

Talk to Text: Changing Communication Patterns

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Abstract

Dependence on mobile technology is continuing to grow, as the mobile phone becomes the all-in-one communication device with instant access to the Internet and a variety of functions for keeping in touch with others including text messaging, email, and social networking. People are primarily using mobile phones as replacements for their land lines. Mobile phones, and text messaging in particular, are rapidly becoming the preferred communication tools, in many cases replacing face-to-face or voice-to-voice communication. This exploratory study surveyed 168 participants at a mid-Atlantic university to determine if mobile technology is changing the way we communicate. Specifically, the survey attempted to answer two research questions: 1) Is text messaging replacing face-to-face and voice-to-voice communication?, and 2) How are the capabilities of mobile devices impacting how we communicate? This study seeks to determine how mobile technology, and specifically text messaging, is impacting our communication habits and proficiencies.

Keywords: mobile technology, cell phones, texting, text messaging, communication

1. INTRODUCTION

Since its inception, the Internet has been used as a tool to share information and as an alternative medium to face-to-face encounters, land line telephone communication, and the postal service. The growing phenomenon of social networking sites and text messaging are a testament to how rapidly consumers embrace

innovations in electronic communication systems. These networks have allowed friends to interact more easily and strangers to become familiar with each other almost instantly.

Now that we use technology for virtually everything, are we losing face-to-face communication skills that are still an integral part of education and business? Having the right

communication skills allows people to connect in a more meaningful way.

We are living in a world where people are increasingly expected to stay connected to their mobile devices 24 hours per day (Agre, 2001; Rosen, 2004). The use of mobile phones, computers, laptops, text messaging and social networking sites are becoming a favored way to communicate among our culture. Technology devices, which were once only a part of business and education, have become a distinct part of everyday living. Regardless of the method or device, we are rapidly becoming a global village connected to and perhaps tethered down by our mobile devices.

The widespread use of mobile communication devices is transforming how people communicate in both their personal and professional lives. Mobile phones and other wireless mobile devices are already transforming well-established communication patterns. A single smart phone can now replace many formerly independent forms of communication. Mobile phones can be used to send text messages, send emails, and update social networking sites, as well as make voice calls. The mediums for any type of message are available through one device. In addition, the mobile phone can also use a variety of applications to replace the functions of many other previously separate devices, including an alarm clock, camera, video camera, MP3 music player, e-book reader, calculator, compass, GPS device, and more. The all-in-one feature set makes the mobile phone the most important communications device that most people own. This usage can lead to dependence and personal attachment to the device, so much that many people admit feeling lost without their mobile phone and indicate or attest that they would make a return trip for it if it were left behind (Paulet et al., 2010). Mobile phones are becoming so addictive that a 2010 survey found that 8 out of 10 business professionals would rather give up coffee than their mobile phone (Bradley, 2010).

When walking down the street, waiting in line at a store, dining in a restaurant, or even relaxing in a park we see people texting as a primary form of communication. Text messaging is rapidly becoming more popular than voice conversations (Paulet et al., 2010). Many people find the ease of sending short messages to be more convenient and effective at conveying information and receiving quick

answers to questions. This medium allows a person to engage in short bursts of communication rather than a more extended conversation. It also extends the level of informality. When email was introduced, it was often criticized for increased informality over the handwritten letter. Text messaging, by nature, has to be short. This limitation on the number of characters for each message allows people to forego the greetings, formalities, and "small talk" that typically must occur if you send an email or have a voice conversation. Instead the text message gets straight to the point. No time is wasted in crafting an opening and closing to the message itself. In addition, text messaging is an asynchronous type of communication. A person can send a text message in the morning and receive a reply later that evening when the recipient has had time to respond. This broken down response time can also lead to miscommunication. Often people respond to a text message hours later only to find out that the sender forgot what they asked or needed in the first place.

