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Teens and Mobile Phones

Text messaging explodes as teens embrace it as the centerpiece of their communication strategies with friends.

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Summary of Findings

The mobile phone has become the favored communication hub for the majority of American teens. [1]

Cell-phone texting has become the preferred channel of basic communication between teens and their friends and cell calling is a close second. Some 75% of 12-17 year-olds now own cell phones, up from 45% in 2004. Those phones have become indispensable tools in teen communication patterns. Fully 72% of all teens – or 88% of teen cell phone users — are text-messagers.[2] That is a sharp rise from the 51% of teens who were texters in 2006. More than half of teens (54%) are daily texters.

Among all teens, the frequency of use of texting has now overtaken the frequency of every other common form of interaction with their friends (see chart on the right).

Fully two-thirds of teen texters say they are more likely to use their cell phones to text their friends than talk to them to them by cell phone.

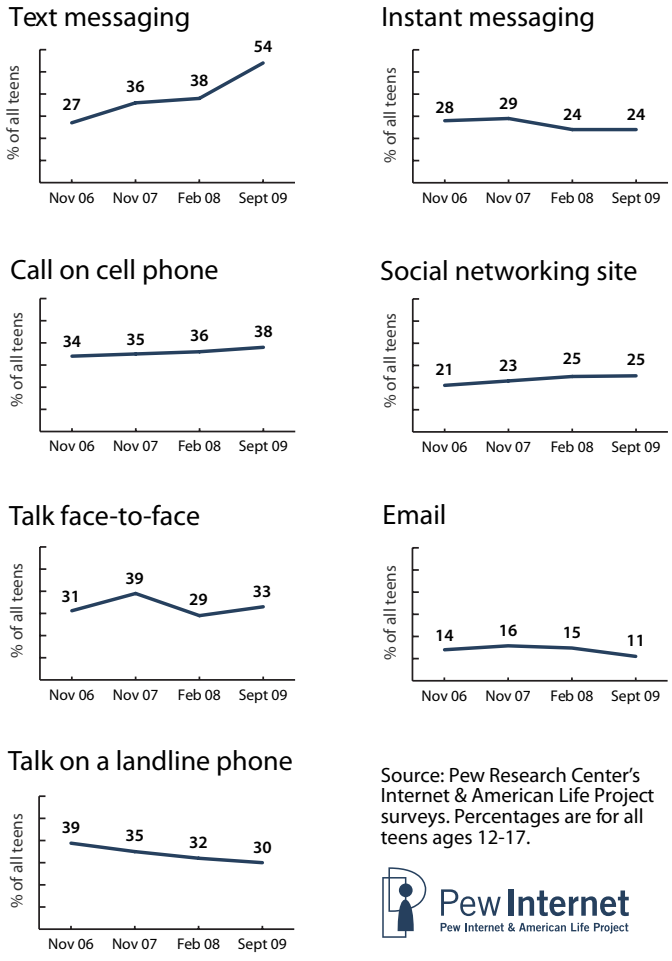
One in three teens sends more than 100 text messages a day, or 3000 texts a month.

Daily text messaging by teens to friends has increased rapidly since early 2008. Some 38% of teens were daily texters in February 2008 and that has risen to 54% of teens who use texting daily in September 2009. Of the 75% of teens who own cell phones, 87% use text messaging at least occasionally. Among those texters:

- Half of teens send 50 or more text messages a day, or 1,500 texts a month, and one in three send more than 100 texts a day, or more than 3,000 texts a month.
- 15% of teens who are texters send more than 200 texts a day, or more than 6,000 texts a month.

Texting takes off, while use of other communication channels remains stable over time

the % of all teens who have used each communication method to contact their friends daily, since 2006



Source: Pew Research Center's Internet & American Life Project surveys. Percentages are for all teens ages 12-17.

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1 Unless otherwise noted, all data in this report refers to cell phone-owning teens.

2 This 72% of teens who text figure is slightly different than previous "teens who text" numbers that we have released. The difference lies in the question wording. For this question, we asked about teens texting friends, but we did not specify the platform (computer, cell phone) on which the texting was taking place. Our other teen texting number (66%) reflects teens who text on their own cell phone, and does not constrain with whom the teen may be texting. Please see K9c and K20a in our questionnaire for exact question wording.

- Boys typically send and receive 30 texts a day; girls typically send and receive 80 messages per day.
- Teen texters ages 12-13 typically send and receive 20 texts a day.
- 14-17 year-old texters typically send and receive 60 text messages a day.
- Older girls who text are the most active, with 14-17 year-old girls typically sending 100 or more messages a day, or more than 3,000 texts a month.
- However, while many teens are avid texters, a substantial minority are not. One-fifth of teen texters (22%) send and receive just 1-10 texts a day, or 30-300 a month.

Calling is still a central function of the cell phone for teens and for many teens, voice is the primary mode of conversing with parents.

Among cell-owning teens, using the phone for calling is a critically important function, especially when it comes to connecting with their parents. But, teens make and receive far fewer phone calls than text messages on their cell phones.

Teens typically make or receive 5 calls a day. White teens typically make or receive 4 calls a day, or around 120 calls a month, while black teens exchange 7 calls a day, or about 210 calls a month, and Hispanic teens typically make and receive 5 calls a day, or about 150 calls a month.

Girls more fully embrace most aspects of cell phone-based communication.

As we see with other communicative technologies and applications, girls are more likely than boys to use both text messaging and voice calling and are likely to do each more frequently.

- Girls typically send and receive 80 texts a day; boys send and receive 30.
- 86% of girls text message friends several times a day; 64% of boys do the same.
- 59% of girls call friends on their cell phone every day; 42% of boys call friends daily on their cell phone.

Girls are also more likely than boys to text for social reasons, to text privately, and to text about school work.

- 59% of girls text several times a day to “just say hello and chat”; 42% of boys do so.
- 84% of girls have long text exchanges on personal matters; 67% of boys have similar exchanges.
- 76% of girls text about school work, while 64% of boys text about school work.

For parents, teens’ attachment to their phones is an area of conflict and regulation.

Parents exert some measure of control over their child’s mobile phone – limiting its uses, checking its contents and using it to monitor the whereabouts of their offspring. In fact, the latter is one of the primary reasons many parents acquire a cell phone for their child. However, with a few notable exceptions, these activities by parents do not seem to impact patterns of cell phone use by teens.

- 64% of parents look at the contents of their child’s cell phone and 62% of parents have taken away their child’s phone as punishment.
- 46% of parents limit the number of minutes their children may talk and 52% limit the times of day they may use the phone.

- 48% of parents use the phone to monitor their child's location.[3]
- Parents of 12-13 year-old girls are more likely to report most monitoring behavior.
- Limiting a child's text messaging does relate to lower levels of various texting behaviors among teens – these teens are less likely to report regretting a text they sent, or to report sending sexually suggestive nude or nearly nude images by text (also known as "sexting").
- Teens whose parents limit their texting are also less likely to report being passengers in cars where the driver texted behind the wheel or used the phone in a dangerous manner while driving.

Most schools treat the phone as a disruptive force that must be managed and often excluded from the school and the classroom.

Even though most schools treat the phone as something to be contained and regulated, teens are nevertheless still texting frequently in class.

- 12% of all students say they can have their phone at school at any time.
- 62% of all students say they can have their phone in school, just not in class.
- 24% of teens attend schools that ban all cell phones from school grounds.
- Still, 65% of cell-owning teens at schools that completely ban phones bring their phones to school every day.
- 58% of cell-owning teens at schools that ban phones have sent a text message during class.
- 43% of all teens who take their phones to school say they text in class at least once a day or more.
- 64% of teens with cell phones have texted in class; 25% have made or received a call during class time.

Cell phones help bridge the digital divide by providing internet access to less privileged teens. Still, for some teens, using the internet from their mobile phone is "too expensive."

Teens from low-income households, particularly African-Americans, are much more likely than other teens to go online using a cell phone. This is a pattern that mirrors Pew Internet Project findings about adults and their cell phones.[4]

- 21% of teens who do not otherwise go online say they access the internet on their cell phone.
- 41% of teens from households earning less than $30,000 annually say they go online with their cell phone. Only 70% of teens in this income category have a computer in the home, compared with 92% of families from households that earn more.
- 44% of black teens and 35% of Hispanic teens use their cell phones to go online, compared with 21% of white teens.

3 This question is worded in such a way that it may refer to both parents calling a child and asking his or her location, as well as using a GPS-based service to establish the phone's location.

4 http://www.pewinternet.org/Reports/2009/12-Wireless-Internet-Use.aspx

Cell phones are seen as a mixed blessing. Parents and teens say phones make their lives safer and more convenient. Yet both also cite new tensions connected to cell phone use.

Parents and their teenage children say they appreciate the mobile phone's enhancement of safety and its ability to keep teens connected to family and friends. For many teens, the phone gives them a new measure of freedom. However, some teens chafe at the electronic tether to their parents that the phone represents. And a notable number of teens and their parents express conflicting emotions about the constant connectivity the phone brings to their lives; on the one hand, it can be a boon, but on the other hand, it can result in irritating interruptions.

- 98% of parents of cell-owning teens say a major reason their child has the phone is so that they can be in touch no matter where the teen is.
- 94% of parents and 93% of teens ages 12-17 with cell phones agree with the statement: "I feel safer because I can always use my cell phone to get help." Girls and mothers especially appreciate the safety aspects of cell ownership.
- 94% of cell users ages 12-17 agree that cell phones give them more freedom because they can reach their parents no matter where they are.
- 84% of 12-17 year-old cell owners agree that they like the fact that their phone makes it easy to change plans quickly, compared with 75% of their parents who agree with that sentiment.
- 48% of cell-owning teens get irritated when a call or a text message interrupts what they are doing, compared with 38% of the cell-owning parents.
- 69% of cell-owning teens say their phone helps them entertain themselves when they are bored.
- 54% of text-using teens have received spam or other unwanted texts.
- 26% have been bullied or harassed through text messages and phone calls.

Cell phones are not just about calling or texting – with expanding functionality, phones have become multimedia recording devices and pocket-sized internet-connected computers. Among teen cell phone owners:

Teens who have multi-purpose phones are avid users of those extra features. The most popular are taking and sharing pictures and playing music:

- 83% use their phones to take pictures.
- 64% share pictures with others.
- 60% play music on their phones.
- 46% play games on their phones.
- 32% exchange videos on their phones.
- 31% exchange instant messages on their phones.
- 27% go online for general purposes on their phones.
- 23% access social network sites on their phones.
- 21% use email on their phones.
- 11% purchase things via their phones.

The majority of teens are on family plans where someone else foots the bill.

There are a variety of payment plans for cell phones, as well as bundling plans for how phone minutes and texts are packaged, and a variety of strategies families use to pay for cell phones. Teens' use of cell phones is strongly associated with the type of plan they have and who pays the phone bills.

- 69% of teen cell phone users have a phone that is part of a contract covering all of their family's cell phones.
- 18% of teen cell phone users are part of a prepaid or pay-as-you-go plan.
- 10% of teen cell phone users have their own individual contract.

When one combines type of plan with voice minutes, the most common combination is a family plan with limited voice minutes – one in three teen cell phone users (34%) are on this type of plan. One in four teen cell phone users (25%) are on a family plan with unlimited minutes.

Over half of all teen cell phone users are on family plans that someone else (almost always a parent) pays for entirely—this figure jumps to two-thirds among teens living in households with incomes of $50,000 or more. At the same time, low income teens are much less likely to be on family plans. Among teens living in households with incomes below $30,000, only 31% are on a family plan that someone else pays for. In this group, 15% have prepaid plans that someone else pays for, and 12% have prepaid plans that they pay for entirely themselves. Black teens living in low income households are the most likely to have prepaid plans that they pay for themselves.

Unlimited plans are tied to increases in use of the phone, while teens on "metered" plans are much more circumspect in their use of the phone.

Fully three-quarters of teen cell phone users (75%) have unlimited texting. Just 13% of teen cell phone users pay per message. Those with unlimited voice and texting plans are more likely to call others daily or more often for almost every reason we queried – to call and check in with someone, to coordinate meeting, to talk about school work or to have long personal conversations. Teens with unlimited texting typically send and receive 70 texts per day, compared with 10 texts a day for teens on limited plans and 5 texts a day for teens who pay per message.

4% of teens say they have sent a sexually suggestive nude or nearly nude image of themselves to someone via text message.

A relatively small number of teens have sent and received sexually suggestive images by text.

- 15% of teens say they have received a sexually suggestive nude or nearly nude image of someone they know by text.
- Older teens are more likely to receive "sexts" than younger teens
- The teens who pay their own phone bills are more likely to send "sexts": 17% of teens who pay for all of the costs associated with their cell phones send sexually suggestive images via text; just 3% of teens who do not pay for, or only pay for a portion of the cost of the cell phone, send these images.

Further details about "sexting" via cell phones may be found in our recent Teens and Sexting Report.[5]

5 Lenhart, Amanda. "Teens and Sexting." December 15, 2009. Available at: http://www.pewinternet.org/Reports/2009/Teens-and-Sexting.aspx.

One in three (34%) texting teens ages 16-17 say they have texted while driving. That translates into 26% of all American teens ages 16-17.

- Half (52%) of cell-owning teens ages 16-17 say they have talked on a cell phone while driving. That translates into 43% of all American teens ages 16-17.
- 48% of all teens ages 12-17 say they have been in a car when the driver was texting.
- 40% say they have been in a car when the driver used a cell phone in a way that put themselves or others in danger.

More details about cell phone use among teens and distracted driving maybe found in our earlier report Teens and Distracted Driving.[6]

New data is forthcoming on Latino youth and their communication choices.

Forthcoming from the Pew Hispanic Center, a sister project to the Pew Internet Project, is a new report about the ways young Latinos, ages 16 to 25, communicate with each other. This report will contain results based on a national survey of Hispanics conducted in the fall of 2009. Over 1,200 young Latinos were asked about the ways they communicate with each other, whether through text messaging, face-to-face contact, email or social network sites. This new forthcoming report is a follow-up to the report "Between Two Worlds: How Young Latinos Come of Age in America," and will be available online at http://www.pewhispanic.org

6 Madden, Mary and Amanda Lenhart. "Teens and Distracted Driving." November 16, 2009. Available at: http://www.pewinternet.org/Reports/2009/Teens-and-Distracted-Driving.aspx.

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About the Pew Research Center's Internet & American Life Project

The Pew Research Center's Internet & American Life Project is one of seven projects that make up the Pew Research Center, a nonpartisan, nonprofit "fact tank" that provides information on the issues, attitudes and trends shaping America and the world. The Project produces reports exploring the impact of the internet on families, communities, work and home, daily life, education, health care, and civic and political life. The Project aims to be an authoritative source on the evolution of the internet through surveys that examine how Americans use the internet and how their activities affect their lives. The Pew Internet Project takes no positions on policy issues related to the internet or other communications technologies. It does not endorse technologies, industry sectors, companies, nonprofit organizations, or individuals.

About the University of Michigan

This project was undertaken in collaboration with researchers in the Department of Communication Studies at the University of Michigan in Ann Arbor. The project was partially funded by an endowment from alumni Constance F. and Arnold C. Pohs to support research and teaching on the social consequences of information and communication technology. The mission of the University is to serve the people of Michigan and the world through preeminence in creating, communicating, preserving and applying knowledge, art, and academic values, and in developing leaders and citizens who will challenge the present and enrich the future.

Introduction: Why study mobile phones?

Wireless communication has emerged as one of the fastest diffusing media on the planet, fueling an emergent "mobile youth culture"[7] that speaks as much with thumbs as it does with tongues. At one of our focus groups a teen boy gushed, "I have unlimited texts . . . which is like the greatest invention of mankind." His enthusiasm was hardly unique. Cell phone use and, in particular, the rise of texting has become a central part of teens' lives. They are using their phones to stay in touch with friends and parents. They are using them to share stories and photos. They are using them to entertain themselves when they are bored. They are using them to micro-coordinate their schedules and face-to-face gatherings. And some are using their phones to go online to browse the web, to participate in social networks, and check their emails. This is the sunny side of the story. Teens are also using mobile phones to cheat on tests and to skirt rules at school and with their parents. Some are using their phones to send sexts, others are sleeping with buzzing phones under their pillows, and some are using their phones to place calls and text while driving.

While a small number of children get a cell phone in elementary school, the real tipping point for ownership is in middle school. About six in ten (66%) of all children in our sample had a cell phone before they turned 14. Slightly less than 75% of all high school students had a cell phone.

This report particularly highlights the rapid rise of text messaging in recent months. Some 72% of all U.S. teens are now text message users,[8] up from 51% in 2006. Among them, the typical texter sends and receives 50 texts a day, or 1500 per month. By way of comparison, a Korean, Danish or a Norwegian teen might send 15 – 20 a day and receives as many. Changes in subscription packages have encouraged widespread texting among U.S. teens and has made them into world class texters. As a result, teens in America have integrated texting into their everyday routines. It is a way to keep in touch with peers even while they are engaged in other social activities. Often this is done discreetly and with little fuss. In other cases, it interrupts in-person encounters or can cause dangerous situations.

To understand the role that cell phones play in teens' lives, the Pew Research Center's Internet & American Life Project and the University of Michigan's Department of Communication Studies conducted a survey and focus groups in the latter part of 2009. The phone survey was conducted on landline and cell phones and included 800 youth ages 12-17 and one of their parents. It was administered from June 26-September 24, 2009. The overall survey has a margin of error of 4 percentage points; the portion dealing with teen cell owners involved 625 teens in the sample and has a margin of error of 4 percentage points; the portion dealing with teen texters involved 552 teens in the sample and has a margin of error of 5 percentage points.

A brief history of the mobile phone as a technology

The idea for cellular telephony originated in the US. The first cellular call and the first call from a hand held cellular device also were placed in the US.

7 Castells, M., Fernandez-Ardevol, M., Qiu, J., & Sey, A. (2007). *Mobile communication and society: A global perspective.* Cambridge, MA: MIT Press.

8 This 72% of teens who text figure is slightly different than previous "teens who text" numbers that we have released. The difference lies in the question wording. For this question, we asked about teens texting friends, but we did not specify the platform (computer, cell phone) on which the texting was taking place. Our other teen texting number (66%) reflects teens who text on their own cell phone, and does not constrain with whom the teen may be texting. Please see K9c and K20a in our questionnaire for exact question wording.

The cell phone merges the landline telephony system with wireless communication. The landline telephone was first patented in 1876. Mobile radio systems have been used since the early 1900s in the form of ship to shore radio, and were installed in some police cars in Detroit starting in 1921. The blending of landline telephone and radio communication came after the Second World War. The first commercially available "mobile radiophone service" that allowed calls from fixed to mobile telephones was offered in St. Louis in 1946. By 1964 there were 1.5 million mobile phone users in the US.[9] This was a non-cellular system that made relatively inefficient use of the radio bandwidth. In addition, the telephones were large, energy intensive car-mounted devices. According to communications scholar Thomas Farley, the headlights of a car would noticeably dim when the user was transmitting a call.[10]

In the drive to produce a more efficient mobile telephone system, researchers W. Rae Young and Douglas Ring of Bell Labs developed the idea of cellular telephony, in which geographical areas are divided into a mesh of cells, each with its own cell tower.[11] This allowed a far more efficient use of the radio spectrum and the "cell" phones needed less power to send and receive a signal. The first installation was in 1969 on the Amtrak Metroliner that traveled between New York City and Washington. Four years later, Martin Cooper of Motorola made the first cellular call from a prototype handheld cell phone.

Regulation around mobile phones

After the inauguration of mobile phone service in the US, a regulatory environment that allowed multiple mobile-calling standards stifled mobile communication development and expansion in the U.S. for several years. Indeed, the growth of the GSM standard in Europe and the rise of DoCoMo in Japan meant that the dramatic developments in the cell phone industry were taking place abroad. In the US, small license areas for mobile phone companies meant that users were constantly roaming outside their core area. A user in Denver would have to pay roaming charges if he or she made or received a call in Ft. Collins, Colorado Springs or Vail. To the degree that texting was available, users could only text to users in their home network.

In the late 1980s industry consolidation eliminated the small local areas and by the turn of the millennium, interoperability between operators became standard, and the cost of calling plans and the price of handsets fell. Rather than being a yuppie accessory, the cell phone became widely-used by everyone from the captains of industry and finance to the people who shined their shoes and walked their dogs.

As cell phones have become more available, they are increasingly owned and used by children and teens. Further, as handsets become more loaded with capabilities ranging from video recording and sharing, to music playing and internet access, teens and young adults have an ever-increasing repertoire of use. Indeed, we are moving into an era when mobile devices are not just for talking and texting, but can also access the internet and all it has to offer. This connectivity with others and with content has directed the regulator's lens onto mobile safety practices. It has also prompted the beginning of a cultural conversation about how to ensure that parents have the tools to regulate their child's mobile use, should they choose to do so. Understanding how youth use mobile phones is vital to creating effective policy based on the reality of how the technology is used. It is also important to understand how telecommunications company policies and pricing affect how teens and parents use their phones.

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10 Farley, T. 2005. "Mobile telephone history." *Telektronikk* 3/4:22 - 34.

11 Lindmark, S. 2002. "Evolution of techno-economic systems: An investigation of the history of mobile communications." Doctoral Dissertation Thesis, Department of industrial management and economics, Chalmers University of Technology, Gothenberg, Sweden.

Previous research on cell phones and teens

This report tries to expand a tradition of cell phone research that extends into the early 1990s,[12] and work on landline telephony as far back as the 1970s.[13] The first studies to examine the social consequences of the mobile phone came in the early 1990s when researchers examined its impact on residential markets.[14] One of the earliest papers on cell phones examined it through the lens of gender; in 1993, Lana Rakow and Vija Navarro wrote about the cell phone and what they called "remote mothering."[15] Starting in the mid 1990s in Europe, there was the beginning of more extended scholarship on cellular communication,[16] and by 2000 work was being done in the U.S. that evolved from a small number of articles to edited books and eventually to both popular and more scholarly books on mobile communication.[17]

Several themes have been central in these analyses. One is the use of cell phones in the "micro-coordination" of daily interaction.[18] As the name implies, this line of research examines how the cell phone allows for a more nuanced form of coordination. Instead of having to agree on a time and place beforehand, individuals can negotiate the location and the timing of meetings as a situation clarifies itself. Micro-coordination can be used to organize get-togethers and it can be used to sort out the logistics of daily life (e.g. sending reminders to one another or exchanging information on the fly). Extending this concept further, the cell phone can be used to coordinate so called "flash mobs," as well as different kinds of protests.[19]

While micro-coordination describes an instrumental type of interaction, another line of research has examined how the cell phone can be used for expressive interaction. Since the device provides us direct

12 Thanks to Fred Stutzman for his excellent literature review of this area.

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access to one another, it allows us to maintain ongoing interaction with family and friends.[20] This in turn provides the basis for the enhancement of social cohesion.[21] In this vein, some researchers have examined how the cell phone affects our sense of safety and security.[22] The cell phone can be used to summon help when accidents happen and they can be seen as a type of insurance in case something bad occurs. Others have examined how teens, as well as others, see the mobile phone as a form of self-expression. Having a cell phone is a status symbol and having a particularly sought after model can enhance our standing among peers.[23]

Finally, focusing directly on teens, there has been considerable research on the role of the cell phone as part of the emancipation process.[24] Up to this point, however, there has been little quantitative analysis of teens in the U.S. on this topic.[25] Indeed this is one of the main questions considered in this report. Before the cell phone, there were often discussions in the home as to whether a teen could have a landline extension in her room. Teens' push to have their own landline phone underscored their drive to control contact with their peers. The rise of the cell phone has changed the dimensions of this discussion. The cell phone has provided teens with their own communication channel. This access can be used to plan and to organize daily life and it can be used to exchange jokes and endearments. It can also be used to plan mischief of varying caliber, and it can be used to exchange photos that are – literally – the picture of innocence or of depravity.

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25 On the Move: The Role of Cellular Communications in American Life. (2006). University of Michigan: Ann Arbor, MI. Accessed from http://itudcmc.files.wordpress.com/2010/03/onthemove1.pdf on March 24, 2010.

The organization of the report

This report is the fruit of a collaboration between the University of Michigan and the Pew Research Center's Internet & American Life Project in an attempt to broadly capture the current state of mobile phone ownership and use among American youth and their families today. From June through September 2009, the Pew Internet Project fielded a random digit-dial telephone survey among a nationally representative sample of 800 teens ages 12-17 and one of their parents or a guardian (the teen and their parent/guardian were interviewed independently). In addition to the telephone survey, the University of Michigan fielded 9 focus groups among teens ages 12-18 in four cities in June and October of 2009. The focus groups queried teens more deeply about attitudes toward and practices around their mobile phone.

The study has been guided by a desire to measure the state of affairs around mobile phones and youth in the U.S. – how many, how much, how often, with whom? – and to better understand how mobile phones fit into and enhance (or detract from) friendships and family relationships.

The report is organized into five chapters. The first chapter covers many of the basic measurements around mobile phones, the demographic variations around their use, and different models of phone ownership. This chapter also explores the economics of teens' phone use, including payments, and calling and texting plan structures.

The second chapter of the report looks in depth at text messaging and voice calling, and compares the two modes of communication. It then places both of those activities in the broader context of teens' overall communications practices as well as in the context of all the activities that teens can and do engage in on their mobile phone handsets, such as listening to music, sending email, looking up websites online and taking and sharing photos and videos.

The third chapter examines parents' and teens' attitudes towards their cell phones, and the ways the devices enhance and disrupt their lives. It details how families and teens feel about safety and the phone, and the ways in which the phone has become a social and entertainment hub. This chapter also explores how the phone has become an electronic tether between parents and children, and teens and friends, one so potent that teens frequently sleep with their phone under their pillows.

Chapter four examines the ways in which parents and schools regulate and monitor teens' mobile phone use and how those actions may relate to teen cell phone-related behaviors.

The fifth chapter looks at teens, cell phones and "adverse behaviors." It recaps some of our previous research on sexting and distracted driving, and presents new research on harassment through the mobile phone, as well as teens' experiences with spam and the sending of regrettable text messages.

The last section of the report details the full set of methods that we used to conduct the research that undergirds this report.

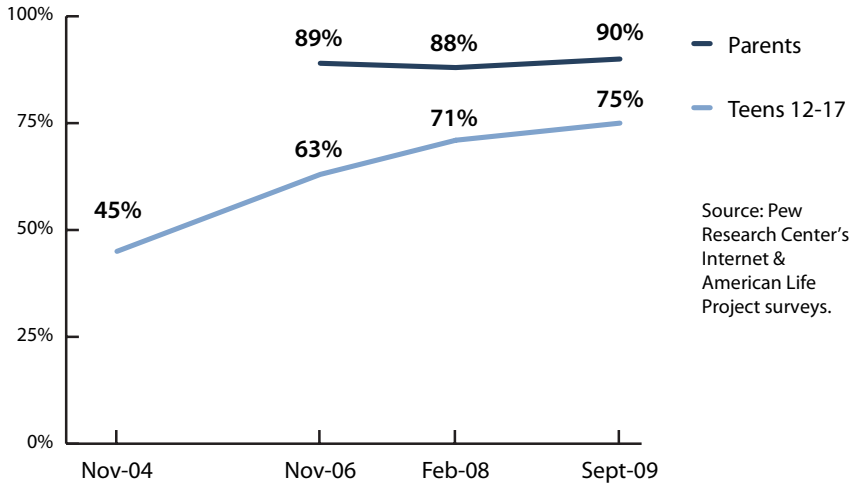
Chapter One: The basics of how teens acquire and use mobile phones

Overview

Cell phones are now well integrated into the lives of American teens and their families.[26] As of September 2009, 75% of American teens ages 12-17 have a cell phone, a number that has steadily increased from 45% of teens in November 2004. Fully 90% of parents of teens ages 12-17 have a cell phone, a percentage that has remained steady since 2006. Cell phones have become increasingly important modes for intra-family and external communication. For families reached for this survey on a landline who have both cell phones and a landline in their lives, one-quarter (23%) of parents report that they receive all or almost all of their calls on a cell phone, and another half of parents (54%) say that they receive some of their calls on a cell phone and some of them on a landline phone. In total, 8% of American families with teens ages 12-17 in the household do not have a landline telephone at all. And 29% of all families with teens received all or almost all of their calls on a cellular phone.

The gap between parent and teen cell phone ownership is steadily narrowing

Parent and teen cell phone ownership over time



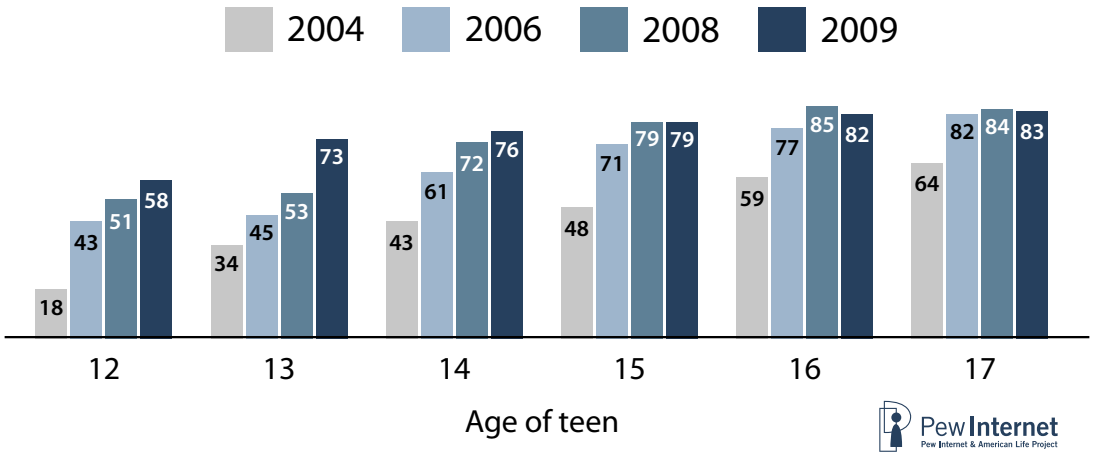
Who uses cell phones?

Age has consistently been one of the most important factors in predicting cell phone use. Younger teens, particularly 12 year-olds, are less likely than other teens to have a cell phone. As of September 2009, 58% of 12 year-olds have a cell phone, compared with 73% of 13 year-olds. Looking at the oldest teens in our sample, fully 83% of 17 year-olds have a mobile phone. Over the past five years, ownership of cell phones has been percolating down to ever younger teens. In 2004, just 18% of 12 year-olds had a cell phone of their own, and now 58% of them do. In the same 2004 survey, 68% of 17 year-olds had a phone, and now 83% do. Much of the recent overall growth in cell phone ownership among teens has been driven by uptake among the youngest teens.

