*College Student Journal, 47*(1), March 2013, 75-81.

# The American college student cell phone survey

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## Abstract

Cell phones are fast becoming the most pervasive technological device on the planet. Studying cell phone use among college students is important because they tend to be among the first to try new technology, they are the group most likely to innovate new ways of using existing technology, and they are most vocal about what they need and/or want to see changed technologically. This study examines how college students use and perceive cell phones. Since multi-campus studies are needed to get a clearer picture of college student cell phone use, a common corpus of questions needs to be identified and used so that data can be collected and compared in meaningful ways.

Based on a review of relevant literature, a survey was created that attempted to include the most commonly asked and salient questions regarding cell phones. Undergraduate students (*N*=403) at a public university in the Southeast completed a 47-question survey which explores five different aspects of cell phones: ownership, general use, in-class use, feelings and opinions, and perceived appropriate use.

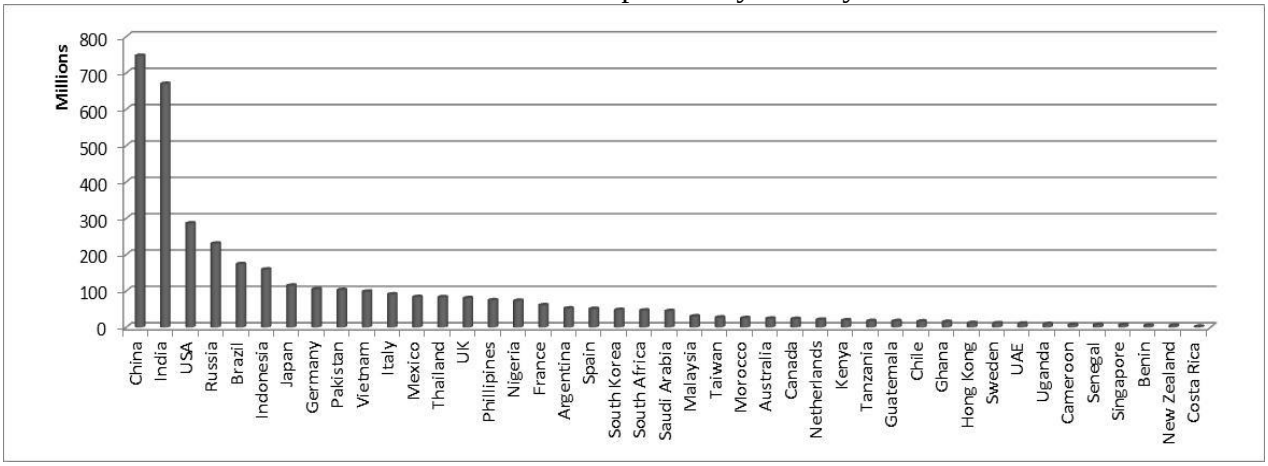
Findings indicate that most college students own a smartphone which they mostly use for texting. Their parents pay the phone bill. More than half of the respondents have attempted to hide their cell phone use during class. The majority stated their belief that it is not OK to talk on the phone in church, in a meeting, in class, or in the library and it is not OK to use the phone without talking when in church and while driving. Three-fourths of college students reported that having a cell phone has helped them make more efficient use of their time. Almost as many indicated that they prefer to text some people instead of calling them or talking to them face-to-face.


**Key words**: cell phone, mobile phone, smartphone, undergraduate, attitudes, technology

"*The telephone has too many shortcomings to be considered as a means of communication*."
– Western Union Internal memo, 1876.

Cell phones are fast becoming the most pervasive technological device on the planet. Along with keys and money, the cell phone is one of three survival tools most people carry with them. Cell phones give people the ability to transcend space and time by sending and receiving messages over long distances and at their convenience. In 2007 the world population was about 6.3 billion and about 3 billion people owned a cell phone. The expectation at that time was that about one billion cell phones would be added within two years (Chipchase, 2007). True to this prediction, there were 4.6 billion mobile subscriptions at the end of 2009 (*The World in 2010*, 2010). As of October 2010, there were 5.3 billion mobile subscribers worldwide. There are approximately 1,000 new cell phone subscribers every minute. About half the world's population now owns a cell phone. Most of the recent growth in cell phone subscriptions has occurred in China and India (See Table 1). According to the director of the International Telecommunication

Table 1
Number of cell phones by country



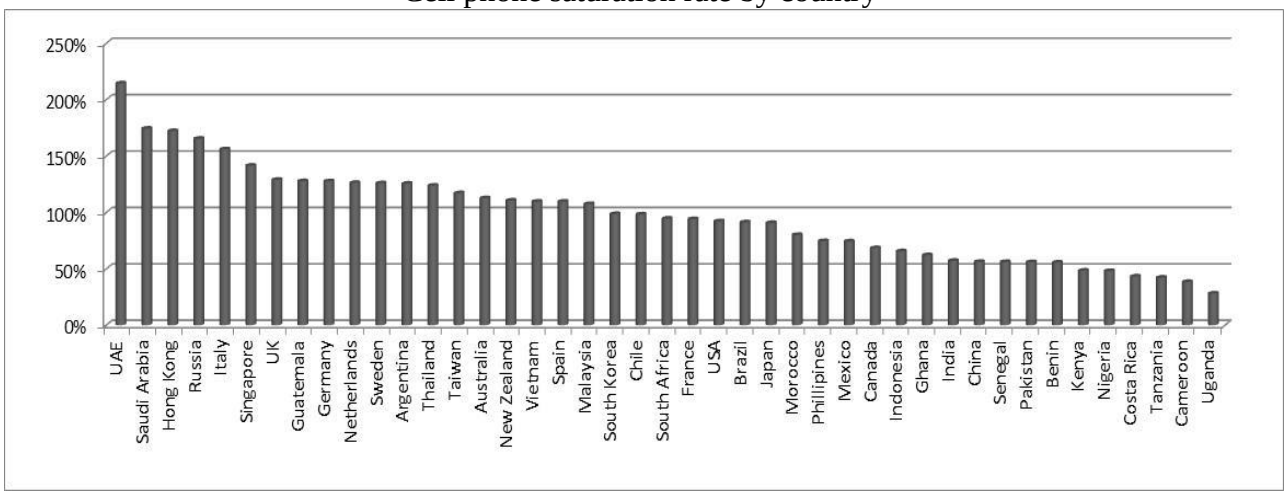

Data derived from *How & when we use our mobile phones*. (2011). TNS Mobile Life: Global Telecoms Insights. Retrieved October 4, 2011 from http://discovermobilelife.com/