Texting, email, and the use of social networking are increasingly replacing face-to-face communication. This potential loss of verbal communication skills may hinder a person's ability to present themselves to prospective employers. Employers are becoming concerned about this deficiency. According to Tovey (2010), verbal skills are still a necessity. Properly addressing people with whom they are meeting, speaking clearly, listening well, using appropriate body language and eye contact are basic functioning skills left out of texting, email and social networking.

Our research seeks to determine how mobile technology is impacting our communication habits and proficiencies. Two research questions are explored:

RQ1: Is text messaging replacing face-to-face and voice-to-voice communication?

RQ2: How are the capabilities of mobile devices impacting how we communicate?

The remaining sections of this paper present the background and findings of the current study.

2. LITERATURE REVIEW

Technology has changed drastically since the 1980's. In the year 2000, Americans averaged 100 million Google searches per day, sent 400,000 text messages per day, downloaded zero songs, paid \$10.00 per gigabyte for hard

drive storage and spent 2.7 hours per week online. Only 10 years later in 2010, Americans surpass 2 billion Google searches per day, sent 4.5 billion text messages per day, downloaded 10 billion songs annually, paid six cents per gigabyte of hard drive storage and spent 18 hours per week online. Some would say we are now living during the technology revolution (Rodriquez, 2010). Some of the top gadgets and technologies of the decade include the iPod, GPS, Google, Facebook, wi-fi, broadband, smart phones, Blue Tooth, and VOIP to name a few. All of the technology that surrounds us daily has also changed the way we communicate.

In a 2010 Pew Internet study, 800 teens ages 12-17 along with one of their parents were interviewed independently among nine focus groups. The study of American teens sought to determine how mobile phones, specifically text messaging, act as a centerpiece of communication. The study revealed that text messaging has become an increasing part of teens' overall communication strategy. Text messaging frequency increased 35%, as teens aged 12 years old reported texting daily, while 54% of 14 year olds and 70% of 17 year olds text every day. Not all teens reported having a mobile cell phone. The typical teen sends on average 1,500 text messages per month. The study focused on a myriad of reasons for which teens communicate with friends and family. The most frequent reason, reported by 96% of teens, was sending and receiving messages to exchange information privately without others hearing their conversations. Of the teens surveyed, 75% use text messaging to discuss important matters (Lenhart et al., 2010).

Fifty-eight percent of teens reported in the Pew study on mobile phones that they make between 1 and 5 phone calls per day compared to an average of sending 50 text messages per day. When teens actually use their phone for calling, 68% of the time they are calling their parents. The main reason that teens make phone calls, 49%, are reporting their location or checking on a location. Fifty-four percent of teens reported that they use texting to socialize or communicate with their friends. Additionally, 33% of teens interact with friends face-to-face outside of school and 25% communicate via social networking. The data showed that between 2006 and 2009 the percent of teens that use texting to contact friends outside of school has gone from 27% to 54%. Face-to-face contact, mobile voice, instant messaging and social networking have remained flat, while the

use of email and landline phone has decreased. Texting as reported in the study is the preferred way to communicate because it allows for asynchronous interaction and is more discrete than making phone calls (Lenhart et al., 2010).

Hemmer (2009) used focus groups to determine the impact of text messaging on communication. The study sought to answer questions such as "Do you think text messaging displaces face-to-face communication?" Both male and female focus groups divulged that they use text messaging to avoid face-to-face communication.

According to a 2009 survey of 600 students (ages 13 to 17) conducted by textPlus, 42% of teens admit to texting during class. Almost 80% of students reported that they have never gotten in trouble at school for texting during class. Teachers have enough trouble keeping their students attention without the distraction from mobile devices. The study showed that a staggering 66% of students reported receiving texts from their parents during class time. It is not a surprise to learn that 74% of students answered "no" when asked if they thought it was wrong to text in class (Carr, 2010).

