental U.S. telephone households. The sample is also representative of parents living with their teenage children.

The telephone sample was pulled from previous PIAL projects fielded in 2004 and 2003. Households with a child age 18 or younger were called back and screened to find 12 to 17 year-olds. The original telephone samples were provided by Survey Sampling

International, LLC (SSI) according to PSRAI specifications. These samples were drawn using standard *list-assisted random digit dialing* (RDD) methodology.

Contact Procedures

Interviews were conducted from October 26 to November 28, 2004. As many as 10 attempts were made to contact every sampled telephone number. Sample was released for interviewing in replicates, which are representative sub samples of the larger sample. Using replicates to control the release of sample ensures that complete call procedures are followed for the entire sample.

Calls were staggered over times of day and days of the week to maximize the chance of making contact with potential respondents. Each household received at least one daytime call in an attempt to find someone at home. In each contacted household, interviewers first determined if a child age 12 to 17 lived in the household. Households with no children of the proper age were deemed ineligible and screened out. In eligible households, interviewers first conducted a short interview with a parent or guardian. Then interviews were conducted with the target child.[33]

Weighting and Analysis

Weighting is generally used in survey analysis to compensate for patterns of nonresponse that might bias results. The interviewed sample was weighted to match national parameters for both parent and child demographics. The parent demographics used for weighting were: sex; age; education; race; Hispanic origin; marital status and region (U.S. Census definitions). The child demographics used for weighting were gender and age. These parameters came from a special analysis of the Census Bureau's 2003 Annual Social and Economic Supplement (ASEC) that included all households in the continental United States that had a telephone.

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 1 compares weighted and unweighted sample distributions to population parameters.

[33] In households with more than one 12 to 17 year-old interviewers asked parents about, and conducted interviews with, a child selected at random.

Table 1: Sample Demographics

	Parameter	Unweighted	Weighted
Census Region			
Northeast	18.6	16.9	18.8
Midwest	22.6	27.0	23.7
South	35.7	36.5	36.7
West	23.1	19.6	20.8
Parent's Sex			
Male	44.2	41.4	43.4
Female	55.8	58.6	56.6
Parent's Age			
LT 35	10.2	8.7	10.1
35-39	20.7	15.7	18.8
40-44	29.4	29.1	30.3
45-49	23.7	26.2	24.1
50-54	11.2	12.5	11.8
55+	4.7	7.9	4.8
Parent's Education			
Less than HS grad.	13.4	4.4	9.4
HS grad.	35.5	30.0	36.2
Some college	23.3	27.1	24.6
College grad.	27.7	38.5	29.8
Parent's Race/Ethnicity			
White, not Hispanic	67.5	82.3	71.6
Black, not Hispanic	11.3	8.7	11.4
Hispanic	15.3	5.1	11.1
Other race, not Hispanic	5.8	3.9	5.9
Parent's Marital Status			
Married	83.3	80.0	82.5
Not married	16.7	20.0	17.5
Kid's Sex			
Male	50.7	50.0	51.7
Female	49.3	50.0	48.3
Kid's Age			
12	16.7	17.1	16.9
13	16.7	14.9	15.9
14	16.7	16.5	16.0
15	16.7	17.8	16.9
16	16.7	17.3	17.2
17	16.7	16.4	17.1

Effects of Sample Design on Statistical Inference

Post-data collection statistical adjustments require analysis procedures that reflect departures from simple random sampling. PSRAI calculates the effects of these design features so that an appropriate adjustment can be incorporated into tests of statistical significance when using these data. The so-called "design effect" or *deff* represents the loss in statistical efficiency that results from systematic non-response. The total sample design effect for this survey is 1.26.

PSRAI calculates the composite design effect for a sample of size *n*, with each case having a weight, w_i as:

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

In a wide range of situations, the adjusted *standard error* of a statistic should be calculated by multiplying the usual formula by the square root of the design effect ($\sqrt{deff}$). Thus, the formula for computing the 95% confidence interval around a percentage is:

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

where $\hat{p}$ is the sample estimate and *n* is the unweighted number of sample cases in the group being considered.

The survey's *margin of error* is the largest 95% confidence interval for any estimated proportion based on the total sample— the one around 50%. For example, the margin of error for the entire sample is ±3.3%. This means that in 95 out every 100 samples drawn using the same methodology, estimated proportions based on the entire sample will be no more than 3.3 percentage points away from their true values in the population. It is important to remember that sampling fluctuations are only one possible source of error in a survey estimate. Other sources, such as respondent selection bias, questionnaire wording and reporting inaccuracy, may contribute additional error of greater or lesser magnitude.

Response Rate

Table 2 reports the disposition of all sampled callback telephone numbers ever dialed. 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:[34]

- Contact rate – the proportion of working numbers where a request for interview was made – of 86 percent[35]
- Cooperation rate – the proportion of contacted numbers where a consent for interview was at least initially obtained, versus those refused – of 69 percent
- Completion rate – the proportion of initially cooperating and eligible interviews that agreed to the child interview and were completed – of 83 percent
- Thus the response rate for this survey was 49 percent.[36]

Table 2: Sample Disposition

Total Numbers dialed	7708		
Business	109		
Computer/Fax	153		
Other Not-Working	1156		
Additional projected NW	120		
Working numbers		6170	80.0%
No Answer	26		
Busy	15		
Answering Machine	451		
Callbacks	235		
Other Non-Contacts	118		
Contacted numbers		5325	86.3%
Refusals	1669		
Cooperating numbers		3656	68.7%
No child in HH	2230		
Language Barrier	98		
Eligible numbers		1328	36.3%
Interrupted	228		
Completes		1100	82.8%
		Response Rate	49.1%

[34] PSRAI's disposition codes and reporting are consistent with the American Association for Public Opinion Research standards.

[35] PSRAI assumes that 75 percent of cases that result in a constant disposition of "No answer" or "Busy" over 10 or more attempts are actually not working numbers.

[36] The response rates for the original surveys that provided the callback sample averaged approximately 32 percent.