Union's development bureau, "mobile phone penetration in developing countries now stands at 68 percent -- higher than any other technology before" ("ITU estimates," 2010, n.p.). Subscription growth in developed countries is reaching saturation levels and has slowed to only 1.6 percent from 2009 to 2010. More than 30 countries already have a greater than 100 percent saturation rate, meaning there are more cell phones than people in these countries (See Table 2).

Access to mobile phone technology is also rapidly expanding. Ninety percent of the world now lives in a place with access to a mobile network, and 80 percent of those living in rural communities have access (*Global mobile statistics 2011*, 2011). Even the secretive and controlling country of North Korea is expected to register its one-millionth cell phone user by the end of 2011 (Laurence, 2011). Mobile device sales rose globally in 2010, with smartphones showing strongest growth. Nokia remains the most preferred brand in both smartphones and feature phones. Feature

phone sales still outnumber smartphones 4 to1, but smartphones represent the fastest growth in mobile technology (*Global mobile statistics 2011*, 2011).

Table 2
Cell phone saturation rate by country




Data derived from *How & when we use our mobile phones*. (2011). TNS Mobile Life: Global Telecoms Insights. Retrieved October 4, 2011 from http://discovermobilelife.com/

Not only are cell phones pervasive, they are also having a powerful impact on people's lives. One example is Iqbal Quadir, co-founder of GrameenPhone, an innovative wireless company offering services to poor rural villages in Bangladesh. His business has shown the triple impact of cell phone service in rural areas – connecting the village to the world, creating business opportunities particularly for women, and generating over time a culture of entrepreneurship. Quadir states: "The telephone is a weapon against poverty [because]...connectivity is productivity" (Quadir, 2005, n.p.). By 2005, GrameenPhone had reached 115,000 women who were retailing telephone services in more than 52,000 villages in Bangladesh giving access to about 80 million people. GrameenPhone is the largest telephone company in Bangladesh and it is substantially raising the country's annual GDP.

In the U.S., and particularly on college campuses, a growing number of students fill the time between classes texting and talking on their cell phone or they are using their phone to listen to music, play a game, check their bank balance, or to use any number of other applications and features their phone provides. Increasingly, cell phone use is spilling into the library, the classroom and even the bathroom!

Studying cell phone use among college students is particularly important because they tend to be among the first to try new technology, they are the group most likely to innovate new ways of using existing technology, and they are most vocal about what they need and/or want to see changed technologically. Everett Rogers' diffusion of innovations theory describes these people as early adopters (Rogers, 1995). "College students are more likely to be innovators or early adopters of new information technologies than the general population" (Nelson, 2006, p.6). Additionally, many college students act as change agents influencing others' use of and ideas about new technology. Generally, college students are in a phase of life that is a transition between high school and the world of full-time work. It is an environment ripe for exploration, discovery and learning. College campuses are concentrated populations of geographically diverse people who tend to take their new ideas and technology home with them during holidays and summers off

from school. "Today's students are early adopters and adapters of new technologies, creating new uses for a myriad of technology products to meet their sophisticated needs. They serve as technology trend-setters for their peers and, increasingly, for their parents and educators" (*Selected National Findings*, 2009, p.1).

**Purpose & Organization**

This study examines how college students use and perceive cell phones. The focus here is not on sales figures or cell phone provider market share, but on the various ways cell phones are being used and on how cell phones and their use are being perceived. After describing some terminology, an assessment is made of what cell phone users have been asked about their use and, in particular, what college students have been asked. Next, a summary of what is known about college student cell phone use is presented. Finally, the results of this study are presented along with their implications.

**Terminology**

The terms "cell phone" and "mobile phone" have become synonymous in the U.S. An ongoing Google project called "Ngram Viewer" (Michel et al., 2010) enables a word or phrase search of more than five million digitized books published between the years 1800 and 2000. Searching for the terms "telephone", "phone", "mobile phone", "cellular phone", and "cell phone" shows that the number of occurrences of "phone" has steadily increased since 1970 surpassing the use of "telephone" in 1995. Appearing almost as a small blip on a radar screen, the terms "cellular phone" and "mobile phone" were just emerging in books around 1985. By 1992 the shortened term "cell phone" began appearing in books, and by 1996 it had surpassed both "cellular phone" and "mobile phone" in frequency of occurrence. Today, references to "phone" are understood to be almost exclusively references to cell phones.

Technically, the phone is a mobile phone and it operates on a cellular network. "Feature phones" are cell phones that do not applications and may have only limited Internet accessibility; "smartphones" have both. Smartphones serve as a combination pocket computer, game machine, multimedia-playback device and camera. They provide instant, high-speed access to the Web, e-mail, Facebook, Twitter, YouTube and more with an ever-increasing variety of downloadable applications (apps). Another commonly used term associated with cell phones is SMS. This stands for short message system and it is used as a synonym for all types of short text messaging as well as the user activity itself.