Facebook, Twitter, and YouTube were some of the most popular social networking sites used in 2011. Others, such as MySpace seem to be on the decline. Regardless of who wins the battle, people now want the ability to instantly communicate with their friends and family. An important aspect of this research is to determine how the loss of face-to-face communication is shaping interpersonal relationships and culture. Hanna (2010) reports, "intentionally or not, we are building personal brands as we represent ourselves online" (p. 48).

Hanna (2010) reminds us that how personal relationships are built has changed dramatically since the arrival of online communication. "We used to build friendships and a traditional network of contacts over long periods of time" (p. 48). Relationships were built by meeting face-to-face, landline phone conversations, and e-mail. "Now social networking platforms have accelerated how quickly we interact and gain familiarity with others" (p.48).

Meserve (1998) has found that problems arise when individuals excessively rely on technology. He believes that there are two areas of concern in regard to technology dependency. The first is that people stop teaching and learning information and activities that were considered common knowledge before the advent of

technology. He points out the loss of basic arithmetic skills due to the prevalent use of calculators and cash registers. The second concern that Meserve (1998) points out is that this reliance on technology has convinced people that they can have everything faster, better, and bigger, while perpetuating a lack of concern for environmental or other consequences for its use.

A study conducted by Poullet, et al., (2010) sought to determine whether students ages 18 years or older would know how to communicate and complete their daily activities if technology failed. Students were asked if they could spend an entire day without using a computer, cell phone or mobile device assuming that it was not a workday. The study revealed that 60% of students could not spend an entire day without the use of technology devices. Ninety-nine percent of students responded that the Internet is the first place they go to find information and that if technology failed only 73% would know how to find information in the traditional library. Reliance on technology results in the loss of previously accumulated knowledge because we cease to pass knowledge that has become obsolete.

Gentzle, Oberhauser, Westerman, and Nadorff (2011) conducted an online survey of 211 college students to examine how college students communicated with a parent identified as their closest family member. The frequency of communication contacts with a parent varied by the channel used. Each of the participants reported some type of degree of contact by phone and face-to-face. Almost two-thirds of the sample group reported contact by e-mail and text messaging. Finally, approximately one fourth of the sample group used social networking sites to communicate with a parent. "Results indicated that the more frequent use of social networking sites to communicate with a parent was linked to greater loneliness. More frequent phone communication was associated with more positive qualities about parental relationship, greater satisfaction, intimacy, support, and instrumental aid" (Gentzle et al., 2011, p. 72).

Rosen (2004) in her article titled *Over Cell Phones and Technology* discusses the use of cell phones as an exchange of information as a distant relative to formal communication. We have become a culture that has convinced ourselves that the alternative is just as good. Cell phones provide us with a new, but not necessarily superior means of communicating.

Rosen (2004) states that it would be a terrible irony if "being connected" required or encouraged disconnection from community life.

A study conducted by Adams et al. (2008) sought to determine how college students spend their time communicating and what impact, if any, communications devices may be having on the time that is spent. A study was conducted using 696 undergraduate students from four southeastern colleges. The findings revealed that text messaging and other interactive communication devices make up 31% of how people communicate followed by 56% who actually listen and 13% who prefer talking. College students send text messages to avoid face-to-face communication and therefore reduce social interaction (Lee & Perry, 2007).

3. METHODOLOGY

This research focused on mobile device dependency and mobile communication habits of undergraduate and graduate students ages 18 or older at a mid-Atlantic university. This study was conducted as a follow-up to a 2010 technology dependency study. The researchers utilized a quantitative methodology and designed the survey as an extension of their 2010 survey but with a specific focus on mobile technology dependence, mobile device usage, and mobile communication habits (Poullet et al., 2010).

