

A COMPARATIVE STUDY OF N-GENERATION'S MOBILE PHONE USE
BETWEEN THE U.S. AND KOREAN SOCIETY

BY

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ABSTRACT
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In the midst of ongoing discussions about youths' new media use, this study examined the N-Generation's mobile phone usage, usage patterns, motives, and functional usage between the U.S. and Korean society. Both the U.S. and Korean N-Generation showed large dependence on their parents for cell phone bill payments and the pattern of mobile phone uses for social relationships was similar. The two N-Generation groups used the mobile phone frequently regardless of time and place, but their usage of wireless internet through the mobile phone device was very low. A principal component analysis of motivation resulted in five significant dimensions of mobile phone use motives: Mixed, Multimedia, Personal Integrative, Social/Mobility, and Instrumental/Social. The U.S. N-Generation showed having stronger motives than the Korean N-Generation except in Personal Integrative and Social/Mobility dimensions. Koreans had stronger motivation in Social/Mobility factor and the Personal Integrative motive was overall very weak in both groups. Multiple hierarchical regression analyses found that there were significant relationships between these motive factors, participant demographics, and mobile phone usage items, but for the U.S. group, demographic variables and motivation explained more variance of reported usage. Even with many similarities found between the two groups, it was suspected that the unique socio-cultural background of each society still influences N-Generation's mobile phone use and the two societies might be in different stages of mobile phone diffusion.

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CHAPTER ONE

Introduction

When talking about the emergence and adoption of new media technologies, there are always interesting discussions about young people's active and creative usage of the media. Today young people are in a much more advantageous position to adopt and shape the rules of new media culture than their parents' generation was. This is because they were born and are growing up in a society which already has many combinations of media technologies. Therefore, many ongoing research projects are specifically focused in youth culture of new media uses (Green, 2003; Kasesniemi & Rautiainen, 2002; Lee, 2004; Okada, 2005; Park, 2000; Puro, 2002; Skog, 2002).

This study rests on the assumption that there are some differences among several generations' Information and Communication Technology (ICT) usage in that each generation of a society has its own historical, social, and cultural experiences paralleling the developments of different media of their times. Against this backdrop, this study focuses on N-Generation's mobile phone usage in everyday life, examining whether there is any emerging universal pattern or culture across nations. First, the origin of the N-Generation from the U.S. and its counterparts in Korean society especially related with new media uses will be discussed.

The concept of the 'N-Generation'¹ was introduced first by Tapscott (1998). According to him, the N-Generation consists of approximately 88 million individuals in North America who were born between 1977 and 1997. These people are surrounded by digital media; they are "bathed in bits (p. 1)" and very fluent in dealing with computers. His book, "Growing Up Digital," was an exploration into the attitudes and behaviors of this generation, particularly those related to computer and internet use. Tapscott made positive predictions about the emergence of a new youth culture, which was defined as socially transmitted shared patterns of N-Generation's behavior, customs, attitudes and tacit codes, beliefs and values, arts, knowledge, and social forms. Most importantly, he made a point the N-Generation's culture would stem from its use of interactive digital media.

Popular and academic discourse about N-Generation and its members' use of digital media has not been limited to North America. For example, the N-Generation in Korea was even defined as a "generation of advanced human beings (born between the years of 1980 and 1990)," now experiencing rapid social changes that include both confusion and bliss (Hwang & Yang, 2001). This generation has various opportunities spawning from the information society and the reunification age, which is a unique socio-cultural condition of Korea. Prompt diffusion of the internet and increasing exchanges between

¹ 'N' being short for 'Net' or 'Internet' which underscores the pervasive nature of this technology to this age group (Tapscott, 1998).

North and South Korea produced a mix of chaos and opportunities (Hwang & Yang, 2001; Park, 2002).

Korean adolescents already have a strong ability to adapt to new technologies, and they are communicating with one another and creating their own linguistic expressions through their uses of the internet and mobile phones (Park, 2000; Park, 2002). Their collective culture of using mobile devices means that they can form a specific cultural community sharing their unique sentiments and they are strengthening their peer group identity inside the community (Park, 2000). Therefore, we can see this adolescent group as a cultural *cohort*, which has the mobile phone and internet as media for the members' relationship building. Their communication through these media can increase their connectedness and enforce a group identity, which has a function of regimenting this generation (Park, 2002).

As a new medium evolving from the wired telephone, the mobile phone is becoming multimedia in that it incorporates wireless internet or digital cameras (Leung & Wei, 1999, 2000). Best known among multimedia technologies is the personal computer, with its relatively long history of multimedia capability, and there is expanding capability of the multimedia internet, as well as digital TV broadcasting (Okada, 2005; p. 47.). Yet, the mobile phone is the medium that is more or less directly related to young people's personalized communication with their cohort members, the reason this study focuses on N-Generation's mobile phone usage. Online

communication, such as email and several social networking services (e.g., Myspace, Facebook, and Cyworld) can also be used as their cohort communication channels. However, the mobile phone provides the possibility of both immediate (e.g., voice calling) and non-immediate accesses (e.g., voice mail, e-mail, and text messaging) through which young people can communicate with each other and it is *the* closest medium that young people always carry and use.

Using new media such as the internet and the mobile phone is embedded in young people's daily lives. Therefore, ironically, those media are no longer new to them. Motivated by this interesting phenomenon, this study will examine young generations' everyday usage of mobile phones in Korea and the U.S., comparing their reported usage behaviors as well as their motives of use. Through the comparison of young people's mobile phone usage in two different societies, we might be able to see some similar patterns due to the similar position of the N-Generation in each society. Otherwise, because of the unique socio-cultural background and the conditions of the mobile phone industry of each country, young people in these two societies might show differences and diversity in how they use their mobile phones.

Little research has been done to document the similarities or differences in mobile phone usage between diverse cultures (Katz & Sugiyama, 2006). Given that they are traditionally considered as different in various aspects such as the individualism-collectivism discussed by Hofstede (1980,

1991) and the high-context versus low-context dimensions by Hall (1976), the comparison between the U.S. and Korean young people's mobile phone usage is worthwhile. Through this comparative study, we can have an opportunity to see how the current global environment, where similar technologies are available at about the same time, is working together with the traditional cultural differences on young people's mobile communication.

CHAPTER TWO

Literature Review and Research Questions

This section will first discuss previous studies of young people's mobile phone usage, considering why generation is a meaningful category in examining mobile phone uses. Then, the Uses and Gratifications approach will be reviewed as a major theoretical underpinning of this study. Several studies that adopted this approach will be discussed. Social and cultural contexts of mobile phone uses of N-Generation in Korea and the U.S. will be discussed as one of the important aspects of examining the issues of this study. Finally, studies comparing mobile phone usage across cultures will be reviewed in relation to the research questions of this study.

Youth culture and mobile phone usage

Generational or age gaps in people's mobile phone use were found in many previous studies, and most of them indicated that young people were more active users of mobile phones and they showed their own ways of using them. Kim (2000) and Na (2001) both found significant age differences in mobile phone usage in Korea. The results of Kim's study suggested that younger people used mobile phones more frequently than the older people did regardless of with whom they talked on the phone (Kim, 2000). Na (2001) analyzed the generational differences of mobile phone usage related to behaviors and attitudes between users and non-users. The result indicated

that the people in their 20s communicated by text messaging and voice calling and expressed themselves through the design, color and ring tones of mobile phones, while the people in their 40s depended more on voice calling mainly using the mobile phone instrumentally as a convenient tool. The study concluded that the younger generation's post-materialist values were related to their self-expressive ways of mobile phone usage (Na, 2001).

Based on the previous studies, Lee (2006) examined how mobile phone usage varied according to generation and lifestyle groups. Two hundred and seventy-six participating mobile phone users in Korea were classified into three generation groups (e.g., N, X, and 386-Generations) and three lifestyle groups (e.g., Conservative/Achievement seeking, Passive follower, and Social relations and fashion seeking lifestyles). In this study, younger generations had more personal motives (e.g., showing off, self-expression, etc.) of mobile phone use and they were using various functions, such as digital cameras and the wireless internet, and value-added services more often than the older generations were.

These research findings tell us that generation is a meaningful category as a social group, i.e., cultural cohort, in studying people's mobile phone usage. However, it remains to be seen how these generational differences in a society generalize to the similar generation groups on an international scale (Kasesniemi & Rautiainen, 2002). Motivated by this remaining question, this study aims to test whether or not young generation groups in two different

societies show similar patterns of mobile phone usage. In order to identify this, the comparison of mobile phone use between Korean and American youths is chosen.

Uses and Gratifications Approach

There have been many studies specifically on people's new media usage drawing on the Uses and Gratifications approach. The main premise of the Uses and Gratifications approach is that media audiences are active. Thus, their media usage is purposeful and competes with alternative sources of media or non-media gratifications. Audiences choose their media according to their needs, and the media provide various types of gratification, but it is not possible to predict the gratification pattern only through the media contents. It is because the type of audience needs and their extent of gratification are different by media characteristics. In addition, the gratification can be achieved not only through the media itself and its contents but also through the social situation in which the media contact is generated (Palmgreen, Wenner, & Rogengreen, 1985, p.14; quoted from Lee, 2005).

According to the Uses and Gratifications approach, audiences have many different alternatives to satisfy their particular needs and choose a specific medium. When audiences use a new medium, that means they have a new desire or the old media do not satisfy their needs, and only when the new technology satisfies their needs, do they feel gratified. Therefore, this

motivation is the basic psychological need (Lin, 1994; Lee, 2005) controlling individual's content environment and audiences gratify their needs through active media usage (Rubin & Perse, 1987). As shown here, the Uses and Gratifications approach has been focused on the media audiences' motives for particular media usage.

Roos (1993, in Song, 2001) provided three dimensions of motivation of mobile phone usage: business, social use, and emergency. These three dimensions are generated from combination of the research results on the landline telephone use motivation and the media characteristics of mobile phones. On the other hand, Leung and Wei (2000) found seven factors of motivation: fashion/status, affection/sociability, relaxation, mobility, immediate access, instrumentality, reassurance. Lee's (2001) study on the college students' mobile phone usage resulted showing a total of 11 factors of motivation. The research suggested four dimensions of motivation out of those 11 factors: social (sociability), functional (immediateness, mobility, instrumentality, information acquisition, time management), psychological (reassurance), and cultural (face saving/assimilation, interests/relaxation, showing off, fashion/social status).

Ling & Yttri (1999, 2002) also contributed significantly to the motivation research of mobile phones. They found three major purposes of mobile phone usage from their studies on Norwegian participants, which were 1) safety/security, 2) micro-coordination, and 3) hyper-coordination.

Safety/security refers to the mobile phone use for emergencies, such as a flat tire, and general security. Micro-coordination refers to the instrumental use of the mobile phone for logistical purposes, such as determining the time and place for a meeting. Hyper-coordination includes the mobile phone use as a means of self-presentation and personal expression, such as romance, chatting, and sharing jokes with friends (Campbell & Russo, 2003).

In order to examine the generational and lifestyle differences in mobile phone usage from a perspective of considering the mobile phone as multimedia, Lee (2006) suggested five motive factors of mobile phone uses: personal integrative, entertainment/escape, social integrative, mobility/immediate access, and cognitive/instrumental. The research showed that younger generations tended to use mobile phones for strengthening their social status and confidence in self-expressive ways.

As indicated above, there have been many studies on the motivation of mobile phone usage, but little has been done on systematic examinations on the actual usage behaviors of the mobile phone especially based on a specific theory of media uses. Scholars usually investigated the amount of voice calling and text messaging in their studies (Kim, 2000; Kim & Jin, 2004; Lee, 2001; Lee, 2003; Leung & Wei, 2000; Na, 2001 etc.), but not much research has dealt with other functional items available through the mobile phone such as voice mail, alarm clock, digital scheduler, MP3 player, and wireless internet. Lee (2006) tried to classify all those functional items into several different

categories and examined the frequency of usage by each generation and lifestyle group. This study is based on the Lee's (2006) study, examining the functional items usage of the mobile phone. It compares the usage of Korean youths with that of the U.S..