## Review of Literature

**What has been asked about cell phones**

Sheila Cotton (2008), in her article titled *Students' Technology Use and the Impacts on Well-Being* states: "with the advancing capabilities and diffusion of cell phones, assessing the functions and processes through which youth use them…will be critical to elucidating key ways that use of these technologies has impacts on youth" (pp.65-66). Cotton suggests that researchers need to work together to conduct large-scale, multi-campus assessments. This requires a coordinated effort using a consistent set of questions so that findings can be compared across campuses. The starting point is to identify a corpus of questions that seem to be consistently asked about cell phone use.

Although the first commercial cell phone service was activated in 1983, relatively few national surveys of cell phone use and impact have been conducted in the subsequent 28 years. Notable cell phone studies include the Nielsen survey (2010), the TechTalk *Cell Phone & PC Usage* (2009) survey, the CTIA and Harris survey ("A Generation Unplugged," 2008), the LetsTalk study (Sullivan, 2011), the comScore *2010 Mobile Year in Review* (2011), and the Pew *Internet and American Life Project* (Smith, 2011). The Nationwide insurance company also conducts an annual *Driving While Distracted* (2010) survey which includes cell phones as one possible driving distraction. One of the most far-reaching surveys of cell phone use is the *Mobile Life* survey ("How & when," 2011) conducted by the research firm Taylor Nelson Sofres (TNS). It is a global survey with more than 34,000 respondents from 43 countries. Another global cell phone survey is the mobiThinking compendium of mobile statistics and research ("Global mobile," 2011). This report describes the business of the mobile industry in terms of subscribers, market penetration, and sales.

Nielsen (2010) produced the *2010 Media Industry Fact Sheet* in which U.S. cell phone owners were asked whether or not they use their phone to: access the web, stream audio, view video, send messages, use apps. Similarly, the TechTalk *Cell Phone and PC Usage* (2009) survey asked more than 3,500 respondents how often they use their cell phone for a variety of activities from email to checking sports scores. CTIA, the international association for the wireless telecommunications industry, produces a semiannual survey of the wireless industry. In conjunction with the Harris Interactive Online Panel, CTIA sampled more than 2,000 teenagers across the U.S. who have cell phones. These teens are the "Gen M" or mobile generation. The online survey asked questions about mobile phone usage, attitudes, behaviors, and desires and aspirations for the future of mobile communication ("A Generation Unplugged," 2008). LetsTalk, an online wireless retailer, commissioned a study which focused on cell phone etiquette (Sullivan, 2011). Participants were asked whether or not and to what extent it is acceptable for people to talk on their cell phone at various times and places like during a movie, in the car, on public transportation, in a grocery store, in a restaurant, while on school property including in classrooms. The Pew *Internet and American Life Project* (Smith, 2011) surveyed 2,277 adults including 410 undergraduate students. This study examined the extent to which students used their cell phone to do a variety of things including sending or receiving text messages and participating in a video call or video chat. Additionally, respondents were asked if they used their phones to: get just-in-time information they needed right away, for emergencies, or to stave off boredom. Respondents were also asked whether or not they had ever pretended to be using their phone to avoid interacting with the people around them. The Nationwide insurance company's *Driving While Distracted* (2010) technology survey asked whether or not respondents had been hit or nearly hit by a car because the driver was distracted by their cell phone, and what phone activities they engage in while driving. The TNS global *Mobile Life 2011* survey ("How and when," 2011) compared cell phone use in 43 countries based on time of day and activities like: email, social networking, gaming, music, Internet, location/navigation, and messaging (SMS). The mobiThinking compendium of mobile statistics and research ("Global Mobile," 2011) reported the number of cell phone subscribers worldwide, sales figures, top cell phone manufacturers by global sales, leading cell phone operating systems and the like.

**What college students have been asked about cell phones**

A handful of studies have focused on college student cell phone use. They are presented here chronologically from 2003 through 2011 (See Table 3). A 2003 multi-campus study of 561

college students in Kentucky, Pennsylvania, and California explored cell phone ownership, general use, use while driving, and attitudes toward the appropriate use especially while driving (Waldman, Sheets, Jones, & Nichols, 2005). Boston University conducted focus groups with 32

Table 3
Summary of research on college student cell phone use

| Year | University | Sample Size | Method |
|---|---|---|---|
| 2003 | KY, PA, CA | 561 | survey |
| 2003 | Boston U | 169 | focus group & survey |
| 2005 | VA Tech U | 568 | survey |
| 2006 | U of Michigan | 176 | interview |
| 2006 | Rutgers U | 40 | focus group |
| 2009 | U of Central Michigan | 189 | survey |
| 2010 | Boise State U | 126 | survey |
| 2005-2010 | Ball State U | 5,500 | survey |
| 2010 | U of Colorado | 517 | survey |
| 2011 | U of New Hampshire | 1,265 | survey |
| 2011 | UAB | 93 | survey |