26 Unless otherwise noted, the data in this report refers to cell phone-owning teens.

Older teens more likely to own cell phones

The percentage of teens who have a cell phone, by age (2004-2009)



Cell phones are nearly ubiquitous in the lives of teens today, with ownership cutting across demographic groups. As both boys and girls move into the latter part of middle school and into high school their world is expanding socially and geographically. Many begin driving, with the consequent need for greater co-ordination, and expansion of their social lives with texting the conduit for that growth. Texting is also an element of teen identity. More than with other age groups,[27] teens have adopted texting into their daily routines and into their expectations of how they can reach one another. Texting is a technology that fills a vital communications niche in teens' lives.[28]

Beyond age, there are few differences in cell phone ownership between groups of teens. Boys and girls are just as likely to have a phone, though they do not always use it in the same way. There are no differences by race or ethnicity in phone ownership by teens. However, socioeconomic status is one area where cell phone ownership rates do vary significantly – with teens from lower income families less likely to own a mobile phone. A bit more than half (59%) of teens in households earning less than $30,000 annually have a cell phone, while more than three-quarters of teens from wealthier families own one.

27 See: Pew Research Center's Millennials report at http://pewresearch.org/millennials/ .

28 Ling, Rich. (2010). Texting as a life phase medium. *Journal of computer mediated communication, 15*(2), 277-292.

Demographics of teen cell phone users

The percentage of teens in each demographic group who have a cell phone

	% of teens
Total teens	**75%**
Boys	74
Girls	77
Age	
12-13	66%
14-17	80
Race/ethnicity	
White, Non-Hispanic	78%
Black, Non-Hispanic	75
Hispanic (English- and Spanish-speaking)	68
Household income	
Less than $30,000/yr	59%
$30,000-$49,999	76
$50,000-$74,999	73
$75,000+	87

Pew Research Center's Internet & American Life Project, Teens and Mobile Phones Survey conducted from June 26 - September 24, 2009. N=800 teens ages 12-17 and the margin of error is ±4%.

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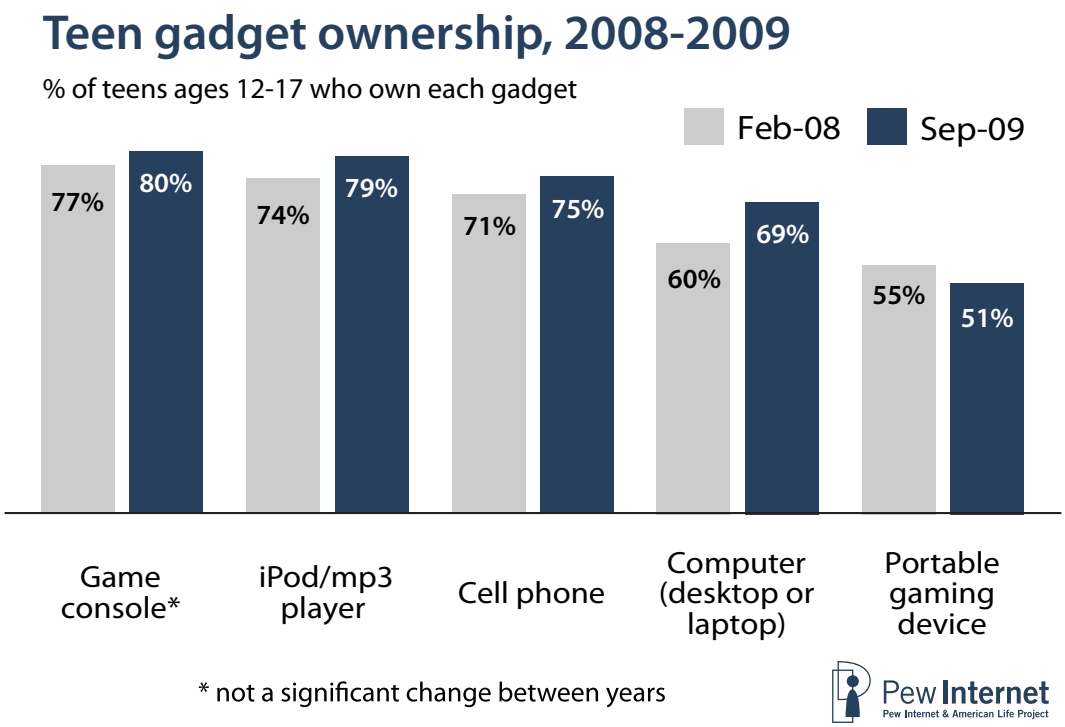
Ownership of mobile phones is not always a one person, one phone relationship.

A small number of teens have more than one cell phone – 4% of teen cell phone users report having two or more phones. In our focus groups, a number of teens talked about why they had multiple phones. One scenario that teens described was the practice of owning one phone for calling and a separate one for texting or going online. One middle school girl explained "Like my cousin does that, she has a phone for like AIM and texting and she has a phone for like calling." But then she added "I don't know, I think that's kind of weird thought, to have two phones?" Another motive for the second phone was that the second phone served as a backup phone, usually an older model that was retained so that it could be activated in the event that the newer, primary phone was lost, damaged or stolen. "I do [have multiple phones] just for like back up or something," said one younger high school boy. "If one breaks I just grab another one, put my SIM card in it and use that." Another male teen in the same group explained that he kept a second phone so, "If I get caught with my phone in class I will give the teacher a fake phone."

Teens from lower income families were more likely to have more than one cell phone. About one in ten teens (9%) from households earning less than $30,000 annually said they had two phones, while 4% of all teens reported owning two phones.



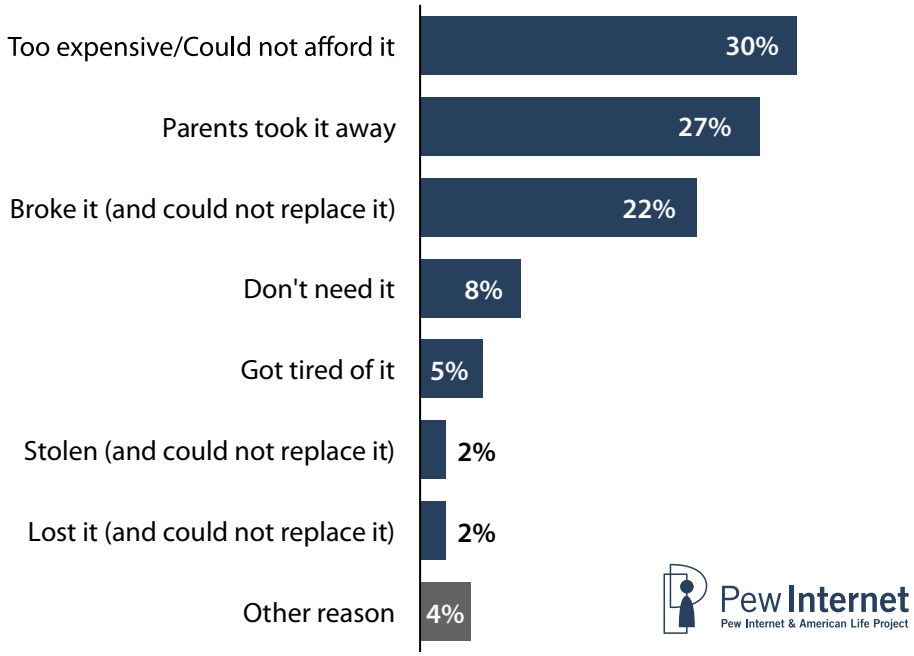
One-quarter of teens do not currently have a cell phone, but many have owned one in the past.

Cell phone ownership among teens is also somewhat fluid. Not every teen has a cell phone or has consistent access to one. Among the 25% of 12-to-17 year-olds who do not currently have a cell phone, 34% have had a cell phone at some point in the past. That fluidity is particularly common in the lowest income households; 42% of teens without cell phones in low income households (those with yearly incomes below $30,000) say they have had one in the past.

Asked why they no longer have a cell phone, very few teens say they go without a cell phone by choice. Rather, they typically no longer have a phone because it is too expensive, their parents took it away, or it was broken and they could not replace it.

Main reasons teens no longer have a cell phone

The % of teens who used to have a cell phone who say this is the main reason they no longer have one



Source: Pew Research Center's Internet & American Life Project, Teens and Mobile Phones Survey, conducted from June 26 – September 24th, 2009. n=800 teens ages 12-17 and the margin of error for the total sample is +/- 4%. For smaller subgroups, the margin of error may be larger. Please see the Methodology section for details.

Asked whether they would like to have a cell phone, the majority (69%) of teens currently without cell phones say yes. However, almost a third (30%) say they are not interested in having one. Among teens without cell phones, those whose parent has a cell phone are much more likely than other teens (77% vs. 46%) to say they are interested in having one. There are no significant differences between teen boys and girls, or older and younger teens, where desire for a cell phone is concerned. Teens who have had a cell phone in the past are not significantly more likely than those who have never had one to express a desire for a cell phone.

Phone sharing among teens – regardless of cell phone ownership, roughly one-quarter of teens say they share a phone with someone else

Sharing phones is a fairly common practice among teens, and roughly one-quarter (23%) of those who do not own their own cell phone share one with someone else. Much of this phone sharing is with others in the household, including siblings and parents. In fact, teens who have a parent with a cell phone are more than twice as likely as those whose parent does not (27% vs. 12%) to report that they share a phone with someone else.

A similarly-sized group of teens who own cell phones – one-quarter (23%) – also share their mobile phone with someone else. Teens in our focus groups told us of sharing with younger or older siblings. One high school-age boy explained, "Sometimes if like …one of my parent's phones is dead or like if my brother might be going to something like with his friends…because he doesn't have a phone yet. So, um, sometimes he'll be going to a sleepover or something and my parents will say, '[Name,] let him take your

phone.'" Other teens told of sharing a phone with a parent prior to getting a phone of his or her own, as with this middle school girl: "Sometimes when I didn't have my cell phone, like if I was going somewhere like the mall, my mom would give it to me, because I take the bus a lot, and the train a lot, like all the time." And some times phone sharing is simply about convenience and proximity. Said one younger high school boy, "My brother never has his phone, and I'm always with my brother, so I let him use my phone." Sharing a cell phone is not related to a teen's sex, race, ethnicity or socio-economic status. Phone sharing is reported equally across demographic groups.

Parents and cell phones

Parent cell phone ownership follows a similar pattern to teens: Parents with lower levels of household income and education are less likely to have a cell phone than parents from wealthier backgrounds. Parents with lower incomes – under $30,000 annually – and lower education levels are less likely to have a cell phone. While 77% of parents earning less than $30,000 in household income had cell phones, 95% of parents who earn more than that have one. Just under three-quarters (73%) of parents without a high school diploma have a cell phone, while more than 92% of parents with greater levels of education have a cell phone. Parents' phone ownership also varies by race and ethnicity. White parents are more likely than African-American parents to have cell phone, with 91% of white parents owning a phone compared with 83% of African-American parents. Teens whose parents have a cell phone are much more likely to own a phone than teens whose parents do not have one. Four in five teens (80%) with phones have a parent with a cell phone compared with just 38% of teens whose parent did not have a phone.

The economics of cell phones

The ways in which teens and their parents use the cell phone are influenced by a variety of factors. One major influence has to do with the economics of the cell phone – who pays for the costs associated with the cell phone and its use and what are the limitations on the service plan for the phone? Does the user have unlimited minutes to talk or the ability to share minutes? Does he or she have an unlimited or pay-as-you-go text messaging plan? And regardless of who pays, what type of plan does the teen have? A shared family plan, an individual plan with a contract, or a contract-less pre-paid phone? Each of these variations can influence how teens and adults use their mobile phones.

Plan types: Most teens have family plans paid by parents.

Cell phone owners have usage plans for their phones that can be divided broadly into three types. First is a plan that has an ongoing contract to cover a single phone and requires a monthly fee each month until the terms of the contract have been met (often one or two years). A second type of plan is also an ongoing contract, but one that covers multiple people and multiple phones. This is often called a family plan. In these types of plans, members covered under the same contract often have a certain number of voice minutes and text messages that they share. A third type of plan is a pre-paid plan. These plans usually cover one phone. They do not require a long-term contract. Some have a monthly flat fee for the service and others allow the user to add minutes and messages to an account as needed, with the minutes and/or texts debiting as they are used.

Most teen cell phone users (69%) have a phone that is part of a contract covering all of their family's cell phones. About one in five teen cell phone users (18%) are part of a prepaid or pay-as-you-go plan, and just one in ten (10%) have their own individual contract.

The type of cell phone plan a teen has is significantly related to household income. Teens from lower income households are more likely to use prepaid plans or to have their own contract, while teen cell phone users in households with incomes of $50,000 or greater are most likely to be part of a family plan.

Teens from higher income households are most likely to be on family plans

Lower income teens most likely to pay-as-you-go

	Annual Household Income			
	Less than $30,000	$30,000-$49,999	$50,000-$74,999	$75,000+
Percent of teen cell phone users who have...				
A prepaid or pay-as-you-go plan	36*	16	15	11
A family plan that is part of contract that covers the entire family	47	59	78*	80*
A separate contract covering only your phone	15*	21*	5	6
A set number of voice minutes each month	33	39	47*	44*
A set amount of money to use each month to buy voice minutes	20*	4	9	4
An unlimited number of voice minutes each month	35	42	37	38
An unlimited text plan	68	81*	79	76
A limited text plan	8	7	4	7
Have no plan, pay per text	22*	11	14	11

* indicates a statistically significant difference.

Source: Pew Research Centers Internet & American Life Project, Teens and Mobile Phones Survey, conducted from June 26 September 24th, 2009. n=625 teen cell phone users ages 12-17 and the margin of error is +/- 5%.

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Voice Minutes: the most common combination is a family plan with limited voice minutes.

Nearly all cell phone users have voice minutes of some kind on their phone, but how many they have and how they acquire them varies from plan to plan. Some users have an unlimited number of minutes for talking, usually paid for with a flat fee per month. Other users have a set number of minutes that they have available to them per month, as a part of a monthly contract or fee. Others share minutes with other cell phone users, generally through a family plan. And some users purchase minutes on an as-needed basis, and so may have different amounts of minutes available at different times, based on available funds.

Voice minutes and type of plan (pre-paid, family or separate contract) are closely related. Most teens on a prepaid plan say they have a set amount of money to buy minutes, while most on the family plan say they have a set number of minutes they can use each month. For those teens with their own contract, it is most common to have an unlimited number of minutes each month.

As the above table shows, household income is also a key determinant of the type and amount of voice calling minutes a teen has. Higher income teens (those living in households with incomes of at least $50,000) are more likely than teens in lower income households to say they have a set number of minutes they can use each month. The lowest income teen cell phone users (those from households with incomes below $30,000 annually) are four times as likely as other teens to say they have a set amount of money with which to buy minutes each month.

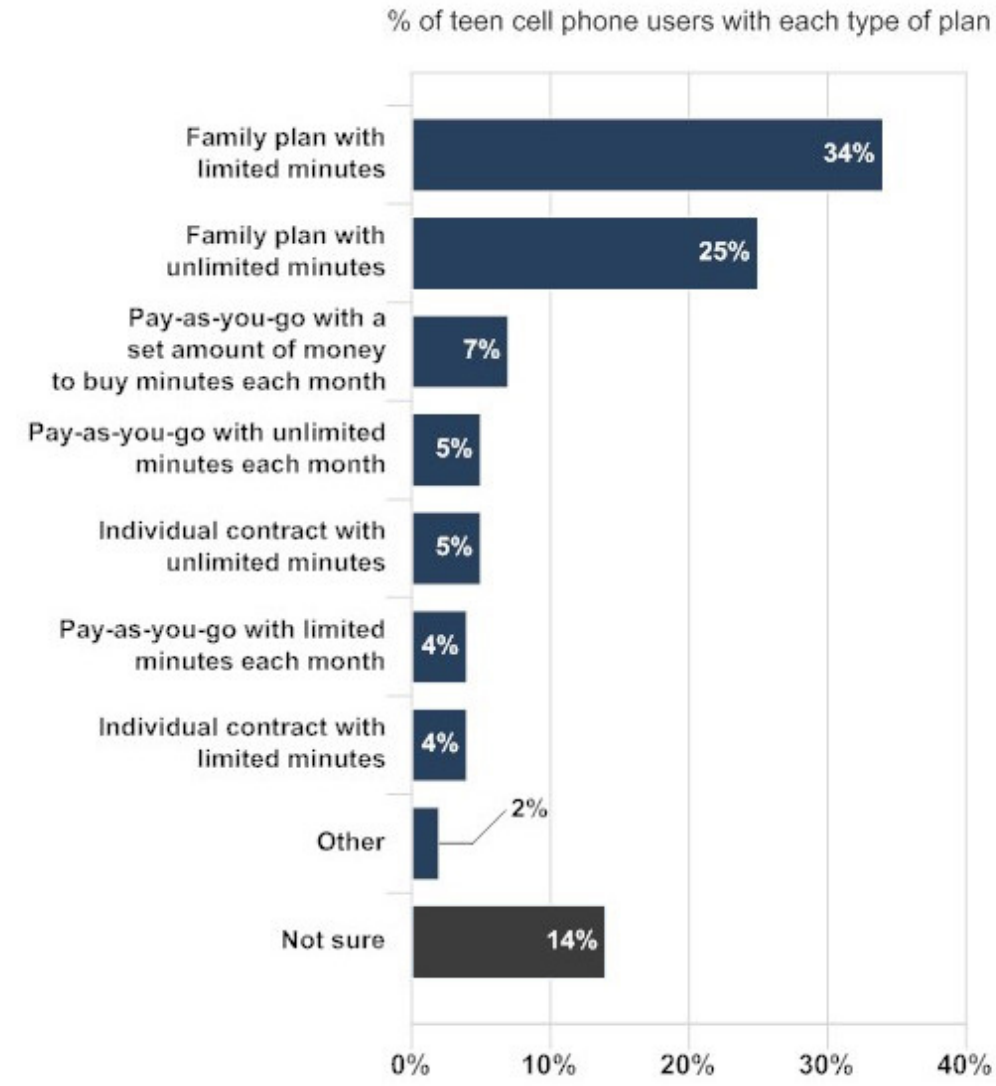
How minutes are managed within a cell plan varies by race and ethnicity. Almost half of all white teen cell phone users (47%) say they have a set number of minutes they can use each month, compared with just 15% of black teen cell phone users. Black teens, in contrast, are more likely than white teens to say they have a set amount of money to spend each month to buy minutes – this is true for one in five black teen cell phone users overall (20%), and just under half (42%) of black teen cell phone users in households with incomes below $30,000. Still, most black teen cell phone users (44%) say they have an unlimited number of minutes to use each month.

Voice minutes also vary by age, with older teens (ages 14-17) more likely than younger teens (ages 12-13) to have a set number of minutes they can spend each month (51% vs. 40%). Young girls are the most likely to have unlimited voice minutes on their cell phones: 57% of 12-13 year-old girls have unlimited voice minutes. (All of the above figures are based only on teens who know how many voice minutes they have – 13% of teens are not sure how their plan works and could not answer the voice minutes question.)

When one combines type of plan with voice minutes, the most common combination is a family plan with limited voice minutes – one in three teen cell phone users (34%) are on this type of plan. One in four teen cell phone users (25%) are on a family plan with unlimited minutes. A younger high school boy explains his family's plan:

> Minutes are more expensive than the texting, so I have unlimited texting for 10 dollars, but the minutes are like 40, so we just share those. She kept warning me before, um, she got me T-Mobile and if I went over the minutes she'd take my phone, but I never went over my minutes.

Family plans with limited voice minutes are most common among teen cell phone users



Source: Pew Research Center's Internet & American Life Project, Teens and Mobile Phones Survey, conducted from June 26 – September 24th, 2009. n=625 teens cell phone users ages 12-17 and the margin of error for the total sample is +/- 5%.

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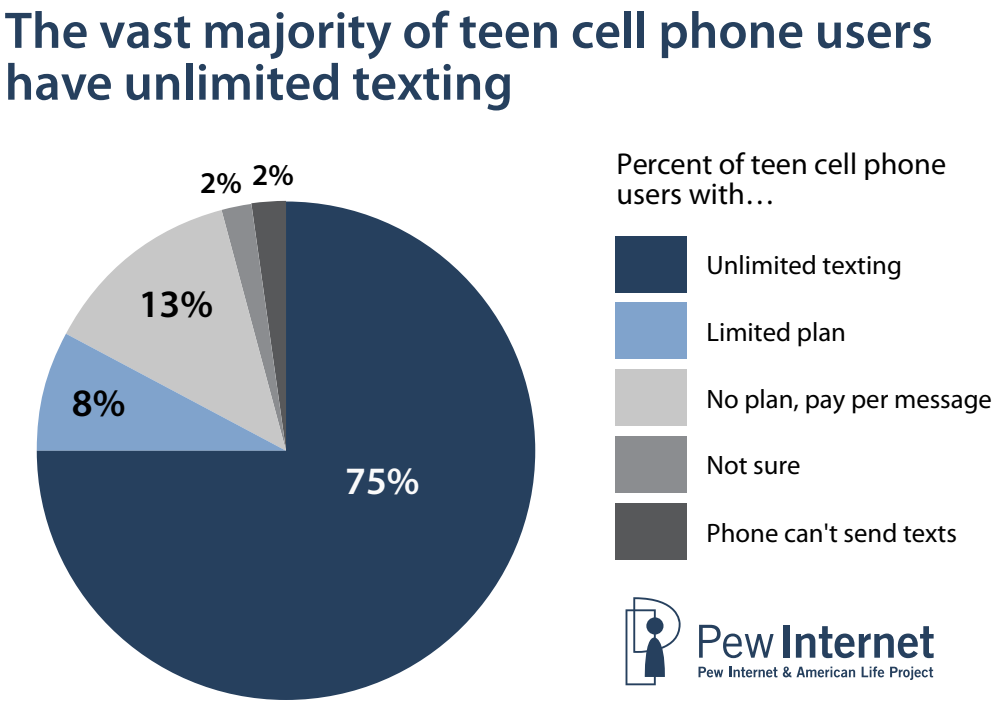
Texting plans: The bulk of teens have unlimited text messaging plans.

The economics of texting have radically shifted in recent years and that has likely contributed to the increased popularity of texting among teens. Over the past few years, unlimited texting plans have become the norm among teen text users. Three in four teen cell phone users (75%) have unlimited texting plans. Just 13% of teen cell phone users pay per message. This high rate of unlimited texting holds fairly steady across different income categories and racial/ethnic groups. Only among white teens is there a strong correlation between household income and having unlimited texting. Just 59% of white teen cell phone users in households with incomes below $30,000 have an unlimited text plan, compared with 79% of all other white teen cell phone users. As one would expect, texting availability varies by plan type. Teens on family (81%) and individual (78%) plans are significantly more likely to have unlimited texting than those with prepaid plans (54%). The percentage of teen cell phone users with unlimited texting rises steadily with age, and more girls than boys report having plans with this feature. The group most likely to have unlimited texting is 14-17 year-old girls, 86% of whom have this feature in their plans.



Source: Pew Research Center's Internet & American Life Project, Teens and Mobile Phones Survey, conducted from June 26 – September 24th, 2009. n=625 teen cell phone owners ages 12-17 and the margin of error is +/- 5%.

In this context it is worth noting that the cost for sending and receiving text messages without a subscription can range between 15 to 30 cents per message.[29] On the other hand, unlimited subscriptions are extremely common. Thus, if teen A has an unlimited texting subscription and communicates with teen B who does not, texting would represent a significant burden given that U.S. cell phone owners pay to both send and receive text messages. This situation would encourage teen B to get a bundled or unlimited texting subscription. This type of calculation would ripple thorough groups of teens who, as

29 Per information downloaded from the consumer websites of AT&T, Sprint, T-Mobile and Verizon on March 17, 2010.

we will see below, have started to use texting for many different purposes. Those who do not sign up for specific subscriptions face the possibility of having to pay dearly for the use of texting by their friends with unlimited plans.

Who pays for teens' cell phones?

Twenty-nine percent of teen cell phone users pay for at least some of the costs of their cell phones; that figure rises to 63% among black and Hispanic teens in households with incomes below $30,000.

Seventeen seems to be a critical age in terms of cell phone responsibility; at that age the percentage of cell phone users who are responsible for at least part of their cell phone bills jumps to 40%. One in five 17 year-olds (20%) pay their entire bill themselves. For those teens who do not pay entirely for their own cell phone bills, 94% say it is their parents who pick up the bill.

Overall, over half of all teen cell phone users are on family plans that someone else (almost always a parent) pays entirely—this figure jumps to two-thirds among teens living in households with incomes of $50,000 or more. Other popular subscription types are those family plans for which the teen pays some of the costs and someone else pays the remainder. Prepaid or pay-as-you-go plans for which someone else pays are also common.

Among teens living in households with incomes below $30,000, only 31% are on a family plan that someone else pays for. In this group, 15% have prepaid plans that someone else pays for, and 12% have prepaid plans that they pay for entirely themselves. Black teens living in low income households are the most likely to have prepaid plans that they pay for themselves.

The most popular plan/payment combinations

Most teen cell phone users are on a family plan that someone else pays for

	Total teens cell users	Less than $30,000	$30,000-$49,999	$50,000-$74,999	$75,000+
Family plan someone else pays for entirely	55	31	45*	66*	65*
Family plan teen pays part of	12	10	12	10	13
Prepaid plan someone else pays for entirely	8	15*	5	6	6
Individual plan someone else pays for entirely	6	6	13*	3	4
Prepaid plan teen pays for entirely	5	12*	6	6	2
Prepaid plan teen pays part of	5	9	4	3	4
Family plan teen pays for entirely	3	6	1	2	2
Individual plan teen pays for entirely	2	5	5	1	1
Individual plan teen pays part of	2	4	4	1	1
Total on plan someone else pays for entirely	70	54	68*	76*	77*
Total on plan teen pays part of	19	23	20	14	19
Total on plan teen pays for entirely	10	23*	12*	9	4

* indicates a statistically significant difference.

Source: Pew Research Centers Internet & American Life Project, Teens and Mobile Phones Survey, conducted from June 26 September 24th, 2009. n=625 teen cell phone owners ages 12-17 and the margin of error is +/- 5%.

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How the economics of mobile phones affects teens' cell use

Teens who pay for their own phones use the phone in a wider range of ways.

Teens who pay for the full cost of their cell phones do more on and with their phones. Those teens who have parents who pay for at least part of their phone engage in a more limited number of activities on their phones. While almost all teens use their phones to text, teens who pay the entire cost of ownership for their cell phones send more texts and do so more frequently throughout the day. Three-quarters (73%) of teens who pay for their own phone say they send text messages several times a day, compared with 65% of teens whose parents pay for their phone and 55% of teens who pay for part of their phone. In addition to texting frequently, teens who pay for their own phones are more likely to send email and instant messages on their phone, and are more likely to send, receive and record videos than other teens with cell phones that are fully or partially paid for by others. They are also more likely to use social network sites on their mobile phone, and to send and receive photos. Teens who pay for their own phones are also more likely to buy things online via the cell phone.

Teens who pay part of the cost of their cell phone are the most likely to play music on their phone and more likely than teens whose parents cover the cost of phone ownership to install applications on their phones.

Teens whose phone use is fully paid by someone else are more likely than other teens to take photos with their phones, though not necessarily any more likely to share those photos with others via their handset.

All teens are equally likely to play games on their phone regardless of how their phone costs are covered. Many games are pre-loaded on cell phone handsets and do not require additional or on-going costs to play. Another subset of games may be downloaded to a cell phone, but often result in charges or costs to the phone owner.

Teens who pay for all of the phone costs are more likely to engage in most activities on their cell phones

The percentage of teens who ever do this on their cell phone*

	Teens pays all	Teen pays part	Parent pays all
Send text messages	95	90	87
Send email	35†	20	18
Take a picture	78	81	84
Send or receive pictures	74†	63	63
Play music	64	73‡	56‡
IM	44†	34	29
Record a video	53	49	55
Send or receive a video	44†	32	30
Play a game	49	53	46
Use SNS	37†	25	20
Use an app they downloaded to phone	25	31‡	16‡
Buy something w/ phone	21†	12	9

* Among teens whose cell phone have this functionality.

† statistically significant with all others in row
‡ statistically significant with each other, but not with other in row

Source: Pew Research Centers Internet & American Life Project, Teens and Mobile Phones Survey, conducted from June 26 September 24th, 2009. n=625 teen cell phone owners ages 12-17 and the margin of error is +/- 5%. For smaller subgroups, the margin of error may be larger. Please see the Methodology section for details.

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Teens on pre-paid plans are less likely to use many cell phone functions.

All teens, regardless of phone plan, are just as likely to send text messages, instant messages or play music on their phone. However, teens on pre-paid plans are less likely than teens with other plan types to engage in almost all other kinds of activities with their handsets. With the exception of being more likely to use their phone to buy a product or service than other users, teens on pre-paid plans are less likely to take, send or receive photos, record videos or download and use an app for their phone.

Teens with family plans are more likely than other phone owners to record and exchange videos, and are a bit less likely than pre-paid plan users to play games on their phone. They are less likely than teens with a separate phone contract to access a social network site or use a downloaded app on their phones.

Otherwise, family plan users tend to be the most middle-of-the road users of the available functions of their phones.

Teens with separate contracts often more likely to engage in more activities

The percentage of teens who ever do this on their cell phone*

	Prepaid	Family plan	Separate contract
Send text messages	84	88	96
Send email	20	19	34†
Take a picture	62†	88	90
Send or receive pictures	48†	67	75
Play music	57	60	67
IM	34	30	29
Record a video	33†	60†	46†
Send or receive a video	29	32‡	24‡
Play a game	56‡	44‡	53
Use SNS	22	21	33†
Use an app they downloaded to phone	11	20	33
Buy something w/ phone	19†	9	9

* Among teens whose cell phone have this functionality.

† statistically significant with all others in row
‡ statistically significant with each other, but not with other in row

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Teens with a separate contract for their phone are more likely than other teens to use their phones to send and receive email, visit a social network site or use a downloaded app on their phones. They are also more likely than teens with prepaid plans to take and share photos and record videos, but are less likely to have bought something using their phone.

Teens on metered plans are less likely to take advantage of cell phone add-ons, except music.