The survey questionnaire consisted of 31 questions. Demographics were captured in the first section of the survey and included age, gender, and the participant's school within the university. The school was important to researchers to ensure that an adequate cross section of majors and disciplines were represented in the sample, as this had been a limitation in the 2010 study (Poullet et al., 2010). The next section of the survey focused on the students' use of phones, including number of mobile and landline phones owned and used, texting habits, and communication preferences. The third section of the survey asked students to identify the mobile devices that they own from a list of common devices such as mobile phone, laptop, Kindle/eBook reader, iPad, and others. Preferences regarding the use of the owned devices were then addressed. The final section of the survey addressed the students' reliance on mobile devices.

The sample consisted of 168 undergraduate and graduate students. A convenience sample was used with a 5% margin of error and a 95% confidence level. The survey was administered to students in five schools within the university in March 2011, including: School of Communications and Information Systems, School of Education and Social Sciences, School of Engineering, Mathematics, and Science, and School of Nursing. All participants were informed that the survey was strictly voluntary and would not impact their current or future relations with the university.

4. FINDINGS

The survey asked 168 participants to indicate their age, gender, and school within the university. Gender within the sample was not represented equally. The majority of participants, 114 (68%), were male, with 54 (32%) female participants. Ages of the participants ranged from 18 to 53. There were 132 participants in the Millennial age group (ages 18-33), making up the majority (79%) of the sample. The Generation X age group (ages 34-45) was represented by 25 participants, 15% of the sample. The Baby Boomers age group (ages 46-64) was the least represented group in the sample, with 11 participants (6%). The age breakdown is illustrated in Table 1.

Table 1

Age Groups of Sample

Age Group	# of Participants
18-33 (Millennials)	132
34-45 (Generation X)	25
46-64 (Baby Boomers)	11

Over half of the participants, 93 (55%), were enrolled in the School of Communications and Information Systems. There were 64 participants (38%) from the School of Business. The 11 remaining participants (7%) were enrolled in the School of Education and Social Sciences, the School of Engineering, Mathematics and Science, and the School of Nursing.

Research Question 1 sought to determine whether text messaging is replacing face-to-face and voice-to-voice communication. A variety of questions in the survey addressed this topic and

the findings show that text messaging is increasing in popularity at a rapid pace. Results also indicate that some participants are text messaging to avoid more traditional communication encounters.

Participants were specifically asked if they use text messaging to avoid face-to-face communication and/or voice-to-voice communication. More than one quarter of the participants, 27%, indicated that they do use text messaging to avoid face-to-face communication, while nearly half, 40%, responded that they use text messaging to avoid voice-to-voice communication.

The survey directly asked participants whether they preferred texting to making a phone call. Participants in the Millennial age group had the most favorable response toward texting, with 66% of the age group preferring texting over making a phone call. Within the Generation X age group, 40% preferred texting and in the Baby Boomers group, only 18% preferred texting to making a phone call. Results indicated a statistically significant relationship (chi-square = 13.904, $df = 2$, $p < .001$) between age and whether or not the participant preferred texting. As age decreased, the participants were more likely to prefer texting to making a phone call, as shown in Figure 1.

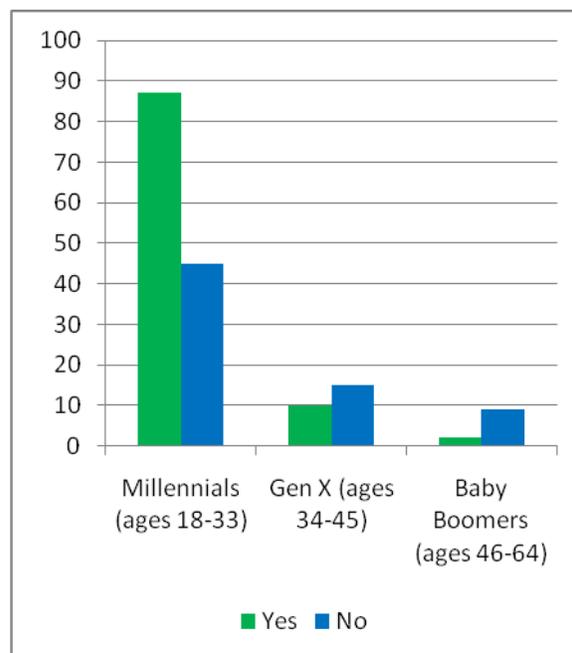


Figure 1 - Number of participants who responded whether they prefer texting to making a phone call, by age.