students and surveyed 137 students to explore primary motivations behind acquiring a cell phone, when and where most calls were made and to whom most calls were made (Aoki & Downes, 2003). A survey of 383 cell phone owners in four regionally diverse states asked the reasons they most used their phone (Totten, Lipscomb, Cook, & Lesch, 2005). A 53-item cell phone survey was completed in 2005 by 568 students at Virginia Tech University (Lee, Meszaros, & Colvin, 2009). The focus of the study was to learn whom the students were primarily talking to on their cell phone, the average number of calls they placed per day, and the time of day participants used their phone most often. The University of Michigan asked 176 students and faculty members their views on cell phones in the classroom (Campbell, 2006). Respondents were asked their opinions about policies restricting mobile phone ringing and use in the classroom, the extent to which a ringing phone is a serious distraction during class, and the extent to which cell phone use in the classroom is a perceived source of complaint among students and faculty members. In February 2006, forty undergraduate students majoring in communication studies at Rutgers University participated in focus group interviews to assess the extent to which they regard cell phones as a necessity for staying in contact with their family (Chen & Katz, 2009). Six professors and 189 students at the University of Central Missouri were surveyed regarding student cell phone use in class and their own perceptions and tolerances of cell phones in class (Hopke, 2009). Faculty respondents were asked whether they have a cell phone policy and if they enforced it. Students were asked whether they use their cell phone in class and whether professors enforced their cell phone policy. A convenience sample of 126 students at Boise State University's College of Health Sciences were surveyed to determine whether or not they used their cell phone in class and whether or not they were aware of classroom policies that prohibit cell phone use (Ellis, Egbert, Hopkins, Katana, & Tracy, 2010). Ball State University's Institute for Mobile Media Research examined phone usage of 5,500 students over the course of 11 surveys from 2005 to 2010 (Ransford, 2009; Ziegler, 2010). Questions addressed the reasons students have been switching their computing and communication needs from their computer to their phone, and students' cell

phone use for text messaging, accessing the Internet, and e-mail. Smartphone users at the University of Colorado and several other colleges and universities around the U.S. (*n*=517) were asked what brand of mobile phone they own, what percentage of a news article they typically read on their phone, how often they use their phone during different times of the day and in various settings, how often they use their phone while simultaneously doing other activities, how often they use their phone to consume different types of information, what forms of news they prefer to consume most on their phone, and the types of news they typically read, listen to, view, or seek out on their phone (Dean, 2010). Student researchers at the University of New Hampshire asked 1,265 students what are their most commonly used phone features, how many times they check their phone during class, whether cell phone use in class affects their ability to concentrate, whether they are aware of the classroom policies concerning cell phone use, and whether they attempt to conceal their in-class phone use (Wright, 2011). University of Alabama-Birmingham undergraduate student, Lauren McCartney, surveyed 93 fellow students and smartphone owners. Respondents were asked how often they use mobile apps while driving (Storr, 2011).

A meaningful corpus of questions requires synthesizing and organizing the common questions asked about cell phones generally and about college student cell phone use specifically. Questions seem to revolve around the following areas: cell phone ownership, general use, classroom use, perceptions of appropriate use, and general attitudes, feelings and opinions about cell phones and their use.

**What is known about college student cell phone use**

*Ownership*

Waldman et al. (2005) found that 83 percent of students surveyed owned a cell phone, and female students were more likely than expected to own a cell phone. Most (84 percent) of the students surveyed at the University of Michigan owned a cell phone (Campbell, 2006). And practically all (99 percent) students at the University of New Hampshire own a cell phone (Wright, 2011). While most college students own a cell phone, smartphones are gaining ground over the older feature phones. A survey of students at the University of Colorado found that 53 percent owned a smartphone (Dean, 2010). In most instances (80 percent), parents pay the cell phone bill for their student (Lee, Meszros, & Colvin, 2009).

*General use*

College students used the majority (44 percent) of their cell phone minutes for leisure (Waldman et al., 2005). Most of the cell phone users at Virginia Tech University made an average of 11 calls per day and most of their calling took place after 6 p.m. (Lee, Meszaros, & Colvin, 2009). These students preferred to use their cell phone at home and they typically called immediate family members, boy/girlfriends, and friends/relatives the most.

Totten et al. (2005) found that the most prevalent reasons respondents gave for their cell phone use included social stimulation, to remain available to others, to leave themselves memos and reminders, for time-keeping, for emergency purposes, and for calling. Chen & Katz (2009) found that most college students used their cell phones to call their parents no matter where they were or what time it was and that parents were just as likely to do the same. Female students received calls from parents more frequently than did male students. Participants, especially females, reported that they called their parents while they were walking alone on streets late at night or while they were taking a taxi alone. Many students reported that they asked their parents to buy something for them if they knew that their parents were shopping. Some participants

admitted that they depended on their cell phone to receive help from family including emotional support.

Almost all (97 percent) students used their cell phones to send text messages, about a third (30 percent) sent and received e-mail via phone, and one quarter engaged in instant messaging (Ransford, 2009; Ziegler, 2010). A University of Colorado study (Dean, 2010) found that, excluding voice calls, students used their cell phone for school related tasks more than for work related tasks (82 percent to 74 percent). Almost all students used their cell phone often or sometimes while a passenger during their commute (93 percent), during idle time at work or school (92 percent), and while waiting in line (85 percent). More than half of students never or seldom used their phone while driving (71 percent), in the bathroom (63 percent), or while exercising (61 percent). They often used their phone to text (81 percent), read e-mail (77 percent), search for specific information (67 percent), talk on the phone (64 percent), and view content on social networks (52 percent). They never used their phone to play video games (74 percent), read books (72 percent), or listen to audio podcasts (51 percent). Students typically used their cell phone to read, listen to, view, or seek out two kinds of news – weather news (56 percent) and breaking news (52 percent). Students at the University of New Hampshire reported that the two most used phone features were the clock followed by texting. A survey of University of Alabama-Birmingham smartphone owners found that 35 percent used mobile phone applications while driving – one in 10 reported doing so always, almost always, or often and more than one-third used them sometimes (Storr, 2011).

*Classroom use*

Nearly half (47 percent) of college students surveyed indicated that they turned their cell phone on silent and/or vibrate for class (Waldman et al., 2005). More than half (55 percent) of students at Boise State University reported sending text messages during class (Ellis et al., 2010). The majority (85 percent) of students was aware of policies that prohibit cell phone use in the classroom; more than half did not adhere to those policies. Students also reported that in-class cell phone use was distracting to themselves and others. In short, classroom policies banning the use of cell phones and the distractibility of cell phones did not deter in-class cell phone use. Students at the University of Central Missouri were more aware that their professors had a cell phone policy and they used their cell phone in class significantly less when their professor enforced the classroom cell phone policy (Hopke, 2009). Almost half (49 percent) of University of New Hampshire students who checked their phones in class were aware that phone use is frowned upon in class and they attempted to conceal their use. About half (52 percent) said cell phone use in class affected the amount of information they receive during class and their ability to concentrate (51 percent).