Among different types of voice or text messaging plans, teens with the most “metered” plans – plans where minutes or texts must be paid for individually – generally have the most constrained and limited use of their handsets. Just half of teens who say they must pay per message for texts send them. That compares with 95% or more of teens with unlimited or bulk texting plans who are texters. But beyond text messaging, teens with metered plans for voice or text are less likely than their peers to use multimedia tools like photos or video on their phones, and less likely to access an online social network. The only exception is music – teens on metered plans are just as likely and sometimes more likely to play music on their phones than teens with other types of plans.

Chapter Two: How phones are used with friends – what they can do and how teens use them

This chapter addresses the new roles that cell phones play in the communication patterns of teens. The chapter is broken into four parts that analyze: 1) the role of texting in teens' lives; 2) the role of cell voice calling in teens' lives; 3) the way texting and cell voice calling fit into the larger scheme of teen communication patterns; and 4) the other activities that teens perform on their ever-more-sophisticated handheld devices.

Part 1: Text messaging explodes as teens embrace it as a vital form of daily communication with friends.

Text messaging has become an increasingly important part of teens' overall communication strategy. A middle school boy in the focus groups enthused, "The best thing about [the cell phone] is social, texting." Overall, 72% of all teens ages 12-17 send and receive text messages, and 88% of teens with cell phones text.[30] Since 2006, text messaging has increased significantly from 51% of teens who were text users. More markedly, the frequency of teenagers' texting has also increased rapidly over the year and half leading up to this study. Between February 2008 and September 2009, daily use of text messaging by teens shot up from 38% in 2008 to 54% of all teens saying they text every day in 2009.

Text messaging frequency increases as teens age – 35% of 12 year-olds say they text daily, while 54% of 14 year-olds and 70% of 17 year-olds text everyday. Younger teens are much more likely to say that they never send or receive text messages – 46% of 12 year-olds do not text; only 17% of 17 year-olds do not text. Girls are more likely to text than boys with 77% of all girls texting while 68% of boys do. Older girls ages 14-17 are the most avid texters – 69% say they text their friends every day, while 53% of boys the same age report daily texting.

Lower income teens are more likely to say that they never send text messages, and higher income teens are slightly more likely to say they send and receive texts every day. Nearly 2 in 5 teens whose families earn less than $30,000 annually say they *never* use text messaging, compared with just 20% of teens from families earning more than $75,000 per year. Nearly two-thirds (63%) of all teens from households earning more than $75,000 annually text every day, while 43% of teens from families that earn less than $30,000 text daily.

Given how vital a mode of communication texting is for teens, it is unsurprising that parents have stepped into the realm of texting a bit more deeply than other adults as a way of keeping the lines of communication open with their child. More than 7 in 10 (71%) of cell-phone owning parents of teens 12-17 say they send and receive text messages on their cell phones. In comparison, 65% of all adults 18 and older send or receive text messages.[31]

30 This 72% of teens who text figure is slightly different than previous "teens who text" numbers that we have released. The difference lies in the question wording. For this question, we asked about teens texting friends, but we did not specify the platform (computer, cell phone) on which the texting was taking place. Our other teen texting number (66%) reflects teens who text on their own cell phone, and does not constrain with whom the teen may be texting. Please see K9c and K20a in our questionnaire for exact question wording.

31 Data from September 2009 Pew Internet Survey of adults.

Demographics of teens who text

The percentage of teens in each group who text

	% of teens
Total teens	**72%**
Boys	68%
Girls	77
Age	
12-13	61%*
14-17	77
Race/ethnicity	
White, Non-Hispanic	73%
Black, Non-Hispanic	78
Hispanic (English-speaking)	75
Household income	
Less than $30,000/yr	62%*
$30,000-$49,999	76
$50,000-$74,999	72
$75,000+	81

* indicates a statistically significant difference.

Source: Pew Research Centers Internet & American Life Project, Teens and Mobile Phones Survey, conducted from June 26 September 24th, 2009. n=800 teens ages 12-17 and the margin of error for the total sample is +/- 4%.

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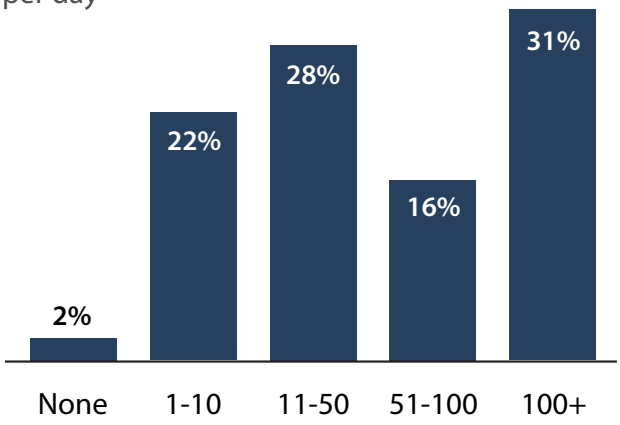
The typical American teen who texts sends 1500 texts a month.

Given the frequency with which teens text, it follows that they would be sending and receiving a very large number of text messages and the data bear this out. The typical text messaging teen sends and receives 50 texts a day, or 1500 text messages a month. Girls text more than boys do; girls who text typically send and receive 80 texts a day, boys send and receive 30. Older teens text more than younger ones: Teens ages 12-13 who text send and receive 20 texts a day, while high school-age teens typically send and receive 60 text messages a day. Older girls are the most active texters, with 14-17 year-old girls typically sending and receiving 100 text messages a day, or more than 3000 texts a month. In general, a little more than one-fifth of teens who text (22%) send and receive between 1-10 texts a day (i.e. 30 to

A typical teen sends about 50 texts per day

The % of teen texters who send that many texts per day



Source: Pew Research Center's Internet & American Life Project, Teens and Mobile Phones Survey, conducted from June 26 – September 24th, 2009. n=800 teens ages 12-17 and the margin of error for the total sample is +/- 4%. For smaller subgroups, the margin of error may be larger. Please see the Methodology section for details.

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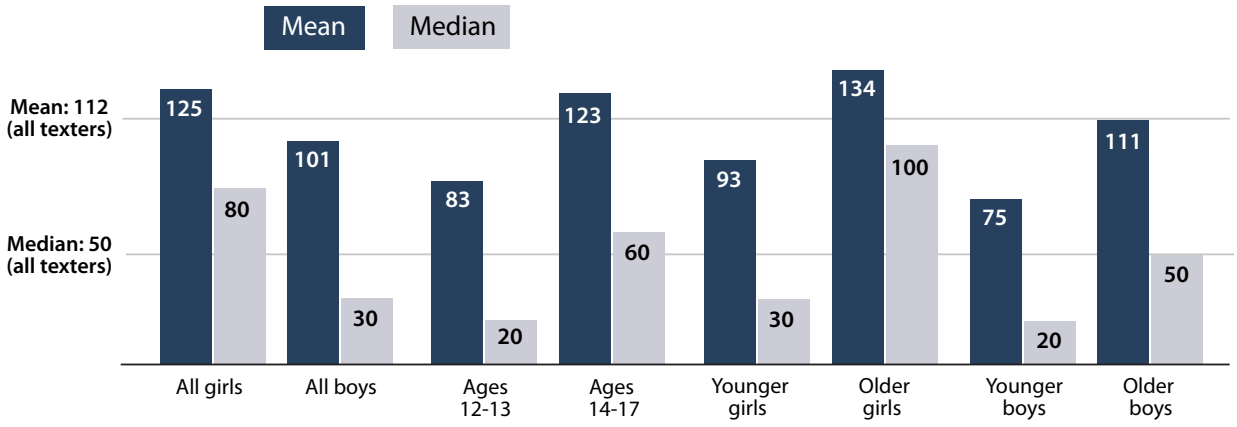
300 a month). Younger boys are the most likely to text in this manner. At the other end of the scale, about 14% of teens send between 100-200 texts a day, or between 3000 and 6000 text messages a month. Another 14% of teens send more than 200 text messages a day – or more than 6000 texts a month. In light of these findings, it is not surprising that three-quarters of teens (75%) have an unlimited text messaging plan.

There are also some differences in text messaging by race and ethnicity. While white texting teens typically send and receive 50 texts a day, black teens who text typically send and receive 60 texts and English-speaking Hispanic teens send and receive just 35. The mean number of text messages are similar for these groups (whites average 111 texts a day, blacks 117, and Hispanics 112), suggesting that black teens have a slightly higher baseline level of texting than whites or Hispanics. There are no significant socio-economic differences in the average numbers of texts sent a day by teens in different groups. As one high school girl explained: "My parents will kind of joke about it. I think my last phone's bill had like altogether 3,000 text messages and they were like, 'How do you even do that?' That's not that bad. But I don't think it's too big of an issue. They wouldn't actually get mad about it since it's unlimited."

Typical number of texts per day

The mean and median number of texts sent per day by teen texters, by age and sex



Source: Pew Research Center's Internet & American Life Project, Teens and Mobile Phones Survey, conducted from June 26 – September 24th, 2009. n=800 teens ages 12-17 and the margin of error for the total sample is +/- 4%. For smaller subgroups, the margin of error may be larger. Please see the Methodology section for details.

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Teens, particularly girls, text friends several times a day.

Who are teens texting? The data show that 81% of teens who text are texting with their friends at least once every day. Significant others are also major daily texting partners — 46% of teens who have a boyfriend or girlfriend send or receive texts every day with their significant other. Teens also report texting their parents or guardians as well as their siblings. Our analysis shows that 48% text with their parents at least once a day and 33% of those who have siblings text with them on a daily basis.

Looking at the other end of the scale, only 2% of teens who text *never* send or receive messages from their friends. This points to the central role of texting among friendship groups. But texting may not be as vital for some in maintaining familial relationships, as 20% of teens who text say they never text a parent and 24% never text siblings or other family members. Interestingly, the analysis also shows that 27% of cell phone-owning teens with a boyfriend or girlfriend never send or receive texts from them.

In keeping with their greater overall levels of interpersonal communication, girls and high school-age teens (ages 14-17) are much more likely than boys or younger teens to interact frequently via text messaging with friends and siblings. Fully 86% of girls – and 79% of teens 14-17 - say they text friends several times a day, compared with 64% of boys and younger teens who text friends with that frequency. The data show that 35% of younger teen boys (aged 12 – 13) said that they texted friends on a daily basis. This compares with 44% of teen girls of the same age, 53% of the older teen boys (aged 14 – 17) and 69% of the older teen girls who said that they texted to their friends on a daily basis. The mirror image of the same pattern is seen among teens who say that they never text with friends. The data show that 40% of the youngest teen boys, 36% of the youngest girls, 28% of the older teen boys and 17% of the oldest girls said that they never text friends.

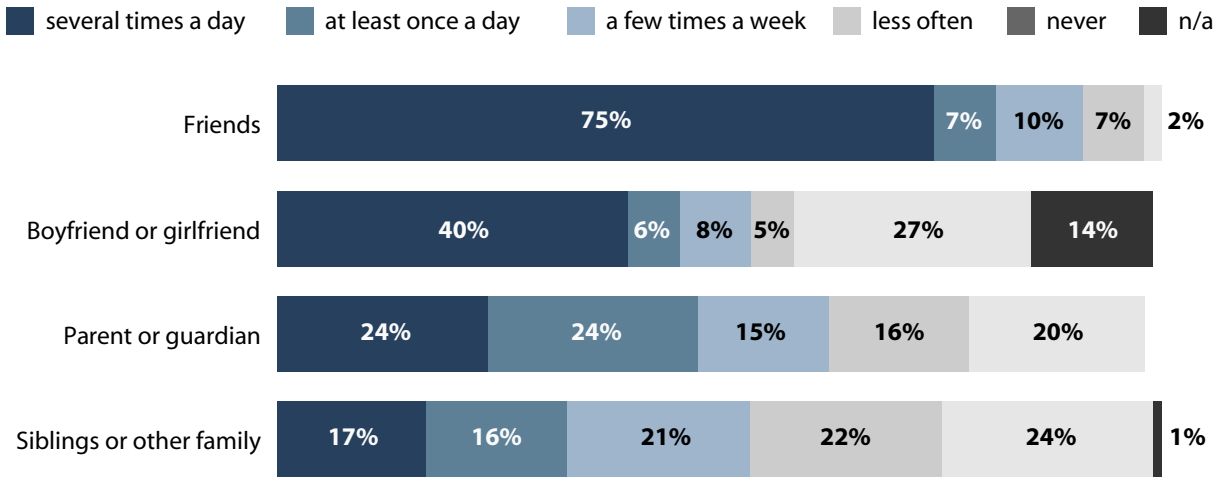
This gender trend is reflected in comments from the focus groups about how and how often boys and girls text. As one younger high school-aged boy explained, “You’ll still text your boys, but, at the same time you don’t want to be sitting there going back and forth hours on end just about gossiping or whatever. It’s just not, it’s not the way they do it, I guess.” In fact, several respondents explained how girls tend to be more avid texters, not only in terms of frequency of messages, but also with their use of language, punctuation, and emoticons. Another boy commented, “Girls text really weird, like the spelling. It’s all like dollar signs. A lot of exclamation marks.” Boys, on the other hand, are less prone to use emoticons and other indictors of tone in their (oftentimes brief) messages. Other research has also shown that teen girls are more prolific in their use of texting than teen boys.[32]

The type of cell phone plan a teen has seems to have a relationship to how often teens text their friends. Four in five (80%) cell phone users with an unlimited texting plan texted to friends on a daily basis. Significantly fewer teens with a limited texting plan texted this often (55%) and only 18% of those who did not have a texting plan use the service to contact friends daily.

32 See: Ling, Rich, & Baron, Naomi. (2007). The Mechanics of Text Messaging and Instant Messaging Among American College Students. *Journal of language and social psychology, 26*(3), 291-298.

Texting is for friends

How often do you text ...?



Source: Pew Research Center's Internet & American Life Project, Teens and Mobile Phones Survey, conducted from June 26 – September 24th, 2009. n=625 teen cell phone owners ages 12-17 and the margin of error is +/- 5%. For smaller subgroups, the margin of error may be larger. Please see the Methodology section for details.

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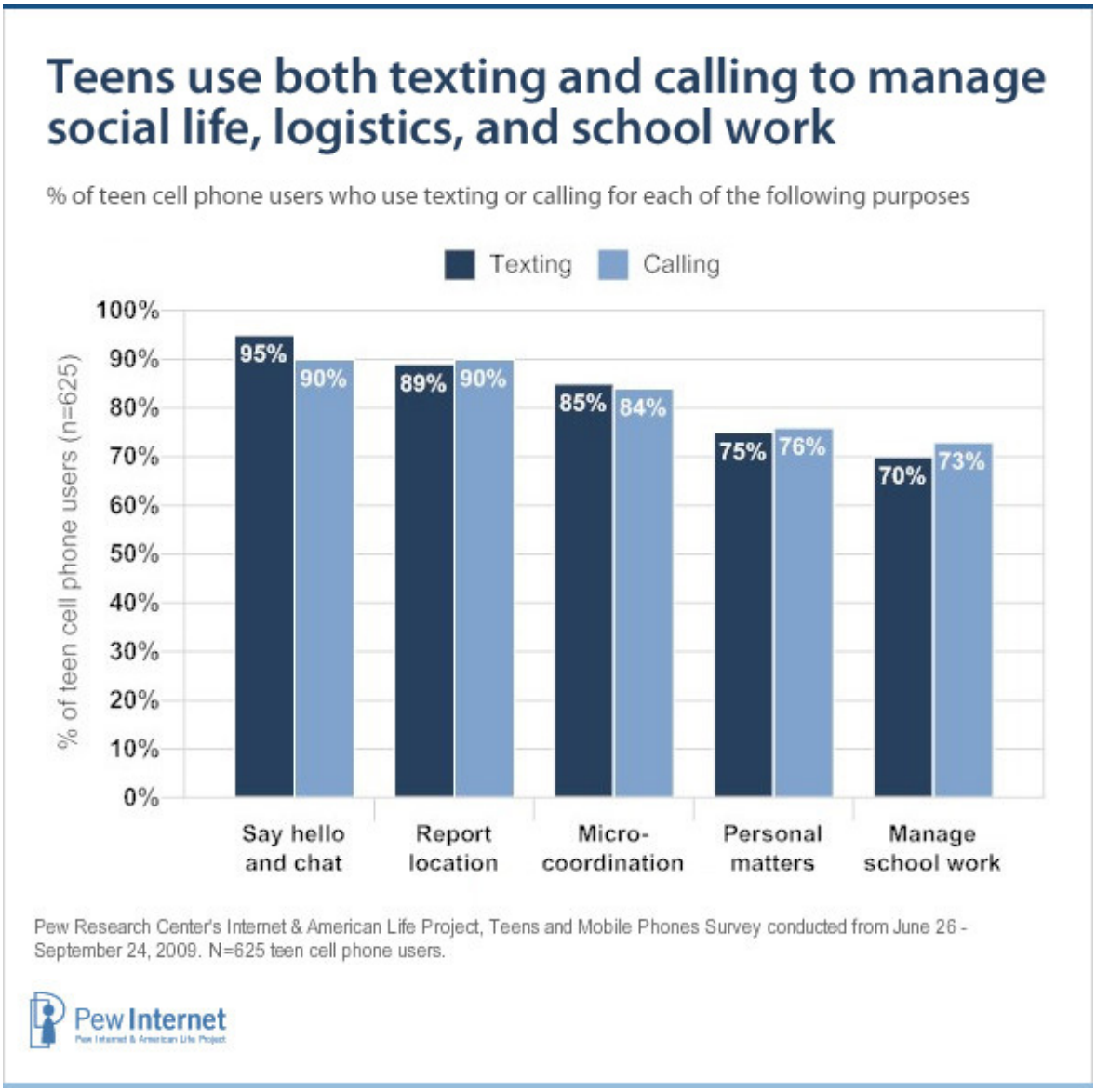
Half of texting teens send messages to parents every day.

Most teens text their parents at about the same rates, with about 50% of teens saying they text their parents at least once a day. At the same time, girls and older teens are more likely to text brothers, sisters and other family members than boys and younger teens. One in five girls (20%) and 19% of teens ages 14-17 text their siblings several times a day, while 13% of boys and 11% of middle school-age teens text siblings with that frequency.

African-American teens are more likely to report frequently texting siblings or other family, as well as significant others. Three in ten (30%) African-American teens say they text brothers, sisters or other family members several times a day, compared with 14% of white teens and 19% of English-speaking Hispanic teens. Similarly, more than half (53%) of texting African-American teens say they text their boyfriends or girlfriends several times a day, compared with 37% of white teens and 45% of Hispanic teens. Teens ages 14-17 are somewhat more likely to text a boyfriend or girlfriend several times a day than younger teens (45% vs. 27%), but much of this variation is mostly like due to a greater likelihood of older teens having a significant other.

Why teens text:

Texting can be used for a myriad of reasons and this study focuses on a handful of dimensions that roughly organize the ways in which teens can communicate with friends and family. Teens were asked about texts that support and maintain relationships and about texts used to coordinate meetings and to report locations. We also asked about texts sent as a way to exchange information privately in situations where voice calling would be inappropriate or unwise. Finally, teens were asked about how text messaging is used as a part of school work done outside of school.

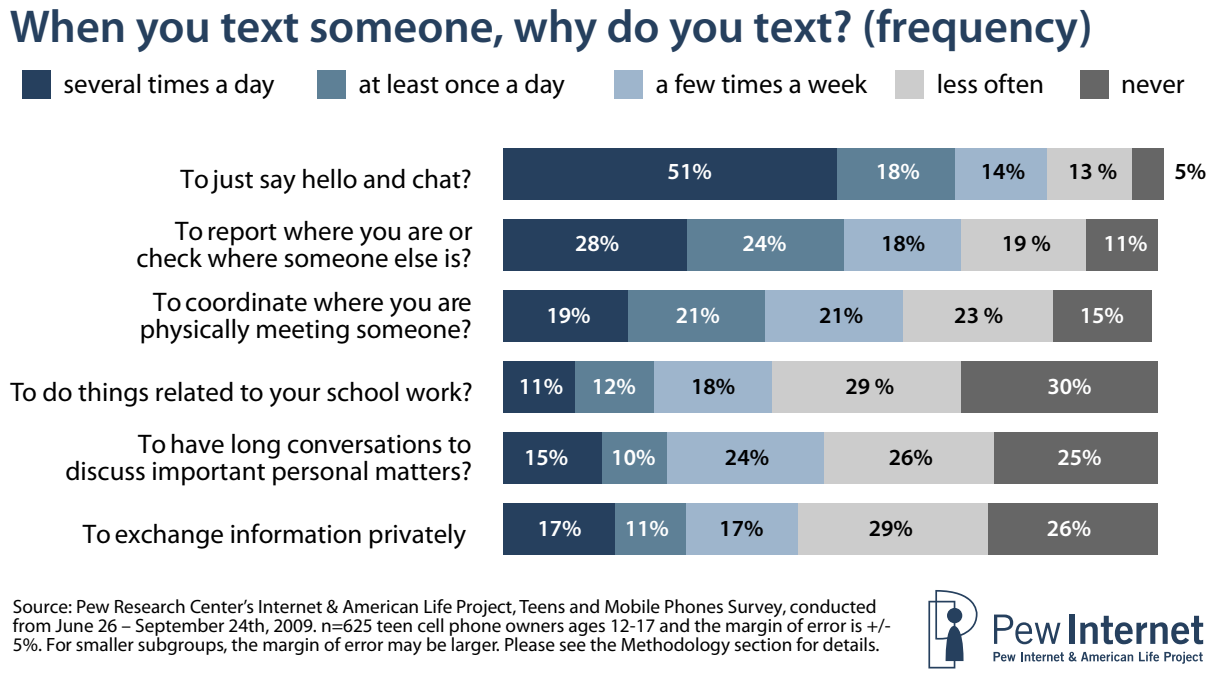


In the Pew Internet Project survey, the most frequently given reason why teens send and receive text messages is to "just say hello and chat." More than nine in ten teens (96%) say that they at least occasionally text just to say hello, and more than half (51%) say they do this several times a day. A younger high school boy in our focus groups describes his text messaging: "I think it's basically just chatting. It's small talk. How are you doing? What's up?" The vast majority of teens also say they use text messaging to report where they are or to check in on where someone else is, with 89% of text-using teens reporting this. More than a quarter of texting teens say they check in several times a day and another quarter do it at least once a day.

Three-quarters of texting teens use text messaging to exchange information privately – with more than a quarter doing this daily or several times a day. Another three-quarters of text-using teens also say they have long message exchanges by text to discuss important personal matters. One-quarter of teens (25%) report having long personal text exchanges at least once a day. A high school-age girl in our focus groups talks about some of the positives and drawbacks around lengthy, personal exchanges on the phone:

> I like that you stay connected easily and stuff and I text a lot, but I feel like texting is kind of impersonal and its not the same as face to face conversation and texting takes a lot longer to say what you want to, so if you are texting someone for a while, you are like, 'Oh, man, we've been texting for like two hours,' when in reality if you were having like a conversation, it would be like a ten minute conversation. So you feel like it is a more in-depth conversation than it really is. It's kind of like a false sense of communication I guess.

Texting is also a method for managing school work – 70% of teens have used text messaging to do things related to school work, with 23% of teens texting for school at least once a day.



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On-the-go micro-coordination[33] is another frequently cited reason for texting: 40% of teens who text say they do this at least once a day and often more, and 84% of teens say they use text messaging in this way. Cell-phone owning teens who have parents who also have phones are more likely to report using text messages to coordinate physical meetings – 42% of parents with cell phones have a teen who reports micro-coordination of in-person meetings at least once a day, compared with 28% of teens with parents who do not have cell phones.

Teens from lower income families earning less than $30,000 annually are less likely than wealthier teens to use text messaging for school work. Close to half (45%) of poorer teens say they never text about school work, while 30% of all teens say they never text about school assignments.

Older teens are more likely to text for a variety of reasons than younger teens. While teens of all ages pick up the phone to say hello and chat with friends, younger teens are less likely to check in with someone to find where they are (81% vs. 91% of teens 14-17) or to coordinate meeting someone - 78% of 12-13 year-olds compared with 87% of 14-17 year-olds. This difference is most likely attributable at least in part to the greater mobility of older teens. Older teens are also more likely than younger teens to do

33 Micro-coordination is the nuanced management of social interaction. Nuances include mid-course adjustment, iterative coordination and softening of schedules.

things related to school work with text messages, to have long exchanges about important personal matters and to text in order to exchange information privately.

Girls are more likely to use texting for social connection.

While both sexes are likely to send text messages to coordinate meetings or to check in with others, girls are more likely to use texting for socially connecting with others – either just to say hello and chat (59% of girls do this several times a day compared with 42% of boys) or to have long text changes on important personal matters (84% of girls do this, as do 67% of boys). Girls are also more likely than boys to text about school work (77% vs. 62%) and to text to keep the content of messages private (79% vs. 68%).

There are few racial or ethnic differences in reasons why teens use a cell phone. Black teens are less likely than white or English-speaking Hispanic teens to report where they are or to check in to find out where someone else is (90% of white and English-speaking Hispanic teens report their location, while 79% of black teens do). English-speaking Hispanic teens are less likely than white teens (64% vs. 77%) to say they text message to exchange information privately.

Teens with pre-paid plans are less likely to use text messaging to report their whereabouts.

The phone plan that a teen has also matters in how they use their phones. Teens with prepaid phone plans are less likely to use their phone to text for certain reasons. While all teens, regardless of plan, are likely to text to say hello, to have long text exchanges or to text about school work, teens with prepaid plans are less likely than teens with family plans to check in with others or to report their locations to someone else.

One high school girl from the focus groups describes the types of calculations that teens on more limited plans must make: “Because I have limited texts, like about 500 texts. I used to have less. Um, so now it is fine, I can text whoever I want. But when I had really limited texts like 200 a month or a hundred, it would be kind of like, ‘who I would spend my texts on?’ Like I wouldn’t necessarily text someone random. So, if you got a text from me, it meant that you were important enough.... I mean it sounds, it sounds really stupid [group is laughing] but I didn’t want to waste my limited texts.”

Part 2: The state of voice calling on the cell phone.

While texting is the most common use of the cell phone among teens, talking on the device is also a central function. Voice interaction provides teens with access to friends and parents. The convenience of the cell phone means that they are never out of touch. This is both a positive and a negative thing in the eyes of the teens. As one younger high school-age boy said:

> The best thing [with the cell phone] is that it’s so convenient and you can just talk to people all the time, and like even if you’re not at home. And like, the worst thing is like, when people keep calling you or like, it just gets annoying.

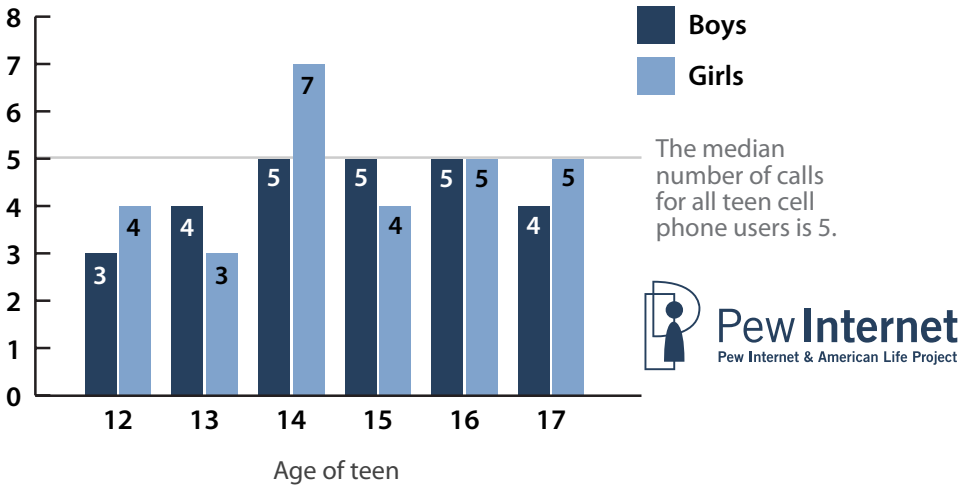
Girls are more likely than boys to call friends every day.

Almost all teens with cell phones (94%) say they use the phone to talk to their friends, and half of teens (50%) say they do this every day. Once again, girls are more substantial communicators – 59% of girls with cell phones talk to their friends on their mobile every day, while 42% of boys with cell phones call friends each day. High school-age teens are also more likely than middle school-age teens to talk on their

cell phone with friends daily – 56% of high schoolers talk daily on their cell phone, as do 35% of middle schoolers.

Median number of calls per day by age and sex

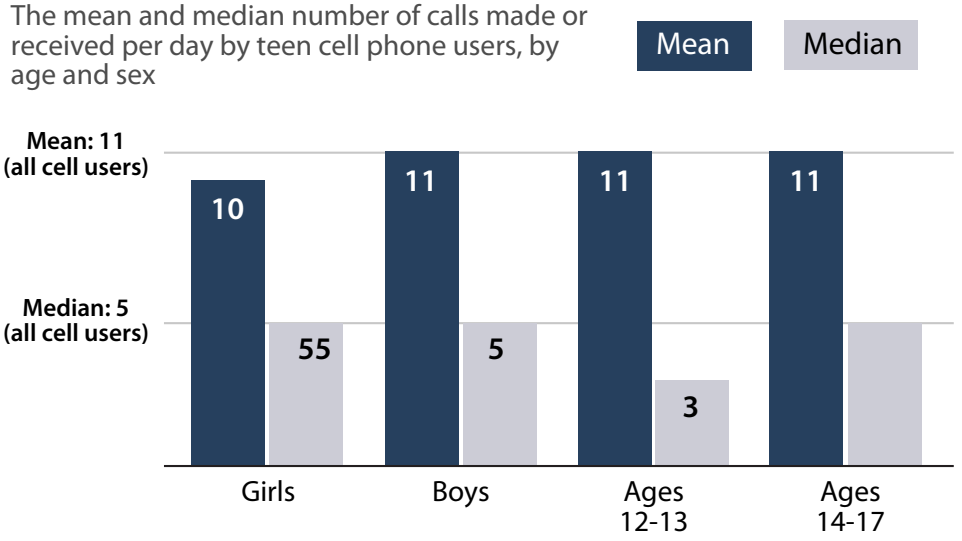
On an average day, about how many phone calls do you make and receive on your cell phone?



Source: Pew Research Center's Internet & American Life Project, Teens and Mobile Phones Survey, conducted from June 26 – September 24th, 2009. n=625 teen cell phone owners ages 12-17 and the margin of error is +/- 5%. For smaller subgroups, the margin of error may be larger. Please see the Methodology section for details.