Participants were also asked how they communicate most often. Responses could include talking on a land line phone, talking on a mobile phone, texting, email, online chat, social network sites, or other. A strong statistically significant relationship was found between age and the method for communicating most often (chi-square = 37.451, $df = 12$, $p < .000$). Students in the Millennial age group were more likely to communicate by text messaging and using a mobile phone, as shown in Figure 2.

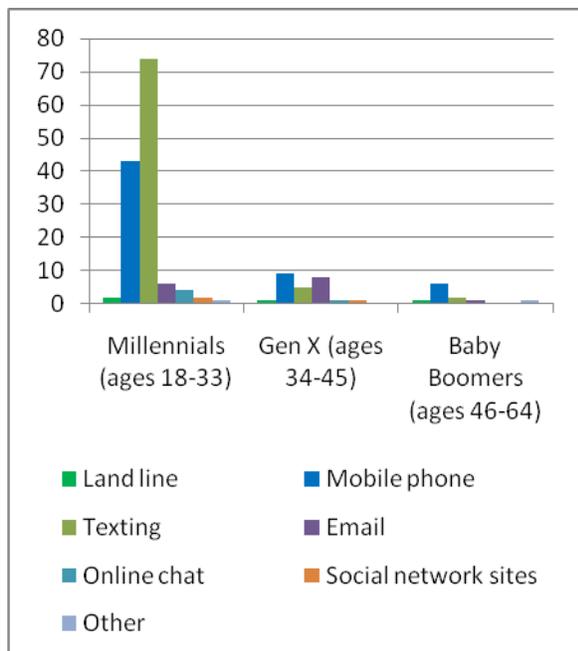


Figure 2 - Number of participants who responded whether they communicate most often via land line, mobile phone, texting, email, online chat, social network sites, or other, by age.

Participants in the Generation X age group were most likely to communicate using a mobile phone or email. Baby Boomers indicated that they were most likely to communicate via mobile phone.

Research Question 2 sought to explore the ways in which mobile devices and their capabilities are impacting how we communicate.

One of the major shifts in communication methods in recent years is the rising popularity of the use of mobile phones as replacements to land line phones. Participants were asked to indicate whether they received the majority of their phone calls on a mobile phone or a land line. A striking majority of participants, 96%, indicated that they receive the majority of their

calls on a mobile phone. This finding supports recent literature showing the growing trend of moving to mobile phones instead of land line phones (Townsend, 2000; Poullet et al., 2010). In addition, a strong statistically significant relationship (chi-square = 18.020, $df = 2$, $p < .000$) was found between age and how the majority of phone calls were received, as depicted in Figure 3. This indicates that as age decreased, participants were more likely to receive a majority of phone calls on a mobile phone than on a land line.

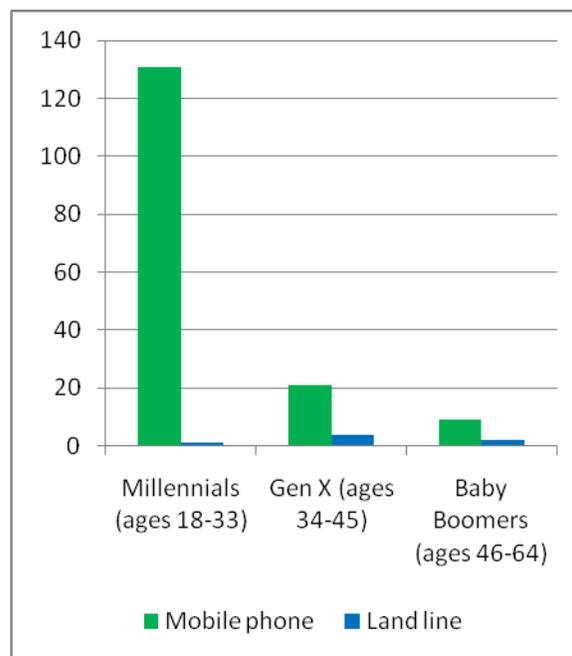


Figure 3 - Number of participants who responded whether they receive the majority of their phone calls by mobile phone or land line, by age.