Again, not many previous studies examined the relationship between the motives and usage behaviors of the mobile phone users specifically. However, it is important to see how the motives of mobile phone uses are actually related to the usage especially in evaluating the theoretical validity of the Uses and Gratifications approach. In order to connect media audiences' social and psychological needs to their media choice behaviors, finding and explaining the significant relationships between individuals' demographics, their motives of media uses, and usage behaviors are required. We can verify the mobile phone users' social and psychological needs through examining the motivation of the mobile phone usage, and their demographic information can be considered as a social factor also affecting their mobile phone use.

Social and cultural contexts of mobile phone uses of N-Generation in Korea and the United States

Media are not used in a vacuum but in a social and cultural milieu (Ishii, 2006). The differences amongst several media uses should be understood in terms of the particular culture in which each medium is used. Thus, even though many similarities can be found in young people's usage of

the mobile phone across nations, there are social and cultural factors forming unique conditions of adoption and appropriation of this medium for each country (Campbell & Russo, 2003; Ishii, 2006; Katz, 2003; Ling, 2004; Mante, 2002). In this sense, this study also reviews a line of literature related to the social and cultural contexts of mobile phone use in Korea and the U.S., which are the basic conditions that account for possible differences among young people's mobile phone usage in these two countries.

As Humphreys (2005) noted, much research has shown how communication technologies reflect the social and cultural world in which they are situated. Fischer (1992), Hopper (1992), Katz (1999), and Pool (1977) all examined the social uses and effects of the telephone, and their research offers a great insight for the study of mobile phone usage. Specifically, Katz and Aakhus's comprehensive study on mobile communication "presents national studies exploring the culturally specific reception and adoption of the mobile phone, as well as the relationship between national values and communication behaviors involving the mobile phone" (Katz & Aakhus, 2002; p. 12).

Among those national studies, Kim (2002) explored the unique social and cultural conditions in Korea that expedite the speed and range of diffusion of mobile phone technology. The study suggested that hierarchical and collective characteristics provided the conditions that were ripe for the fast diffusion of mobile phones in Korea. *Crony collectivism*, as pointed out in

the study, was one of the cultural aspects of modern Korean society, indicating that Koreans highly endorse creating and maintaining appropriate social connections, which are the key measures of efficient management of life. Mobile phones are useful in this sense because one should keep their connections by meeting people and sharing information in order to display one's loyalty within any group culture.

Nonetheless, it is questionable to say that the N-Generation of present Korean society is simply living in the broader cultural context of collectivism. Several scholars have pointed out that pre-modern, modern, and post-modernistic values are coexisting in Korean society due to the rapid social changes and its consequential generational gaps. As Na (2001) indicated in her study, young people in Korea had more individualistic and post-materialistic values than their parent generations, which was reflected through their mobile phone uses. Therefore, it would be more exact to describe that they are under the influences of postmodernism and globalization with the remaining traditions of collectivism, which forms Korean N-Generation's unique social and cultural contexts of mobile phone usage.

Robbins and Turner (2002) concluded that the U.S. had fallen behind in the mobile communication arena from the examination of the U.S.

demographics of mobile phone use and non-use.² The reasons for the slow rate of adopting digital technology and the relatively low penetration of mobile phone technology in the US included: questions of standards, infrastructure investment, wire-line quality, and regulations. Yet, what was not mentioned but suggested for the future in their study was the cultural component among other factors of adoption. As Nafus and Tracey (2002) indicated in their study, the integration of new technology into a culture depends on how the technology relates to the social formation of the self (Fortunati, 2002; Nafus & Tracey, 2002), and this leaves many questions further to be examined for the U.S. case.

Individualism-collectivism is the major dichotomy of cultural variability in explaining similarities and differences of behaviors (Gudykunst & Ting-Toomay, 1988). This theoretical dimension reflects differences across societies in cultural values concerning social relations, such as self-direction and self-achievement salient in individualistic cultures and in-group loyalty and conformity prominent in collectivistic cultures (Kim, 2005). Based on this framework, cross-cultural studies have suggested that Korea is more of a collectivistic country and the U.S. is closer to individualistic.

² “There is almost one mobile phone for every person in much of the developed world, according to new figures from the OECD. Despite their enthusiasm for PCs and broadband links, Canada and the United States have been slower to adopt mobile phones than other rich countries (The Economist, September 1, 2005).” “For some global contrasts, America is the big laggard with mobile phone penetrations. They are nearing 70%. Canada is dead last among industrialized countries with cell phone penetrations at under 60%. Japan is at about 75% and South Korea over 80% (Ahonen & Moore, 2006).”

Another dimension that is closely associated with the individualistic-collectivistic dichotomy is Hall's (1976) theory of differentiating cultures along the continuum of low-context (explicit, verbal, direct) and high-context (implicit, nonverbal, indirect) communication. Both individualism-collectivism and high- and low-context communication were employed by Ting-Toomey and Kurogi (Ting-Toomey & Kurogi, 1998) in theorizing about differing "facework" patterns and conflict management styles across cultures (Kim, 2005; p. 558).

For example, Confucian principles explain a great part of Korean collectivistic culture, and particularly people's notion of themselves; one does not exist without others. This collectivistic notion empowers the social rules and obligations, which would let individuals with different ideas commonly share norms and others' expectations guide their actual behaviors. Thus, Koreans concern much about mutual face-savings to preserve relational harmony and to avoid public embarrassment (Park, 1994; in Shim 2004).

Although research on mobile phone use based on a specific cultural context is growing (e.g., Fortunati, 2002; Green, 2003; Kasesniemi & Rautiainen, 2002; Ling & Yttri, 2002), comparative studies among different cultures are still scarce (Katz & Sugiyama, 2006). In particular, comparison of cultures considered seriously different from each other according to various social values and behaviors have not been well examined. That granted, comparing N-Generation's mobile phone usage between Korean and

American society would be a meaningful study. If the young people in Korea and the U.S. show very different motives and patterns of mobile phone usage, we can conclude each country's unique social and cultural context as the assumed cause for those differences.

Comparison of mobile phone usage across cultures

Research suggests that young groups differ from other age groups in their uses of new communication technologies including mobile phones. At the same time, another line of research suggests that cultural differences could affect the social uses of new technologies. This study examines these two positions, looking at which is a greater influence in shaping young people's media use.

Several studies compared the mobile phone uses between different countries and found similar usage patterns among participants in spite of the cultural differences (Katz et al., 2003; Katz & Sugiyama, 2006; Mante, 2002; Robins & Turner, 2002). Mante (2002) compared the mobile phone usage between the Netherlands and the U.S. and suggested "there is emerging a universal ICT culture and convergence among values in diverse nations despite clear variation in local values and norms in other arenas (p. 125)." The presentation of mobile technology through media outlets tied the American case together with others throughout the world (Robins & Turner, 2002). In fact, the comparison of Israeli, South Korean and the U.S. commercials for

mobile phones showed a remarkable similarity in the images of “speediness, flexibility and social connectivity (p. 92).”

Katz et al.’s (2003) comparative study on the perception of the mobile phone in Korea and the U.S. provided a speculation about the “noticeable consistencies as well as differences across the cultures examined in terms of the image of the mobile phone, including ‘style’ and ‘fashion’ considerations (p. 85).” As a follow-up study, Katz and Sugiyama (2006) explored how fashion is related to the reported behaviors of mobile phone usage across diverse cultures. Their survey data of college students demonstrated that “young people used the mobile phone as a way of expressing their sense of self and perceived others through a fashion lens (p. 321).”

Katz and Sugiyama’s (2006) study suggested that the youths from traditionally divergent cultures (i.e., the U.S. and Japan) were quite convergent in using and perceiving new communication technology as a fashion tool. Given the current flow of globalization, “where similar fashion trends catch on and similar communication technologies are available at about the same time (p. 334),” these findings seem to be supportive evidence for the prominence of general youth culture in mobile phone usage. They concluded that although cultural differences were expected, “some near-universal meanings of the mobile phone use might be emerging in relation to fashion among youths (Katz & Sugiyama, 2006; p, 334).”

Through this study comparing the N-Generation's mobile phone usage between Korea and the U.S., the phenomena of convergence in attitudes and lifestyles around ICTs can be identified somewhat indirectly as a current trend. This convergence should be generated and mediated by the similar patterns of ICT usage among the youths of each society. Otherwise, the concrete differences in their mobile phone usage might still be observable due to the specific culture and industrial conditions of each country. This study aims to examine the U.S. and Korean youths' mobile phone usage to compare them in terms of motives and actual usage behaviors in their everyday life.

Based on the previous research and the preceding literature review, this study explores the following research questions:

RQ 1: How does the mobile phone usage of the Korean N-Generation compare with that of the U.S. N-Generation?

RQ1a: What are the similar patterns and different characteristics of basic facts of mobile phone usage between the U.S. and Korean N-Generation?

RQ1b: Do members of N-Generation in Korea and the U.S. have similar motives for mobile phone use?

RQ1c: What are the similar patterns and different characteristics of functional items usage of the mobile phone between the U.S. and Korean N-Generation?

RQ 1d: What are the similarities and differences of the relationships between motives and reported usage behaviors of the U.S. and Korean N-Generation?

CHAPTER THREE

Methods

This study utilized online surveys with college students in Korea and the U.S. to maximize the possibility of reaching a large number of participants. College undergraduates from a large Midwestern university in the U.S. and a university in Seoul, Korea, were recruited, and course credit was given for participation. Participants individually completed an online survey questionnaire requesting demographic data, motivation, and behaviors of mobile phone usage. The on-line survey for U.S. participants was started a week earlier than the one for Koreans, and the survey for Koreans was translated and presented in Korean. The bilingual researcher did the translation trying not to include any culturally sensitive phrases, but there was no back-translation done, which might have influenced the accurate delivery of meanings.

Participants and procedure

Two hundred and seven male ($n = 105$) and female ($n = 102$) students participated in the U.S. survey. The U.S. students ranged in age from 18 to 25 ($M = 19.91$, $SD = 1.23$). The average length of their mobile phone use experience was 5.32 years and they had upgraded their mobile phones into another model more than 3 times ($M = 3.57$) since they started to use them. This means that they had different models of mobile phones almost every 18

months. Participants were asked to report their monthly disposable income to see how big the portion of their mobile phone bill payments is. More than 60% of the U.S. participants had less than \$500 of monthly disposable income and only 13% of participants had more than \$800 of monthly disposable income.

Eighty nine male ($n = 48$) and female ($n = 41$) students participated in the Korean survey. The Korean students ranged in age from 18 to 26 ($M = 22.45$, $SD = 2.48$). The average length of their mobile phone use experience was 6.12 years and they had switched their mobile phones into another model more than 3 times ($M = 3.35$) since they started to use them. This means that they had different models of mobile phones almost every 21 months. Almost 70% of Korean participants had less than \$500 of monthly disposable income and only 6.7% of them had more than \$800 of monthly disposable income.

The data were collected from November to December 2006 both in the U.S. and Korea. The focus of this study was to examine the similarities and differences in motivation and usage patterns of mobile phone users in Korean and American societies; therefore, non-users' data were excluded from the analysis. Also, the participants who did not indicate their birth years or whose ages were over 26 were excluded because they could not be identified clearly as members of the N-Generation, which is the group of interest in this study, based on the following operational definition.