Typical number of calls per day

The mean and median number of calls made or received per day by teen cell phone users, by age and sex



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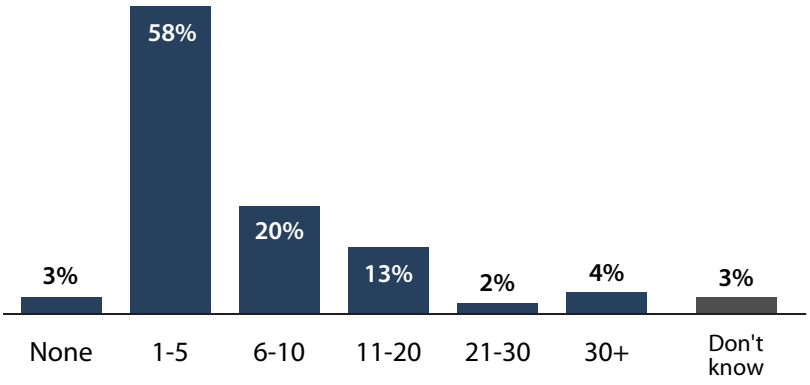
The youngest teen boys ages 12-13 are more likely than other groups to say that on an average day they make no calls on their cell phone, with 9% of those boys reporting no calls, while just 2% of all other teens report making no calls on their phone on a typical day. Overall, there is no difference by gender or age in the average number of calls made a day by teens – teens average[34] just under 11 calls a day, with a median of 5 calls per day. The only variance in the median is among younger teens ages 12-13 who typically make or receive 3 calls per day.

There are notable differences in the number of calls made on a typical day by race and ethnicity. White teens make fewer calls a day than either black or English-speaking Hispanic teens. White teens typically make 4 calls a day, or around 120 calls a month, while black teens make 7 calls a day, or about 210 calls a month, and Hispanic teens make 5 calls a day, or about 150 calls a month. When looking at the mean number of calls per day by race/ethnicity (7 for whites, 13 for blacks and 17 for Hispanics), it's clear that a larger portion of the very heavy callers are found in the black and Hispanic populations.

There is an economic consideration associated with the use of voice, as the type of phone plan a teen has also influences the number of calls they make on the average day. Sixty-three percent of those teens with unlimited voice subscriptions reported daily voice calling with friends, while 47% of those who had fixed minute subscriptions and 31% of those who had a set amount of money to spend on voice minutes reported making calls to friends daily. Teens with a fixed number of voice minutes per month typically make 5 calls a day, while teens with a set amount of money to use on minutes make 3 calls a day and teens with unlimited minutes typically make 5 calls a day.[35] Whether a teen pays for his phone bill also affects the volume of calling. Teens who pay their entire phone bill themselves make 7 calls on a typical day, while teens who pay part of the cost make 5 calls and teens who pay none of the cost for their cell phone make 4 calls a day. A small portion of teens (10%) who have a cell phone and say they do not text at all also say that they do not make or receive any phone calls in the average day.

Most teen cell phone users make 1-5 calls per day

% of teen cell phone users who make that many calls per day



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Looking for a moment at the teens who own a cell phone but do not use the voice function, the youngest teen boys are over-represented. The data show that 9% of this group report never making a voice call while only 2% of all other teens report the same.

34 When we use the term "average" in this report, it refers to the mean response to a question. The term "median" refers to a median finding.

35 Note: we do not know the duration of these phone calls.

Who teens call: Voice is for parents.

When teens use the phone for calling, they are most likely to be calling parents, with 68% of teens with cell phones saying they talk to their parents on their cell phone at least once a day. Talking with friends is a close second to parents, with 59% of teens with cell phones saying they talk with friends once a day or more often. About half of teens who have a boyfriend or girlfriend call them on a daily basis. Brothers, sisters and other family members are the least likely to be called on daily basis, with just about a third of teens who have siblings (33%) saying they talk at least once day. As with texting, only 4% of teens report never calling their friends. Interestingly, while 20% report never texting their parents, only 4% of teens with cell phones say that they never call their parents or guardians. Thus while intergenerational texting is not necessarily uncommon, voice interaction between parent and child via the mobile phone is substantially more common.

Girls talk more frequently with friends on their cell phones than boys.

Girls are much more likely to talk frequently to their friends on the phone than are boys – 40% of girls with cell phones say they talk to friends several times a day, compared with 26% of boys who talk with friends that frequently. A high school girl in one of our focus groups explained the importance of voice calling for maintaining important friendships: "Well, like one of my best friends goes to [a different school] and I don't see her that often and we talk like every day on the phone, so…I mean, even though she lives like 10 minutes away, I still think we wouldn't have the same relationship if I couldn't talk to her on the phone every day."

Older teens with phones are also more likely to talk to friends on their cell phones frequently. Nearly 2 in 5 (38%) teens ages 14-17 with cell phones talk to friends several times a day while 22% of younger teens say the same. Older teens are also more likely to talk with siblings, other family and significant others multiple times during the day. The latter is partly due to the fact that older teens are more likely to have a significant other than younger teens.

Black teens with cell phones are more likely than whites to say that they talk to friends and siblings on the phone several times a day. White teens are more likely to say they talk to friends once a day, and to their siblings and other relatives infrequently – once a week or less often. There are no differences by gender, age or race in the frequency of talking to parents on a cell phone.

As we have seen in previous research, communicating frequently in one mode is often related to communicating frequently in multiple ways.[36] Talking and texting on the cell phone are no exception – teens who text are more likely to say they talk frequently with almost everyone – friends, parents and significant others – several times a day. The exception is in the case of siblings, where texters are more likely to talk with them by cell phone once a day.

36 Lenhart, A., Madden M. Smith, A. Rankin Macgill, A. (2007) *Teens and Social Media*, Pew Research Center's Internet & American Life Project, Washington, DC . December 19, 2007. http://www.pewinternet.org/Reports/2007/Teens-and-Social-Media.aspx

How often teens talk to friends on their cell phones

The percentage of teens in each demographic group who talk to their friends on their cell phones

	% of teen cell phone users				
	Several times a day	At least once a day	A few times a week	Less often	Never
Total teens	**33**	**26**	**24**	**13**	**4**
Boys	26	27	26	15	5
Girls	40	25	21	11	2
Age					
12-13	22	24	28	19	7
14-17	38	27	22	11	2
Race/ethnicity					
White, Non-Hispanic	31	29	24	14	2
Black, Non-Hispanic	47	12	20	16	5
Hispanic (English- and Spanish-speaking)	32	24	25	11	8
Household income					
Less than $30,000/yr	38	30	17	11	5
$30,000-$49,999	32	25	27	14	3
$50,000-$74,999	36	30	22	7	5
$75,000+	30	25	26	17	3

Pew Research Center's Internet & American Life Project, Teens and Mobile Phones Survey conducted from June 26 - September 24, 2009. N=800 teens ages 12-17 and the margin of error is ±4%.

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Similar to text messaging, the type of cell phone plan a teen has relates to how frequently she talks on the phone. Perhaps surprisingly, teens who have an unlimited *texting* plan are more likely to talk on the phone more frequently with everyone – friends, family and romantic partners. Less surprisingly, teens with unlimited voice minutes are more likely to talk frequently with friends and boyfriends or girlfriends. However teens on family plans – who share minutes with parents and other family members[37] – are more likely to talk to their parents and siblings more frequently. Teens who pay for their cell phone out

37 Though often individuals on a family plan do not pay to speak to each other.

of their own pockets are much more likely to talk with significant others frequently through the day – 55% of teens who pay for their phones talk with a boyfriend or girlfriend several times a day, compared with 24% of those who partly pay and 26% of those who do not pay their cell phone bill. Of course, it is difficult to disentangle whether these behaviors are what drives users to select certain plans or a result of the plan selected.

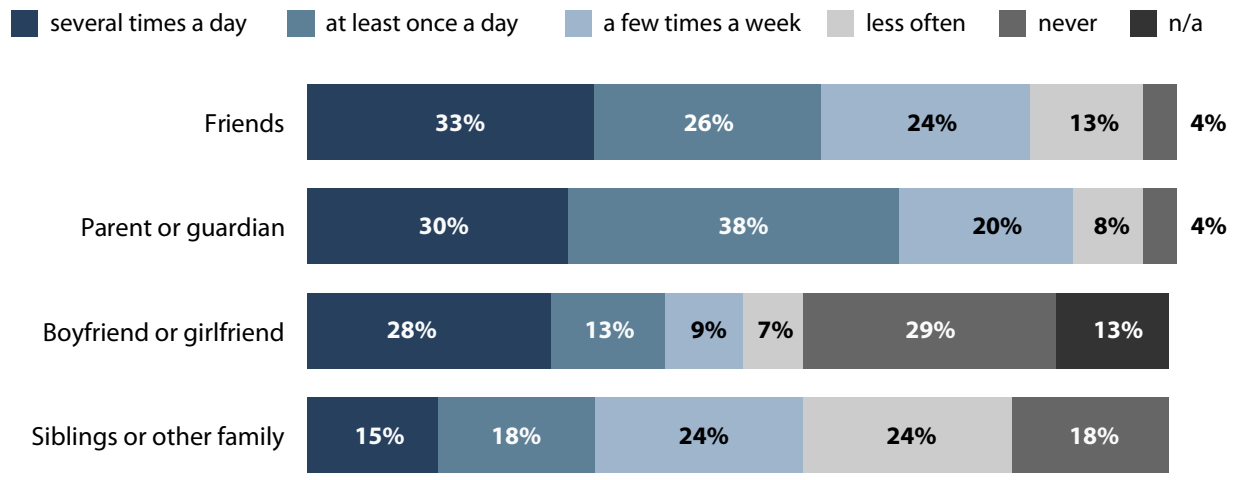
The purpose of teens' calls – signaling your whereabouts.

As was the case with text messaging, teens primarily use their cell calls to report on their location or check where someone else is. Just about half of teens with cell phones (49%) say they use mobile voice calling to report their location or check on someone else every day or more often. A bit more than a third of teens with phones (37%) say they call "just to say hello and chat" every day or more often, and another third (33%) say they place or receive calls to coordinate where they are physically meeting someone everyday or more often. Calls made to discuss school work are also fairly common: 22% do this on at least a daily basis, though 26% say they *never* call for this reason. Teens also place long voice calls to discuss important personal matters: Some 19% of teen cell users participate in such calls on at least a daily basis, though 36% make these kinds of calls less than a few times a week and 23% report never making this type of call.

Some teens find the purposes for which they use the phone to be quite different from their parents' use. As one high school boy notes: "The only reason why I usually call my mom is like, if I want to ask her something or if I want to go somewhere. Or, like, what time I need her to come and pick me up. But, she interacts with us like just to see where we at, to be in our business."

Friends and parents are most frequently called

How often do you talk to ____ on your cell phone?



Source: Pew Research Center's Internet & American Life Project, Teens and Mobile Phones Survey, conducted from June 26 – September 24th, 2009. n=625 teen cell phone owners ages 12-17 and the margin of error is +/- 5%. For smaller subgroups, the margin of error may be larger. Please see the Methodology section for details.

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African-American teens use the phone more for social interaction; White and Hispanic teens use their cell phones more often for coordination and location sharing.

There are some variations by race and ethnicity in the frequency with which teens use their cell phones to make or receive calls for these different purposes. Among African-American teens, the phone is their hub for social and personal chats, while white teens and to a lesser extent English-speaking Hispanic teens use the phones more frequently for coordination and location sharing. African-American and Hispanic teens are more likely to use their phones frequently for school work than white teens, who still use it for this purpose, but less often.

Younger boys do not make many voice calls for any purpose.

When looking at age and gender, younger boys make calls less frequently for almost every purpose. Younger boys ages 12-13 rarely just call to say hello and chat; nearly 60% of boys in this age group say they call just to say "hi" a few times a week or less often, and another 14% never do so. Just 7% of boys this age say they make calls just to chat several times a week, compared with 17% of older boys and 21% of girls of any age.

In a counterpoint to the youngest boys, girls are more likely than boys to make calls every day or more often to report on their whereabouts, talk about things related to school work or have long, personal conversations. Similarly, older teens ages 14-17 are more likely to say that at least once a day they coordinate meeting someone or discuss location, and are more likely than younger teens to say that they call to discuss school work or have long personal conversations.

Teens who report primarily using voice calling when talking to a boyfriend or girlfriend are more likely to report frequent (several times a day) voice calling just to catch up and say hi and for long, important conversations than those teens who say they primarily text message with their significant other.

Unlimited plans of all kinds are tied to more varied purposes for voice use.

The economics of a teen's cell phone plan also relates to how and why they use the phone to make voice calls. Teens with unlimited voice minutes are more likely to make voice calls several times a day for all purposes — coordination, checking in, schoolwork, catching up and long important calls — than are teens with more limited calling. Teens with unlimited *texting* plans are also frequent users of voice calling for coordination, checking in with someone, school work or long discussions – everything but calling just to say hi. Teens with plans where they have a set amount of money to use on the phone per month are also more likely to say they call people several times a day to say hello and chat.

Part 3: Where text and cell talk fit in teens' overall communication patterns with friends.

The cell phone's centrality to teens' social lives can be most fully appreciated when examined in the context of teens' communications choices more broadly. In this survey, teens report that when socializing or communicating with friends, texting is the most frequent form of interaction. Indeed, when looking at all teens regardless of their access to either a mobile phone or the internet, 54% report using texting on a daily basis in order to socialize or communicate with friends. Mobile voice is used daily by 38% of teens. Further down the list are interacting with friends face-to-face outside of school (33%), talking on a landline telephone (30%), communicating daily via social network sites (25%), and instant messaging (24%). Email was the least used communication activity, with only 11% reporting that they use it on a daily basis.

It is notable that texting and mobile voice are the most common platforms of communication between friends for all age groups. Communicating through social network sites (SNS), landline, face-to-face and instant messaging (IM) cluster somewhat lower in the ordering of communication methods employed by teens. Email is the least used of these channels. The low placement of face-to-face interaction outside of school time is also of note. This type of interaction is often seen as the "gold standard" of interaction but viewed in this context, it is not the most frequent form of interaction for teens.

Older teens are more frequent users than younger teens of all communication platforms. Relatively speaking, there are only marginal differences between older and younger respondents when looking at face-to-face interaction and email. By contrast, there are wide differences by age when looking at mobile-based communication. About 35% of 12 year-olds use texting on a daily basis. This compares with 77% of 17 year-olds. Among 12 year-olds, 17% used mobile voice to talk with friends while 60% of the 17 year-olds reported the same. The differences between groups for social network sites, instant messaging, and landline telephony were less than with mobile telephony but more than in the case of face-to-face interaction and email.

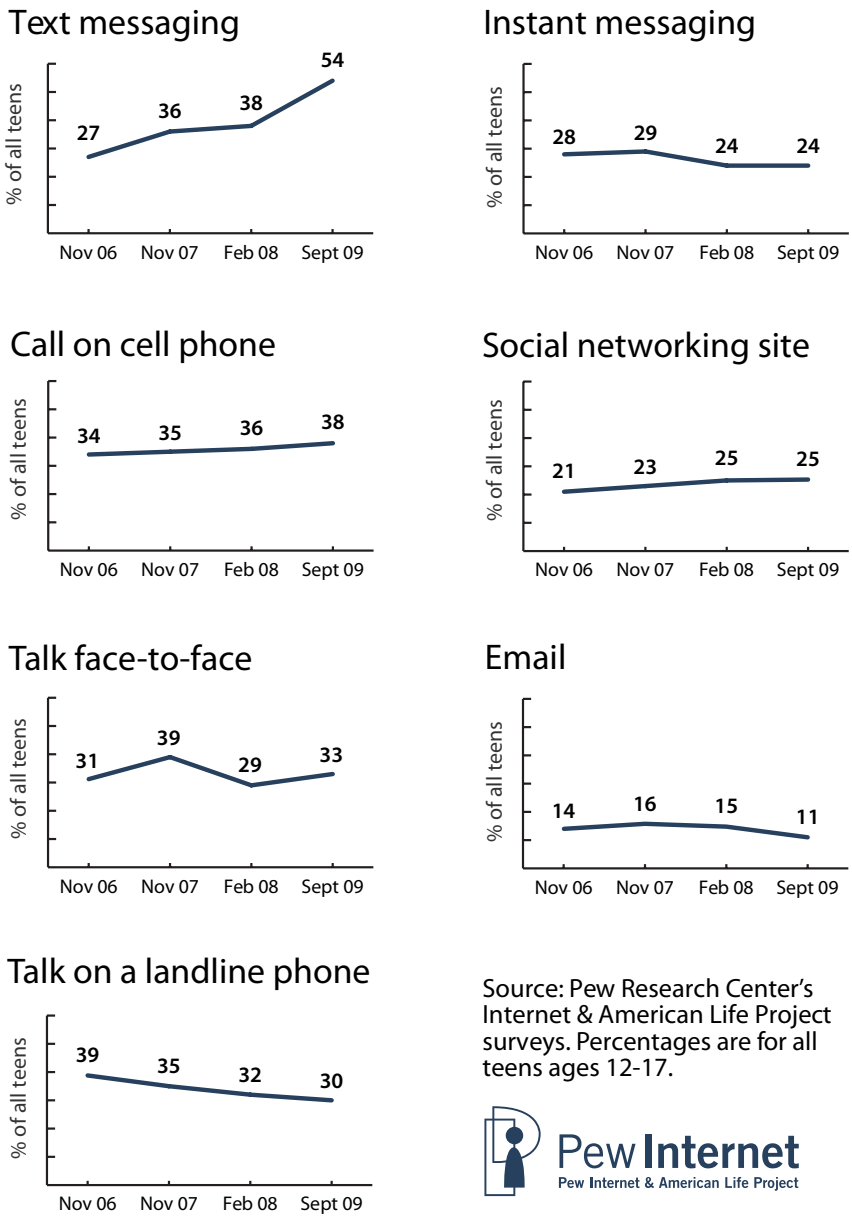
Looking at the opposite end of the scale, not all teens use all channels, and the type of channel used shifts when comparing the older and the younger teens. In broad strokes, communication platforms fall into two categories: those that are used by teens of all ages and those that have been adopted by older teens but not younger ones. Landline telephony and face-to-face interaction represents the first group: roughly equal numbers of teens in all age groups report using landlines and interacting with friends face-to-face outside of school, though older teens tend do so a bit more frequently than younger teens. By contrast, many of the younger teens report that they do *not* use texting to communicate with their friends. While 44% of 12 year-olds say that they do *not* use texting, only 11% of 17 year-olds report the same. While other material in the survey shows that texting has become a central form of interaction for teens, it is also important to remember that not all U.S. teens are a part of this revolution at the present.

Texting has grown enormously in the past 18 months and is the core of teens' communication with friends.

Texting is the form of communication that has grown the most for teens during the last four years. The data show that between 2006 and 2009 the percent of teens who use texting to contact friends outside of school on a daily basis has gone from 27% to 54%. Face-to-face contact, instant messaging, mobile voice and social network messaging have remained flat during the same period, while use of email and the landline phone have decreased slightly.

Texting takes off, while use of other communication channels remains stable over time

the % of all teens who have used each communication method to contact their friends daily, since 2006



Source: Pew Research Center's Internet & American Life Project surveys. Percentages are for all teens ages 12-17.

Pew Internet
Pew Internet & American Life Project

When all forms of communication are taken together, texting emerges as the most common form of social communication for the teens in this study. All told, 72% of all teens reported that they have used texting to contact friends and 54% of all teens text their friends on a daily basis. (Note, however that this still means that 28% of teens never text message with friends.) As discussed earlier in this chapter, the picture that emerges from the material is that, while teen boys have taken to text messaging, it is the teen girls – and older teen girls in particular – who are the most active texters. Comments from the focus

groups indicate that texting is a quick and functional way to ask questions or to coordinate interaction. A high school-age girl who participated in the focus groups said:

> I mean, texting is really handy if you have to ask somebody a question, but you know that if you call them it is going to be at least an hour long conversation. And, I mean, usually, I feel like that is usually the case if I have to ask, 'What time is this thing that we have to do this weekend?' You know, those types of questions, where you just have to ask one quick question and that is all you really need from the person. You don't have the time or you are not really in the mood to have a huge conversation.

While these data show that there are more instances of texting than phone calling, this should not be confused with the assertion that teens "do more" in texts than in phone calls. The information exchanged in one call can be the same as that contained in several texts and phone calls are richer social experiences because they convey more emotional information than texts. There is, however, a correlation between calling and texting activity. In general, those teens who call a lot also text a lot. The opposite, however, is not as true. Teens who text a lot do not always call as much.

Texting compared with talking:

While texting is the major way teens communicate, it isn't always the preferred method when talking with different people. When asked to choose, teens were clear about which modes of communication they preferred for talking with different people in their lives. For friends, who for most teens make up the bulk of their conversational partners, text messaging was dominant, with 67% of text-using teens saying they are more likely to use their cell phone to text a friend than to call. Still, a significant minority of text-using teens – 28% — said they preferred talking to their friends rather than texting them. Another 5% of texting teens said they were equally likely to call or text.

Conversely, 78% of text-using teens say they are more likely to use voice communication when they needed to talk to their parents. Just 18% of teens said that they were most likely to text their parents when reaching out and 4% were equally likely to call or text. As a high school boy in our focus groups noted, "I call my parents mostly, more so than text them, and then if, like, with my friends, if we need to get like set plans or something, we'll kind of like call because it's kind of like a lot less time than texting back and forth and waiting."

Text-using teens are split on their preferred method for talking to siblings or other family members; 55% of these teens say they were most likely to talk by voice with brothers, sisters and other family, while 38% say they are most apt to text with other family members. Another 4% say they are likely to use both methods to reach out to family.

Parents and siblings aren't uniform in their preferred modes of communication. Many teens in the focus groups spoke of texting one parent while calling another. "Well, my brother at college, we text a lot during the day and then my mom hates texting so I always call her," explained a high school girl. "And then my dad thinks he's cool when he texts so he always texts me."

Texting edges out voice calling as the primary way these teens contacted significant others. A bit less than half of texting teens (42%) who have a boyfriend or girlfriend say they primarily text one another, and another quarter (26%) say they mostly talk with their significant other. Just 9% of teens say they use both, and an additional 7% said they use neither text nor talk to primarily communicate with a boyfriend or girlfriend. Overall, about 22% of teens say they do not have a significant other.

Girls are more likely to text friends and parents than boys.

When it comes to choosing a mode of communication to use when reaching out to friends, girls are more likely than boys to text their friends, with 74% of text-using girls saying they primarily text their friends, compared with 59% of text-using boys. Younger teens ages 12-13 were more apt than older teens to say they use both methods of communication rather than privileging either text or talk. Teens with dial up connections at home are also more likely to text their friends, with 81% saying they primarily text, compared with 65% of teens with a home broadband connection.

Girls who text are more likely to say they primarily text with their parents or guardian than boys, with 22% of girls texting parents compared with 13% of boys. Nearly 84% of boys mostly talk with parents, while three-quarters (73%) of girls say the same. Teens with parents who have less than a high school education or who are Hispanic are also less likely to say they text with parents than those with more education or white teens.

Texting or talking with siblings or significant others shows little variation by sex, age, race or socio-economic status. The one exception is that teens in lower income households are slightly less likely than teens from wealthier families to say they primarily text their significant other.

Why texting is preferred over talking:

There are several reasons that teens would choose texting over talking. Texting allows for asynchronous interaction and it is more discrete than making voice calls. Texting can be a buffer when dealing with parents and can be safer when interacting with potential romantic partners. Finally, it is a simple way to keep up with friends when there is nothing special that needs to be communicated.

Since texting is asynchronous, it does not necessarily command the attention of a conversational partner. This means that a teen can send a message and then simply await the answer. The person receiving it can deal with the message as their situation allows. It gives them the possibility to interlace the communication into other parts of their lives. A middle school boy describes this when he says:

> I usually text my parents, as well. Like, I guess although I'm not really supposed to in school I'll just start texting them. I'll just be like, 'Hey mom come pick me up, this is happening,' Or just, 'Hey mom I forgot this can you drop it off?' I don't use the calling that much.

Texting is used in situations when it is discourteous, or even prohibited, to talk on the cell phone. For example, when teens are at the movies, in a public setting — or indeed during the focus groups held for this project — it can be socially awkward to conduct a voice call. In some cases texting can be a type of advanced note-passing to people who are close by or in the same room. The fact that texts mask the conversation means that they can serve as a "back channel" for interaction. When asked if she ever texted to people who were sitting nearby, a middle school girl said:

> I only do that when it's like, you're on a double date or something, and you're like, 'Oh how's it going with your guy?', And they're like, 'Oh I need to get out of here he's so annoying.' Like you're hanging out in a huge group and you have a problem with one of the girls and you text your other friend. That's the only time I do it. It's usually girls that do it to each other. But guys know when you do it, they're like, 'You're texting each other aren't you?'

In other cases, texting is used to get around rules and for cheating.

> Interviewer: . . . What about cheating? Have you heard of people using their phones for cheating?
>
> High school boy: Yes.

Interviewer: How do they do that?

High school boy: They text like, 'What is number 15?" "This is the question."

High school girl: There is this thing Cha Cha[38] and you can text it any question and it will give you an answer.

Texting can be used to cover one's tracks. Since obviously there is no sound when texting, teens can text their parents when the background noise of their location would give away too much information on their whereabouts. A high school boy described how his mother saw through this ruse:

> I would sometimes, I would text my mom, like, she, like, knows. She says to me, 'Sometimes I know you're doing something wrong if you're texting me.' She says she knows that, usually she's right if I tell her I'm supposed to be somewhere else. If she calls she can hear the background, if she calls she says, 'Who are you with? Who are you talking to? Where are you?' If I'm texting it doesn't give the location as much [because] she can't hear the background.

Along the same lines, texting can be used as a buffer. Since there is not synchronous interaction and since it is somewhat more difficult to construct a text (often more so for parents than for teens), teens use text messaging when they have to break bad news or make an uncomfortable request of their parents. A high school girl described this when she said:

> I usually text my mom whenever I want to ask her something or tell her something bad. That way I don't have to hear her yelling at me, like, give me a reason why I shouldn't go, or why she doesn't want me to go. 'Cause she doesn't text, she just, like, writes short answers. I usually text her everything else I want her to know so I don't have to hear [her voice].

The fact that texting is slower than calling means there is not as much a need for spontaneity. When texting with potential boyfriends or girlfriends, the delay afforded by texting means that the teen has more control over the pace and tone of the interaction. A teen might edit comments and even consult with friends as to the best response. This issue can arise in mundane interactions like disagreements with friends, as well as in romantic situations.

Some teens simply prefer to text with friends, for the clarity that words on the screen can bring, and the removal of the awkward moments found in phone conversations. This is the way one high school boy explained it:

> Some people are bad at talking on the phone, like some people just really want silence and don't really want to talk. Like when I text I can just say what I want to say and I don't have to constantly be talking. If I have nothing else to say then I will just stop texting you. Or if we just run out of stuff, we just stop texting. Whereas on the phone you attempt to just keep on …I mean on the phone, you always try to make the conversation go longer—if you are talking to somebody, not if you are calling to ask for something. So, it depends on who I am talking to.

Some teens also report choosing texting over calling because it gives them more time to craft a message or respond in tough situations. As a high school girl noted:

> It just occurred to me, I don't particularly use, but I know some people who do: If they know that they have to talk about something that might be a little tough. There is an argument with a parent or something like that. Texting can be easier because you can think about how you want to respond, you are not just like on the spot on the phone when somebody drops some like big news and like, 'Ah, ah, I don't know how to respond to this.' Texting will give you some time.

38 The focus group participant is referring to chacha.com, an application that answers questions asked by text or voice calling with a text response in a few minutes.

Finally, texting is an easy way to keep up with the flow of everyday life. Several teens noted that to call means that it is something that is important. However, if the teens are simply checking in with one another, texting is an easy way to touch base. A middle school boy said, "If I'm texting, it's just people I hang out with everyday." And a high school girl said, "I text more than I talk. . . like my family I call, but its like friends and stuff text me."

Mobile voice: Sometimes has advantages over texting.

As noted earlier in this chapter, after texting, the most common way to contact friends was calling via the cell phone. Overall, 72% of all teens, not just those with a cell phone, say they make voice calls on a mobile phone and 38% did so on a daily basis. Among cell phone owners, 50% made calls on a daily basis. Interestingly only 4% of those with a mobile phone reported never making calls. This compares with 28% who never use the texting function. Put another way, while 96% of teens who have a mobile phone use it to make calls, "only" 72% use it for texting. Clearly, some teens prefer talking to texting. In the words of one teen girl, "I mean, I dislike texting. I also don't really like speaking on cell phones, but I definitely talk more than text."

As with texting, it is the older teen girls who are the most active callers. Looking only at those who had a cell phone, 65% of the older teen girls (14 – 17) said that they used mobile voice. This compares with 47% of boys of the same age, 42% of 12 – 13 year-old girls and only 28% of 12 – 13 year-old boys.

Looking for a moment at teens who own a cell phone but do not use the voice function, the youngest teen boys are over represented. The data show that 10% of them report never making a voice call while only 2% of the 14 – 17 year-old girls report the same.

There is an economic consideration associated with the use of mobile voice. Sixty-three percent of those teens with unlimited voice subscriptions reported daily use where only 47% of those who had fixed minute subscriptions and 31% of those who had a set amount of money to use, as in pre-paid cell phone plans used voice minutes daily.

Why call and not text?

While texting is the most frequently used form of interaction, some teens prefer talking on their cell phones. There are a variety of reasons why teens might choose calling as opposed to texting. There is an immediacy and a fullness to voice interaction that is not often possible with texting, and talking provides teens with more social cues allowing them more nuanced interaction. In addition, texting can be too laborious and some people, usually parents, are out of the texting loop.

The teens in the focus groups said that they, or their parents, preferred voice when there was a need for immediate feedback. They preferred calling when they needed to talk about something that was important or serious. In these cases, the asynchronous nature of texting is not sufficient. Middle school boys noted:

> Boy 1: Most of the time you usually call your parents. You usually call them if it's really important, or you're trying to get a hold of them to come pick you up. So most of the time you usually call your parents but with friends you just text pretty much.
>
> Boy 2: My mom usually calls me if it's, like, something serious, she calls me. If she's like, mad, or serious about something, or, like, she needs to talk to me, she usually just calls me because it's faster.