Of the survey participants, 100% indicated that they own and use at least one cell phone. That striking statistic is lent further impact by the fact that 73% of respondents indicated that their cell phone has access to the Internet, which provides them with even more communication capabilities within the palm of their hand.

Text messaging is also clearly on the rise. The survey asked participants to indicate how many text messages they send and receive on average, per day. Responses ranged from a minimum of zero text messages sent and received per day to a maximum of 750 text messages sent and received per day. On average, participants sent an average of 49 text messages per day and received an average of

57 text messages per day. This is a dramatic increase from the results of the researchers' previous study on the same topic, just one year earlier. In 2010, results indicated that participants sent and received an average of 22 text messages per day (Paulet et al., 2010). The study's results also support the findings of a 2010 Pew report which indicate that text messaging among teens increased 35% since 2008 (Lenhart et al., 2010).

Participants were asked if they think it is rude for someone to take a phone call or text message while speaking to them. The majority of participants, 79%, thought it was rude for someone to take a phone call while speaking to them, while 21% did not think it was rude. The majority of participants, 70%, also thought it was rude for someone to text while speaking to them, though 30% did not think this action would be rude.

Participants were also asked if they text while driving. Slightly over half of respondents (51%) indicated that they do text while driving. There is a statistically significant relationship between gender and texting while driving (chi-square = 6.380, $df = 1$, $p < .01$), showing that males are more likely to respond that they text while driving than females. Approximately 77% of males reported texting while driving as compared to 23% of females, as shown in Figure 4.

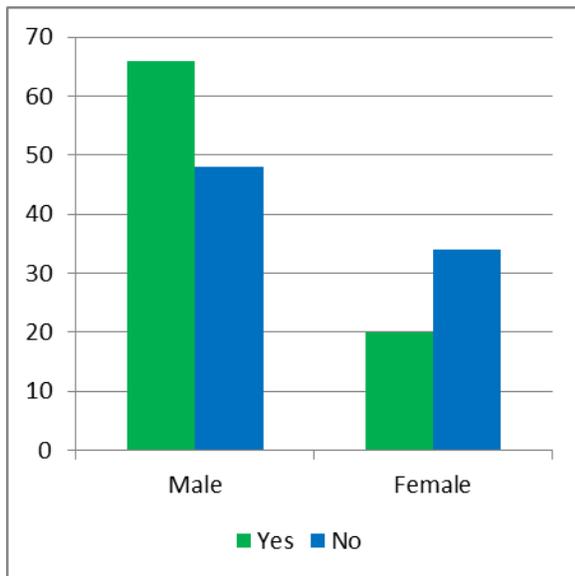


Figure 4 - Number of participants who responded if they text while driving, by gender.

There is also a strong statistically significant relationship between age and texting while driving (chi-square = 15.492, $df = 2$, $p < .000$), shown in Figure 5. As a participant's age increases, the less likely they are to report texting while driving.