Operational Definition of main variables and their measurements

N-Generation Group of Mobile Phone Users. According to the previous literature on the generational classification of Korean society (Hwang & Yang, 2001; Park, 2002) and the definition of N-Generation by Tapscott (1988), this study focused on the overlapping age range of N-Generation between Korea and the U.S.. The age range of Korean N-Generation was 16 to 26 and, for American N-Generation, it was 9 to 29. Thus, the overlapping range was 16 to 26. Considering the average age range of college students is 18 to 21, they are an appropriate group to sample in each society, despite the fact that they are not a random sample.

Motive of Mobile Phone Use Measures. This study used 24 total motives of mobile phone use as gathered from the previous motivation research. These motives cover four dimensions of mobile phone use: (1) cultural, (2) social, (3) functional, and (4) psychological needs (Lee, 2001; Lee, 2002; Lee, 2004; Leung & Wei, 2000 etc.). The motive items of this survey were based on the differences between the motives of wired phone use and those of mobile phones, and they were chosen considering the general classification of media use needs suggested by Katz et al. (1973). Participants rated twenty-four motive items on a 5-point Likert scale with “1” meaning “strongly disagree” and “5” meaning “strongly agree” with the reasons for using mobile phones.

Mobile Phone Usage Measures. Respondents were also asked to report their actual mobile phone usage patterns. This study tried to classify multiple functions of mobile phones by several sub-dimensions and categories of usage. Questions included (1) the basic patterns of mobile phone usage such as the length of use experience, the frequency of replacement, and the amount of bill payment of the last month; (2) the usage of functional items of the mobile phone from voice calling to the wireless Internet in a 5-point Likert scale with “1” meaning “not at all” and “5” meaning “very often”; (3) the personal usage patterns for social relationships (i.e., with parents, siblings, friends, romantic partner, and coworkers), and (4) the time period and location of the most frequent mobile phone use.

CHAPTER FOUR

Results

This study posed one general research question asking how the mobile phone usage of Korean youth compares with that of American youth. For this comparison, this study examined four subcategories of mobile phone use: usage patterns, reported motivation, functional items usage, and the relationship between motives and usage behaviors. The results of comparing the U.S. and Korean N-Generation's mobile phone use by each category are organized by the research questions of this study.

Research Question 1a: What are the similar patterns and different characteristics of mobile phone usage patterns between the U.S. and Korean N-Generation?

Comparison of the financing of the mobile phone usage. More than 80% of the U.S. participants' ($n = 167$) cellular phone bills were being paid by their parents and only 16% of participants were paying their bills by themselves. About 62% of the Korean participants also had their parents pay their bills, but 38% of them were paying their bills by themselves, which was a significantly different proportion from that of the U.S. participants ($\chi^2 = 19.59$, $p = .001$).

The U.S. participants paid an average \$87.24 ($SD = 60.54$) for the last month cell phone bill, but the payment ranged from \$14.99 to \$350. The

possible reason for this broad range is that there were many U.S. participants who had family plans for their mobile phone usage, and this would explain the high percentage of bill payment by their parents. On the other hand, the Korean participants paid an average \$47.53 ($SD = 25.41$) for their last month bill and the payment ranged from \$16 to \$150³.

Comparison of the mobile phone usage for social relationships.

Participants were asked to report how often they talk on the mobile phone, exchange text messages, and emails with their parents, siblings, friends, romantic partner, and coworkers in a 5-point Likert scale with “1” meaning “not at all” and “5” meaning “very often.” The U.S. participants reported talking with their friends most often ($M = 4.70$, $SD = .38$), followed by with their parents ($M = 4.39$, $SD = .81$), with romantic partner ($M = 4.31$, $SD = 1.10$), with siblings ($M = 3.67$, $SD = 1.15$), and they were not talking with their coworkers very often ($M = 2.80$, $SD = 1.11$).

The Korean participants showed a similar pattern to the U.S. participants in talking on the mobile phone, but they talked more often with their romantic partners ($M = 3.45$, $SD = 1.38$) than with their parents ($M = 3.34$, $SD = .86$). The analysis of variance for comparing the mean scores of talking with significant others between the two groups found that the U.S. participants talked more frequently on the mobile phone with their parents,

³ One U.S. dollar is about 1,000 Korean won, and this currency rate was used to calculate Korean participants' cell phone bill payment.

siblings, friends, and romantic partners than the Korean participants did. However, there was no significant difference between the two groups in talking with their coworkers on the mobile phone (See Table 1).

For the exchanging of text messages, friends were the most common partners ($M = 4.13, SD = 1.19$), followed by romantic partner ($M = 3.83, SD = 1.46$) and siblings ($M = 2.55, SD = 1.26$). The U.S. participants were not frequently exchanging text messages with their parents ($M = 1.91, SD = 1.23$) or with coworkers ($M = 1.88, SD = 1.19$). Here, we can see the different patterns of voice calling and text messaging of college students with parents. The U.S. participants talked with their parents on the mobile phone very often, but exchanged text messages with them considerably less often.

Table 1
Comparison of Voice calling usage for Social relationships

Type of Social Relationship	Group Means (SD)		<i>t</i>
	U.S.	Korea	
Parents	4.39 (.86)	3.34 (.86)	9.96*
Siblings	3.67 (1.15)	2.73 (1.03)	6.61*
Friends	4.70 (.38)	3.97 (.82)	7.56*
Romantic partner	4.31 (1.10)	3.45 (1.38)	5.06*
Coworkers	2.80 (1.11)	2.69 (1.11)	.72

* $p < .001$

Again, the Korean participants showed a very similar pattern to the U.S. participants in exchanging text messages. However, the Korean group exchanged text messages with their parents, siblings, and coworkers more frequently than the U.S. group did even though the mean scores were all below the medium level of “3 (See Table 2).”

Table 2

Comparison of Text messaging usage for Social relationships

Type of Social Relationship	Group Means (SD)		<i>t</i>
	U.S.	Korea	
Parents	1.91 (1.23)	2.56 (1.11)	-4.22**
Siblings	2.55 (1.26)	2.86 (1.14)	-2.09*
Friends	4.13 (1.19)	4.26 (.82)	-1.06
Romantic partner	3.83 (1.46)	3.69 (1.42)	.76
Coworkers	1.88 (1.19)	2.78 (1.20)	-5.77**

* $p < .05$, ** $p < .001$

The participants in the U.S. sample showed overall very low frequencies of exchanging e-mails for their social relationships through the wireless internet available in the mobile phone. All the mean scores were below “1.5” and this was the same with the Korean sample. Only in exchanging emails with parents, did the U.S. participants ($M = 1.33$) have a

slightly higher score than the Koreans ($M = 1.07$), $t = 3.41$, $df = 239.64$, $p = .001$.

Comparison of the time and place of the mobile phone usage. Forty-four percent of the U.S. participants ($n = 91$) said that they used the mobile phone throughout the day, 29.5% said they used it most frequently in the evening, while 18.8% used it most often at night. This pattern was shown to be the same with the Korean participants.

More than half (61.4%) of the U.S. participants indicated that they used the mobile phone “everywhere,” followed by “at home” (30.9%). There were participants who used the mobile phone for voice calling most often in “public space” (3.9%) (e.g., shopping mall, public transportation) and “while driving” (3.4%). However, for the text messaging, the second most frequent location was “in class” (30.9%) following the “everywhere” (45.4%) option. Fourteen percent of the U.S. participants used text messaging most frequently “at home” and 5.8% did in “public space.”

Korean participants also reported that they used their mobile phones for voice calling “everywhere” ($n = 47$, 52.8%) most often, but this was followed by “public space” (24.7%), whereas the U.S. participants chose “home.” About fifteen percent of Korean participants used the mobile phone most frequently at home, and 4.5% did in class with 3.4% at work. More than 70% of the Korean participants in this study indicated that they used text

messaging everywhere most frequently. About 10% of them used text messaging at work, 9.2% did at home, 5.7% in class, and 4.6% did in public space.

Comparison of landline telephone usage. Participants were asked about whether or not they have a landline telephone in their residences and, if so, how often they use it. Only 24.2% of the U.S. participants ($n = 50$) had a landline telephone and 78% of them indicated that they did not use it very often ($M = 1.98$, $SD = 1.06$). This result can be considered with the fact that many participants were using the mobile phone most frequently “at home” second to “everywhere.” Most of these youth do not have a landline telephone available in their residences, preferring the mobile phone.

However, 66.3% of the Korean participants ($n = 59$) had a landline telephone in their residences and about half of them reported that they did not use it very often ($M = 2.63$, $SD = .87$). Though Korean participants were not using the landline telephone very often over all, still the mean score of their usage was significantly higher than that of the U.S. participants ($t = -3.504$, $df = 107$, $p = .001$).

The result of the analysis for the Research Question 1a of this study showed several similar patterns between the U.S. and Korean N-Generation’s mobile phone uses. Both groups were largely dependent on their parents for the cellular phone bill payments and the pattern and the ranking of the social

relationship types for their voice calling and text messaging were similar between the two groups. The members of N-Generation of the two societies showed a very low rate of wireless internet usage through their mobile phones for exchanging emails with their significant others. Both groups were using the mobile phone regardless of time and place seeing that they chose “through out the day” and “everywhere” for the first choice of the most frequent use for both voice calling and text messaging. Landline telephone usage was very low for both societies’ N-Generation.

The analysis also found differences. The Korean N-Generation reported more frequent interaction with romantic partners than with parents. The U.S. group used voice calling for all types of social relationships more frequently than the Korean group, and the Korean N-Generation exchanged text messaging with their parents, siblings, and coworkers more frequently than the U.S. group. The U.S. N-Generation chose “at home” for their second most frequent place of voice calling while, for Korean, it was “public space.” The U.S. group’s second choice for text messaging was “in class” whereas Korean N-Generation chose “at work.”

Research Question 1b: Do members of N-Generation in Korea and the U.S. have similar motives for mobile phone usage?

A principal component analysis (PCA) and an analysis of variance (ANOVA) were conducted to see whether members of N-Generation in Korea and the U.S. have similar motives for mobile phone use. The factor analysis generated five dimensions of motivation, and each of the factor scores was compared between the two groups by ANOVA.

Motivation of the mobile phone use. A principal component analysis of the motivation items resulted in five significant factors of having eigenvalue over one. They were named based on the previous motivation research (Lee, 2006) and with regards to the mass media use motives suggested by Katz et al. (1973). Promax rotation was used to allow correlations among factors, which resulted in total variance explained of 57.78%. Four items of motivation measurement loaded more than one factor with scores above .350, and the Table 3, the representation of the factor analysis was based on the bigger loadings between the double-loaded items.

The first factor in the structure matrix did not consist of one independent motive of the mobile phone use. Items of social, psychological, instrumental, and even escape motives were mixed and loaded together on this factor. Therefore, this factor was named “Mixed motive” (Cronbach’s $\alpha = .78$).

The second factor was “Multimedia motive” (Cronbach’s $\alpha = .80$) and the items of wireless internet functions (e.g., exchanging e-mails, Instant Messaging, and downloading music and files, etc.) with game playing loaded on this factor.

“Personal integrative” motive was the third factor. It designated the cultural aspects of mobile phone uses such as for displaying social status, self-expression, keeping up with the current fashion trends and for privacy. Five items loaded on this factor (Cronbach’s $\alpha = .78$).

The fourth factor was named “Social/Mobility” motive because this factor marked the needs of mobile phone use for sociability but with an emphasis on the possibility of immediate access to people. Items such as “To be able to change appointment suddenly” loaded highest on this factor followed by “To get immediate access to somebody” and “To give regards to people” (Cronbach’s $\alpha = .62$).

The last factor was “Instrumental/Social Integrative” motive, which reflected the needs of mobile phone use for sociability but with a more instrumental characteristic. Items such as “To get some help and advice from others” loaded highest on this factor followed by “To get along with other people” and “To handle some businesses like ordering goods and making reservations” (Cronbach’s $\alpha = .69$). Table 3 shows the result of this factor analysis of motivations with the primary factor loadings.