*Perceptions of appropriate use*

Nearly half (49 percent) of students surveyed at college campuses in Kentucky, Pennsylvania, and California indicated that cell phone use was appropriate when it did not interfere with others around them (Waldman et al., 2005). Although a ringing cell phone is generally seen as a source of distraction in class, Campbell (2005) found that the traditional college age group (18-23 year olds) was more tolerant of mobile phones in the classroom when compared to other age groups.

*Attitudes, feelings and opinions*

By performing a Q-factor analysis, a study of cell phone owners at Boston University (Aoki & Downes, 2003) identified five different cell phone user types: the "cost conscious" group was the largest. They spent the most time receiving calls but they did not make most of the calls. The "dependent" group indicated they felt lost without their cell phones and they used them frequently. The "practical users" used their cell phone moderately when they needed to. They do not care about the style or look of the phone. The "sophisticated" group is the antithesis of the "practical users". They see owning a cell phone as their own style statement. This group also tends to be the early adopters and they tend to make the most number of calls. The "security/safety conscious" group used their cell phone less than any other group. Members of this group reported that having a cell phone made them feel safer. Waldman et al. (2005) found that 70 percent of students surveyed indicated that owning a cell phone was a necessity. Students at Virginia Tech University place a strong value on the safety and security that owning a cell phone provides (Lee, Meszaros, & Colvin, 2009). Parents indicated that they want their students to have and use their phones.

Synthesizing what has been asked about cell phones generally and about cell phone use among college students specifically, a common set of questions can be identified. This set of questions and responses to them can serve as a basis for comparisons of cell phone use among college students across the U.S.

## Methodology

After a description of the survey instrument, sample demographics are described. Survey results are then presented. Results are organized into five areas: cell phone ownership, general use, classroom use, perceptions of appropriate use, and general attitudes, feelings and opinions about cell phones and their use.

### *Survey Instrument*

The *American College Student Cell Phone Survey* consists of 47 questions exploring five different aspects of cell phones: ownership, general use, in-class use, feelings and opinions, and perceived appropriate use. Respondents were also asked their gender, age, year in school, employment status, and type of occupation. The majority of questions offered Likert-type response options from *very often* to *never* or from *strongly agree* to *strongly disagree* with no neutral.

The ownership portion of the survey asked whether or not the respondent currently has a cell phone, whether or not their phone has applications on it, if they can access the Internet with it, who their cell phone provider is, their favorite brand, how many years they have been using a cell phone, and who pays for their monthly cell phone bill. If the respondent indicated that they do not have a cell phone, they were instructed to skip to the end of the survey and answer a set of questions which asks their opinion about appropriate use of cell phones along with some demographic questions.

The general use portion asked respondents to rank order the main purpose of their cell phone: entertainment, safety in an emergency, work-related communication, connect with friends, tool/utility. Questions then asked the frequency of certain activities such as: turning off the cell phone just to get a break from it, to get needed information right away, texting while driving, and entertainment when bored. The next question was a 28-part question which asked how often respondents use their cell phone to do a variety of things from sending or receiving text messages

to checking the weather forecast. The next set of questions asked what time of day respondents most use their phone, where they talk the most, where they text the most, the number of applications (apps) they use each day, the number of phone numbers stored on their cell phone, the average number of calls they make each day, the average number of different people called each day, the average number of different people texted each day, the person called the most, the person texted the most, and the phone feature used the most. The last question in this section asked what feature(s) respondents would like to see added to cell phones.

The in-class use section asked the degree to which respondents agree that texting should be allowed during class. Other questions ask how often respondents check their phone during class, text during class, and attempt to hide their cell phone use during class.

The feelings and opinions section asked how frequently respondents have: experienced frustration due to slow up/downloading to their cell phone, pretended to be using the phone to avoid interacting with others, been prevented from doing necessary things because of their cell phone, receive texts from people who avoid calling or talking face-to-face, had trouble doing something because they did not have their phone with them. Respondents were also asked the degree to which they agree that: they prefer to text some people instead of calling them or talking to them face-to-face, they feel the need to immediately answer a call or reply to a text, they are too dependent on their cell phone, they feel as if they are missing something when their cell phone is off, their phone helps them make more efficient use of their time, they are concerned about safety and security issues when using their phone.

The last section asked respondents their views on the appropriate use of cell phones across a dozen different settings and situations. Some of these include: while driving, in a public bathroom, in the library, in a waiting room, and at work. Two different levels of cell phone use were presented for each setting. First, respondents were asked how often they think it is appropriate for people to talk on the cell phone in the settings listed. Second, they were asked the same question for using the cell phone but not talking on it. Response options were *OK all the time, OK some of the time, Not OK,* or *Not sure*.

Survey questions were developed after reviewing questions posed in other surveys which examined cell phone use. Informal interviews with several dozen college students helped refine the set of questions selected for inclusion.

*Procedures*

With Institutional Review Board approval, surveys were distributed to undergraduate students at a public university in the Southeast during the fall semester 2011. The undergraduate student population was about 4,746 fall semester 2011. A sample size of at least 357 is needed for a population of 4,001 to 5,000 to yield findings at a 95 percent confidence level (Krejcie & Morgan, 1970). A stratified sample of 403 usable surveys was obtained. The sample represents 8.5 percent of the total student population from which the sample was taken. Respondents voluntarily participated and received no extra-credit for doing so. Although demographic information was collected, respondents remained anonymous. The survey generally took 10-15 minutes to complete.