Another advantage of calling is that it provides more social cues. Texting provides a limited register with which teens can express their emotions (i.e. emoticons, the use of punctuation, capital letters,

coarse language, etc.). In addition, text messages are not spontaneous. Rather, their construction can be calibrated and edited. By contrast, hearing another person's voice provides a more direct gauge of their emotional state. One middle school boy described it this way:

> I only call if it's really important because texting, the thing about texting is you can't tell the emotion of the person really, as much as you can in their voice, so if it's something really important I'll call, but if I'm saying, 'Hey you want to come over later,' I'll just text.

A middle school girl says much the same thing.

> I like to talk because I like to hear, because sometimes on AIM or texting I get mixed up from people's emotions. They'll be like, 'Oh stop talking to me,' and you don't know if they're joking or not joking. It's kind of annoying.

Other teens prefer the verbal cues that come with voice calling. One high school girl explained:

> See, I would rather, if I'm like [annoyed] or something I would rather call my friends than text them about it. Because I'd rather hear them talking to me and being like, "It's okay, everything is going to be fine," than …like read that on a screen, it is less personal.

These comments suggest that texting is a form of communication that is used in a broad spectrum of mundane interactions. It is used when there is no need for immediacy or when one is concerned about how their conversation partner is going to interpret and respond to the communication. When there is a pressing need to contact another person, or when there is the danger that a text will be misunderstood, then calling is preferred.

Indeed, teens say that they used texting and voice interaction strategically. In those cases where they feel as though they needed to judge the reaction of their conversation partner, voice has an advantage. When using voice they can adjust or fine-tune the exchange as it develops. A middle school girl explained:

> If I'm looking for a clear response, I can see what they're thinking or so I can [hear] their reaction then I'd probably call them. But. . .. I guess I would text sometimes if I have to tell someone that I'm not going to be able to make it or something like that, or decline an offer.

It is apparent that when this participant needed to shield herself from the reaction of someone whom she thought she had disappointed, the more indirect medium of texting was preferable. By contrast, calling allowed her to adjust her interaction based on the subtle voice cues.

In some cases, talking to a single individual is not enough. The teens in the focus groups described using the conference call functionality of the cell phone. Some high school girls described a familiarity and an expertise with this functionality that surpasses that of many other groups in society.

> Interviewer 1: Alex, you talked about three-way calling. So you set up a call between several people?
>
> Girl 1: Ya. Like, um, um, you call one person and then you press talk or flash or whichever option you have on your phone and then it switches you to the other line and then you dial the number and three-way.
>
> Interviewer 2: But then all three of you can talk together?
>
> Girl 1: Yeah.
>
> Interviewer 2: Can you do four, five, six?
>
> Girl 1: Um Hmm.
>
> Girl 2: If the person, that like, how you said she calls someone and then someone else calls

someone...and you keep doing it...but it becomes really crowded after a while.

Girl 3: It's hard to like hear yourself over everybody else talking.

Interviewer 1: How many of you have done that?

Girl 4: I do four-way all the time.

Interviewer 2: And you just, on your phone? On your mobile phone?

All: [agreement]

Interviewer 1: And how many is it usually like? Like three, or is it eight. . .

[Multiple Voices]: Two...three...we got five...like three... I do six.

Multi-person conversations are not confined to voice calling. The teens in the focus groups described having several texting threads open simultaneously, each thread a conversation with a different person. Yet in texting, multi-party conversations are most often a set of one-on-one exchanges, thus it is easier to conduct group conversation by voice. When calling, the teen can recognize the voice of a particular person. This facilitates the interaction, though, as the comments indicate, it can become awkward when too many people try to speak at once. Nonetheless, the teens, and in particular the teen girls, felt comfortable making multi-party calls so that they could chat with a collection of their friends.

According to the teens in the focus groups, another reason to prefer calling is simply that it is easier. The process of keying in the words, particularly if they are not familiar with word prediction functions such as T9, mean that composing a text message on the cell phone's keypad can be a laborious process. Comments from middle school boys indicate that this may be more of an issue for them than for the teen girls.

High School Boy 1: Guys usually call, but we're lazy.

High School Boy 2: I text like 2%. Sometimes I try it out but after a while I'm like I don't want to do this. So I'll call.

Interviewer: Because you like calling better?

High School Boy 2: Because my phone has the regular numeric numbers. I don't have the words or anything. So when I'm texting I have to press the letter twice or something if I want a certain letter.

Even teens who are more accustomed to texting often prefer voice when they are composing longer messages. The teens said that the efficiency of speaking trumps texting when they need to write longer texts or when they need to have many interactions in order to work out an agreement. One middle school boy said:

I call people sometimes when the story is too long to text, so if someone says, 'What happened?' I won't send them, like, a six page text message, I will just call them and tell them really fast.

Calling allows the teens to avoid writing long and complex text messages. If the text interaction is difficult and involves many turns or long, multifaceted passages, it is sometimes easier to call.

Parents can't text: People who are outside the loop of texting

Another area where voice interaction edges out texting is in communication with parents. While it is true that some parents are proficient texters, many teens feel that their parents are not adept texters. While 71% of parents say they text, in the words of one teen, "My dad is clueless when it comes to texting — like, he has to stop to text." Teens are far less likely to text with their parents than with their friends.

Another high school boy said:

> I usually text. I barely use my phone to call. The only person I call is my dad, he's the only one who doesn't know how to text yet. So I just call him.

In addition to the challenge of writing the texts, teens say that their parents are not comfortable with the style of the writing. A middle school boy noted:

> I like mostly call my parents because like when I text them, I use abbreviations a lot so they are just like, 'What does that mean?' and stuff like that. I don't have time to give them meanings of abbreviations and stuff so that's why I usually call them.

Others said that the style of writing in texts is an issue with their parents. Their parents react to their more stylized writing and ask them to use more traditional formulations. A high school girl commented:

> My mom, she's old school too, but she loves texting. But the only reason why I don't text her is because I do the up-and-down letter-thingy, where you have capital, uppercase lowercase.
>
> Interviewer: And she can't read that?
>
> And she is very old-fashioned. She's like, 'Don't send me a text message like that,' so I just call her.

In these cases, calling cuts through the problem. Teens were able to avoid a discussion of their spelling and grammar with their parents by using the voice function of the phone.

In some cases, the parents show proficiency with texting, and are in frequent contact with their children via this mode of communication. A high school girl noted:

> My inbox and my outbox together, ah, they probably get like full at like 150. So I'll probably delete the whole thing, because I can delete everything together. I can probably do that like twice or three times a day, and it still has some left over from the night, so I just start going over it in the morning. So, I'll probably text like 200 to 300 a day. It's mostly my mom, because she likes to text me all day, even though she's not supposed to.

In addition to the frequency of texting, some parents are also advanced in their use of texting lingo. One teen girl noted "Well, my mom, she knows all text languages. She confuses me, like I've never heard that before." Other research has shown that while some parents are active texters, this is more the exception than the rule.[39]

In some cases, the people with whom the teens wish to communicate do not have a texting subscription. When another person does not have a texting subscription, it is expensive for them to receive and send messages. This means that about the only way to contact them is via voice. A high school girl:

> I've got a friend who doesn't have texting so whenever I need to talk to her I need to call her because she's on the sports team with me and goes to my church so and if I need to talk to her I have to call her, and I have a cousin who doesn't have texting. So I have to call her to talk to her.

In other cases, older family members simply did not have cell phones.

Social network sites: Arenas of communication with friends.

Beyond the cell phone, teens have other arenas for digital communication with their friends. More than a quarter of all teens (26%) reported using social network sites such as Facebook or MySpace to socialize or communicate with their friends daily, while another 38% of all teens *never* use this form of interac-

39 Ling, Rich. (2010). Texting as a life phase medium. *Journal of computer mediated communication, 15*(2), 277-292

tion. Social network sites are used for interpersonal interaction, but also to organize larger events, while the cell phone is for more personal interaction. One high school girl in the focus groups said, "I think Facebook is really [more] dominant than the phone for like, big activities. For just hooking up with friends, I'm on the phone." Another high school girl noted:

> My whole team has a thing on Facebook where like if there is a practice cancelled or – I mean you'll get texts if there is a practice cancelled, too—but, um it's just like everyone's on Facebook a lot more so its just easier to send out like a group message. It's like, 'We have a car wash this weekend, just to let you guys know,' that type of thing, instead of emailing.

As with texting, the broad tendency is that older teen girls are more active in this sphere while younger teen boys are more reserved in their use. Among users of social network sites, 43% of the older teen girls report that they use it on a daily basis to communicate with friends. By contrast, only 29% of the younger teen boys use social network sites to communicate with their friends daily.

Face-to-face meetings: The ultimate encounters.

All told, about one in three teens reports face-to-face interaction daily with friends outside of school. At the other end of the scale, only about 4% report none of this type of social interaction. On a weekly basis, 85% of the teens report that they have non-school face-to-face social interaction.

Teen boys as well as older teen girls (ages 14-17) are more likely to report daily face-to-face social interaction than are younger teen girls (ages 12 -13). Some 35% of the teen boys and 36% of the older teen girls report daily face-to-face interaction outside of school. By contrast, only 22% of the younger teen girls report the same. Interestingly, internet users are also more active than non-internet users in face-to-face interaction: 34% of those who use the internet report daily face-to-face interaction, while only 18% of those who do not use the internet reported the same.

Landline telephones: Fading as communications tools?

Teen voice calling is not simply confined to mobile phones – the majority of American families with teens still have a landline telephone in their home and teens take advantage of it. Nearly one-third (30%) of teens report daily use of the landline telephone to contact their friends. Sixteen percent say that they *never* use the landline telephone for social interaction.

Sometimes use of the landline is the most convenient, sometimes there is a cost consideration, and sometimes there is poor cell phone coverage. When a teen is at home, they often use the landline phone in order to save the cost of airtime on a cell phone. However, some teens report that their families are cancelling landline subscriptions.

> Interviewer: Does anyone have a phone at home, like a landline phone?
>
> Boy 1: My parents just cancelled it a few months ago.
>
> Interviewer: Your parents cancelled it. Anybody else not have a land line, just a cell phone?
>
> Boy 2: I don't have one.
>
> Boy 3: I probably wouldn't but it comes with the internet, so. But otherwise we would have cancelled it a long time ago, everybody who lives in the house has a cell phone.

Indeed, 26% of teens in this survey reached on a cell phone live in households that do not have a landline phone, and 29% of all families say they receive all or almost all of their calls on a cellular phone. Overall, 8% of American families with teens ages 12-17 in the household do not have a landline tele-

phone at all. And as we see with other communication channels, those who use the cell phone are also intense users of the landline phone.

Younger teen boys (aged 12 and 13) use the landline telephone significantly less than other groups. Where 16% of younger boys say they use the landline phone on a daily basis, 29% of the older teen boys (aged 14 – 17) and 28% of the younger teen girls (aged 12 – 13) report the same. By contrast, older teen girls (14 – 17 year-olds) report a significantly higher level of use than all other groups — 39% of them use the landline phone daily to interact with their friends.

Instant Messaging (IM): A digital communications tool pushed aside by texting and absorbed by social network sites.

All told, 62% of all teens report using instant messaging (IM), while 38% either do not have access or choose not to use it. About one in four of all internet-using teens (26%) uses instant messaging on a daily basis to communicate with friends outside of school. Further, an additional 30% use it at least weekly, 10% use it less than weekly. Since 2006, instant messaging by teens has remained flat, with 30% of teens instant messaging daily in 2006 compared with 26% of teens who message daily in 2009.

Instant messaging is a form of communication that has, perhaps, been eclipsed by social network and texting. Indeed, many social network sites offer instant messaging functionality for users within the network. This is reflected in the comments of a high school girl who said, "The only time I ever, like, instant message, is when you are in Facebook, there's a part of it ...where you can."

Instant messaging is one form of communication for which older teen girls are not the dominant users. Instead, older girls share the mantle with older boys. Among internet users, 29% of the older teen boys and girls (14-17 year-olds) and 25% of the younger teen boys (12 -13) use instant messaging on a daily basis. Further, the data reflect that only about half as many younger teen girls use instant messaging (12%).

It is perhaps not surprising that the more frequently a teen uses the internet, the more likely he is to use instant messaging. One third (32%) of teens who use the internet on a daily basis also make daily use of instant messaging.

Email: The least likely to be used by teens.

Email is the least used of the communication forms examined. When compared with use in 2006, daily email use has declined slightly from 15% of internet users to 11% of internet users in 2009. Fully 41% of all teens say that they never use email when communicating with their peers outside of school. While not used often for informal peer interactions, email is used in more formal situations such as in school and by parents and other adults. This does not mean that it is seen in a positive light.

> Interviewer: Do people still use email?
>
> Group: Yes, yes all the time.
>
> High School Boy 1: Yeah, the teachers do! The teachers are like ridiculous with that especially if they have your parents' email.

There are no major age or gender based differences in email use.

Texting, calling and social support.

One of the aims of the survey was to understand how cell phone use relates to key features of one's support network. Respondents were asked to report how many individuals they "feel very close to" and

discuss personal matters with. They were also asked how many of these close personal ties they contact through the cell phone for social support. Half of teens report having 5 or more close personal ties, with the remaining teens reporting fewer ties. The cell phone plays an important role in social support from these relationships, with nearly half (48%) of teens reporting they use their phone to discuss personal matters with "all" of their close ties. The remainder say they use their phone for social support with "some" (25%) or "a few" (23%) of their close network ties. As noted elsewhere in this report, older teens are more likely to text their friends on a daily basis. In addition, they are more likely to use text messaging (and the cell phone more broadly) for social support. Girls are more likely than boys to text their friends on a daily basis and to use text messaging as a means for social support.

Heavy cell phone users have larger support networks.

To gain further insight into how these characteristics of one's support system map onto cell phone use, correlations were run with daily levels of voice calling and text messaging. There is a positive relationship between voice calling and the size of one's close personal network, and voice calling is also positively related to using the cell phone as a resource for reaching out to these individuals for social support. Heavy texters also tend to have significantly more close personal ties. However, unlike voice calling, text messaging is not significantly related to tapping into those relationships for social support through the cell phone. These findings offer evidence of how the cell phone helps to maintain larger networks of close personal ties, and, in the case of voice calling, it serves as a resource for social support when teens need to discuss personal matters.

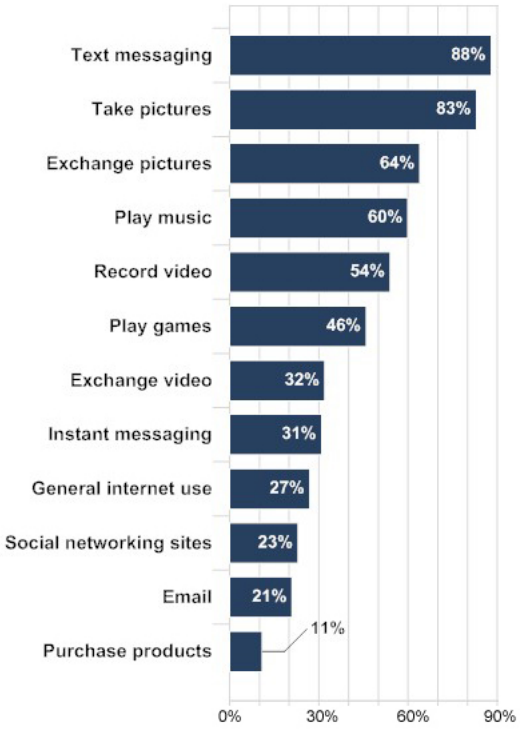
Responses from the focus groups corroborate these findings in the sense that the cell phone was discussed primarily as a bonding resource for the teens. Text messaging was especially discussed as a way of staying in contact with their close personal ties. As one high school boy remarked, most of his texts are primarily with "close friends, and some family members that actually know how to text." Others agreed, stating they primarily text with close friends, but also acknowledged that "at times" they would text with others they were not as close to, especially when they wanted to avoid the awkwardness of face-to-face or voice interaction with someone they did not like or know.

Part 4: Smart phones, new features, the internet and the digital divide.

Beyond text messaging and voice calling, teens reported using several other features of their cell phones. The chart below provides a high-level snapshot of the percentage of teens who use their handset to go online, email, access social network sites, instant message, take/exchange pictures, take/exchange video, play music/games, and make purchases. The ensuing sub-sections provide more detailed analysis of the usage patterns associated with these technological affordances.

Photo-taking and -sharing are most popular features on teens' cell phones

The % of teen cell phone owners who have used the following functions on their cell phones



Source: Pew Research Center's Internet & American Life Project, Teens and Mobile Phones Survey, conducted from June 26 – September 24th, 2009. n=625 teen cell phone owners ages 12-17 and the margin of error is +/- 5%.

A sizable minority of teens use their cell phone to go online.

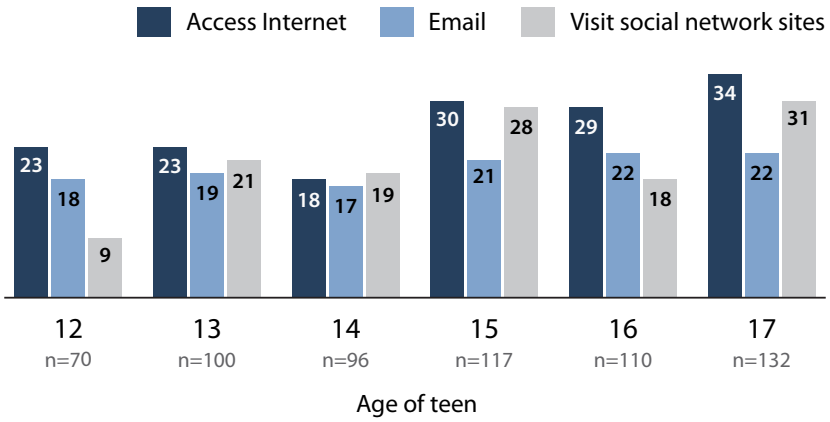
In examining how and how often teens use their cell phones to go online, the survey asked about general internet use, email, and social network sites. While these areas do not comprise an exhaustive list of activities, they reflect some of the key aspects of mobile internet use among teens in the U.S.

Cell phones help bridge the digital divide by providing internet access to less-privileged teens.

When asked whether they ever use the internet from their cell phones, 27% of cell phone users replied yes. Girls (30%) and boys (24%) both report going online with their handsets, though the difference is not statistically significant. With 73% of teen cell phone users not going online with their cell phones, it is clear that the computer is still their primary resource for using the internet. Looking at the breakdown according to age, the figure above shows that older teens with cell phones are more likely to go online with their cell phones than younger users. This difference may reflect a difference in disposable income to pay for Mobile internet connectivity, as many teens begin earning their own money through summer jobs and part-time employment during the school year as they grow older. Teens with their own separate service plan are more likely to use the cell phone to go online (39%) than those who are covered by a family plan (26%), further suggesting that as they grow more independent, teens use their resources to expand their use of the cell phone.

Older teens more likely to go online with cell phone

The percentage of cell-owning teens who have done the following activities on their cell phone, by age



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Source: Pew Research Center's Internet & American Life Project, Teens and Mobile Phones Survey, conducted from June 26 – September 24th, 2009. n=625 teen cell phone owners ages 12-17 and the margin of error is +/- 5%. For smaller subgroups, the margin of error may be larger. Please see the Methodology section for details.

Responses in the focus groups also illustrate how cost is an important factor in whether the internet is included in their service plan, especially for younger teens who are more financially dependent on their parents. This theme is reflected in several comments from teens in middle school, such as "[The] internet costs more and half the time I'm around a computer anyway so there's really no point of having it." Another younger teen explained:

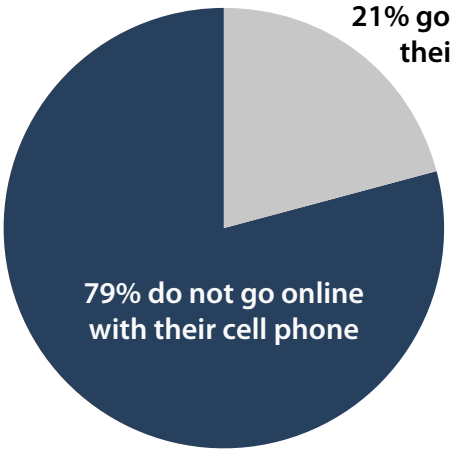
> I had the internet [on my phone] for a while but I didn't really use it because I didn't really need it. So my mom cut it and was like, 'You aren't using it.' But now I realize I would like to have it, but my mom said it's too much money so she won't get it back on.

Another theme that came out of the focus groups is that, compared with computers, cell phones offer less utility for accessing the internet because of poor user interface and slow performance. One high school girl commented, "They have a mobile version of the internet but it's really basic, you can't see all the features, like what the site has to offer, and it's slow." This remark was echoed by middle school boys who explained, "Using the computer is easier because I have the mouse, and the phone is slower than the computer," and, "For some reason there's just something about [using the cell phone to go online] that's not, you don't get like the same effect out of it, and I personally like to be on the computer." Some mentioned that high-end handsets such as the iPhone offer greater utility, but very few of the participants had these high-end handsets because they are expensive and oftentimes use a different network than the one their family plan is on.

The cell phone provides an opportunity to access the internet for a sizable portion of cell phone users who do not go online otherwise.

One notable finding about internet access is that, among teen cell phone owners, 21% of those who do not go online or use email through a conventional computer instead use their phone handset to go online. In other words, the cell phone provides an opportunity to access the internet for a sizable portion of users who do not go online otherwise.

Teens who do not go online with a computer



n=82 teen cell phone owners who are not internet users.

A more careful look at how household income relates to going online sheds more light on the situation. On the surface, one might find it surprising that teen cell phone owners in the *lowest* household income category are *most* likely to use their handset to go online. However, this might be explained by the fact that members of the lowest income category are also the least likely to have a computer in the home. That is, the cell phone appears to be a viable alternative for internet access for some teens living in households that cannot afford computers.

There are also racial and ethnic differences in cell phone-based internet use, with certain minorities being significantly more likely to use their cell phone to go online than white teens. More specifically, 44% of teens whose parents are black and 35% of those with Hispanic parents use their cell phone to go online, as opposed to 21% of teens with white parents.

These trends reveal an interesting paradox. On the one hand, going online through the cell phone is cost-prohibitive for many teens, especially younger ones who must rely on their parents to pay for this service. At the same time, it also provides teens from lower income households without a computer an opportunity to use the internet, hence helping to bridge the digital divide.

Teen cell phone owners in the lowest household income category are most likely to use their handset to go online

Annual household income	Go online with cell phone	Computer in the home
Under $30,000	41%*	70%*
$30,000-49,999	27%	84%
$50,000-74,999	22%	93%
$75,000+	23%	97%

* significantly different than all other cells in the respective rows

Pew Research Center's Internet & American Life Project, Teens and Mobile Phones Survey conducted from June 26 - September 24, 2009. N=800 teens ages 12-17 and the margin of error is ±4%.

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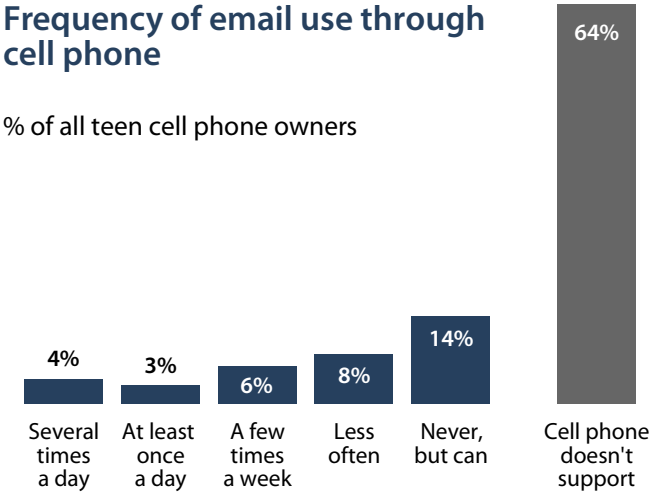
One in 5 teen cell phone owners email through their handset.

While 93% of teens say they use email, only 21% of those who own cell phones use the technology to send or receive email. Not surprisingly, there is a significant difference between computer-based internet users and non-users, with 21% of internet users emailing through their cell phones, as opposed to only 8% of non-users.

While just 21% of cell phone owners using email on their mobile devices may seem low, it is important to note that most teen cell phone owners (64%) say that their cell phone does not support email. This means that the majority of those whose cell phones do support email, use it at least occasionally. However, as shown in the table below, this is still not one of their heaviest uses of cell phone technology.

Frequency of email use through cell phone

% of all teen cell phone owners



Pew Internet
Pew Internet & American Life Project

Source: Pew Research Center's Internet & American Life Project, Teens and Mobile Phones Survey, conducted from June 26 – September 24th, 2009. n=625 teen cell phone owners ages 12-17 and the margin of error is +/- 5%.

The relatively infrequent use of email through the cell phone can likely be explained by the fact that cell phones are primarily a social resource that teens use for connecting with their friends, and email is not one of the primary means through which they maintain their peer relationships. To illustrate, only 11% reported that they use email (through any device) with their friends on a daily basis, as opposed to 54% of total teens, including non-cell phone owners, who text message their friends every day.

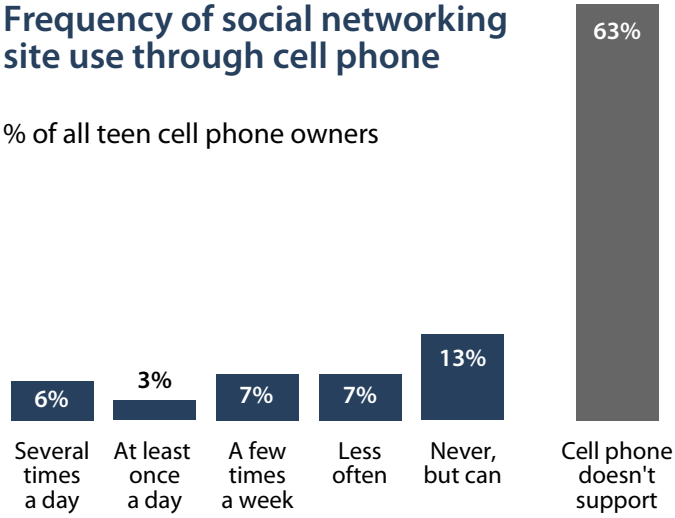
Use of social network sites through the cell phone:

Overall, teens have come to embrace social network sites, particularly Facebook and MySpace. In recent years, the percentage of teens who use social network sites has steadily risen to 73%. Trends for using social network sites through the cell phone are similar to those for email, with 23% of teen cell phone owners reporting that they have used the technology to access social networks (21% of boys, 23% of girls). Most of the teens whose handsets and/or service plans support this functionality use it, although 13% of those who can still do not. As shown in the table on the next page, use of social network sites through the cell phone tends not to be a daily activity for those who do this.

Broadly speaking, accessing social network sites is not a primary use of the cell phone, however some respondents in the

Frequency of social networking site use through cell phone

% of all teen cell phone owners



Pew Internet
Pew Internet & American Life Project

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focus groups indicated social networks are a primary reason for *going online* with their cell phones. For example, when asked about internet use with the cell phone, one boy in middle school replied, "I get on MySpace a lot but that's it." A high school girl in another session explained that she used to go online for other purposes with her cell phone, "but now it's just Facebook."

The focus group sessions indicated that Facebook and MySpace are the most frequently used social network sites through the cell phone, with a handful of teens also using it for Twitter. In some cases, the teens preferred using their cell phones over the computer for accessing social network sites, illustrated by the following remark from a boy in middle school: "I usually use Twitter and Facebook a lot on my phone. I use them on my phone more than the computer." More often, however, teens express a preference for using the computer instead of the cell phone for this purpose. As is the case with general internet access, reasons include increased cost and diminished utility of the cell phone for online activity. As one high school girl stated, "Using Facebook through the phone is too expensive." Another high school girl explained:

> My email comes to me, like email from Facebook. Like 'you have a message from Facebook.' I'd rather not check it on my phone. It just wastes like a lot of time, personally, I'd just rather … I just go whenever I can get on a computer.

This comment was echoed by a middle school boy who said he goes on MySpace through his phone to "look up stuff," but not pictures and video because "it's different from the internet," meaning it is a different and often lesser experience than using a computer to go online.

Instant Messaging on the cell phone:

Like email and social network sites, instant messaging is also another potential phone-based online activity for teens. Among those who own a cell phone, 31% use their handset to send and receive instant messages (29% of boys, 33% of girls). Instant messaging through the cell phone is most popular among 17 year-olds, with 45% doing this at least occasionally. In contrast, younger teens tend to instant message through their cell phones less often, particularly 13 and 14 year-olds (19% and 21%, respectively, report doing so at least occasionally). This age trend is attributable to differences between older and younger girls. That is, only 17% of female cell phone owners ages 12-13 use instant messaging through their handset, as opposed to 38% of girls 14 or older. This disparity is noteworthy, considering there is no difference between boys in these age groups – 29% of boys in each age group send instant messages through their cell phone.

Responses from the focus groups indicate that AOL's instant messaging service (AIM) is popular among teens. AIM is used on computers as well as cell phones, and allows individuals to communicate across these two platforms. As one middle school boy explained, "They have AOL, like AIM, it's supported by my phone. So if one of my friends don't have a phone, they can get on the computer and text me on my phone."

Photos and video through the cell phone – entertaining oneself and sharing with others.

The survey and focus groups revealed that taking and exchanging photos and video are popular uses of the cell phone among teens in the U.S. In fact, the number of teen cell phone owners who have taken a picture with their handset (83%) rivals the number who use the text messaging feature (87%). The frequency with which they take pictures is notably lower, however, with just 10% of those who have camera phones report that they take photos "several times a day," as opposed to 63% who text message this often.

When asked about their use of pictures through the cell phone, focus group responses corroborate survey findings that 69% of teens regard the technology as a means of entertainment and as a way to alleviate boredom. Many discussed how they frequently take pictures of "random things" they encounter in their daily lives that they find interesting or funny. Sometimes they do this solely for their own amusement, such as having pictures of their pets to look at, but often they take pictures to send to friends who they think will enjoy them as well. For example, one high school girl shared the following anecdote: "I take pictures of strangers if they're funny. Like I saw a cowboy at Subway, and I took a picture." A middle school boy explained, "I basically just take pictures of anything, anything that interests me, and I send it to my friends if they'll think it's interesting. I take a lot of pictures." Sometimes pictures are taken and exchanged to document something special or to "show off" to their friends. One boy in middle school remarked, "When I go fishing I take pictures of the fish if they're giant." Another noted, "After I have my birthday or something I have a lot of money. I like taking pictures of it [the money] and showing it to my friends."