Table 3

Pattern Matrix of Motivation Items (N = 291)

Motivation Measurement items	Components				
	Mixed motive	Multimedia	Personal Integrative	Social /Mobility	Instrumental /Social
To converse with people whom I'm close to (1)	.774				
To chat by text messaging (1)	.709				
To use it as an alarm clock or world clock (1)	.706				
To stay in touch with people (1)	.702				
To be prepared in case of emergency (1)	.674				
To pass the boring time (1)	.448				
To send and receive e-mails (2)		.805			
To retrieve online information on the road (2)		.788			
To use Instant Messaging services (2)		.747			
To manage my schedule effectively (2)		.615			
To download music and files (2)		.585			
To play games through cell phones (2)		.558			
To look like a cool person (3)			.815		
To have a new model making others envious (3)			.769		
To express my style through the design and color of cell phones (3)			.765		
Not to fall behind from the current trends (3)			.696		
To talk secretly with somebody in my own space (3)			.506		
To be able to change appointments suddenly (4)				.884	
To give regards to people (4)				.591	
To get immediate access (4)				.547	
To get some help and advice (5)					.660
To get along with other people (5)					.642
To handle some business (5)					.460
To get necessary information (5)					.435
Eigenvalue	5.87	3.78	1.86	1.35	1.00
Percentage of total variance	57.78				

Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization. Rotation converged in 7 iterations.

Comparison of the factor scores of the mobile phone use motives.

Following the factor analysis of motivation, five factor scores were computed through summing up the scores of each variable consisting of each factor. The mean scores of each factor were compared between the U.S. and Korean participants to identify which group has stronger or weaker motives in which factor.

Multivariate analysis of variance showed that there were significant differences in four factor scores except the “Personal Integrative” motive factor among the U.S. and Korean participants. Participants’ age and mobile phone use experience variables were included as covariates in this analysis. In the first factor of “mixed motive,” the U.S. group ($M = 20.75$, $SD = 3.20$) had a significantly higher score than the Korean group ($M = 16.31$, $SD = 3.24$), $F = 58.53$, $p < .001$, $Eta^2 = .169$. Participant’s age and mobile phone use experience were also significantly related to this mixed motive. Table 4 shows the comparison of these motivation factor scores between the two countries’ participants.

The U.S. participants ($M = 14.24$, $SD = 5.44$) also showed that they had stronger motive in “multimedia” uses of mobile phone than the Koreans ($M = 12.21$, $SD = 3.56$), $F = 5.46$, $p = .020$, $Eta^2 = .020$. Participant’s age was not significantly related to this motive, but the usage experience was.

In “social/mobility” motive, Korean participants ($M = 12.92$, $SD = 1.80$) had a higher score than the U.S. participants ($M = 11.94$, $SD = 2.19$), $F = 9.40$,

$p = .002$, $Eta^2 = .033$. Participant's age was not significantly related with this motive, but the usage experience was.

Table 4

Comparison of Motivation Factor Scores

Motivation Factors	Mean		<i>F</i>
	U.S.	Korea	
Mixed motive	20.75 _a	16.31 _b	58.53 ^{***}
Multimedia	14.24 _a	12.21 _b	5.46 [*]
Personal Integrative	12.29 _a	13.02 _a	1.34
Social/Mobility	11.94 _a	12.92 _b	9.40 ^{**}
Instrumental/Social	14.63 _a	10.72 _b	64.87 ^{***}

* $p < .05$, ** $p < .01$, *** $p < .001$

a, b Means with different lowercase letters differed significantly.

Last, the U.S. group ($M = 14.63$, $SD = 3.00$) again showed that they had stronger motive in “instrumental/social integrative” uses of mobile phone than the Korean group ($M = 10.72$, $SD = 2.81$), $F = 64.87$, $p < .001$, $Eta^2 = .191$. Participant's age was not significantly related with this motive, but the usage experience was.

The result of the analysis for Research Question 1b examining motives of mobile phone uses showed one clear similarity between the two groups. Both the U.S. and Korean N-Generation had weak motives in the ‘Personal Integrative’ dimension, which represents the needs of self-expression, display of fashion and social status through the design and color of handsets. However, the U.S. group overall was more motivated by ‘Mixed, Multimedia,

and Instrumental/Social' factors and the Korean group was more motivated by the 'Social/Mobility' factor.

Research Question 1c: What are the similar patterns and different characteristics of functional items usage of the mobile phone between the U.S. and Korean N-Generation?

To compare the characteristics of mobile phone usage between American and Korean youths, participants were asked to report their average usage of functional items of the mobile phone. The functional items scale was composed of 17 items and the procedure of comparing those items usage is laid out below.

Comparison of the functional items usage. The mean scores of voice calling, text messaging, voice mail usage, tools (i.e., the sum of alarm clock, calendar, memo/notes, calculator, and world clock usage), entertainment tools (i.e., the sum of digital camera and MP3 player usage), and the wireless internet usage were compared between the U.S. and Korean samples through the analysis of variance.

First, there were significant differences in text messaging, voice mail usage, tools, and entertainment functional usage between the two groups (See Table 5). In text message usage, the Korean group had a significantly higher mean score ($M = 4.73$) than that of the U.S. group ($M = 4.17$) ($F = 16.37, p < .001$). Both groups were active in text messaging with mean scores above 4.

However, the Korean group was more active than the U.S. group in text messaging.

In voice mail usage, the U.S. group had a much higher score ($M = 4.47$) than that of the Korean group ($M = 1.90$) ($F = 531.75, p < .001$). Koreans reported that they were not using the voice mail often, while the U.S. group was very active in this usage.

In tool usage, the Korean group had a significantly higher mean score ($M = 17.14$) than that of the U.S. group ($M = 15.44$) ($F = 10.33, p = .001$). This means that both groups used mobile phone tools such as alarm clock, calculator, memos etc. slightly over the medium level ($=12.25$), but the Korean group was more active than the U.S. group in this tool usage.

Table 5
Analysis of Variance for Functional Items Usage

Dependent Variables	Groups (Mean)	F	η^2
Text messaging	U.S. ($M = 4.17$)	16.37**	.05
	Korea ($M = 4.73$)		
Voice mail	U.S. ($M = 4.47$)	531.75**	.65
	Korea ($M = 1.90$)		
Tool	U.S. ($M = 15.44$)	10.33*	.04
	Korea ($M = 17.14$)		
Entertainment	U.S. ($M = 15.44$)	24.67**	.10
	Korea ($M = 17.14$)		

* $p = .001$, ** $p < .001$

Again in entertainment usage, the Korean group had a higher mean score ($M = 8.56$) than that of the U.S. group ($M = 6.48$) ($F = 24.67, p < .001$). This means that Koreans used mobile phone entertainment functions such as the digital camera and MP3 player more frequently than the U.S. group did.

There was also a significant difference in mobile phone usage experience between these two groups. However, concerning the significant relationship between the age variable and the usage experience when the participant's sex was controlled ($R^2 = .112, \beta = .324, p < .001$), the difference in usage experience between the U.S. and Korean groups can be ignored because the mean age of each group was slightly different from each other. Therefore, the significant difference in usage experience might result from the difference in the participant age of the two groups.

The result of analysis for Research Question 1c examining the functional items usage of mobile phones showed similar patterns of very frequent usage of voice calling and very low rate of wireless internet functions uses for both the U.S. and Korean N-Generation. However, there was also a clear difference between the two groups: the U.S. participants used the voice mail function very frequently while Koreans did not, and the Korean participants used several functional items such as text messaging, tools, and entertainment tools, except the voice mail, more frequently than the U.S. group.

Research Question 1d: What are the similarities and differences of the relationships between motives and reported usage behaviors of the U.S. and Korean N-Generation?

Relationships between mobile phone use motives and the reported usage.

Hierarchical multiple regression analyses were conducted to see how well the U.S. participants' demographics and five motive factors predict their reported mobile phone usage behaviors. Participant age, sex, monthly disposable income, and mobile phone use experience were considered as demographic variables. The six criterion variables of functional usage behaviors included: (1) voice calling, (2) text messaging, (3) voice mail, (4) tool usage, (5) entertainment tools, and (6) wireless internet. Tool usage means the use of alarm clock, calendar, memo/notes, calculator, and world clock among all the mobile phone functions, and the entertainment tools indicate the usage of MP3 player, and digital camera functions.

The result of this multiple regression analysis indicated that the U.S. participants' demographic variables accounted for a significant amount of reported mobile phone usage behaviors except for the voice calling item. The regression equation with the four demographic variables was significant on the text messaging, $R^2 = .09$, $F(4, 185) = 4.43$, $p < .01$, on the voice mail usage, $R^2 = .10$, $F(4, 185) = 5.21$, $p < .01$, on the tools usage, $R^2 = .08$, $F(4, 177) = 3.64$, $p < .01$, on the entertainment usage, $R^2 = .22$, $F(4, 156) = 11.04$, $p < .001$,

and on the wireless internet usage, $R^2 = .17$, $F(4, 171) = 8.56$, $p < .001$. However, there was no significant relationship found between the demographic variables and the voice calling item. Based on these results, the participant demographics appeared to be significant predictors of the reported usage behaviors of the mobile phone except for the voice calling variable.

A second analysis was conducted to evaluate whether the U.S. participants' motivation predicted their usage behaviors over and above previous demographic variables. The five motives factors accounted for a significant amount of the usage variance except for the voice calling and voice mail usage after controlling for the effects of demographics. The regression equation with the five motive factors was significant on the text messaging, R^2 Change = .15, $F(5, 180)$ Change = 6.86, $p < .001$, on the tools usage, R^2 Change = .18, $F(5, 172)$ Change = 8.35, $p < .001$, on the entertainment usage, R^2 Change = .22, $F(5, 151)$ Change = 11.89, $p < .001$, and on the wireless internet usage, R^2 Change = .30, $F(5, 166)$ Change = 19.19, $p < .001$ (See Table 6).

Among the four demographic variables, the mobile phone usage experience ($\beta = .18$, $t(185) = 2.61$, $p = .01$, $sr^2 = .03$) and the monthly disposable income ($\beta = .19$, $t(185) = 2.61$, $p = .01$, $sr^2 = .03$) were significantly related to text messaging usage. The "Mixed" motive was significantly related to text messaging, $\beta = .34$, $t(180) = 4.05$, $p < .001$, $sr^2 = .07$, and the

“Personal Integrative” motive also had a significant relationship with text messaging but with less predictive power than the mixed motive factor ($\beta = .19, p < .05$). These results indicated that the U.S. participants, who had longer period of mobile phone usage, more income, and stronger motives for sociability, fashion, and self-displaying, tended to use text messaging functions more frequently.

Voice mail usage was strongly related to the sex of the participant, $\beta = .23, t(185) = 3.14, p < .01, sr^2 = .05$, and also with monthly disposable income, $\beta = .23, t(185) = 3.22, p < .01, sr^2 = .05$. These results indicated that participants who were female and had more income used voice mail more frequently. Among the five motive factors, there was no specific factor significantly related with the voice mail usage.

With the tool usage, participant income was significantly related, $\beta = .27, t(177) = 3.58, p < .001, sr^2 = .07$, and the “Multimedia” motive was the strongest predictor of the tool usage, $\beta = .41, t(172) = 4.76, p < .001, sr^2 = .10$. The “Mixed” motives also had significant relationships with tool usage but with less predictive power than the multimedia factor. These results showed that the participants, who had more income and stronger motives of mobile phone usage especially for multimedia usage, tended to use tools such as the alarm clock, calendar, and calculator more frequently.