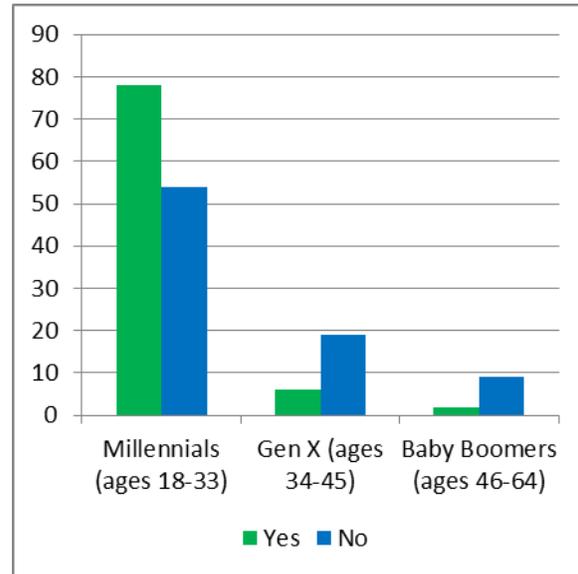


Figure 5 - Number of participants who responded if they text while driving, by age.

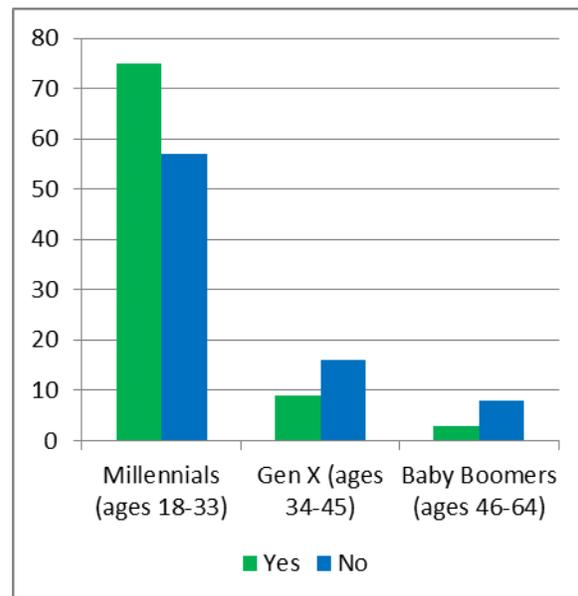


Figure 6 - Number of participants who responded if they were addicted to mobile phone technology, by age.

Finally, participants were asked if they consider themselves to be addicted to mobile phone technology. More than half of the participants, 52%, responded that they considered themselves to be addicted to mobile phone technology, as shown in Figure 6. A statistically significant relationship was found between age and mobile phone addiction (chi-square = 6.481, $df = 2$, $p < .05$). As the age of students decreased, they were more likely to report being addicted to mobile phone technology.

5. LIMITATIONS

Demographic results revealed that male participants outnumbered female participants. This could have been attributed to conducting the survey using a majority of students from the School of Communications and Information Systems in which the majority of the students are male. Care was taken to include participants from other schools, but over half of the research participants were from this school. It would be interesting to see future research that compares populations of students from other regions of the country.

6. CONCLUSION

Technology has become a normal part of our lives. Twenty-first century mobility is twenty-four hour connectivity. We now depend on technology, specifically mobile technology, to help fulfill our communication and decision making needs. If we forget the title of a song or the name of an actor, we no longer need to pick up the phone and ask a friend. We now have instant access to information without ever speaking to a person. This paper sought to determine if our always plugged-in culture is impeding our desire to have meaningful face-to-face communication with those we interact with on a regular basis. Despite the modest size of the survey group, the results reinforce the belief that mobile devices are altering how people communicate. This shift is apparent in the generational groups discussed in the research.

The alacrity of this constant connectivity is astounding. With the introduction of each new application or device, it is apparent how attached each generational group is to their lifestyle and communication habits. Each new application and device alludes to making one's life easier or more glamorous. Does it really make our life better?

Additional research will be required to determine what attracts us to our devices and to what

degree it is changing our culture and the way we communicate. Will the popularity of text messaging prove to be a fading trend? Or is it here to stay because this medium is addressing a deficiency in other traditional forms of face-to-face or voice-to-voice communication? If text messaging is here to stay, what impact will it have on our verbal and written communication skills? It is important to remember that verbal and written communication skills are an essential part of our lives.

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