Videos are also popular, although they are taken and exchanged less often than pictures through the cell phone. This is likely due to technological limitations. As one middle school boy explained, "I take videos but they can only be like two minutes or something." As with pictures, videos are often taken when teens encounter something funny and want to share it with their friends. However, the focus groups also indicated that for some teens, taking video was something they tended to do more in a family context. Teens in our focus groups remarked:

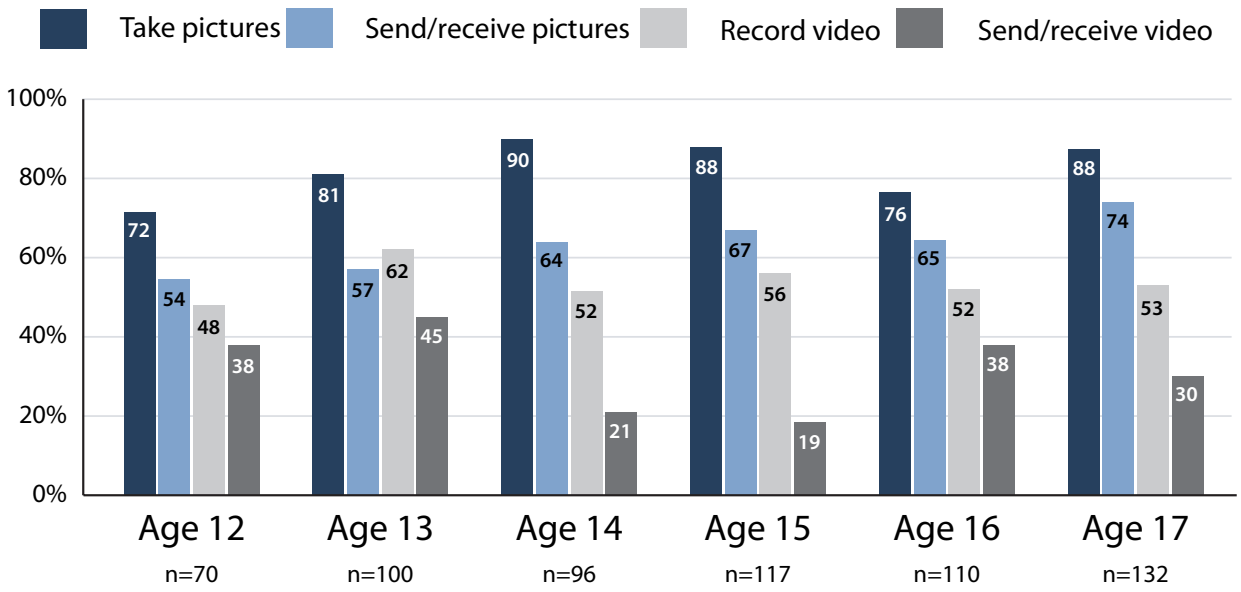
> Last year my brother graduated from 12th grade. I went with my sister. We went to my brother's graduation, and I had it recorded because my mother wasn't able to go. So I took it and sent it to her. (Girl, high school)
>
> I recorded a video. My brother used to have really long hair, like longer than me, so I recorded him cutting his hair and put it on YouTube. (Girl, high school)
>
> I take videos of my sister. (Boy, middle school)

Older teens are more likely to snap and share photos with their cell phones, while younger teens are more likely to exchange videos with their cell phones.

Teen cell phone owners in the 14-17 age group are slightly more likely to take photos than those ages 12-13 (85% vs. 77%). This older category of teens is also somewhat more likely to send/receive photos than the younger group of teens (67% vs. 56%). However, there is an interesting counter-trend, with more 12-13 year-olds sending/receiving video than those 14 and older (41% vs. 27%). The figure illustrates age trends for the use of cell phone photos and videos. The chart reflects significant differences for both photo and video- taking among teens in the U.S.

Use of cell phone for pictures and video is popular across age groups

The % of teen cell phone owners who have done the following activities with their phone, by age



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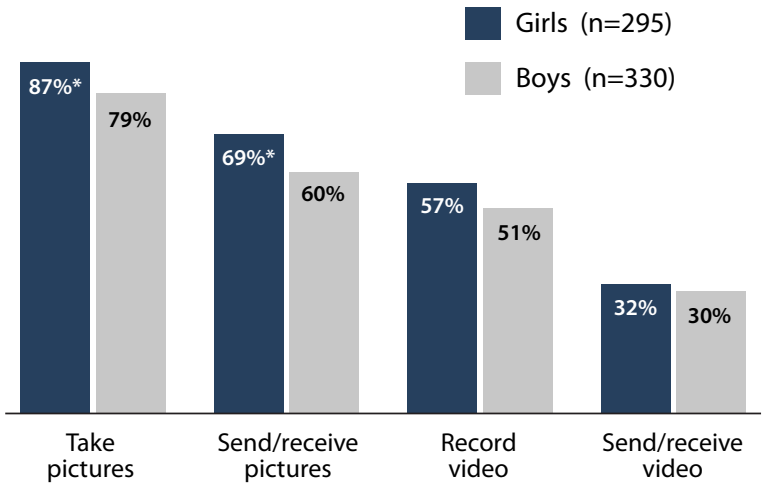
Source: Pew Research Center's Internet & American Life Project, Teens and Mobile Phones Survey, conducted from June 26 – September 24th, 2009. n=625 teen cell phone owners ages 12-17 and the margin of error is +/- 5%. For smaller subgroups, the margin of error may be larger. Please see the Methodology section for details.

Girls and boys show similar enthusiasm for photos and video on cell phones

With regard to sex, the next chart shows that girls tend to be heavier users of these photo features than boys. Among teen cell phone owners, 79% of boys take photos at least occasionally, as opposed to 87% of girls. Fifty-nine percent of boys send or receive photos, whereas 69% of girls do this.



* indicates a statistically significant difference between the sexes for that activity

Source: Pew Research Center's Internet & American Life Project, Teens and Mobile Phones Survey, conducted from June 26 – September 24th, 2009. n=625 teen cell phone owners ages 12-17 and the margin of error is +/- 5%. For smaller subgroups, the margin of error may be larger. Please see the Methodology section for details.

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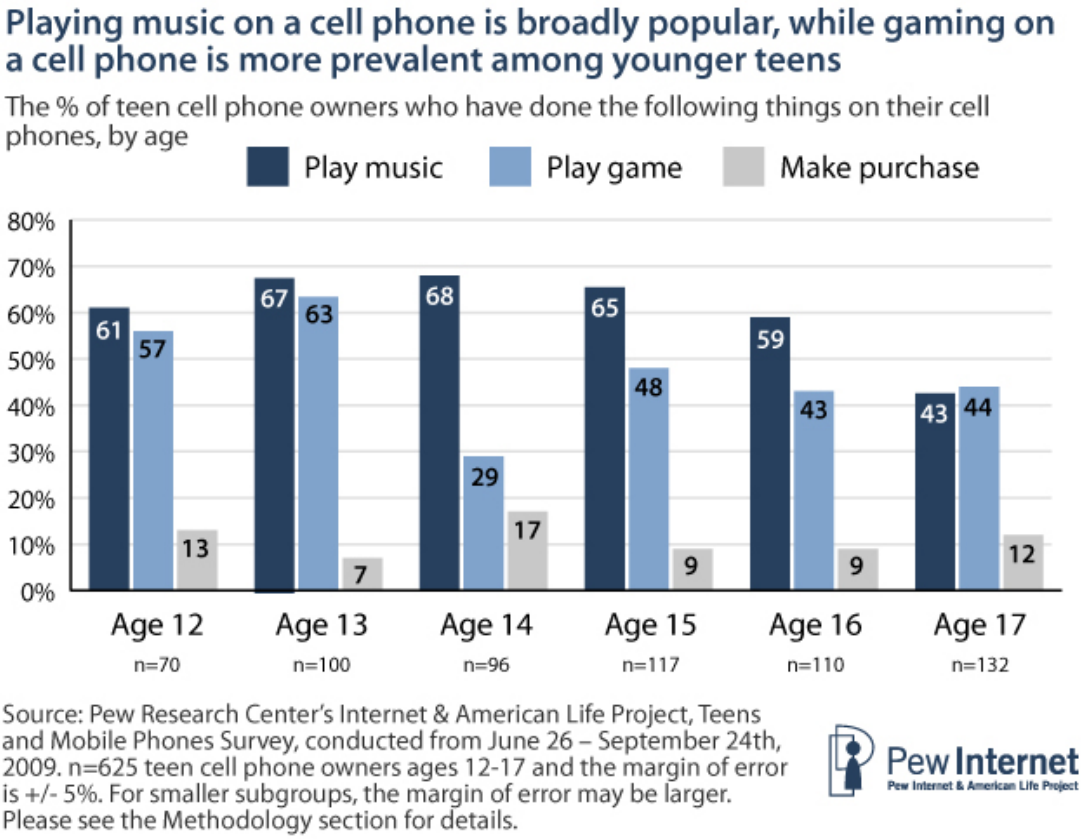
Teens also use the cell phone to play games, play music, and, to a lesser extent, make purchases.

Video games and digital music are key sources of entertainment for teens. Overall, 80% report owning a game console, and 79% have an iPod or other digital music player. When looking at cell phone trends for playing music and games, we see another area where the technology is highly regarded and used as a source of entertainment among teens. Sixty percent of teen cell phone owners report using their phones to play music at least occasionally. Generally, it is the younger users who are more likely to do this. For example, well over 60% of teens between 12 and 15 play music on the cell phone, as opposed to 43% of 17 year-olds. With the exception of 12 year-olds, this trend for younger teens does not appear to be related to owning an iPod or MP3 player. While 32% of 12 year-olds do *not* own an iPod or MP3 player, and therefore might rely on their cell phone for music, ownership of iPods and MP3 players dramatically rises after the age of 12, with well over 80% of teens age 13-16 owning one. However, playing music on the cell phone is still popular for these individuals. Generally, there is not much difference between boys with cell phones (58%) and girls with phones (62%) when it comes to playing music on the cell phone at least occasionally. However, when looking at the statement for playing music at least once a day we see 45% of girls 12-13 saying they do that compared with only 28% of boys in this age group.



Playing games through their cell phone tends to be more of an occasional rather than an everyday activity for teen cell phone owners, but still quite popular considering 46% report doing so at least sometimes. Age trends for playing games replicate earlier findings about video games at large,[40] and are fairly

40 Lenhart, A. Kahne, J et al. (2008) Teens ,Video Games and Civics. Pew Research Center's Internet & American Life Project, Washington, DC. http://www.pewinternet.org/Reports/2008/Teens-Video-Games-and-Civics.aspx

similar to those for playing music, with younger teen cell phone owners (61% of 12-13 year-olds) being more likely to do this than older teens (42% of 14-17 year-olds). Equal portions of boys and girls play games on a handset.

Relatively few teen cell phone owners (11% total) report using their cell phone to make purchases, such as books, music, or clothing. In fact, 73% report that their cell phone does not support this functionality. In contrast, nearly half (48%) say they use the internet to make purchases.[41] Responses from the focus groups indicate that when purchases are made through the cell phone, they tend to be for downloading ringtones, games, and music.

41 Please see our Social Media and Young Adults report for fuller discussion of online purchasing by teens and young adults http://www.pewinternet.org/Reports/2010/Social-Media-and-Young-Adults.aspx

Chapter Three: Attitudes towards cell phones

Parents' and teens' overall assessment of the role of cell phones in their lives:

Parents and teens have quite similar overall attitudes about the role of cell phones in their lives, though teens are more likely to salute the upside of constant connectivity and bemoan the downside. Perpetual availability breeds safety – or at least safer feelings — and the capacity to reach others anywhere, any time has some social payoffs. Moreover, the cell phone itself can be a "companion" for many teens when they are bored and want to entertain themselves. Still, there are new realities with which teens must come to terms in the age of mobile communication. What balance should I strike in being available and being more private? What volume of chatter fits my social life and my needs? How much of my time should I allow to be interrupted by others? This survey tried to get at some of these questions by asking parent and teen respondents about their attitudes towards statements about the possibilities and problems associated with cell phones.

Parents' and teens' views about cell phones are pretty similar

	% of parents with cell phones (N=723) who agree	% of 12-17 year olds with cell phones (N=625) who agree
I feel safer because I can always use my cell phone to get help.	94%	93%
I like to use my cell phone to keep in touch no matter where I am.	90	92
I like that my cell phone makes it easy to change plans quickly.	75	84
I get irritated when a call or text on my cell phone interrupts me.	38	48

Pew Research Centers Internet & American Life Project. Teens and Mobile Phones Survey conducted from June 26-September 24, 2009. 800 parent teen (ages 12-17) pairs. Margin of error is ±4%.

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Safety first – females are particularly pleased and parents say it's a major reason for owning a cell phone.

For many cell phone owners, safety is a primary benefit. Fully 98% of parents agree with the statement: "A major reason my child has a cell phone is so we can be in touch no matter where he/she is." Every African-American parent in our survey whose teenage child has a cell phone agreed with this assertion, as did 98% of white parents and 95% of Hispanic parents.

Moreover, personal safety is a significant factor among those who own cell phones. Fully 94% of parents and 93% of those ages 12-17 agreed with the statement: "I feel safer because I can always use my cell phone to get help." Girls and mothers are more likely than boys and fathers to agree with that. Some 97% of teen girls ages 12-to-17 who own cell phones and 98% of the mothers who own cell phones agree with the statement that they feel safer "because I can always use my cell phone to get help." That compares with 89% of teen boys and 89% of fathers who say they agree with that statement. Every single girl respondent in our survey who was age 12 or 13 said she agreed with this statement and 95% of the older teen girls – those ages 14-17 – agreed.

In contrast to the near-universal appeal of the safety dimensions of cell ownership, this study wanted to see if parents felt that maintaining their child's friendships was a primary motivation for acquiring this new communication tool. Just 36% of parents with a teenager who has a cell phone agreed with the statement: "A major reason my child has a cell phone is to keep in touch with friends." Fathers (44%) were more likely than mothers (31%) to agree that a major reason their children had cell phones was to keep in touch with friends. Parents of older teens were more likely to agree with this than parents of younger teens.

Focus group discussions with teens bore out these findings. Asked when and why they first got a cell phone, most teens cited the safety, security and ease of communication with parents provided by cell phones as the initial reason they got one. Many said that getting a cell phone was their parents' idea, not their own. Typical is the story of one high school boy, who explained that he got his cell phone "when I was twelve…my mom got it for me to communicate with my parents, if I was going to be late from school or walking home. I didn't care that much about it. It was cool to have, but I got along fine without it." Other teens expressed similar sentiments; one high school girl said, "My parents were more of the instigators and actually got it for me, rather than me asking for it," while a middle school boy explained, "I was ten, but I didn't really need it. But my parents thought it was time I get one."

It was clear from the focus groups that at least in the beginning, parents rely more on the cell phone for its connectivity than do their children, and that safety is usually driving the decision to purchase a child his or her first cell phone. Over time, as the teen masters the phone and incorporates it into his or her social life, the balance shifts and the phone becomes a core communication tool for the child.

Still, teens—especially teen girls—appreciate the security a cell phone provides and come to rely on it. One high school girl described herself as being "hysterical" for several hours when she found herself home alone without her cell phone, fearing that something would happen to her and she would not be able to call someone for help. This may be an extreme example, but it speaks to the sense of security a cell phone provides, for both teens and their parents.

Always connected – a liberating advantage when it comes to parental contact.

Some 92% of 12-17 year-olds who own cell phones and 90% of teens' parents backed the assertion that they like cell phones because they can "keep in touch no matter where I am." Again, this benefit was particularly appealing to girls (97%) and mothers (92%) compared with boys and fathers. Other Pew Internet research has shown that females are more likely than males to use – and appreciate – a host of communications tools and the cell phone is no exception.

The survey asked a further question of the younger respondents and found that teen girls who owned cell phones were more likely than boys to agree with the statement: "My cell phone gives me more freedom because I can stay in touch with my parents no matter where I am." Fully 94% of all teen cell owners agreed with this and the gender breakdown was notable – 97% of girls backed the statement vs. 92% of the boys. The oldest girls, those ages 14-17, were the most likely of all to see cell phones as technolo-

gies of freedom. Girls who texted were even more likely to salute the liberating aspects of cell ownership than those who are not texters.

In focus groups, teens spoke at length about the freedom and independence afforded by cell phones, in part because of the sense of safety and security mentioned above. As one high school girl explained, "I think [a cell phone] gives you more freedom in the sense that if you're trying to get permission to go someplace, it helps to say, 'I'll have my phone, you can call me if you need to,' and then it makes parents feel more secure. Which is how I think it gives you more freedom." As another high school girl described the benefit of having a cell phone, "It makes you feel older and independent, I think. I think that is what it comes down to."

Yet, despite the clear upside of connectivity with parents, some teens in the focus groups acknowledged that constant connectivity with parents can be a double-edged proposition. Several teens said that carrying a cell phone meant they "had no excuses" for not telling their parents where they were, and that it provided their parents an easy way to monitor and check up on their teens. As one high school boy put it, his mother uses the cell phone to "just to see where we at, to be in our business." Asked the worst thing about cell phones, one high school girl said emphatically, "That my parents can contact me at any hour of the day!"

In fact, some teens say their parents are reluctant to take away their phones as punishment because it would sever the connectivity parents have come to rely on. In the words of a high school boy "[My parents] always needed us, they always needed me to have it, more than I needed to have it. Like, my mom always needed to reach me, so she would never take away the phone as punishment, because it was more useful for me to have it than for her to take it away."

Changing plans on the fly – a major boon.

One of the major changes that mobile phones have introduced to the social world is that they allow people to coordinate their schedules and meeting places and then micro-coordinate a rendezvous. The cell phone gives teens (and others) the ability to call directly to one another and iteratively work out the time and the location of their meeting. Having a cell phone means that they are not stuck sitting at home waiting for the phone to ring as they plan their social lives. Rather, they can be en route to a location and, if better alternatives arise, they can adjust their plans as needed. This individual addressability gives them flexibility in their planning that was not there for earlier generations. Youth ages 12-17 who own cell phones are even more appreciative of this feature of mobile connectivity than their parents are. While 75% of parents appreciate the flexibility the phone gives them, some 84% of cell-owning teens in our survey agreed with the assertion: "I like that my cell phone makes it easy to change plans quickly." High school-age teens are the most supportive of this feature of mobile life: 87% of the 14-17 year-olds agreed with the statement.

Teens in our focus groups repeatedly cited this benefit of cell phones, a high school boy going so far as to say, "If you didn't have texting or AIM, I wouldn't know how to make plans." Others noted that when planning a get together with many people, texting allows them to communicate plans to the entire group all at once, whereas phoning each person individually or even doing group calls is cumbersome and time-consuming. It is clear that as the number of people to be included increases, this iterative planning becomes more difficult. However, for smaller groups of individuals, planning and coordinating via the cell phone is a boon.

In general, focus group participants extolled these social benefits of cell phones, and described them as central to their social planning and activity. Many felt that without cell phones, their social lives would be quite different. A typical comment from one younger high school boy:

> I think if you have a cell phone, it adds to you being able to, like, actually hang out with people because you can find out, 'Oh, where you at, I'll come meet you' or, 'I'll come over to your house' or, 'You come over to my house,' or 'Do you want to meet you and go to this movie' or whatever. But if you're just, if you don't have a cell phone and you're out doing stuff, and someone is trying to contact you wanting to hang out, then you have to wait until you go home and check your email or something, because they can't reach you if you're out.

Several boys in the same group said that at times, when they had lost their phones, they socialized much less with their friends because it was too difficult to contact them to make plans. As one younger high school boy described it, the week his phone was broken "was the boringest week of my life. The first day without my phone, like, I didn't text anybody. I felt like, 'Where did all my friends go?' like I moved or something, because no one knew my house number. So I just sat there, and it was during summer break too!" Another high school-age boy said that when he was without his phone, he stayed home rather than go to the trouble of walking to his friend's house to see if he was home.

Not only did teens extol the virtues of phones for making social plans with friends, they also cited many examples of ways that their cell phones allow them to coordinate the activities of social groups to which they belong, such as school clubs and sports teams. It was not uncommon, teens told us, for coaches, captains, counselors and fellow teens to text important messages to the group, such as whether activities were canceled, where meetings would take place, and the like.

Interestingly, the teens in the focus groups recognized a trade-off in this element of cell phones as well. As one high school girl expressed it, while cell phones allow teens to change plans on the fly, that also means "plans can be more tentative because you can change them on a moment's notice. So that can be bad or good." It seems at least some teens are concerned that mobile connectivity might result in people being less committed to plans once set.

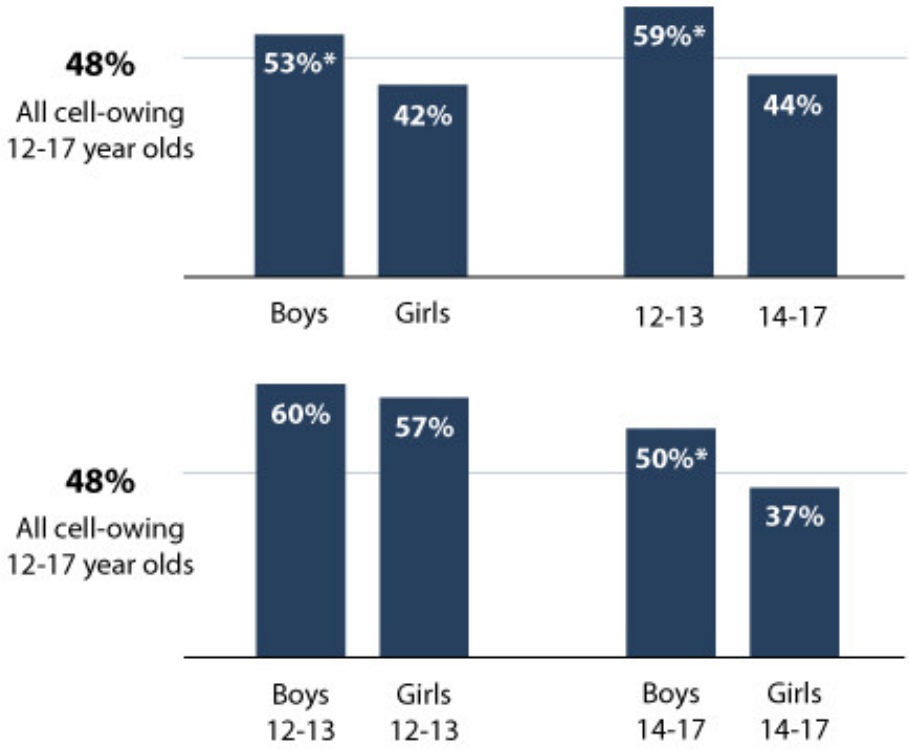
Still, the focus group teens fairly consistently expressed the opinion that their phones facilitate active social lives, and that rather than taking the place of other forms of interaction, cell phones enable them. As one high school girl explained, "I think texting replaces conversations you have on the phone, but I don't think it replaces, like, interaction…You call them to make plans, you don't call them INSTEAD of making plans." [emphasis added]

The prospect of constant interruptions – an annoyance to boys and younger teens.

While many cell owners appreciate that they can initiate contact with others whenever the urge strikes them, a portion of cell owners see an annoying element to constant connectivity: the likelihood of interruptions. As much as they like their mobile phones, teen owners are more likely than parent owners to agree with the statement: "I get irritated when a call or text on my cell phone interrupts me." Nearly half of 12-17 year-old cell owners (48%) agree with that statement compared with 38% of parents. Teen boys and younger owners of either gender are likely to back this notion: 53% of cell-owning boys and 59% of all cell owners ages 12 and 13 agree that cell-initiated interruptions are irritating. Older girls ages 14-17 are calmer about interruptions. Only 37% of cell-owning older girls say cell calls or text interruptions can be annoying. Overall, teens send and receive more text messages than parents, which may contribute to their greater sense of irritation – the typical teen sends or receives 50 text messages a day, while the average adult 18 and older has sent and received 10 messages in the last 24 hours.

Almost half of teens are annoyed by cell phone interruptions

The percentage of teen cell phone owners in each group who agree with statement: I get irritated when a call or text on my cell phone interrupts me.



* indicates a significant difference

Pew Research Center's Internet & American Life Project, Teens and Mobile Phones Survey conducted from June 26 - September 24, 2009. N=800 teens ages 12-17 and the margin of error is ±4%.

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Another possible explanation for these differences is that younger teens may be learning how to incorporate cell phones into the social rhythms of their lives and finding it harder at the earlier stages of ownership to balance the new demands for accessibility and "interrupt-ability" that mobile phones bring.

The gender differences can also explain some of the fact that teen boys generally do not use their cell phones as avidly as girls. So, boys might not be as willing to accept the fact that interruptions are part of the lifestyle that goes with perpetual connectivity. The focus groups illustrated many of these gender

differences in how boys and girls perceive and use the phone. Boys in the group consistently described texting with their friends as task-driven, and used phrases like "taking care of business" and "more to the point" to described the succinct nature with which they communicate with friends. In contrast, they described texting with girls as being more about flirting and getting to know one another. Typical of their comments are the following:

> [Texting with girls] is just like b.s., like you don't really need to be talking to them but you just are because you like them, they like you. With your other [male] friends, it's just like 'Oh, we're going to go to the movies and then do this and do that.' And that's it. (Boy, high school)
>
> If I text my friend, it's not for conversation. It's like 'Hey, I'm headed home from school, where are you?' And then 'Oh, I'm over here at the store or something, I'll be over in a minute.' And that's it. But when I'm talking with my girlfriend, it's all day. So all day conversation. (Boy, middle school)

From these comments, it was apparent that the boys we spoke with were accustomed to using their phones as very direct, succinct communication tools to make plans and check in with one another, and would likely be less tolerant of more trivial contact.

Teens in the focus groups also addressed the issue of unwanted interruptions, and expressed annoyance at friends and acquaintances who violate cell phone etiquette. In the words of one high school boy,

> At least me personally, I'm the type of person where if I want to talk to you then I'll talk to you. But people call me like all the time, like all types of times at night and in the mornings. It's just like I don't want to be bothered! Then, like, they text me and they get mad if I don't text back, like, five seconds later. It just becomes a problem.

In particular, teens expressed annoyance with other teens who "don't get the hint" when they do not return a text message or who insist on trying to reach them at times when they know the teen is unavailable (for example, during doctor's appointments, class time, at night, etc.). As one girl related,

> I hate like, especially when it's just me and my boyfriend hanging out, and my friends will just text me over and over, 'what r u doing?, what r u doing?' and they'll resend it because they think you didn't get it when really you're just busy, and that's when I'll turn [my phone] off.

This was one of many stories teens related of friends texting the same message repeatedly, over the course of just a few minutes, in an attempt to get a response, or of texting question marks or "r u there?" messages if they do not get a response quickly enough. Teens are also annoyed when they do try to respond to a message immediately, and before they have a chance to hit send, the other person has already sent them another text.

To further probe the potential hassles of having cell phones, the survey asked teens to respond to the following item: "It is a lot of trouble to keep my cell phone with me all the time." Just 26% of cell-owning 12-17 year-olds agreed with that statement. Again, boys and younger users were the most likely to agree: 32% of boys backed the assertion vs. 21% of girls; 33% of those ages 12 and 13 agreed vs. 23% of those ages 14-17. The largest cohort of those who said it was trouble to keep their phone with them all the time were 12- and 13 year-old boys: 42% of them agreed with the statement.

Connectivity can beat back boredom for two-thirds of teen cell owners.

In the survey, we asked teens about using their phones as a source of entertainment. Some 69% of teen cell owners agreed with the statement: "When I am bored, I use my cell phone to entertain myself." This is especially true of girls. Some 77% of them say cell phones are good boredom killers, compared with 61% of boys.

Those who have more expensive and expansive cell phone plans are the most likely to say they use their cell phones to stave off boredom. Some 76% of teens who have unlimited text plans agree they use their phones to entertain themselves when they are bored. Furthermore, those who agree with this statement are likely to have used their cell phones in multiple ways and to use those data features often – not just for making calls. For instance:

- 83% of those who have used their cell phones to buy things agree that they use their phones for entertainment when they are bored.
- 72% of those who take pictures with their cell phones and 91% of those who use their cells several times a day to take pictures agree that they use their phones to entertain themselves when they are bored.
- 84% of those who send emails on their cell phones and 89% of those who send emails several times a day say they use their phones to entertain themselves when they are bored.
- 72% of text message users and 79% of those who send text messages several times a day say they use their phones to entertain themselves when they are bored.
- 79% of those who play music on their cell phones and 85% of those who play music on their cell phones several times a day say they use their phones to entertain themselves when they are bored.

Teens in the focus groups confirmed these findings, citing all of these activities as ways they use their phones for entertainment. Those who did not engage in these activities typically said it was because their phone did not have that particular feature or it was too expensive (i.e. to download a game to their phone). Not surprisingly, many focus group participants expressed a desire for high-end phones with the latest features, such as iPhones and phones with touch screens. One entertainment function teens seemed to use quite often is taking pictures with their phones. As mentioned earlier in this report, several focus group respondents, mostly girls, said that they often take pictures of silly or interesting things they come across, just for fun or to share with friends.

Speaking to the extent to which teens rely on their phones for entertainment, several of the teens in the focus groups said they would not know how to occupy their time if they did not have their phones. In the words of one high school boy, when asked what it is like to not have your phone,

> It really sucks…you grow accustomed to having it so much, so like when you don't have it you've got to find other things to occupy your time. I'll be like, 'I should read a book! No I shouldn't, I should have my phone!' And it just really sucks. But actually, like if you really think about how much you use your phone and how much more you could be doing with your time, if you look at it like that, then you are really wasting a lot of time.

Apart from the social and safety functions of cell phones, teens clearly utilize them as a tool for personal enjoyment, made easier with the increasingly advanced features of today's cell phones.

Going off the grid – the coping strategy that works for half of teen cell owners.

For some teens, the mobile phone isn't something that must remain on and connected at all time. Half of those ages 12-17 who own cells (50%) agree with the statement: "I occasionally turn off my cell phone when I do not have to do so." Teens who have prepaid plans are more likely than those on family or individual cell plans to say they shut off the phone from time to time. Some 61% of those on prepaid plans shut the phone off occasionally vs. 48% of those on family plans and 47% of those on a separate plan. The analysis shows that 66% of those who pay for each text message are more likely to shut the phone off occasionally than those who buy a set number of text messages or have unlimited plans.

Younger users – those ages 12 and 13 – are notably more likely than older teens to say they voluntarily shut down their cell from time to time: 59% agreed with the statement vs. 47% of those ages 14-17. Boys in that younger cohort were the most likely to go off the grid from time to time: 61% reported shutting down their phones. Non-texters were more likely than texters (62% vs. 49%) to shut off their cell phones from time to time.