Table 6

Summary of Hierarchical Regression Analysis for Variables Predicting Functional Usage Items (Standardized Beta Coefficients and semi-partial correlation squares for U.S. N-Generation, N = 190)

Predictors	Voice calling	Text messaging	Voice mail	Tool	Entertain ment	Wireless internet	
<hr/>							
Usage	-.12	.18*	.05	.08	.36***	.30***	
Experience	(.01)	(.03)	(.00)	(.01)	(.12)	(.09)	
Demographics (Step 1)	Age	-.01	-.14	-.08	-.06	-.22**	-.08
		(.00)	(.02)	(.01)	(.00)	(.04)	(.01)
	Sex	-.05	.09	.23**	.04	-.17*	-.17*
		(.00)	(.01)	(.05)	(.00)	(.03)	(.03)
	Income	.05	.19*	.23**	.27***	.26***	.22**
	(.00)	(.03)	(.05)	(.07)	(.06)	(.04)	
Adjusted R ²	.00	.07**	.08**	.06**	.20***	.15***	
F	.91	4.43	5.21	3.64	11.04	8.56	
<hr/>							
Mixed	.11	.34***	.11	.25**	.08	.14	
	(.01)	(.07)	(.01)	(.04)	(.00)	(.01)	
Multimedia	.10	.16	.02	.41***	.49***	.62***	
	(.01)	(.01)	(.00)	(.10)	(.13)	(.20)	
Personal	.08	.19*	.15	.03	.02	.02	
	(.00)	(.02)	(.01)	(.00)	(.00)	(.00)	
Social/ Mobility	.02	-.09	.03	-.06	.01	-.09	
	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	
Instrumental/ Social	-.04	.06	-.03	.08	.09	-.00	
	(.00)	(.00)	(.00)	(.00)	(.00)	(.00)	
Adjusted R ²	.00	.20***	.09**	.22***	.41***	.44***	
R ² Change	.03	.15***	.04	.18***	.22***	.30***	
F Change	1.09	6.86	1.44	8.35	11.89	19.19	

* $p < .05$, ** $p < .01$, *** $p < .001$

All four demographic variables were significant predictors of the entertainment tool usage, but only the “Multimedia” motive among the five motive factors was significantly related to entertainment usage. The mobile phone usage experience ($\beta = .36, t(156) = 5.01, p < .001$) and the monthly disposable income ($\beta = .26, t(157) = 3.58, p < .001$) were positively related with the entertainment usage, meaning the longer the experience and the more the income, the more frequent the U.S. participant used the entertainment items in their mobile phones such as digital cameras and MP3 player. Participant age ($\beta = -.22, t(156) = -2.83, p < .01$) and sex ($\beta = -.17, t(156) = -2.37, p < .05$) had negatively significant relationships with the entertainment usage with less predictive power than the other two. These results indicated that younger participants and males tended to use entertainment tools more often. The strong positive relationship ($\beta = .49, t(151) = 5.91, p < .001$) between the “Multimedia” motive and the entertainment usage means that participant with stronger motives for mobile phone usage especially for multimedia usage tended to use MP3 player and digital camera functions more frequently.

With wireless internet usage, three demographic variables were significantly related. The mobile phone usage experience ($\beta = .30, t(171) = 4.33, p < .001$) and monthly disposable income ($\beta = .22, t(171) = 3.03, p < .01$) were positively related to wireless internet usage, meaning that the more experience and the more income, the more frequently the U.S. participants

tended to use the wireless internet functions. Male participants appeared to use the wireless internet functions more often than the female participants did, ($\beta = -.17, t(171) = -2.28, p < .01$) Among the five motive factors, only the “Multimedia” motive was significantly related with the wireless internet usage ($\beta = .62, t(166) = 8.02, p < .001$). This result showed that the participants who had stronger motives for mobile phone usage especially for multimedia usage tended to use the wireless internet available through the mobile phone more frequently.

Again, hierarchical multiple regression analyses were conducted to see how well the Korean participants’ demographics and five motive factors predict their reported mobile phone usage behaviors. The result of this multiple regression analysis indicated that the Korean participants’ demographic variables accounted for a significant amount of mobile phone usage behaviors except for the voice calling, text messaging, and wireless internet usage items. The regression equation with the four demographic variables was significant on the voice mail usage, $R^2 = .16, F(4, 79) = 3.90, p < .01$, on the tools usage, $R^2 = .26, F(4, 79) = 7.04, p < .001$, and on the entertainment usage, $R^2 = .20, F(4, 54) = 3.42, p < .05$.

A second analysis was conducted to evaluate whether the Korean participants’ motivation predicted their usage behaviors over and above previous demographic variables. The five motive factors accounted for a significant amount of the usage variance except for the voice calling, voice

mail, and tool usage after controlling for the effects of demographics. The regression equation with the five motive factors was significant on the text messaging, R^2 Change = .14, $F(5, 75)$ Change = 2.57, $p < .05$, on the entertainment usage, R^2 Change = .19, $F(5, 49)$ Change = 2.98, $p < .05$, and on the wireless internet usage, R^2 Change = .29, $F(5, 57)$ Change = 5.02, $p < .01$ (See Table 7).

No demographic variables were significantly related to text messaging usage. Only the “Social/Mobility” motive was significantly related to Korean participants’ text messaging, $\beta = .36$, $t(75) = 2.54$, $p < .05$, $sr^2 = .07$. These results indicated that the Korean participants, who had stronger motives for sociability and mobility of mobile phone usage, tended to use text messaging more frequently.

Voice mail usage was strongly related with the participant’s sex, $\beta = .31$, $t(79) = 2.99$, $p < .001$, $sr^2 = .04$, and also with usage experience, $\beta = .25$, $t(79) = 2.01$, $p < .05$, $sr^2 = .09$. These results indicated that participants who were female and had more experience with mobile phone usage tended to use the voice mail function more frequently. Among the five motive factors, there was no specific factor significantly related to the voice mail usage. This means that the five motives factors did not account for a significant amount of the voice mail usage variance after controlling for the effects of demographics.

Table 7

Summary of Hierarchical Regression Analysis for Variables Predicting Functional Usage Items (Standardized beta coefficients and semi-partial correlation squares for Korean N-Generation, N = 85)

Predictors	Voice calling	Text messaging	Voice mail	Tool	Entertain ment	Wireless internet	
Demographics (Step 1)	Usage	.24	.07	.25*	.10	.09	
	Experience	(.04)	(.00)	(.04)	(.01)	(.01)	
	Age	-.16	.02	-.05	-.51***	-.33*	-.15
	Sex	(.02)	(.00)	(.00)	(.18)	(.08)	(.02)
	Income	-.20	.04	.31**	.17	.22	-.12
		(.04)	(.00)	(.10)	(.03)	(.04)	(.01)
	Adjusted R ²	-.02	.01	-.10	.13	.22	-.07
	(.00)	(.00)	(.01)	(.02)	(.04)	(.04)	
<i>F</i>	.02	-.04	.12**	.23***	.14*	-.03	
	1.48	.19	3.90	7.04	3.42	.60	
Motivation (Step 2)	Mixed	.06	-.13	.00	.16	.18	.04
		(.00)	(.01)	(.00)	(.11)	(.02)	(.00)
	Multimedia	-.16	.02	.22	.15	.40**	.55***
		(.02)	(.00)	(.04)	(.01)	(.12)	(.20)
	Personal	-.18	.18	-.02	-.11	.06	.03
	Integrative	(.02)	(.02)	(.00)	(.01)	(.00)	(.00)
	Social/ Mobility	.18	.36*	.02	.13	-.09	-.04
		(.02)	(.07)	(.00)	(.01)	(.00)	(.00)
Instrumental/ Social	-.04	-.12	.08	-.16	-.11	.12	
	(.00)	(.01)	(.01)	(.02)	(.01)	(.01)	
Adjusted R ²	.04	.05	.12*	.26***	.28**	.23**	
R ² Change	.07	.14*	.05	.08	.19*	.29**	
<i>F</i>	1.23	2.57	.91	1.74	2.98	5.02	

* $p < .05$, ** $p < .01$, *** $p < .001$

Only the participant age was significantly related to tool usage, $\beta = -.51$, $t(79) = -4.42$, $p < .001$, $sr^2 = .18$. Again, there was no specific motive factor significantly related with the tool usage. This means that the five motive factors did not account for a significant amount of the tool usage variance after controlling for the effects of demographics. These results showed that younger Korean participants tended to use tools such as the alarm clock, calendar, and calculator more frequently through mobile phones than the older participants.

Only the participant age was significantly related to the entertainment tool usage, $\beta = -.33$, $t(54) = -2.27$, $p < .05$, $sr^2 = .08$. Among the five motive factors, the “Multimedia” motive was a significant predictor of the entertainment tool usage, $\beta = .40$, $t(49) = 3.04$, $p < .01$, $sr^2 = .12$. These results indicated that younger Korean participants tended to use entertainment tools more often than the older Koreans and participants having stronger motives of mobile phone usage especially for multimedia usage tended to use MP3 player and digital camera functions more frequently.

With wireless internet usage, no demographic variables were significantly related. Among the five motive factors, only the “Multimedia” motive was significantly related with the wireless internet usage, $\beta = .55$, $t(57) = 4.18$, $p < .001$. This result again showed that the Korean participants who had stronger motives of mobile phone usage especially for multimedia usage

tended to use the wireless internet available through the mobile phone more frequently.

The result of analysis for Research Question 1d showed that the demographic variables and motives of mobile phone use were overall significant predictors of reported usage behavior items. However, those predictors explained more variance of functional usage items for the U.S. N-Generation group than for the Korean group.

CHAPTER FIVE

Discussion

This chapter reviews and integrates the results of the study, presents implications of the findings, addresses the strengths and limitations of this study, and identifies future research arenas.

Conclusion

This study compared the mobile phone usage of Korean youth to that of American youth. Youth of those two societies, were compared across four subcategories of mobile phone use: usage patterns, motivation, functional items usage, and the relationship between the motives and usage behaviors. Each category of mobile phone use was examined by each sub Research Question from 1a to 1d.

Therefore, the result of this study comparing the mobile phone usage patterns of the two groups can be highlighted also with four points according to the order of research questions: 1) usage patterns, 2) motives of mobile phone use, 3) functional items usage, and 4) relationship between motive factors and reported usage behavior.

First, there were many similar mobile phone usage patterns found between the two countries' N-Generation. Members of the N-Generation in the two societies were largely dependent on their parents for their cell phone bill payment. Though the percentage of dependence was slightly higher for the U.S. participants, it was due to the fact that they had more family plans for

their mobile phone usage, which would allow parents to pay the phone bill for the whole family. Compared to most of the participants' monthly disposable income in this study, the amount of their last month cell phone bill payments was very high. For the U.S. participants, it was about 20% of their monthly disposable income and, for all participants, it was still 15%. Thus, it is not surprising that many of the members of N-Generation in both societies are not paying their cell phone bills by themselves.

Studies on mobile communication have pointed out the important implications of time and space to mobile technologies today (Katz & Aakhus, 2002; Gournay & Smoreda, 2003; Caporael & Xie, 2003). This study confirmed that the N-Generation in both Korean and American societies used mobile phones regardless of time and space seeing that they chose "throughout the day" and "everywhere" as answers to the questions of asking the time and place they use the mobile phone most often. There were slight differences between the two groups in location for the second most frequent voice calling and text messaging (i.e. "public space" for Korean's voice calling and "in class" for the U.S. participants' text messaging), though we can conclude that the overall pattern was very similar.

Another similar pattern for the N-Generation of both Korean and the U.S. societies was that they were not using the landline telephone frequently even when they had one available in their residences. From this result, we might be able to say that the young generations of both societies prefer using

the mobile phone to using the landline telephone and, for many of them, the mobile phone is replacing the wired phone especially since a large portion of the U.S. participants of this study did not have any landline telephone in their residences.

The comparison of mobile phone usage for social relationships also showed intriguing results. In voice calling usage for different types of social relationships, the U.S. group was significantly higher than the Korean group except in voice calling with coworkers. This meant that the U.S. N-Generation talked to their parents, siblings, friends, and romantic partners on the mobile phone more frequently than their counterparts in Korea did. However, as we could expect from the result of functional usage of text messaging, the Korean N-Generation used text messaging for their social relationships (e.g., with parents, siblings and coworkers) more frequently than the U.S. N-Generation. Neither group was exchanging emails frequently through their cellular phones with their significant others.