The sample reflects the proportions in the student population in terms of gender (59 percent female; 41 percent male) and year in school (42 percent freshmen, 20 percent sophomores, 18 percent juniors, 21 percent seniors). Most (57 percent) of the students are not employed; less than one-third (31 percent) are employed part-time.

## Findings

*Ownership*

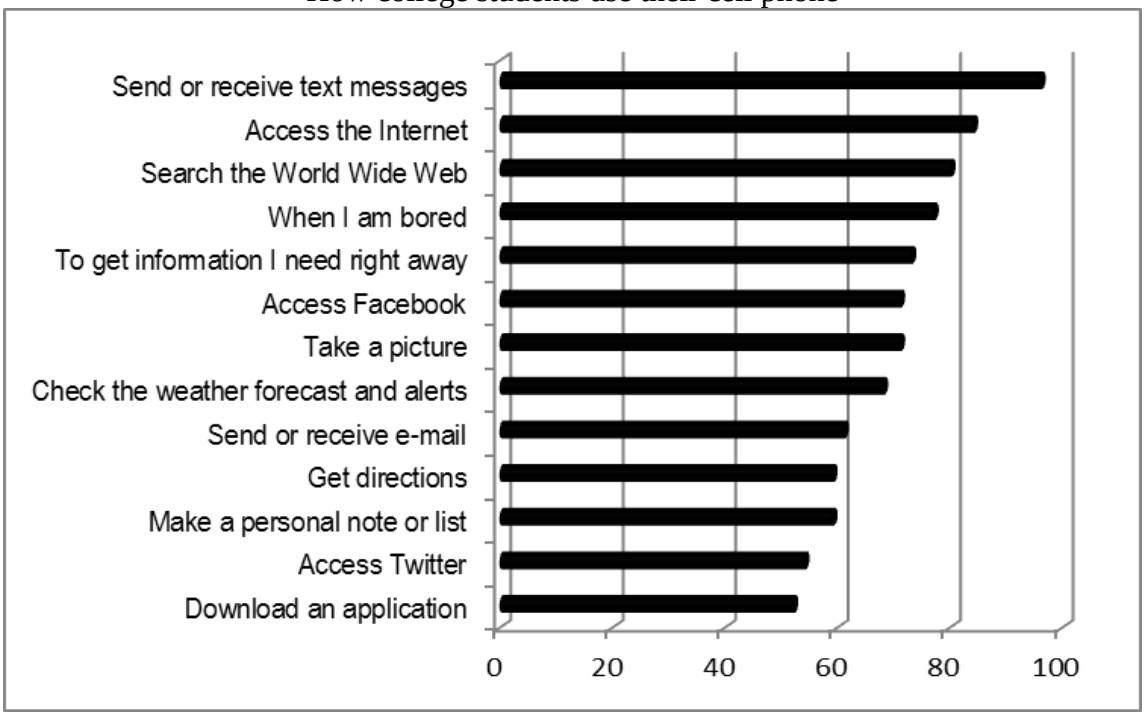
Only two respondents out of 403 indicated that they do not have a cell phone. Most have a cell phone with applications (85 percent) – that is, a smartphone. Almost all (91 percent) can connect to the Internet with their phone. The most prevalent cell phone providers are AT&T (26 percent) and T-Mobile (25 percent); HTC is the favorite cell phone brand (29 percent). Most (83 percent) have been using a cell phone for more than 4 years. Parents pay the cell phone bill for more than half (53 percent) of the respondents.

*General use*

College students consider the main purpose of their cell phone is for safety in an emergency followed by connecting with friends, work-related communication, entertainment, and tools/utility. Students very often or fairly often use their phone when they are bored (77 percent) and to get information they need right away (73 percent). College students use their cell phones for a variety of purposes from texting to downloading applications (See Table 4). Students use their phone at all times of the day. On average, they use about 1to 5 applications per day. More students (36 percent) call family than they do friends (27 percent), or boy/girlfriend (25 percent). One-fourth of them have more than 200 phone numbers stored on their phone and they make 3 to 6 calls per day to 3 to 6 different people. The cell phone feature college students use most is texting (68 percent). They send more than 20 texts per day to about 4 to 9 different people. More of them (51 percent) text friends than they do boy/girlfriend (23 percent), family (9 percent), or work-related contacts (2 percent). In short, college students call their family but text their friends.

Table 4

How college students use their cell phone



*Classroom use*

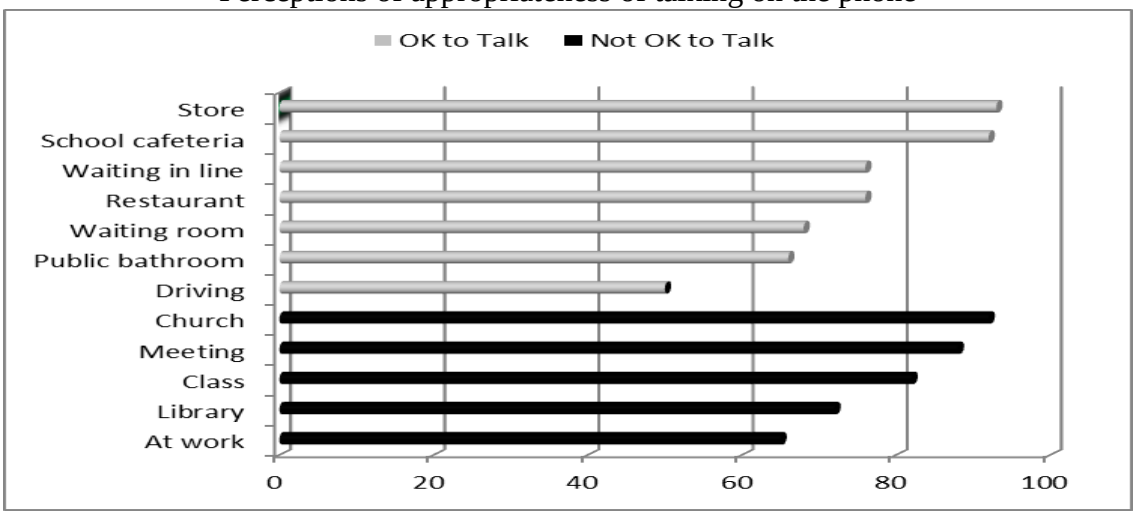
Nearly three-fourths (74 percent) of college students at least occasionally text during class and more than half (54 percent) think texting should be allowed during class. More than half (57 percent) check their phone during class and 63 percent have at least occasionally attempted to hide their cell phone use during class.