Focus groups revealed that teens are generally reluctant to shut their phones off completely, with many of the teens we spoke with saying adamantly that they never turn their phones off or turn them off only when the battery is dying or when they are getting spammed. When they want a "break" from their phones or are in a social setting where a noisy phone might be inappropriate or disrespectful, most teens prefer putting their phones on vibrate rather than turning them off completely. As one middle school boy explained, "If I'm sitting and watching TV I'll have it on vibrate because like. . . or the sports game thing. . . my dad will normally be watching it with me or my mom and it gets really annoying if every time you get a text it goes 'do-da-do-da-doo-doo.'"

Teens who do turn their phones off occasionally do so for a variety of reasons. Some do so when they want to concentrate on a task at hand, such as driving, taking a test, playing sports, or playing a video game. Others said they turn their phones off when on vacation, on holidays, when at church, or when at the dinner table. Still others said they turn their phones off when in a bad mood, when feeling uncommunicative, or when they are trying to avoid someone.

Many teens in the focus groups viewed the decision to turn off their phones as a sign of respect to those around them or to the setting in which they find themselves. As one boy reported, "I don't use my phone at the table. Like I always sit down with [my parents] at dinner because that's important to me. I'm not into like completely blocking them off. I like spending time with them and stuff." One high school girl, when asked if she sometimes turns her phone off, explained, "It depends. It depends on where I am. In the movies they ask you to turn your phone off and I only do that if it is like a really good movie like Harry Potter or something or like if I'm at a play that I like really want to see. It's just . . . it sounds weird, but it is kind of like how much I respect the thing that I'm at." The term "disrespectful" came up quite frequently in the focus groups to describe the use of cell phones at what teens perceived as inappropriate times or inappropriate places.

A small number of teens in the focus groups acknowledged that they welcome a break from their phones. As one high school girl explained, "I go to camp every year and we're not supposed to bring our phones and I don't like bringing my phone . . . It's nice having a two-week break and you're just like focused on camp and all the people there and stuff." But statements like these were the exception. Teens in the focus groups more commonly described themselves as feeling "lost," "naked" or "exposed" when they are without their phones. In the words of one high school girl,

> I know I never consider myself a person who is constantly on the phone, but then when I lost it for a couple of days I felt…I felt really exposed. I felt like I was missing a lot. Because I feel like it becomes almost like a security blanket, you know you can contact anybody if you have to. You can talk to a friend if you have to and even if you don't, just the idea that you have it there in case you need it. I feel most people feel really uncomfortable when you don't have it. Like, what if my mom was in an accident, what if she's not going to pick me up, what do I do then? I don't know what to do, and so even though I'm not constantly on it, without it, it is a little unnerving.

More than 4 in 5 teens with cell phones sleep with the phone on or near the bed.

To explore the how teens manage the deep connection some have with their cell phones, the survey asked whether they had ever slept with their phones on or with it right next to their beds. More than eight in ten cell-owning teens (84%) said yes, they had done this at some point. One motivation for having the phone nearby when sleeping is eventual connectivity. It is also worth noting that many teens use the clock function on their phone as an alarm clock. These middle school boys noted:

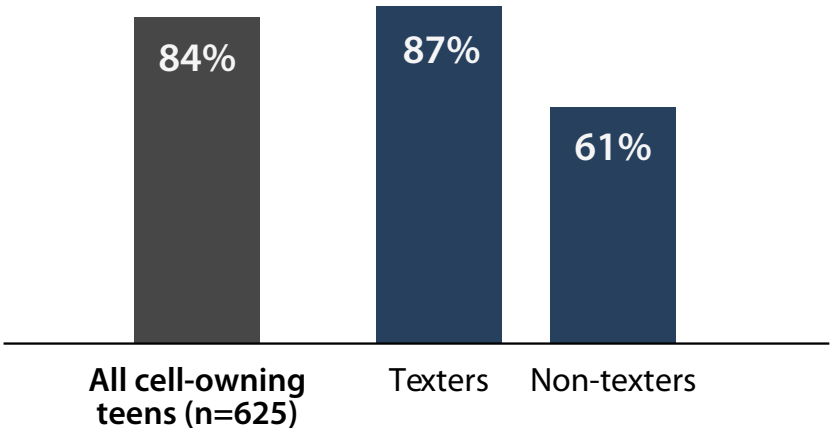
> Boy 1: I don't turn it off at night, I always want to be able to check the time because I can't really look at the clock without my glasses so I just look at the time.
>
> Boy 2: This is my clock. This is my watch.
>
> Boy 3: This is my alarm.

While the functionality of the clock might legitimize having the cell phone bedside, it is also a potential communication channel.

Older teens are more likely to sleep with their phones than younger teens. While 78% of cell-owning 12 and 13 year-olds have slept with their phones right next to them, that figure is 86% among cell-owning teens age 14 and older. Moreover, African-American teens and those from households with incomes below $50,000 are slightly more likely to engage in this behavior than other teen cell phone users. Among African-American cell-owning teens, 91% say they have slept with their phone on or right next to their bed, and among lower income cell-owning teens, 89% say they have done this.

But the biggest driver of whether a teen sleeps with their phone is texting. Teens who use their cell phones to text are 42% more likely to sleep with their phones than cell-owning teens that do not text.

Texting related to increased likelihood that a teen will sleep next to his or her phone



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Source: Pew Research Center's Internet & American Life Project, Teens and Mobile Phones Survey, conducted from June 26 – September 24th, 2009. n=625 teen cell phone owners ages 12-17 and the margin of error is +/- 5%. For smaller subgroups, the margin of error may be larger. Please see the Methodology section for details.

The focus groups provided some insights into how and why teens stay connected to their phones at night. A fairly common practice seems to be sleeping with one's phone under the pillow, so that it will wake the teen if someone is trying to contact them. Others say they fall asleep with the phone in their hand, sometimes mid-conversation, or keep the phone in bed with them or right beside them on their nightstand. Those who keep the phone under the pillow or in the bed say it is for practical reasons—they are concerned that the phone will fall off of their nightstands during the night and break, so they feel safer keeping it in bed with them.

Most teens in the focus groups said they do not like being called during the night unless it is an emergency, and they leave their phones on with the assumption that if they do get a call, it will be about something important. For this reason, most of the teens we spoke with said they are reluctant to turn their phones off altogether at night and turn it to vibrate instead so they can be contacted if necessary.

A small minority of teens we spoke with said they turn their phones off while sleeping, or set limits with friends for when it is, and is not, okay to contact them at night. As one girl explained, her voicemail recording tells friends that it is okay to contact her up until 10:30 PM, but no later. And another boy explained that his mother has set his phone to deactivate at 11:00 PM on school nights, and that he often has to tell his friends, much to their surprise, that he must end a conversation because he is going to bed.

Despite these measures, teens lament intrusive and frivolous calls and texts received at all hours of the night. Often, they are the pranks of bored friends or mischievous siblings. Other times, they are friends reaching out to chat. At those times, some teens feel obligated to respond. As one high school girl explained, "Our friends are texting constantly, and the people will wake me up at like midnight and I have to like wake up and talk to them or like they'll think I'm mad at them or something."

Feeling obligated to stay connected.

The social expectations that are created by constant connectivity are not lost on teens, and are evident in some of the excerpts above. In addition, during the focus groups, teens related many stories of friends and acquaintances who get insulted, angry or upset if a text message or phone call is not responded to immediately. As a result, many teens we heard from said they feel obligated to return texts and calls as quickly as possible, to avoid such tensions and misunderstandings.

Several teens spoke to the perceived obligation that accompanies cell phones to always be reachable. One high school girl explained her frustration at these expectations:

> That is one aggravating thing I find about phones…when it gets to the point where you can receive like all your messages and all this, then you have no way of disconnecting. That didn't used to bother me until on a family vacation, my uncle, the entire time typing his emails, doing his business. It's like, 'Why is it so hard for you to put that away for one day and enjoy like a family meal?' And see because like everybody knows that this person can be contacted 24/7, that's what they do, and then that person feels obligated…. A person gets to the point where they can't, where you can't just be like, 'I'm going on a trip people, I'll be gone for a week!'

At the end of several of the focus groups, participants were asked to share with the group what they thought were the best and worst things about having a cell phone. Several responded to this question by noting the tension between the benefits of always being connected with those around them and the downside of always being expected to be available. As one boy put it, "The best thing is that it's so convenient and you can just talk to people all the time, and like even if you're not at home, and like, the worst thing is like, when people keep calling you…it just gets annoying." A high school girl echoed his sentiments when she said, "It just keeps you connected and you can talk to other people, but in return it also sometimes just gets annoying. People calling you…so kind of a give and take."

Such feelings, while common, were not universal. There were a very small number of teens in the focus groups who seemed unconcerned with the social expectations that accompanied cell phone ownership or who managed others' expectations by simply limiting their availability. As one boy explained, he is simply "bad at answering my cell phone, and um, I just leave it on the counter and walk somewhere else and come back and see missed call. So people expect that from me. They don't expect necessarily a quick answer."

Chapter Four: How parents and schools regulate teens' mobile phones

Parental and institutional regulation of teens' mobile phone use.

As cell phones become increasingly ubiquitous in the backpacks and back pockets of American teens, parents and schools struggle with how to manage teens' constant connectivity to friends, networks and the information that these devices allow.

Teens in our focus groups talked about how in many families, parents as much as teens were the instigators of the first phone purchase. Parents are most often the phone provider – 70% of teens have phones fully paid for by someone else. Most American teenagers get their first cell phone in middle school, at age 12 or 13: 23% of teens got their first cell phone at age 12 and another 23% got their first phone at age 13. About 20% of teens have their first phone by the time they enter middle school (age 11 or under for first cell phone owned). Another 14% of teens get their first phone at age 14 and roughly 20% get their first phone when they're between 15 and 17.

Teens from lower income households generally must wait a little longer to get their first cell phone. A greater proportion of teens from lower income households – earning less than $30,000 annually — got their cell phones at later ages, with 18% getting their first cell phone at age 16, compared with just 6% of teens from wealthier homes. The trend persists through various income brackets, with teens more likely to get their phones at earlier ages in higher income households.

Parents and teens offer a variety of reasons why teens first get a cell phone. For many families, safety and an increased sense of connectedness is a major motivator. One high school girl told us, "I was a freshman in high school when I got one. …[T]he school I go to is downtown. My parents wanted to keep track of me." Another middle school girl offers a more frightening scenario: "[My mom's] been going crazy on me because one time this guy followed me home. So my mom is like having a panic attack…. I don't really get along with girls that good, I don't really like gossip and drama, so she usually never let me walk with people. So now she lets me talk to people on the phone, [and] I get to walk with people. It's better, I like it, I feel more secure with my phone." Other families purchase phones for their children to help simplify daily logistics: "Freshman year, because of sports and I was after school a lot and it was really hard to reach my parents and if I, like, missed the bus or couldn't get a ride from upperclassmen, I was like stuck at school, and that happened once, so I got a cell phone after that." Another high school boy mentions that it is not always teens themselves who instigate the phone's purchase. "I was also twelve. I got it…um, my mom got it for me to communicate with my parents, if I was walking, going to be late from school, or walking home. I didn't care that much about it, it was cool to have, but I got along fine without it."

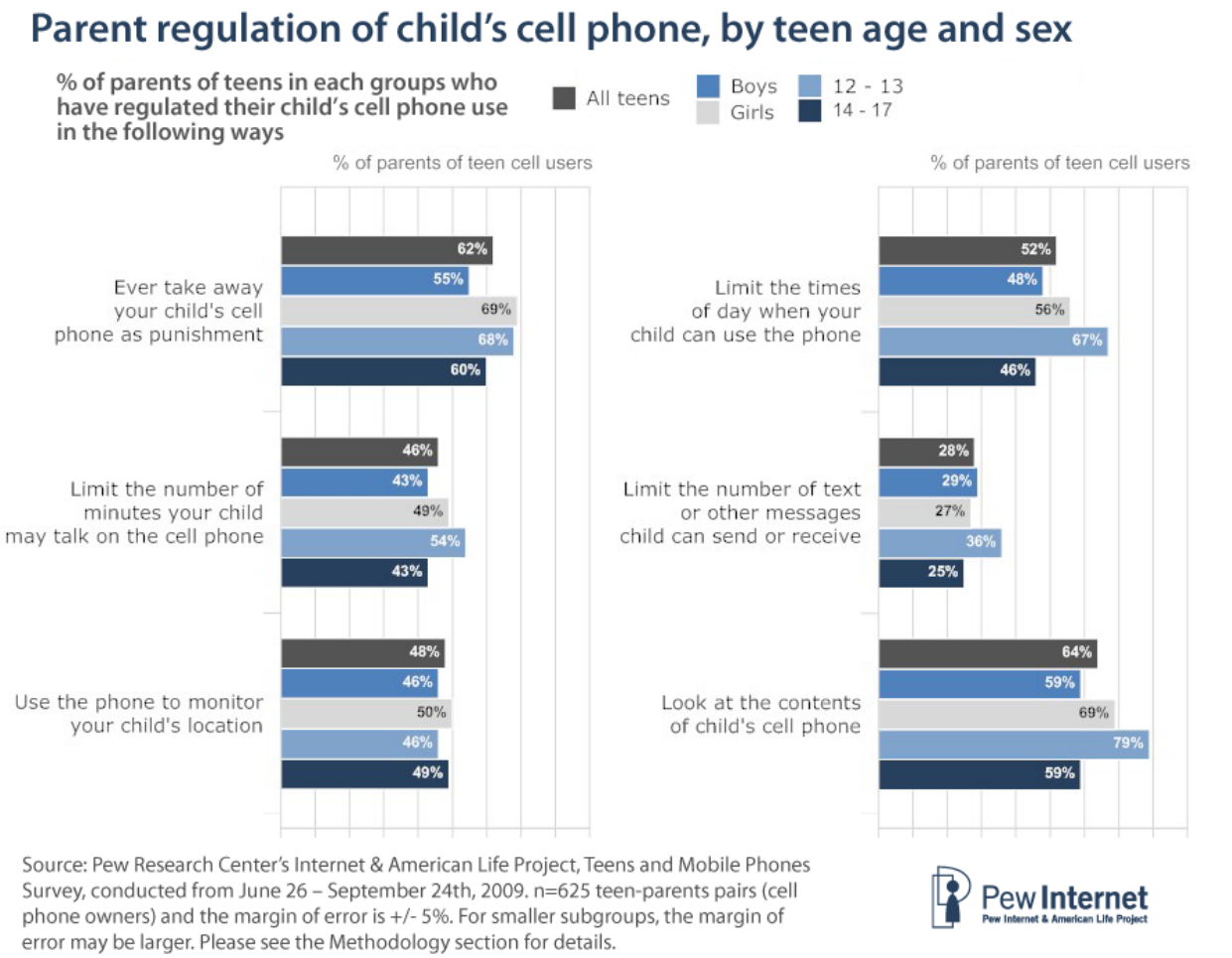
Parents and limits on cell phone use.

Although parents often facilitate the initial purchase of a mobile phone, they seldom obtain a phone for their teen and then step out of the picture. Phones are regulated by parents and used as parenting tools. Parents often place limits on the times of day their teen can use his or her phone, as well as the numbers of minutes they can use or texts they may send. Parents look at the contents of their teen's phone, use the phone to monitor their child's location and take the phone away as punishment.

About two-thirds (64%) of parents say that they look at the contents of their child's phone, including looking at the address book, call log, text messages or pictures. Another two-thirds (62%) have taken away their teen's phone as a punishment. Many focus group teens reported parents looking through

their phones and the loss of the phone as a punishment. “I’ll be, like, my mom goes through my text messages, and stuff like that, she’ll be checking how many numbers that I got and my minutes,” explained a middle school boy. Another middle school boy said, “She’ll be like, ‘Let me see your phone so I can see your text messages.’ She goes through everything: minutes, texts, and, one time I was texting this girl, and things happened with that.” Other teens detailed their punishments: “…I got in trouble,” said one middle school girl, “and I ruined my records, so my mom took my phone away from me.“ Other parents work in concert with the schools: “She was like, ‘If you get your phone taken away [at school], I’ll get it, but I won’t give it back to you,’” said one middle school boy.

About half of parents (52%) say they have set limits on the times of day when their child can use the phone and a similar number (48%) say that they use the cell phone to monitor their teen’s location.[42] A middle school boy describes his mother’s limits on his phone use: “Yeah my mom set it so it will get deactivated at eleven on school nights. So when I’m going to sleep I’ll keep getting texts and I’ll be like, ‘I’m going to bed,’ and people will be like, ‘What?’”



42 Note: This question regarding monitoring a child’s location with the phone did not distinguish between calling a child to determine their location, or using a GPS enabled application to determine the teen’s location.

One high school boy narrates some of the conflict between him and his mother over location monitoring. “Yeah, she’s like, ‘The reason why I got you a cell phone is that you can call me when you get home or when you get to this place,’ and if I don’t call she like flips. ‘Why do you have a cell phone if you can’t call me?’ Like, ‘I got caught up.’ She’ll be like, ‘No, no excuses.’ So, having the cell phone is a pro and con.”

Parents also limit the number of minutes their child may talk on the phone – 46% of parents report setting these types of limits, possibly in response to the fact that many family plans – used by 69% of teens – have a set number of minutes shared across the family. “It’s all about the minutes. Because I don’t know, my mom and dad, I go over my minutes sometimes, and they started yelling at me or something, they said pay for this, stuff like that,” said one high school-age boy.

Parents are least likely to report limiting the number of text messages or other messages their child sends or receives on their phone – a bit more than a quarter (28%) of parents say they set text message limits. Most teens have unlimited text messaging plans, which for many families may make these limits unnecessary.

The flip side of parental regulation and monitoring is that teens report feeling suffocated by the constant contact with parents. “The worst thing is, I guess, like, when you don’t want to get in touch with your mom, but she can always get in touch with you,” said one younger high school girl. “Sometimes you want your space. But when you have your phone you can’t have your space.“

Girls, particularly younger girls, are much more likely to be the object of parental regulation around the cell phone than boys or older teens. Girls are more likely to have parents looking at the contents of their cell phones, have limits on the times of day they can use the phone and are more likely than boys to have their cell phone taken away as punishment for misdeeds.

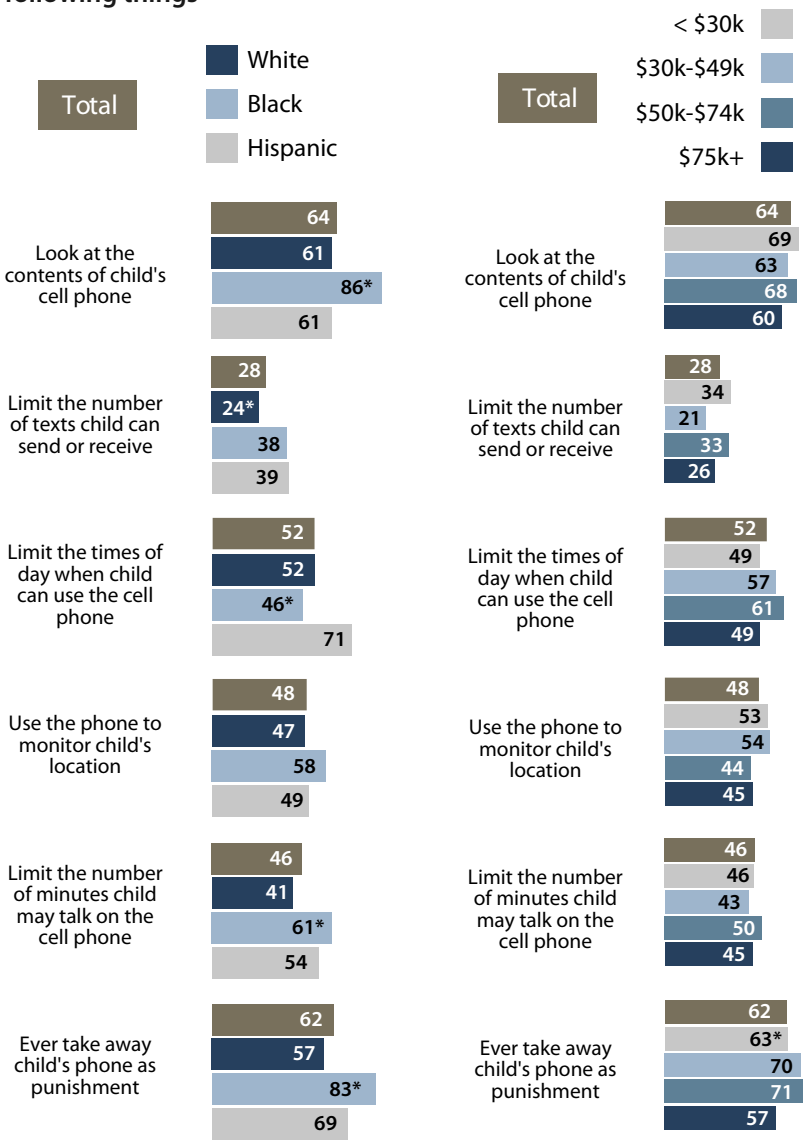
Nearly 7 in 10 girls (69%) have parents who say they have taken the phone away as punishment. A similar percentage (69%) of parents of girls report looking at the contents of their daughter’s phone, compared with 55% and 59% of boys’ parents, respectively. Fully 56% of parents of girls say they limit the times of day when their daughter can use her cell phone compared with 48% of boys’ parents. Parents of girls and boys are just as likely to engage in other monitoring behaviors like limiting the number of minutes a teen may talk, limiting the number texts a teen may send or monitoring his or her location via the phone.

A teen’s age is also a significant factor in whether or not a parent reports regulating his or her phone. Younger teens, particularly younger teen girls, are the primary targets of parental phone regulation. Teens 12 to 14 are the primary focus of parent regulation that involves looking at the content of the teen’s phone – between 72% and 80% of teens in this age range have parents who say they look through their child’s phone. The 12-to-14 age range is also the age when parents are most likely to limit text messaging — 35% of parents of teens with cell phones in this age range report doing this, compared with 23% of parents of older teens. Teens 12 to 15 years old are the primary recipients of limits around the times of day they may use their cell phone. Some 60% of parents of 12-to-15 year-olds report limiting the times of day when their teen’s phone may be used, as do 39% of parents of 16-17 year-olds.

Teens ages 13-14 are more likely to have parents who report limiting the number of minutes they may talk on the phone and are the age group most likely to have parents who say they’ve taken their child’s phone away as punishment. Parents of younger girls ages 12-13 are the most likely to report engaging in multiple forms of regulation of their daughter’s cell phone. These parents are more likely than parents of sons or of older teens to say they’ve limited the number of minutes their daughter may talk on the phone. They are also more likely to report going through the contents of their child’s cell phone, taking away her phone as punishment and limiting the number of text messages she may receive than parents of other teens.

Parent regulation of child's cell phone, by race and income

The % of parents of teen cell phone users who have done the following things



Source: Pew Research Center's Internet & American Life Project, Teens and Mobile Phones Survey, conducted from June 26 – September 24th, 2009. n=625 teen-parents pairs (cell phone owners) and the margin of error is +/- 5%. For smaller subgroups, the margin of error may be larger. Please see the Methodology section for details.

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African-American parents are more likely to report regulating their child's cell phone than white parents. African American parents are more likely than white parents to look at the contents of their child's cell phone, take the phone away as punishment, limit the times of day their teen may use the phone, and limit the number of minutes or text messages their child may send, receive or use.

Parents are more likely to report limiting the number of minutes their child can talk if their child does not send or receive text messages. Six in 10 parents of non-texters limit the number of minutes their teen can talk on the mobile phone compared with 44% of parents of texting teens.

A small number of teens report that their parents monitor their location through their cell phone. A bit more than one in six teens (17%) say that their parents have monitored where they were through the cell phone. A little less than half (48%) of parents report monitoring their teen's location through the cell phone. Not surprisingly, teens see this as an unwelcome intrusion into their lives. One participant in the focus groups had a monitoring service enabled on her phone and was very curt in her feelings toward it. Younger teens, particularly girls, are the most likely to report parental monitoring of their location. Among 12-13 year-olds, 25% report having their whereabouts monitored by their parents through their phone compared with 14% of older teens. As with other forms of control, younger girls are the most likely to report location monitoring through their cell phones, with one-third (33%) saying their parents engage in this behavior, more so than all

older teens and younger boys. There is no difference in teen-reported monitoring by race or socio-economic status.

About 10% of teens and parents both acknowledge that the parent is monitoring the teen's location with the phone. Another third (37%) of teens have parents who say they monitor their whereabouts with the phone, but the teens themselves are not aware of such surveillance. On the flip side, there is another small group of teens (7%) who report being monitored via their cell phone, but whose parents do not report such monitoring behavior. Finally, the remaining 43% of parent-teen pairs represent cases where both parties say there is no monitoring of the teen's whereabouts with his or her mobile phone.

Cell phone plans and parental regulation of the phone.

The type of plan teens have for their phone – unlimited or limited minutes, unlimited or limited texting and whether they're on a family, pre-paid or separate plan are closely linked with parental regulation. Parents are more likely to place limits on their child's text messaging when their teen has a family or pre-paid cell phone plan; or when their child's cell phone plan limits the number of texts they may send per month; or when they must pay per text message. Similarly, teens on cell phone plans that limit the number of minutes they may talk (or the number of texts they may send) are more likely to have parents who say they place restrictions on the number of voice minutes their child may use.

Teens with unlimited text messaging plans (75% of all teens with cell phones) are more likely to have parents who say they take their teen's phone away as punishment and that they limit the times of day when their child can use their mobile phone. However, if we look at reported behavior, teens who say they text message their parents most often are more likely to have parents who say they do not regulate their child's mobile phone in any way. This may well indicate a rapport between generations that builds on mutual trust.

Few parental actions relate to differences in negative cell phone uses by teens.

Whenever interventions, whether formal and not, are evaluated, the ultimate question becomes – do they work or not? While this report cannot show causality or prove that certain interventions do or do not work, we can report on the relationship between particular steps that parents take to regulate their child's mobile phone and the behaviors of teens themselves. Generally speaking, there is relatively little correlation between parental interventions on cell phone use and behavioral outcomes on the part of teens.

Compared with teens whose parents place no time-based limits on their cell phone use, teens whose parents limit when they may use the phone are less likely to say they text (27% vs. 42%) or talk (44% vs. 57%) while driving. On the other hand, these teens are more likely to report experiencing harassment through the phone. Teens with parents who limit when they can use the phone are also more likely to have received "sexts" or text messages with sexually suggestive images of peers attached. However, this kind of regulation shows no relationship with riding with drivers who text or use the phone dangerously behind the wheel or with sending sexually suggestive images of oneself to others with your phone. As noted above, these relationships do not suggest causality. Parental limitations may, for example, be implemented after they have discovered distressing material on their teen's phone or otherwise in response to some negative cell phone related incident, rather than as a preemptive move.

Teens who have parents that monitor their location using the cell phone are generally not aware that their parents are monitoring them - 17% say their parents monitor their location with the phone, compared with 48% of parents who say they monitor their child's location. There is also a relationship between parents who monitor their child's whereabouts with the phone and teens reporting harassment

through their phone – a larger percentage (30%) of teens with monitoring parents report harassment through the phone compared with 22% of teens whose parents do not monitor their location with the phone. Of course it may be that a teen who experiences harassment triggers a greater level of monitoring in parents.

Limiting the number of minutes a child may talk on the cell phone does not measurably relate to any talking- or texting-related negative behaviors. However, limiting the number of text messages a child may send does seem to be related to lower levels of some worrisome text-related behaviors. Teens whose parents limit their texting are less likely to say that they have been in the car while the driver texted or used the phone in a dangerous manner. These teens are also less likely to say they have sent text messages they later regretted, or to say that they have sent a sexually suggestive image of themselves to someone via text. Limiting texts is not associated with a lower likelihood of driving-age teens texting behind the wheel, nor does it reduce the likelihood that a teen receives cell phone spam or is harassed through his or her phone.

While nearly two-thirds of parents say they've taken their child's phone away as punishment, many of these teens have a greater likelihood of reporting certain behaviors or feelings than teens whose parents do not use this tactic. Teens whose parents have taken away their phone are more likely to report being harassed through their phone (30% vs. 20%), regretting a text they sent (53% vs. 39%), and being in a car when the driver used the phone in dangerous way (48% vs. 33%). It may be that parents of teens are resorting to taking the phone away because their child is engaged in more risky behaviors, rather than indicating that taking away the phone is an ineffective punishment.

Mobile Phones and Schools.

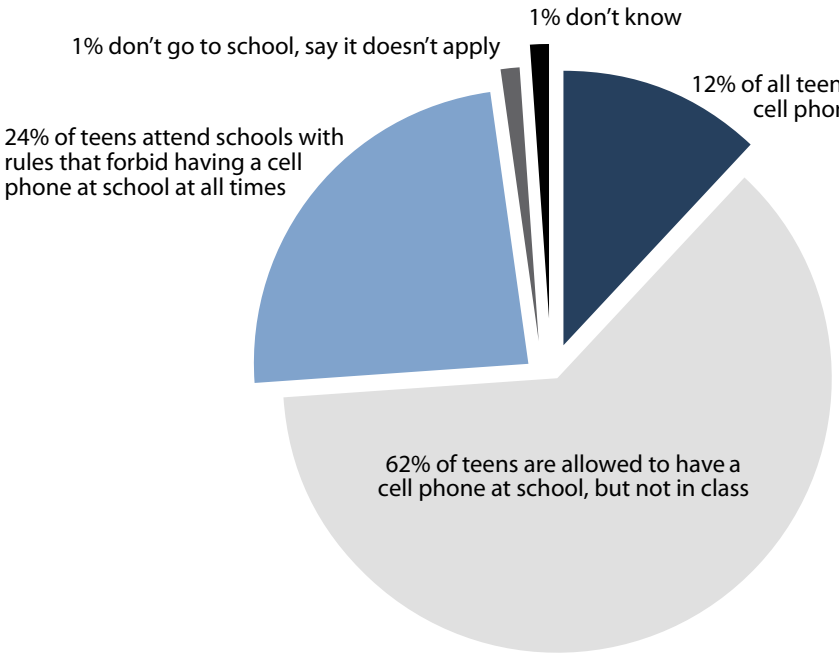
As institutions that are often called upon to serve *in loco parentis*, schools take a variety of approaches towards the regulation of the mobile phone within their four walls and on their campuses.