This result of comparing the mobile phone usage for social relationships of two societies' N-Generation can be connected to the unique socio-cultural contexts of each society and its youths. Many of the U.S. participants of this study were living in a college town separated from their family, a very common situation for many American college students today. However, many of the Korean participants were still living with their family because their school was not far from their home. As such, we can see the

particular differences of the geographical location and distribution of two countries having the potential influence on N-Generation's mobile phone usage through forming the unique contexts for each society. The members of the U.S. N-Generation might talk with their family members more frequently on the cell phone than the Korean participants because they are far away from their family and cannot visit them more often. Conversely, many of the Korean N-Generation might use more text messaging for their social relationships because they live relatively closer to their family and friends than the U.S. N-Generation. This might explain the fact that the U.S. N-Generation had more "family plans" for their mobile phone usage plan.

The U.S. participants used voice calling more often than their Korean counterparts while the Koreans used text messaging more frequently for their social relationships. This may be due to the cultural differences between the U.S. and Korean societies, especially the individualistic-collectivistic dimension and the high- and low-contexts. The Korean N-Generation, living in a collectivistic and high-context culture where implicit, nonverbal and indirect communication is prevalent and highly values, might be using text messaging more frequently because it is more of an indirect way of communicating than the voice calling, and vice versa.

Second, a principal component analysis was conducted to see whether members of N-Generation in Korea and the U.S. have similar motives for mobile phone usage. The analysis generated five dimensions of mobile phone

use motivation, which were “Mixed,” “Multimedia,” “Personal Integrative,” “Social/Mobility,” and “Instrumental/Social” motives. Each of the factor scores was compared between the two groups.

Four motive factors out of five were significantly different between the two groups. The U.S. participants showed having stronger motives in “Mixed,” “Multimedia,” and “Instrumental/Social” factors whereas the Korean participants had stronger motives in “Social/Mobility” factor. There was no significant difference found in “Personal Integrative” motive between the two groups, which was shown overall very low in both groups. Therefore, we can conclude that the members of N-Generation in Korea and the U.S. showed overall dissimilar intensity of motivation for their mobile phone use.

This result of motivation factor analyses should also be discussed in relation to the result of usage behaviors, and this could be connected to the various cultural differences and distinctive aspects of the mobile phone industry of the two societies.

Third, the functional item usage of mobile phones was examined in voice calling, text messaging, voice mails, tools, entertainment, and wireless internet functions. Four items except voice calling and wireless internet usage were significantly different by participant country, and the Korean participants used all those functional items more frequently than the U.S. participants except in voice mail usage. Because of the fact that overall functional items usage was higher in the Korean group, it was striking to see

the large gap in voice mail usage between the two groups. The U.S. participants were using voice mail almost as often as they were using voice calling and text messaging, but the Korean group was not using the function frequently; its mean score was below “2,” which means “not often.”

A short interview with a member of the Korean N-Generation who had been in Korea through his high school years and came to the U.S. to study in college gives an insight about this interesting result and possibly explains the situation. To the question of possible reasons for the significantly low amount of voice mail usage, the interviewee replied,

“It seems like voice mail is not a necessary function at least for us. We always exchange text messages with each other and, when you can see the information directly from your cell phone screen, why would I bother to leave a voice mail on somebody’s phone or to check it in my phone? It only wastes your money and time.”

In the meantime, it is questionable why the N-Generation in the U.S. is still using the voice mail functions even when they can replace the function with text messaging. This would be explained partially through looking at the different features of mobile phone usage plans of the two societies. For Korean N-Generation, the text messaging feature is already included in a usage plan especially when they purchase a specific plan for college students while most of the U.S. mobile phone usage plans have a separate package for text messaging service. Therefore, there is no extra fee for Koreans to use text messaging except when they go over the limit, but the U.S. people have to pay

an additional fee for the same function⁴. Instead of using text messaging more frequently, some of the U.S. people might be using the voice mail function for the same purpose. The U.S. N-Generation in this study was using text messaging overall “often,” but not as often as the Korean N-Generation.

Finally, there were interesting contrasts and a similar pattern found in the relationships between participant demographics, motive factors, and reported usage behaviors among the two societies’ members of N-Generation. For the U.S. participants, almost all the usage items had significant relationships with demographic variables (i.e., age, sex, income, and usage experience) and the five motive factors. On the contrary, for Korean participants in this study, only half of the reported usage items were predicted either by demographic information or motive factors. Overall, the participant demographics and motives predicted reported usage behaviors better for the U.S. N-Generation than for the Korean N- Generation. The similar pattern for this result was the fact that there were not many motive factors directly related to the reported usage items of mobile phones.

These results were in line with Lee’s (2001) study, which found that not all motives were connected to the college students’ reported mobile phone usage behaviors. In the result, she pointed out that even though the young participants had a type of personal integrative motive of mobile phone usage

⁴ “Premium text services, which have been popular in Europe and Asia for some time, have operated in the United States only since 2004, said Rafat Ali, editor and publisher of MocoNews.net, which covers mobile-phone media. Ali estimated that there are about 50 premium services in the USA, and some have gotten attention from major companies (USA Today, March, 29th, 2007).”

for face-saving, showing-off, fashion, and displaying social status, their reported usage was not significantly related with those motives. Those motives were better predictors of voice calling with friends, which would be one of the categories of mobile phone use for social relationships in this study.

Returning to the overarching research question of this study, the mobile phone usage of Korean youth was compared with that of American youth through the comparison of basic facts, motivation, and reported usage behaviors. Table 8 shows the comprehensive results of this study providing the possible reasons for each result. This study found that there were significant differences in motivation but somewhat similar patterns of mobile phone use between the two societies' N-Generation. Based on this result, it was hard to tell either which was a more prominent influence on youths' mobile phone usage between the cohort effect of the N-Generation and the unique socio-cultural differences of two societies.

Table 8

The comprehensive results of the study with possible explanatory reasons

Categories of comparisons	Similarities	Differences	Possible Reasons	
Usage Pattern RQ1a	Payments	Large dependence on parents for cell phone bill payments.	80% of dependence for the U.S., 62% for Korean. \$87.24 (SD = 60.54) for the U.S., \$47.53 (SD = 25.41) for Korean.	Family service plan for the U.S. group, college students' financial condition
	Social relationships	Pattern and order of social relationship types for voice calling, text messaging, low usage of wireless internet through the cell phone for exchanging e-mails.	More frequent interaction with romantic partner than with parents for Korean. More frequent voice calling for the U.S. with all types of social relationships, more frequent text messaging for Korean with parents, siblings, and coworkers.	Different geographical location and layout, family service plan for the U.S. group
	Time & place for the most frequent mobile phone usage	'Throughout the day' and 'Everywhere' for the first choice of the most frequent use for both voice calling & text messaging.	'At home' for the second choice of the most frequent use of voice calling (U.S.), 'public space' for Korean. 'In class' for the text messaging (U.S.), 'at work' for Korean.	Readily available mobile technology, but different use for dissimilar geographical locations
	Landline telephone usage	Very low rate of usage	66.3% (Korea) and 24.2% (U.S.) of participants had one available at their residences	Mobile phone's replacing landline telephone
Motivation RQ1b	Weak motives in the 'Personal Integrative' factor	U.S.: Stronger motives in 'Mixed, Multimedia, Instrumental/Social' factors. Korea: Stronger in the 'Social/Mobility' factor.	Different stages of mobile phone adoption? Socio-cultural differences?	
Functional items usage RQ1c	Very frequent usage of voice calling and very low usage of wireless internet functions of the cell phone.	U.S.: Very frequent voice mail usage Korea: very low usage of voice mail, more frequent usage of functional items except voice mail	Service plans, separate package for text messaging services	
Relationship bet. Motive and usage behaviors RQ1d	Overall significant relationships bet. demographics, motives, and usage behaviors.	U.S.: Stronger relationship bet. demographics, motives, and usage items. Korea: Weaker, less significant relationships.	Different stages of mobile phone adoption?	

These results showed that many factors like socio-cultural contexts, mobile phone industry, and individual users' needs are working together forming a complex scene influencing the mobile phone usage of the N-Generation of two different societies. Some results resonate with previous studies, but not all of them could be explained fully. The fact that the members of the N-Generation of both societies had "Personal Integrative" motive of mobile phone use in common confirmed the previous research findings that younger people used the mobile phone in self-expressive ways and had personal motives like displaying their social status, fashion, and styles (Katz & Sugiyama, 2006; Kim, 2000; Lee, 2006; Na, 2001). However, there remained a question of why the extent of "Personal Integrative" motive, that once used to be found strong among youths, was overall very low among the participants of both Korea and the U.S. in this study.

The common motive factor of "Instrumental/Social" for the two groups resonated with the previous study result showing the consistent images of mobile phone commercials across cultures emphasizing the "speediness, flexibility, and social connectivity" (Robbins & Turner, 2002). On the other hand, the Korean N-Generation's distinctively stronger motivation of "Social/Mobility" could be seen as a result of their unique cultural background of *crony collectivism* emphasizing the importance of maintaining social connections (Kim, 2002).

Nevertheless, at the same time, this was almost the only case of showing the collectivistic culture of Korean N-Generation.⁵ Crony collectivism might have been a useful lens to look at the early diffusion and adoption of mobile phones in Korean society especially in explaining how outwardly fast the mobile phone was adopted by Korean people. But, there were many other detailed usage patterns and motivation found in this study that did not quite fit the framework of collectivism. It seemed like now we needed multiple lenses such as post-modernism and globalization to explain the mobile phone usage of today's young generation in Korea. Korean youth are no longer solely under the influence of collectivism, as pointed out earlier in this study, and show many similar patterns of mobile phone usage with those of the U.S. youths. Nafus and Tracey (2002) suggested that there was a shift in understanding how goods such as ICTs were related to the self based on their study on mobile phone consumptions and concepts of personhood. They described this shift as echoing "the broad changes in the shift from modernism to post-modernism (p. 216)." This study suggests this shift is not only applicable to the Western society.

Robbins and Turner (2002) found that the U.S. fell behind in the mobile communication arena, given that the adoption and penetration of mobile technology were slower and lower than in other developed countries. They indicated several reasons for this, most having to do with the U.S.

⁵ The fact that the Korean participants used text messaging for contacting coworkers more frequently than the US participants did might be another case of showing collectivistic culture of Korean N-Generation, but this speculation needs further investigation.

telecommunication industry and policy, but suggested a further study on how cultural characteristics of U.S. society relate to the integration of new technology. According to the result of this study, the U.S. N-Generation was using multiple functions of the mobile phone less frequently than the Korean N-Generation, but their overall usage was not much lower than that of Koreans. Moreover, they had stronger motives of mobile phone usage than the Korean N-Generations in three aspects, i.e. Mixed, Multimedia, and Instrumental/Social motives, out of totally five factors. It seemed that, during the past five years, mobile phones were adopted and used actively among the U.S. youths. Therefore, now the U.S. might not be falling behind from other countries in mobile communication areas.

Theoretical implication

Some communication scholars have argued that the Uses and Gratifications approach was no longer useful to examine mobile phone use because there were many new phenomena, which could not be explained well by this framework (Katz & Aakhus, 2002; Katz, 2003; Katz et al., 2003). In spite of this, the Uses and Gratifications approach has been one of the major theoretical frameworks for studies of new media usage for many decades. This study found this approach was particularly helpful identifying reasons for using a specific medium.