*Perceptions of appropriate use*

The majority of college students indicated their belief that it is OK some or all the time to talk on the phone in a grocery store or school cafeteria, but not in church or in a meeting (See Table 5). Students are evenly split as to whether or not it is OK to talk while driving.

Table 5

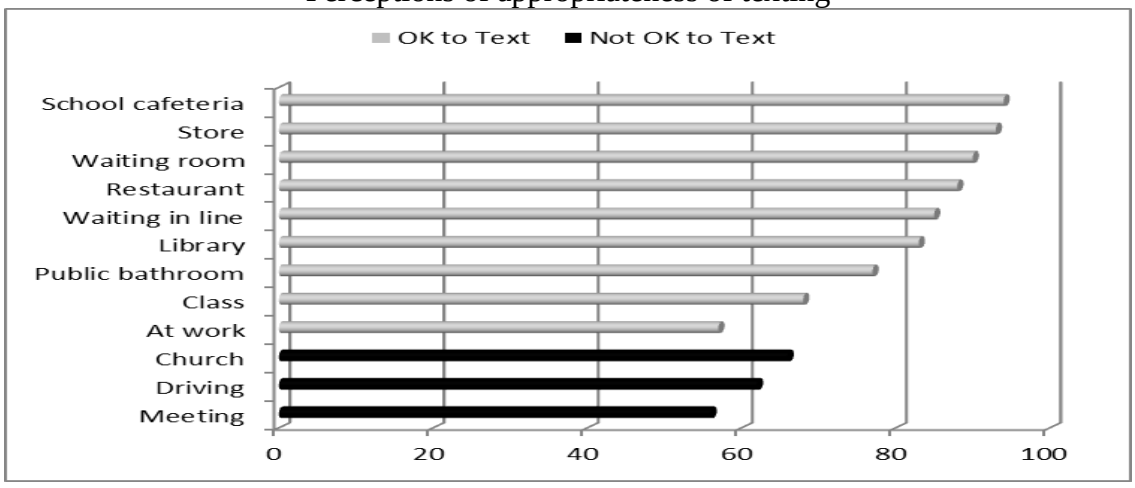
Perceptions of appropriateness of talking on the phone




When it comes to using the cell phone without talking (such as for texting or using an app), the majority of college students indicated their belief that it is OK some or all of the time to use it in the school cafeteria or grocery store, but not in church or while driving (See Table 6).

Table 6

Perceptions of appropriateness of texting

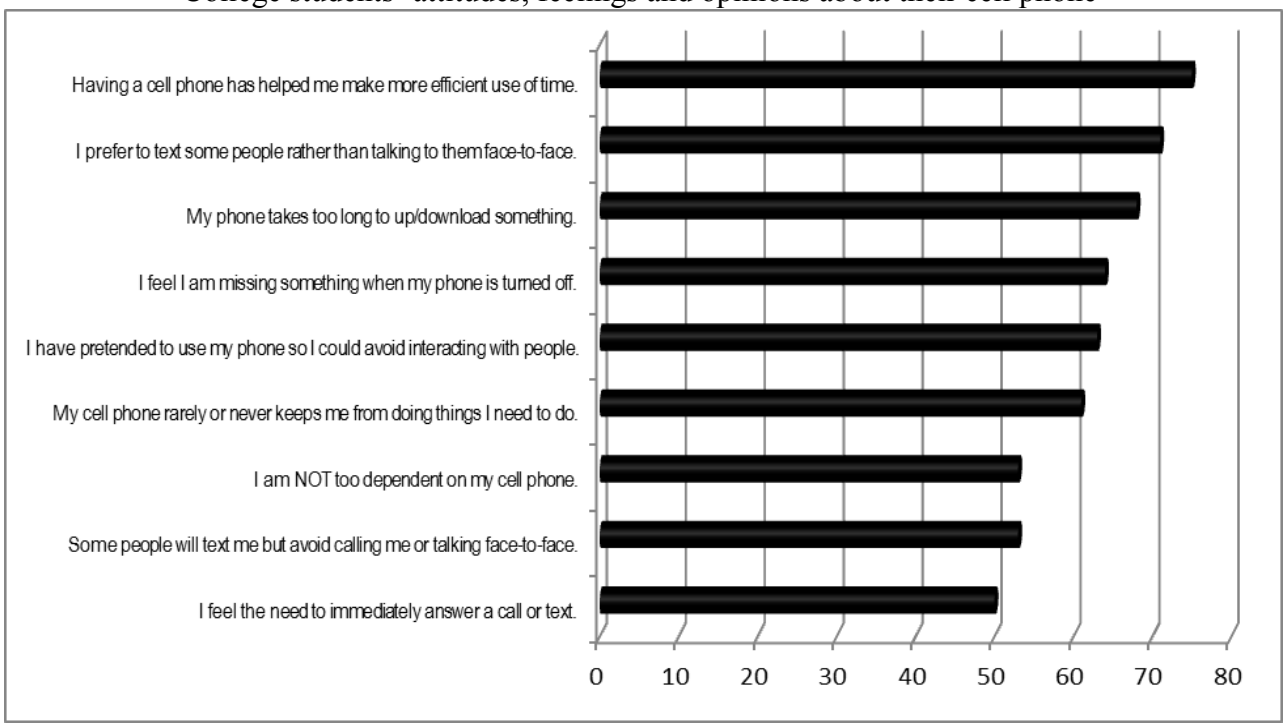


*Attitudes, feelings and opinions*

Students have strong attitudes, feelings and opinions about their cell phones. Three-fourths of college students reported that having a cell phone has helped them make more efficient use of their time (See Table 7).