When it comes to possession of a mobile phone during the school day, just 12% of teens with cell phones say that they can have a cell phone at their school at all times. A majority of teens (62%) say that they can have a cell phone at school but not in class, and another quarter of teens (24%) attend schools that forbid cell phones altogether.

Our focus group conversations support these findings and suggest that most schools treat phones as a disruptive force to be kept turned off and away from the classroom. Many teens talked about a tiered system based on a "if they can see it, they can take it" philosophy. An older high school girl describes a common system: "Yeah, it's happened to me three times. The first time they take it for a day. They take it for a night and you don't see it until the end of the next day of school. The second time they take it for a week, and the third time the rest of the semester." Other teens describe systems in schools that require parents to come to the school to retrieve the phones of wayward students.

Some schools allow limited use of cell phones, as this older high school girl explains, "At ours, you can have it in passing periods and lunch. And if they see it, it gets taken and I think the first time you go back at the end of the day and get it."

Majority of teens can have cell phones at school but not in class



Source: Pew Research Center's Internet & American Life Project, Teens and Mobile Phones Survey, conducted from June 26 – September 24th, 2009. n=625 teen cell phone owners ages 12-17 and the margin of error is +/- 5%.

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Some teens describe what feels like arbitrary enforcement or a lack of clarity around school rules for mobile phones. "I don't text much in school. And we don't really have, and our rules are just like whatever the teachers feels like," said one younger high school-age boy. "Some teachers give it to you at the end of the day, some after class, some keep it over the weekend if it's like, Thursday or Friday." Others described schools "giving seniors leeway" with phones and teachers playing favorites or looking the other way around cell phone enforcement. Said one middle school girl, "At my school, it's kind of messed up, but if you're one of the favorites, and I'm one of the favorites with some of my teachers, they just let you use your phone."

A younger high school-age girl describes one teacher's classroom policy: "Well, my teacher has a mind of her own, so she takes up the phones in class before class starts and then at the end she'll give them back and then that's not like the school policy. That's just her policy, but if you don't turn it in and it goes off, then it gets sent to the principal and your parents have to come pick it up." Another high school-age girl describes a creative teacher, who, "if she caught you texting, she'd pick up your phone in class and read the message." This is apparently an effective deterrent according to reports of teens in our focus groups.

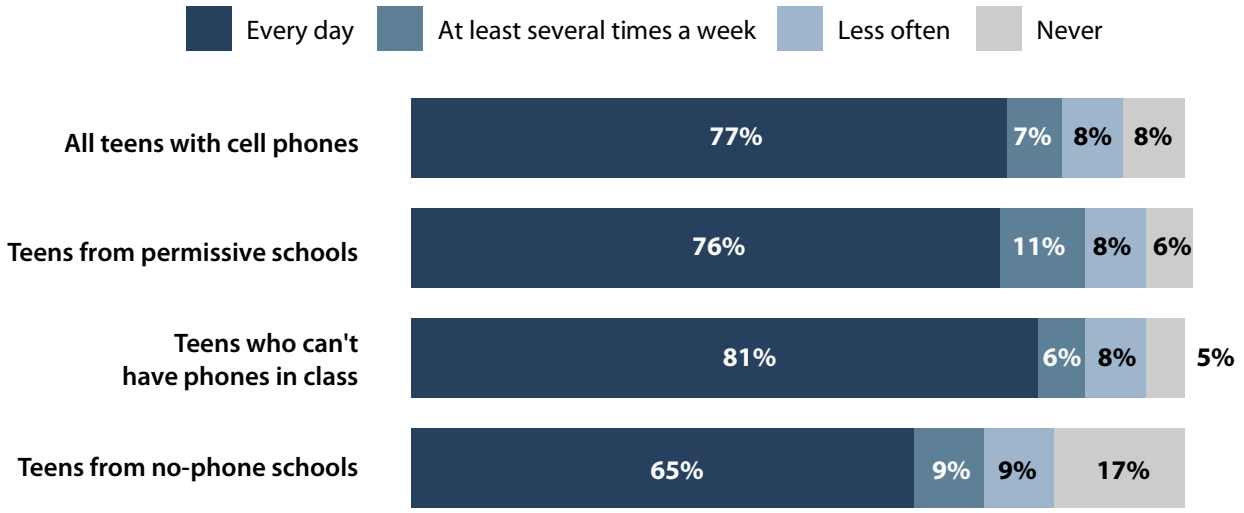
Other teens report that their teachers use their own phones in class: "Well, it says in the book that you're not supposed to have it, like if you have it, it's supposed to be off and in your book bag or whatever, but like it's extremely flexible. Like, some of my teachers even use their phone in class, so you can use it as long as it doesn't make noise."

A few schools simply ban phones altogether: "We have absolutely no cell phones," said one older high school girl. "If you're on school grounds, you can't even use it in your car."

Despite these restrictions, teens are still overwhelmingly taking their phones to school – 77% take their phones with them to school every school day and another 7% take their phone to school at least several times a week. Less than 10% of teens take their phone to school less often and just 8% say they never take their phone to school.

Teens who take their phones to school

How often do you take your phone to school?



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While a higher percentage of teens who attend schools that forbid all cell phones say they never bring their phone to school (17% vs. 5% at other schools), nearly 65% of teens at "no phone" schools bring their cell phone to school every day, anyway. Four in five (81%) teens at schools where they may have a cell phone, just not in class, bring their phone to school everyday.

Further, many teens who take their phones to school are keeping them on and using them during the school day, sometimes during instructional time. Six in ten teens (60%) say they have their phone turned on at school at least once a day and sometimes several times a day. Just one-quarter of teens (23%) who take their phones to school say they never have them turned on during the school day.

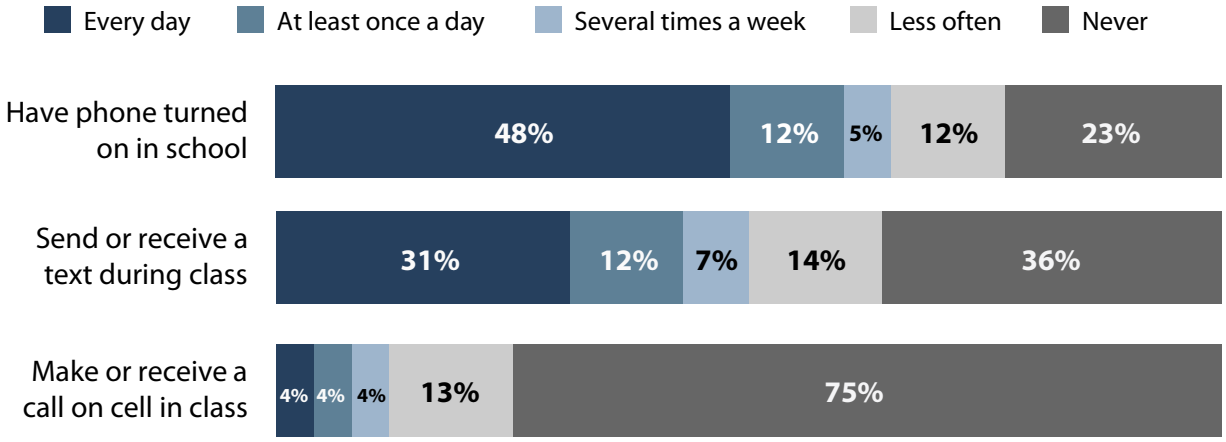
Teens with carte blanche to have their phone with them at school are just as likely as teens who can have the phone, just not in class, to have their phone on several times during the school day. Some 49% of both groups report such behavior. Teens who are not allowed to have a phone at school are more likely to say they keep the phone off during the school day, with one-third (32%) saying they never turn their phones on, compared with 21% of teens who can have phones at school but not in class, and 16% of teens who have fewer restrictions.

More striking is the two-thirds of teens (64%) who tote their phones to school who say they have ever sent or received a text message during class. Nearly one-third (31%) of teens who take their phones to school text in class several times a day and another 12% of those teens say they text in class at least once a day. Fewer teens report that they place calls during class, though 4% manage to make calls from class several times a day and another 4% do so at least once a day. Fully 75% of teens who bring their phones to school say they never make calls during class time.

One middle school boy describes texting in class at his school: "When I'm in class, I just see people pull out their phone and try to be sneaky, and get past the teachers and try texting and stuff. Like, one time I tried that and my teacher caught me."

31% of teens who take their phones to school send text messages every day during class time

Of teens who take their phones to school, the % who do each activity (frequency)



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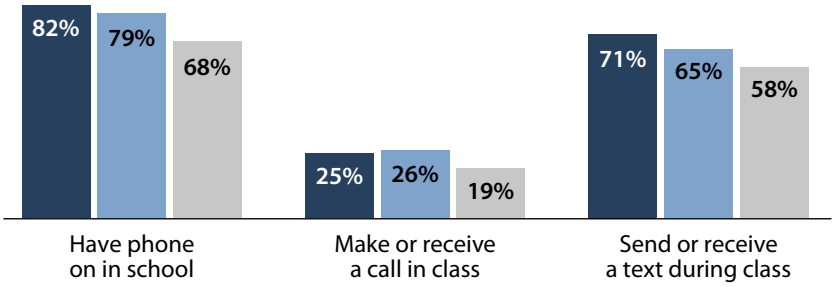
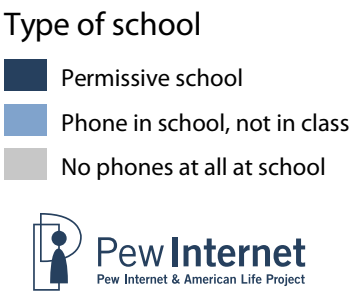
Teens in the focus groups described a myriad of ways to text in class without being caught – behind stacks of books, under desktops, inside of bags, and one even described having an older phone that he kept in his bag to surrender to teachers when he got caught texting in class. "I've got [a second phone] … if you get caught using your phone you can pull out a fake phone, turn it on and give it to them."

In-class texting varies little with regard to the aggressiveness of a school's regulation of its students' mobile phones – teens with full access to cell phones are just a bit more likely (71% to 58%) to say they send or receive texts in class than teens who attend schools that forbid phones altogether. Perhaps heartening to administrators is the finding that about a third of teens text frequently in class (31%), another third of teens (33%) text in class occasionally and a third (36%) say they never send text messages during class. These findings mostly hold regardless of the regulatory environment, although there are exceptions in the extremes of behavior. Teens in schools where phones are totally forbidden are slightly less likely to text in class several times a day, and are more likely to say they never text, than are teens who attend schools that allow cell phones at all times.

58% of teens from schools that forbid all phones have sent a text message during class

Of teens who take their phones to school, the % who have ever done each





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Roughly 25% of teens take their cell phones to school and say they have made a phone call on their cell phone during class, although most do so only infrequently. The data show that 13% of teens who bring their cell phones to school make a cell call during class less often than once a week and just 4% make such calls several times a week. Another 4% say they make calls at least once a day and yet another 4% say they make calls several times a day during class. There are few statistically significant differences on this question by school regulatory environment.

Girls and older teens are more likely than boys and younger teens to take their cell phones to school every day. Teens from lower income families are more likely to say that they make calls during class time several times a day, with 12% of teens whose parents earn less than $30,000 annually saying they make calls that frequently compared with just 2% of teens from wealthier families.

Cheating with cell phones.

Another problem associated with cell phones in school is that the technology offers new opportunities for cheating. Although this report does not have survey data to establish the prevalence of this problem, responses from the focus groups indicate it is not uncommon. Most of the teens in the sessions said that they have heard that other students have used cell phones to cheat, and some admitted to doing it themselves. Themes from their focus group responses indicate that cheating is carried out through the cell phone by texting test answers to others, taking pictures of exams, taking pictures of textbook materials to bring into an exam, and getting answers online, especially through Web sites that claim they will answer any question. A high school girl commented, "I have heard of people taking pictures of the textbook — a section where they didn't know anything – and then they'll zoom in and take a photo. It's kind of like a sheet of notes, but it is on your phone. It's not like you have to pull out a piece of paper and unfold it and make a lot of noise. It is easier." A high school boy stated, "I've seen a lot of kids with their iPhones … They'll Google something like an essay question or something like that. "

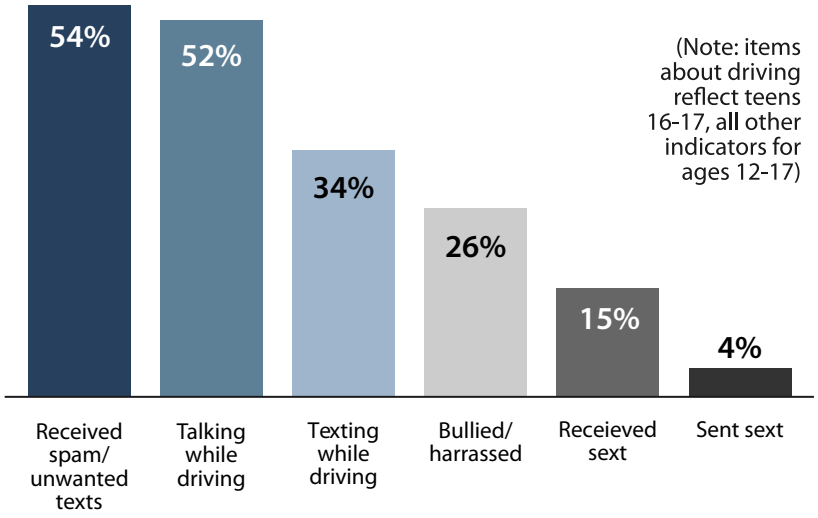
In addition, several teens mentioned that their phone is their calculator, which can also be a method for cheating when calculators are not allowed during math exams. A high school girl recalled, "Last year I would use the calculator and pretend I was writing my work down. Then I would use my calculator in order to get this algebra problem. Teachers will be like, 'Oh yeah, you passed this class,' and I'm like, 'Calculator,' in my head."

Chapter Five: Negative aspects of mobile phones

Adverse "side effects" of teen cell phone use.

Of course, with new opportunities come new problems, and the cell phone puts new twists on old ones. This section examines some of adverse ramifications of cell phone use by teens, including distracted driving, so-called "sexting," mobile harassment, and unwanted text messages. The chart below shows that among these concerns, distracted driving and receiving unwanted or spam text messages stand out as most prominent among teens who use cell phones.

Percent of teen cell phone owners that have experienced negative aspects



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The cell phone has become an additional source of distracted driving among teens (and their parents!)[43]

One of the most serious concerns about teens and cell phones is their use of the technology while driving. Over half (52%) of teens ages 16-17 who own cell phones reported that they have talked on a cell phone while driving. Over a third (34%) have texted while behind the wheel. Boys and girls were equally likely to report both talking and texting while driving.

Nearly half (48%) of all teens ages 12-17 say they have been in a car when the driver was texting, and 40% say they have been in a car when the driver used a cell phone in a way that put themselves or others in danger. While filling out the focus group questionnaire, several teens expressed serious concerns about safety when this happens. As one middle school boy explained, "I do worry about it because what if you're driving and not paying attention to the road. You can hit someone or make them hit you." Some

43 For a fuller discussion of this topic, please see the Project's Teens and Distracted Driving report at http://www.pewinternet.org/Reports/2009/Teens-and-Distracted-Driving.aspx

of the teens differentiated between the risks of talking and texting. Another middle school boy wrote, "People texting worries me more than people calling people, because texting is more distracting than talking on the phone because you can pay more attention to the road when talking than texting."

Other teens were more blasé about cell phone use while driving. Some even described tactics they employed in order not to get caught doing it, such as a high school boy who admitted, "I wear sunglasses so the cops don't see [my eyes looking down]." Participants also discussed tactics to mitigate the hazard it poses to driving. For example, some explained they would only text when the car was not moving, such as at a stop sign or traffic light. Others would read but not send texts while driving. "There's a difference, I think," said one high school boy. "Because just reading a text isn't that bad, it's just reading and then moving on. If you're texting, it's going to take more time when you're supposed to be driving, and that's when most people get in accidents."

Many of the teens stated their parents use the cell phone while driving with them and others in the car. In addition to voice calling, parents are also texting. As one high school boy explained, "[My dad] drives like he's drunk. His phone is just like sitting right in front of his face, and he puts his knees on the bottom of the steering wheel and tries to text." This type of comment was echoed by several other teens during the sessions.

"Sexting" is a growing concern, but teens tend only to be aware of it rather than involved with it.[44]

Sexting, or the distribution of sexually suggestive nude or nearly-nude images, has garnered increased media attention in recent years. While this is a topic of concern, results from the survey show that the vast majority of teen cell phone owners have not sent or received messages of this nature. Only 4% reported that they have sent these types of images or videos of themselves, and 15% said they have received a "sext" from someone they know. Older teens were more likely to report receiving sext messages than younger teens, with 18% of those 14-17 as opposed to 6% of the 12 and 13 year-olds reporting this. There were no differences between boys (15%) and girls (14%) in receipt of sexts. Furthermore, teens who are more frequent users of cell phones are more likely to receive sexually suggestive images.

Focus group findings show that sexting occurs most often in one of three scenarios:

1. Exchanges of images solely between two romantic partners
2. Exchanges of images between partners that are then shared outside the relationship
3. Exchanges of images between people who are not yet in a relationship, but where often one person hopes to be.

Teens explained how sexually suggestive images have become a form of relationship currency. These images are shared as a part of or instead of sexual activity, or as a way of starting or maintaining a relationship with a significant other. They are also passed along to friends for their entertainment value, as a joke, for revenge or for fun.

Some teens also described the pressure they feel to share these types of images. One high school girl wrote:

> When I was about 14-15 years old, I received/sent these types of pictures. Boys usually ask for them or start that type of conversation. My boyfriend or someone I really liked asked for them,

44 For a fuller discussion of this topic, please see the Project's Teens and Sexting report at http://www.pewinternet.org/Reports/2009/Teens-and-Sexting.aspx

and I felt like if I didn't do it, they wouldn't continue to talk to me. At the time, it was no big deal. But now, looking back, it was definitely inappropriate and over the line.

Although this is not a pervasive teen practice, sexting can create serious problems for those involved in it. The desire for risk-taking and sexual exploration during the teenage years, combined with a constant connection via mobile devices, creates a "perfect storm" for sexting. Teenagers have always grappled with issues around sex and relationships, but their coming-of-age mistakes and transgressions have never been so easily transmitted and archived for others to see.

The cell phone has become a new venue for harassment and bullying of teens.

Over a quarter (26%) of teen cell phone users reported having been harassed by someone else through their cell phone. Girls are significantly more likely to experience this (30%) than boys (22%). This trend is more common for those teens whose parents are under 40 and low in educational attainment.

Responses in the focus groups were split with regard to how serious of a problem this is. Some teens clearly believe this is major problem with serious social and psychological consequences, while others feel that it is "not really a big deal."

Respondents discussed how harassment can occur through voice calls and text messages. In a voice context, it is often in the form of prank calls. Both voice and text are used to deliver threats and insults. In addition, sexual harassment was mentioned by some, which may help explain why girls reported higher incidences of cell phone harassment overall than boys in the survey. Several teens also reported that cell phones are used to indirectly harass others behind their back, for instance by spreading false rumors.

While these are old problems that young people have always had to deal with, the cell phone gives rise to new concerns about harassment. In their written responses during the focus group sessions, teens explained that it is particularly difficult to escape harassment when it happens over the cell phone. One high school girl wrote: "I think it's terrible. You can't escape the hatred. Even when you go home someone can still pick on you." Although the anytime, anywhere nature of the technology is a major draw for teens to stay in touch with their peers, it also provides new opportunities for bullies and harassers to stay connected to their targets.

Another characteristic of the cell phone, especially the lean channel of texting, is that it lends itself to uninhibited behavior for some users. One girl in high school explained that "many people use texting as a way not to do it face-to-face," indicating that some feel less accountable when texting. As a high school boy put it, "People have bigger mouths through text," making it easier for them to deliver threats and insults.

Although they embrace text messaging, many teens also regret messages they have sent.

As this report has detailed, text messaging has become a primary resource for maintaining contact with peers and coordinating social life among teens. While most young people in this study (and overall) embrace the utility of text messaging for anytime, anywhere private exchanges, many experience feelings of regret about their use of this channel. Almost half (47%) of teen cell phone owners reported regret over a text message they have sent. There is a notable trend by age, with 12 year-olds reporting a much lower occurrence of feelings of regret (28%) than the rest. Regret over a text message was particularly high among girls 14-17, with 54% of them reporting this, compared with 39% of 12-13 year-old girls and 42% of boys ages 14-17. Another trend from the survey shows that teens with unlimited text plans were significantly more likely (52%) to express regret than those with limited (21%) and pay per text (19%) plans.

And not surprisingly, the more text messages a person sends on an average day, the more likely they are to say they have regretted a message they have sent.

Responses in the focus groups illustrate characteristics of text messaging that can lead to situations of regret. One of the themes from the sessions points to misunderstandings that can arise from trying to express oneself with 160 characters or less of text. Several of the participants mentioned how it can at times be difficult to establish shared meaning through texting, especially with the tone of a message. For example, one high school girl from the interviews stated, "I think that 50% of the arguments I have with friends are that reason. I rarely fight but whenever I do have an argument, someone will send me a text message and I'll be like, well that was rude, and they didn't mean anything by it. I was like, 'Oh, OK, my bad.'" These types of misunderstandings can emerge from simple punctuation use, or in this case the lack of it: "It's usually if they say something and put a period at the end. It'll be, like, really abrupt, and you'll be, like, 'Oh, that sounded like they are mad.'"

Participants also discussed how sending a text to the wrong person is a common problem that can lead to regret. This can happen as a result of confusion from trying to maintain multiple threads of text-based conversation with multiple partners at once. A high school girl explained, "It's confusing though, cause somebody will text you and you'll text them back and they will, like somebody else will send you a text message and you'll be like, 'Wait what?' And I text the wrong thing and it causes a lot of drama."

Some of the regrets expressed in the sessions were not about the content of messages, but rather the setting in which they were exchanged, especially when it violated school rules. Some of the teens were caught texting and had their handsets confiscated by teachers or administrators, leaving them without a phone or forcing them to activate another one. One boy in middle school explained how looking at an incoming text is almost like a reflex, which can be a problem in school: "[I] just did the natural thing to pull it out and see who it was, and then the teacher took it."

Not all messages on the cell phone are welcome.

Over half (54%) of teen cell phone owners say that have received spam or other unwanted text messages on their cell phone. There were no meaningful differences with regard to age or sex.

The focus group participants indicated that these messages tend not to be from commercial sources. Instead, there were many complaints about "spamming" from other individuals. At times, this can border on harassment when individuals persistently send unwanted text messages as a prank, causing some to react by turning their phone off, sometimes for hours. This is noteworthy, considering turning the phone off is otherwise unthinkable for many teens. Indeed, it is one of the only reasons teens provided for turning their phone off. Some individuals went so far as to describe this problem as "the worst" of owning a cell phone. Participants were also annoyed by chain messages that are forwarded in viral fashion. As one high school girl explained, "Those drive me crazy. I just got one, and it's like, 'Oh, send this to ten people and then God will love you forever.'"

Parents and regulation of the mobile phone.

More details about how parents are monitoring and regulating the mobile phone and how those actions relate to teens cell phone behaviors may be found previously in Chapter Four, starting in the section "Cell phone plans and parental regulation of the phone."

Methodology

Summary

This study is based on the 2009 Parent-Teen Cell Phone Survey which obtained telephone interviews with a nationally representative sample of 800 teens age 12-to-17 years-old and their parents living in the continental United States and on 9 focus groups conducted in 4 U.S. cities in June and October 2009 with teens between the ages of 12 and 18. The survey was conducted by Princeton Survey Research Associates International. The interviews were done in English by Princeton Data Source, LLC from June 26 to September 24, 2009. Statistical results are weighted to correct known demographic discrepancies.

The margin of sampling error for the complete set of weighted data (n=800) is ±3.8%. Margins of error for subgroups may be larger than the margin of error for the total sample. For example, the findings for teen cell owners are based on a subsample of 625 teens and have a margin of error of ±4 percentage points; the findings for teen texters are based on a subsample of 552 teens and have a margin of error of ±5 percentage points. Sampling errors and statistical tests of significance in this study take into account the effect of weighting (described below).

Focus Groups

The qualitative data comes from focus groups conducted by the University of Michigan and the Pew Research Center's Internet & American Life Project. Three of the focus groups were conducted in one city in June 2009 and 6 more groups were held in 3 cities in October 2009 with teens between the ages of 12 and 18. Three of the groups were mixed sex and six of the groups were single sex – 3 groups with each sex. Three of the groups were with middle schoolers and 6 were with high school-aged students. Every effort was made to secure a diverse group of participants, with a balance of teens from different racial and ethnic backgrounds and socio-economic levels. All teens who participated in the focus groups had a cellular phone. Participants were offered a cash incentive for participation.

Each focus group lasted approximately 90 minutes, and the 6 October groups included an individually administered paper questionnaire with additional questions that was completed during the 90 minute session. Recruitment for the focus groups was done by Scott Campbell and Resolution Research LLC of Denver, Colorado. Focus groups were moderated by Amanda Lenhart of Pew Internet and Scott Campbell of the University of Michigan, usually in teams of two, with one lead moderator and one secondary moderator. University of Michigan graduate students also attended the focus groups.

Further details on the design, execution and analysis of the quantitative telephone survey are discussed below. For those interested in calculating the margin of error for various subgroups mentioned in this report, please see the section titled "Effects of Sample Design on Statistical Inference" for the formula for that calculation.

Quantitative Survey Design and Data Collection Procedures

Sample Design

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

Numbers for the landline sample were selected with probabilities in proportion to their share of listed telephone households from active blocks (area code + exchange + two-digit block number) that contained three or more residential directory listings. The cellular sample was not list-assisted, but was drawn through a systematic sampling from dedicated wireless 100-blocks and shared service 100-blocks with no directory-listed landline numbers.

Contact Procedures

Interviews were conducted from June 26 to September 24, 2009. As many as 7 attempts were made to contact and interview a parent at every sampled telephone number. After the parent interview, an additional 7 calls were made to interview an eligible teen. The sample was released for interviewing in replicates, which are representative subsamples of the larger sample. Using replicates to control the release of sample ensures that complete call procedures are followed for the entire sample. Calls were staggered over times of day and days of the week to maximize the chance of making contact with potential respondents. Each telephone number received at least one daytime call in an attempt to find someone at home.

Contact procedures were slightly different for the landline and cell samples. For the landline sample, interviewers first determined if the household had any 12-to-17 year-old residents. Households with no teens were screened-out as ineligible. In eligible households, interviewers first conducted a short parent interview with either the father/male guardian or mother/female guardian. The short parent interview asked some basic household demographic questions as well as questions about a particular teen in the household (selected at random if more than one teen lived in the house.)

For the cell phone sample, interviewers first made sure that respondents were in a safe place to talk and that they were speaking with an adult. Calls made to minors were screened-out as ineligible. If the person was not in a safe place to talk a callback was scheduled. Interviewers then asked if any 12-to-17 year-olds lived in their household. Cases where no teens lived in the household were screened-out as ineligible. If there was an age-eligible teen in the household, the interviewers asked if the person on the cell phone was a parent of the child. Those who were parents went on to complete the parent interview. Those who were not parents were screened-out as ineligible.

For both samples, after the parent interview was complete, an interview was completed with the target child. Data was kept only if the child interview was completed.

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; 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 2008 Annual Social and Economic Supplement (ASEC) that included all households in the continental United States.

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.

Table 1: Sample Demographics

	Parameter	Unweighted	Weighted
Census Region			
Northeast	17.8	15.4	17.4
Midwest	21.8	24.6	22.1
South	36.7	36.8	36.9
West	23.7	23.3	23.6
Parent's Sex			
Male	43.7	36.3	42.4
Female	56.3	63.8	57.6
Parent's Age			
LT 35	10.0	11.8	10.2
35-39	19.2	16.6	18.8
40-44	26.4	21.3	25.6
45-49	24.8	26.2	25.2
50-54	13.1	16.0	13.5
55+	6.4	8.1	6.6
Parent's Education			
Less than HS grad.	13.1	7.5	11.6
HS grad.	34.9	27.6	35.1
Some college	23.2	25.0	23.6
College grad.	28.8	39.9	29.8
Parent's Race/Ethnicity			
White, not Hispanic	63.6	69.5	65.2
Black, not Hispanic	11.9	14.8	12.3
Hispanic	18.1	10.0	16.1
Other, not Hispanic	6.3	5.8	6.4
Kid's Sex			
Male	50.9	53.6	51.3
Female	49.1	46.4	48.7
Kid's Age			
12	16.7	14.3	16.1
13	16.7	17.0	16.8
14	16.7	15.6	16.6
15	16.7	17.8	16.8
16	16.7	16.3	16.7
17	16.7	19.1	17.0

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 1.18.

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

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

formula 1

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:

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

formula 2

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 ±3.8%. 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 3.8 percentage points away from their true values in the population. This margin of error takes into account the potential design effect of weighting. A multiplier of 1.2 (the square root of the typical design effect of the weight variable) is included in Pew Internet's margin of error formula:

1.2*1.96*(SQRT(.5 * .5) / N)*100

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:[45]

Contact rate – the proportion of working numbers where a request for interview was made

Cooperation rate – the proportion of contacted numbers where a consent for interview was at least initially obtained, versus those refused

Completion rate – the proportion of initially cooperating and eligible interviews that agreed to the child interview and were completed

Thus the response rate for landline sample was 14 percent and the response rate for the cell sample was 11 percent.

Table 2:Sample Dispositions

Landline	Cell	
95863	39997	**T** Total Numbers Dialed
5185	619	**OF** Non-residential
4147	29	**OF** Computer/Fax
59	0	**OF** Cell phone
39588	14290	**OF** Other not working
6206	1145	**UH** Additional projected not working
40679	23915	Working numbers
42.4%	59.8%	Working Rate
2069	382	**UH** No Answer / Busy
7575	5176	**UO_{NC}** Voice Mail
79	11	**UO_{NC}** Other Non-Contact
30956	18346	Contacted numbers
76.1%	76.7%	Contact Rate
2611	3092	**UO_{R}** Callback
17958	8644	**UO_{R}** Refusal
10387	6610	Cooperating numbers
33.6%	36.0%	Cooperation Rate
1232	837	**IN1** Language Barrier
	1717	**IN1** Child's cell phone
8142	3426	**IN2** No teen in household
1013	630	Eligible numbers
9.8%	9.5%	Eligibility Rate
260	212	**R** Parent refused child interview
209	162	**R** Break-off child or parent
544	256	**I** Completes
53.7%	40.6%	Completion Rate
13.7%	11.2%	Response Rate

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