The fact that there were significant relationships between the motives and usage behaviors found in this study could be seen as evidence of mobile phone users' activeness and purposefulness. In other words, active media users have certain types of needs when they choose to use those media, and the significant connections between the motives and usage in this study were in line with the main assumption of the Uses and Gratifications approach on media users' purposefulness. For the U.S. N-Generation, it was more so because there were more significant relationships found between the participant demographics, motives, and usage behavior items. This study suggests the continued utility of the Uses and Gratifications approach as a theoretical framework for studying media use.

This study was based on a previous study of generational and lifestyle differences of mobile phone usage in Korea (Lee, 2006). Within the same structure of motivation, the earlier and later Korean groups not only showed different strengths in several motive factors, but they also showed a disparate pattern from what they had previously. In Lee's study, the young generation in Korean society had strong motivation of mobile phone use, namely 'Personal Integrative' motive for self-expression, display of fashion and social status. For them, the mobile phone was not just a convenient tool for immediate communication, but a way to express themselves and a part of their bodies. On the contrary, a change has been found in this study that the 'Personal Integrative' motive was not as strong as it used to be among the N-

Generation members. The Uses and Gratifications approach still provided an effective way to detect the change, yet it was not enough to explain the possible reasons for the change. Accordingly, this raises a question of what could be the alternative way to explain this change in young people's mobile phone use.

The "domestication" theory suggested by Silverstone and Haddon (1996) applies to the integration of personal technology into everyday domestic life and in particular puts forward a description of the stages involved in this process (Katz & Aakhus, 2002). Based on the differences in motives and reported usage behaviors of young mobile phone users between the U.S. and Korea shown in this study, it was suspected that the different stages of adoption of the mobile phone by each society might be one of the reasons for making the differences (See Table 8). Domestication theory's emphasis on adoption as a process and not just an event gives a better insight on examining these differences and changes in young people's mobile phone usage. People often acquire ICTs, go through an initial period of experimentation, and then fall into a routine usage pattern (Haddon, 2003).

The well-established adoption theory of technology, diffusion of innovation proposed that before a new technology reaches its critical adoption threshold, socioeconomic variables as a block play a significant role in differentiating adopters from non-adopters (Rogers, 1995). On the other hand, socioeconomic influences arguably become less important once the new

technology reaches a critical mass (Wei, 2001). Numerous empirical studies have found that age has a negative correlation with adoption in the early stage of a new media technology while education and income have positive correlations. The result of this study showing that the participant demographics especially the income variable– which could be considered as socioeconomic variables – predicted reported mobile phone usage better for the U.S. N-Generation also supports the possibility of different stages of adoption between the U.S. and Korean societies. Even though it seemed like the U.S. N-Generation were using mobile phones as much as the Korean youths were, the variation between the U.S. and Korean groups suggests that the U.S. N-Generation may still be at a slightly different adoption stage.

Finally, the fact that Korean N-Generation had previous experiences of voice mail usage and found it not so useful to them, which led them to the intensive text messaging usage could be another evidence for being in a different stage of mobile phone adoption. While the U.S. N-Generation is still trying to figure out which function is more useful and convenient to them, it is possible that the Korean youths might already have given up the voice mail option and decided to use text messaging instead.

The preceding discussion of the theoretical implication of this study can be connected to the potential contribution of this research. Two major arenas can be mentioned in particular. First, this study contributes to the theory building of the Uses and Gratifications approach in the long run.

Despite of all the critiques, the Uses and Gratifications approach has been developed for many decades especially for explaining people's media usage behaviors. The result of this study confirmed the fact that this theoretical approach was still insightful and useful for comparing young people's mobile phone use. At the same time, this study also explored some alternative ways of explanation for the new phenomena that did not fit well with the Uses and Gratifications approach.

This research can be of practical use to the mobile phone industry. For example, recently, a Korean mobile service provider launched their new product targeted toward the U.S. market. Their brand is trying to appeal especially to young generation in the U.S., so this study of comparing the mobile phone usage of N-Generation can be helpful to their market research in investigating the needs and usage patterns of young people in a different society from which the company is based. Particularly, when the company tries to approach a foreign market, they can develop locally-specific strategies connecting local users with the global features of the product (Yoon, 2006).

Limitations of the Study and Suggestions for Future Research

One limitation of this study is that the random sampling was not used for recruiting participants of the online survey. It was not very hard to gather many U.S. participants, but recruiting the Korean participants who were physically oversea from the researcher was somewhat difficult. This might

explain the uneven numbers of participants between the U.S. and Korean N-Generation groups in this study. Because the statistics from the analyses of this study were taken from the one with equal variance not assumed for each group, the results and interpretations of this study would not generate statistically significant errors. However, with more similar numbers of participants from both societies, it would have produced more reliable data and strengthened the generalizability of this study result.

Another limitation is that measurement of the motivation of mobile phone use assessed only 24 items of motives, which could have been the reason for the factor analysis results not having the first factor as a clearly separate dimension of motivation. Conversely, this result could be seen as a representation of the N-Generation's changing motives of mobile phone use. Compared to Lee's (2006) previous study result, which used almost the exactly same measurement with this study, this result is interesting in that the young generation did not have "Personal Integrative" motive as strong as they used to and did not show clearly categorizable dimensions of motivation.

The data of this study is all based on self-reports of the participants, which also can be mentioned as a limitation. Methods such as participant-observation or communication diaries might have provided a closer study, and more accurate usage reports to supplement the motivation survey. However, due to the limitation of time and cost in applying the method, that was not feasible.

This study suggests that the unique socio-cultural situations of each society seemed to influence young people's mobile phone use. However, cultural situations were assumed and referred from the relevant previous studies, not directly measured from the participants' cultural values. It is expected that the traditional dichotomy between the individualistic and collectivistic cultures for comparing participants from different countries might not evaluate the N-Generation's changing cultural values exactly. Still, with some combinations of valid measurement, it would be interesting to see how similar or different the members of N-Generation from various societies are in their cultural values and beliefs. Therefore, it is suggested that, for a future research comparing young people's mobile phone usage, the measurement for cultural values should be integrated in the survey questionnaires and the measures should consider changing socio-cultural contexts.

Some of the results of different patterns of mobile phone usage between the U.S. and Korean N-Generation could be explained from the disparate aspects of the mobile phone industry including the products and services for each country. But, this study did not examine the industrial or commercial aspects of mobile communication by each country, and only pointed out the distinctive features of mobile service companies as reasons for the different patterns of usage. Thus, again for future research, it is suggested

to examine mobile phone industries of different societies in their history, infrastructure, and standardization matters.

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Appendix A

Questionnaire – English Version

The following is the informed consent form for this study. Please read below.

NOTE: If you wish to keep a copy of this consent form for your records, please print this page now. Please be aware that you will not be able to back up to previous pages as you take this survey.

INTRODUCTION

The Department of Communication at the University of Kansas and the School of Journalism and Mass Communication at Korea University support the practice of protection for human subjects participating in research. The following information is provided for you to decide whether you wish to participate in the present study. You may refuse to sign this form and not participate in this study. You should be aware that even if you agree to participate, you are free to withdraw at any time. If you do withdraw from this study, it will not affect your relationship with this unit, the services it may provide to you, neither with the University of Kansas nor with Korea University.

PARTICIPANT CONFIDENTIALITY

Your name will not be associated in any way with the information collected about you or with the research findings from this study. If you complete this study online, I will ask you for your name, the name of your instructor from whom you wish to receive course credit, and your phone number. This is only applicable to KU students. This information is collected for two reasons: (a) to provide you with course credit and (b) to verify your participation in the research. After your instructor has been notified of your participation and verification is complete, your name and telephone number will be removed from the data set. No information identifying your participation will be associated with published findings from this research.

Permission granted on this date to use and disclose your information remains in effect indefinitely. By completing this survey you give permission for the use and disclosure of your information for purposes of this study at any time in the future.

REFUSAL TO SIGN CONSENT AND AUTHORIZATION

You are not required to complete this Consent and Authorization form and you may refuse to do so without affecting your right to any services you are receiving or may receive from the University of Kansas and Korea University or to participate in any programs or events of the University of Kansas and Korea University. However, if you refuse to complete, you cannot participate in this study.

CANCELLING THIS CONSENT AND AUTHORIZATION

You may withdraw your consent to participate in this study at any time. You also have the right to cancel your permission to use and disclose information collected about you, in writing, at any time, by sending your written request to: Sun Kyong Lee, 5D Bailey Hall, 1440 Jayhawk Blvd., Lawrence, KS 66047. If you cancel permission to use your information, the researchers will stop collecting additional information about you. However, the research team may use and disclose information that was gathered before they received your cancellation, as described above.

QUESTIONS ABOUT PARTICIPATION

Questions about procedures should be directed to the researcher(s) listed at the end of this consent form.

PARTICIPANT CERTIFICATION:

I have read this Consent and Authorization form. I have had the opportunity to ask, and I have received answers to, any questions I had regarding the study. I understand that if I have any additional questions about my rights as a research participant, I may call (785) 864-7429 or (785) 864-7385 or write the Human Subjects Committee Lawrence Campus (HSCL), University of Kansas, 2385 Irving Hill Road, Lawrence, Kansas 66045-7563, email dhann@ku.edu or mdenning@ku.edu.

I agree to take part in this study as a research participant. By indicating my acceptance below and clicking "Next" I affirm that I am at least 18 years old and that I have received a copy of this Consent and Authorization form.

Researcher Contact Information

Sun Kyong Lee
Principal Investigator
5D Bailey Hall
1440 Jayhawk Blvd.,
University of Kansas
Lawrence, KS 66047
785 979 0507

Dr. Nancy Baym
Faculty Supervisor
402 Bailey Hall
1440 Jayhawk Blvd.,
University of Kansas
Lawrence, KS 66047
785 864 9876

1. I have read and agree to the terms of this consent form

- Yes
- No

2. The following items ask for your mobile phone use experiences. Please choose one answer that corresponds to your personal experiences.

1. Approximately, for how long have you been using mobile phones?
() years
2. How often did you switch your mobile phones into another model since you first started to use them? Please give the number of your replacement of mobile phones.
() times
3. What was the reason for your replacing the last mobile phone? Please answer to this question as specifically as possible.
()

3. The following items ask for the reasons for your mobile phone usage. Please indicate how strongly you agree or disagree with each statement.

Items <i>I use my cell phone because I want ...</i>	Strongly disagree 1	Overall disagree 2	Medium 3	Overall agree 4	Strongly agree 5
To look like a cool person	1	2	3	4	5
To have a new model making others envious	1	2	3	4	5
To express my style through the design and color of cell phones	1	2	3	4	5
Not to fall behind from the current trends	1	2	3	4	5
To get along with other people	1	2	3	4	5
To pass the boring time	1	2	3	4	5
To talk secretly with somebody in my own space	1	2	3	4	5
To chat with others by text messaging	1	2	3	4	5
To get some help and advice from others	1	2	3	4	5
To converse with people whom I am close to	1	2	3	4	5
To give regards to people	1	2	3	4	5
To stay in touch with people	1	2	3	4	5
To get necessary information	1	2	3	4	5
To be prepared in case of emergency	1	2	3	4	5
To get immediate access to somebody	1	2	3	4	5
To be able to change appointments suddenly	1	2	3	4	5
To handle some businesses like ordering goods and making reservations	1	2	3	4	5
To use it as an alarm clock, calculator or world clock	1	2	3	4	5
To use Instant Messaging services through cell phones	1	2	3	4	5
To send and receive e-mails	1	2	3	4	5

To download some music and files	1-----2-----3-----4-----5
To retrieve online information on the road	1-----2-----3-----4-----5
To manage my schedule effectively	1-----2-----3-----4-----5

4. The following items ask for your functional usage of mobile phones. Please verify each item and indicate the frequency that corresponds to your personal usage.