Table 7

College students' attitudes, feelings and opinions about their cell phone




Fully one-fourth of respondents volunteered suggestions about phone features they would like to see in the future. Among them are homework applications, a grade point average calculator, video chat and video conferencing, totally hands-free operation, longer battery life, a light-projected keyboard, a shatter-proof screen, and faster Internet.

## Discussion

Not every question that could be asked about college student cell phone use and attitudes has been asked in this survey. Respondents were not asked whether or not they use their phone while driving nor were they asked how many minutes they talk on the phone each day. As always, researchers must strike a balance between asking everything and respondent fatigue. What is provided here is a core group of questions that, if used by other studies of college students, can begin to create a consistent, comparable database. This is an important first step.

The findings of this survey are fairly consistent with previously observed and measured trends in cell phone use among American college students. The implications of these findings fall into one of three categories – education, safety, and social interaction.

*Education*

To say that the typical American college student uses their cell phone a lot is an understatement. For example, people that access Facebook on their cell phone are twice as active on Facebook as non-mobile users ("Facebook official statistics," 2011). A campus technology blog by Jerry Waldron at Salisbury University (2011) states that students own multiple devices and they never turn them off. A study of 10 different college campuses (*n*=560) during the final weeks of the term found that today's college students, inseparable from their cell phone, struggle to strike a balance between leisure and learning. The competition between their desire for social diversion and their need to be productive is a significant challenge of being a student in the digital age (Head & Eisenberg, 2011). There is an old adage that says: If you can't beat them, join them. While this may not always be wise advice, it seems to be the inevitable course when it comes to American college students and their cell phones. Educators would do well to recognize that cell phones are here to stay for a while, that college students will use them despite classroom policies that may forbid it, and that cell phones can be an effective teaching tool if harnessed wisely and creatively. Integrating their use into instruction meets students where they are, it uses a tool they are comfortable with, it speaks their language, it shows an innovativeness on the part of the instructor, it provides for an engaged, entertaining, and interactive exchange with students, and it enables the classroom to tap into the information super-highway (See, for example, D. Steven White's blog, *Promoting the use of mobile phones as an education tool in the college* classroom, All Things Marketing, http://dstevenwhite.com/).

*Safety*

Having a cell phone may give some students, especially females, a false sense of security. They may be more inclined to walk alone or in unfamiliar places thinking that if they were faced with a threat they could always call for help. However, this scenario would likely be a classic case of too little, too late. Another serious safety concern is the use of cell phones while driving. If students will use phones in class despite policies forbidding their use, it would be naïve to believe they will not use their phone while driving just because it is against the law. Driving on any interstate highway in the U.S. today, one can observe people *teching* while driving. *Teching* is using the cell phone to talk or text, using an application, or any other kind of action which uses the phone and its features. The term may also apply to using a Kindle, iPad, computer, and the like. Teching often creates a needlessly dangerous situation. The technology industry needs to understand that some people will use cell phones while driving despite laws that forbid it, and that this is a prime opportunity to meet consumer *teching* needs and desires. Cell phone manufacturers need to ramp up development and implementation of hands-free and eyes-free use of their products' features. Just last year (September 2010), AdelaVoice Corporation launched StartTalking, the world's first smartphone application that enables drivers to text without having to touch or look at their phone. In fact, the phone's display screen is off when the application is working further reducing distractions and prolonging battery life ("AdelaVoice launches," 2010). More needs to be done to enable drivers to use cell phone applications and features with minimal distraction.

*Social interaction*

Virtually all college students today carry a cell phone. In fact, there seems to be a strong social stigma attached to not having one. Students are unwilling to admit if they do not have a cell

phone. They are unwilling to risk the embarrassment that is sure to accompany their non-conformity even if their reality is they cannot afford one.

Another increasingly prevalent phenomenon is using cell phones to selectively interact with others. Students sometimes fake having a cell phone conversation to purposefully avoid interacting with those around them. This has implications for learning to tolerate different and sometimes difficult people. The use of headphones further isolates those who are teching providing them a new level of control about when and with whom they choose to interact face-to-face.

College students also demonstrate a heightened level of tolerance about cell phone conversations in public places compared to other age groups. This behavior is often perceived as inappropriate and rude, a source of increasing social irritation. Carol Page, founder of CellManners.com, contends that some public reactions to cell phone users are equally rude and unrealistic. As college students graduate and move into the work world, norms of cell phone use in public may reflect even more tolerance among some and more irritation among others.

*Conclusion*

Cell phones are pervasive and powerful. They help us meet basic needs of convenience and safety. They provide us with a new, but not necessarily superior means of communicating with each other. They encourage talk, not conversation (See Rosen, 2004). They link us to those we know, but remove us from the strangers who surround us in public. As a culture, we are allowing our phones to become the link to our purpose and the symbol of our status. They are directing and changing our social interaction. Cell phone use and attitudes toward them are bound to change as the technology and its users mature. Understanding these changes is tantamount to better understanding ourselves and our connections in the world.

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