Items		N/A	Never	Not very often	Medium	Often	Very Often
Voice Calling			1-----	2-----	3-----	4-----	5
Voice mail			1-----	2-----	3-----	4-----	5
Text Messaging			1-----	2-----	3-----	4-----	5
Tools	Alarm clock		1-----	2-----	3-----	4-----	5
	Calendar		1-----	2-----	3-----	4-----	5
	Memo/Notes		1-----	2-----	3-----	4-----	5
	Calculator		1-----	2-----	3-----	4-----	5
	World Clock		1-----	2-----	3-----	4-----	5
Digital Camera	Taking pictures & videos		1-----	2-----	3-----	4-----	5
	Watching TV & video clips		1-----	2-----	3-----	4-----	5
MP3 Player			1-----	2-----	3-----	4-----	5
Wireless Internet	Transportation/ Location info.		1-----	2-----	3-----	4-----	5
	Downloads (ring tones, pictures, & games etc.)		1-----	2-----	3-----	4-----	5
	Money/ Sweepstakes/Stock		1-----	2-----	3-----	4-----	5
	E-mail/IM/ Sending photos		1-----	2-----	3-----	4-----	5
	Entertainment/ Sports/ fortunetelling		1-----	2-----	3-----	4-----	5

	News/Weather		1-----2-----3-----4-----5
	On-line ticket reservation		1-----2-----3-----4-----5

5. The following items ask for the amount of your mobile phone usage. Please choose one answer that corresponds to your usage.

1. Who pays your mobile phone bills these days?

- ① Me ② Parents ③ Siblings
 ④ Romantic partner ⑤ Company

2. How much was your last month bill amount?

- ① Less than \$30 ② \$30 – \$60 ③ \$60 - \$90
 ④ \$90 – \$120 ⑤ More than \$120

3. What kind of usage plan do you have on your mobile phone services?

Please give a specific name of your plan and describe the plan.

(Name: _____ /Plan description: _____)

6. The following items ask for your mobile phone usage patterns.

1. How often do you talk with each of the following categories of people on the mobile phone? Please indicate the frequency of your **voice talk** with each of them.

- | | Not at all | Very Often |
|--------------------|---------------------------|------------|
| ① Parents | 1-----2-----3-----4-----5 | |
| ② Siblings | 1-----2-----3-----4-----5 | |
| ③ Friends | 1-----2-----3-----4-----5 | |
| ④ Romantic Partner | 1-----2-----3-----4-----5 | |

⑤ Coworkers 1 — — — — 2 — — — — 3 — — — — 4 — — — — 5

2. How often do you exchange text messages with each of the following categories of people? Please indicate the frequency of your **text messaging** with each of them.

	Not at all				Very Often
① Parents	1 — — — —	2 — — — —	3 — — — —	4 — — — —	5
② Siblings	1 — — — —	2 — — — —	3 — — — —	4 — — — —	5
③ Friends	1 — — — —	2 — — — —	3 — — — —	4 — — — —	5
④ Romantic Partner	1 — — — —	2 — — — —	3 — — — —	4 — — — —	5
⑤ Coworkers	1 — — — —	2 — — — —	3 — — — —	4 — — — —	5

3. How often do you exchange e-mails through the wireless internet available with the mobile phone? Please indicate the frequency of your **e-mail exchange** with each of the following categories of people.

	Not at all				Very Often
① Parents	1 — — — —	2 — — — —	3 — — — —	4 — — — —	5
② Siblings	1 — — — —	2 — — — —	3 — — — —	4 — — — —	5
③ Friends	1 — — — —	2 — — — —	3 — — — —	4 — — — —	5
④ Romantic Partner	1 — — — —	2 — — — —	3 — — — —	4 — — — —	5
⑤ Coworkers	1 — — — —	2 — — — —	3 — — — —	4 — — — —	5

4. During what time period do you use your mobile phone most often?

① Morning ② Lunch break ③ Afternoon
④ Evening ⑤ Night ⑥ Through out the day

5. Where do you use your mobile phone most often to call somebody?

① at Home ② in Class ③ at Work

④ Public space (e.g. Shopping mall, streets, public transportation)

⑤ While driving

⑥ Everywhere

6. Where do you use your mobile phone most often **for text messaging**?

① at Home ② in Class ③ at Work

④ Public space (e. g. Shopping mall, streets, public transportation)

⑤ While driving

⑥ Everywhere

7. The following items ask for your demographic information. Answers to these questions are only for statistical analyses and will not be used for any other purposes.

1. What is your birth year? ()

2. Sex?

① Female ② Male

3. How much is your monthly disposable income?

① Less than \$500 ② Above \$500 and less than \$800

③ Above \$800 and less than\$ 1,100 ④ Above \$ 1,100 and less than \$1,400

⑤ Above \$1,400 and less than \$1,700 ⑥ Above \$1,700

4. Do you have a landline telephone in your place?

5. How often do you use the landline telephone in your place? Please indicate the frequency of your telephone usage.

Not at all

Very Often

1 — — — — 2 — — — — 3 — — — — 4 — — — — 5

Appendix B
Questionnaire – Korea Version

이동전화 이용행위에 대한 설문조사

안녕하십니까?

바쁘신 가운데 본 설문에 응해주셔서 감사합니다. 본 설문조사는 **N-세대의 이동전화 이용동기와 행위**를 알아보고자 실시되는 것입니다. 본 연구를 위해 귀하를 이동전화 이용자를 대표하는 한 분으로 모시고 의견을 듣고자 합니다.

귀하의 소중한 응답은 이동전화를 이용한 커뮤니케이션 행위 연구에 학문적인 도움이 될 것입니다. 시간이 다소 소요되더라도 한 문항도 빠짐없이 기입하여 주시면 감사하겠습니다.

본 설문에는 정답이 있는 것이 아닙니다. 자신의 솔직하고 정확한 생각을 적어 주십시오. 답해주신 내용은 **모두 무기명으로 처리**되고, 연구목적 이외의 용도로는 절대 사용하지 않으며, **철저하게 비밀이 보장**됨을 알려드립니다.

조사내용에 대해 의문이 있으시면, 아래 연락처로 문의해 주십시오.

연구자 : UNIVERSITY OF KANSAS,
DEPARTMENT OF COMMUNICATION
이 선 경 (sunnylee@ku.edu)

2006년 11월

◆ 다음은 귀하의 이동전화 이용경험에 대한 질문입니다.

1. 귀하께서는 얼마나 오랫동안 이동전화를 이용해 오셨습니까? (단답형)

2. 귀하는 **이동전화**를 사용하기 시작한 이후 **기기를 몇 번 바꾸셨습니까?** (단답형)

3. 귀하께서 최근에 **이동전화 단말기를 교체**하신 **이유**는 무엇이었습니까?
(구체적인 답변을 부탁드립니다.) ()

◆ 다음은 귀하의 **이동전화 이용의 목적**을 묻는 문항입니다. 각각의 이동전화 이용목적에 대해 귀하께서 **동의하시는 정도**에 따라 해당란에 V 표를 해 주시기 바랍니다.

항 목	전혀 그렇지 않다 ①	그렇지 않은 편이다 ②	보통 이다 ③	그런 편이다 ④	매우 그렇다 ⑤
1. 언제, 어디서든지 누군가와 연락할 수 있으므로	①	②	③	④	⑤
2. 위급한 상황일 때 도움을 구하기 위해서	①	②	③	④	⑤
3. 나와 친한 사람들과 대화하기 위해서	①	②	③	④	⑤
4. 무료한 시간을 보내기 위해서	①	②	③	④	⑤
5. 나만의 공간에서 비밀스런 통화를 할 수 있으므로	①	②	③	④	⑤
6. 새로운 모델을 가지고 있으면 부러움의 대상이 되므로	①	②	③	④	⑤
7. 관심과 애정을 가진 사람들과 가까운 관계를 유지하기 위해	①	②	③	④	⑤
8. 내게 필요한 정보를 얻기 위해서	①	②	③	④	⑤
9. 친구나 가족의 안부를 묻기 위해서	①	②	③	④	⑤
10. 휴대폰을 가지고 있어야 다른 사람들과 어울릴 수 있으므로	①	②	③	④	⑤
11. 상품을 주문하거나 사무처리를 위해서	①	②	③	④	⑤
12. 문자로 채팅하기 위해서	①	②	③	④	⑤
13. 사람들에게 나를 더 세련되게 보이기 위해	①	②	③	④	⑤
14. 약속을 급하게 변경할 때 필요하다	①	②	③	④	⑤
15. 조언이나 도움을 받기 위해	①	②	③	④	⑤
16. 시대의 흐름에 뒤처지지 않기 위해	①	②	③	④	⑤
17. 문자메시지를 주고받기 위해	①	②	③	④	⑤
18. 알람이나 메모 등 전자수첩으로 사용하기 위해	①	②	③	④	⑤
19. 디자인에 따라 나를 표현할 수 있기 때문에	①	②	③	④	⑤
20. 메신저 서비스를 이용하기 위해서	①	②	③	④	⑤
21. 무선인터넷으로 이메일을 주고받기 위해서	①	②	③	④	⑤
22. 음악과 파일 등을 다운로드 받기 위해서	①	②	③	④	⑤
23. 이동 중에 인터넷상의 정보를 검색하기 위해서	①	②	③	④	⑤
24. 보다 효율적인 시간, 스케줄 관리를 위해	①	②	③	④	⑤

◆ 귀하께서는 다음의 **이동전화 관련기능**들을 얼마나 **활용**하고 계십니까? 각각의 내용들에 대해 **이용하시는 정도**에 따라 해당란에 **V** 표를 해 주시기 바랍니다.

항 목		해당기능 없음	전혀 이용 안함 ①	이용 하지 않는편 ②	보통 이다 ③	이용 하는 편 ④	매우 자주 이용 ⑤
음성 통화			①.....	②.....	③.....	④.....	⑤.....
음성 메시지 (사서함)			①.....	②.....	③.....	④.....	⑤.....
문자 메시지			①.....	②.....	③.....	④.....	⑤.....
전자수첩기능	알람시계 (모닝콜)		①.....	②.....	③.....	④.....	⑤.....
	일정(스케줄) 관리		①.....	②.....	③.....	④.....	⑤.....
	메모장		①.....	②.....	③.....	④.....	⑤.....
	전자계산기		①.....	②.....	③.....	④.....	⑤.....
	세계시각		①.....	②.....	③.....	④.....	⑤.....
카메라	사진/동영상 촬영		①.....	②.....	③.....	④.....	⑤.....
	June, Fimm 등 콘텐츠 이용		①.....	②.....	③.....	④.....	⑤.....
MP3 플레이어			①.....	②.....	③.....	④.....	⑤.....
무선 인터넷 (Nate, magic n, ez-i 등)	교통 정보/ 위치 찾기		①.....	②.....	③.....	④.....	⑤.....
	벨소리, 음악/ 그림(사진)/ 게임 다운로드		①.....	②.....	③.....	④.....	⑤.....
	주식/ 금융/ 복권 정보		①.....	②.....	③.....	④.....	⑤.....
	이메일/ 채팅/ 포토 전송		①.....	②.....	③.....	④.....	⑤.....
	만화/연예정보/스포츠/운세		①.....	②.....	③.....	④.....	⑤.....
	뉴스(날씨)/ 생활 정보		①.....	②.....	③.....	④.....	⑤.....
	공연/기차표 등 예매		①.....	②.....	③.....	④.....	⑤.....

◆ 다음은 귀하의 이동전화 **이용요금**에 관한 질문입니다.
(해당되는 번호에 **V** 표를 해 주시기 바랍니다.)

1. 현재 귀하의 이동전화 **이용요금**은 누가 지불합니까?

- ① 본인 ② 부모님 ③ 형제나 자매 ④ 이성친구(연인) ⑤ 회사

2. (기계 할부금을 제외한) **지난 달 이용요금**은 대략 얼마였습니까? (단답형)

3. 귀하께서는 다음 중 어떤 **이동전화 요금제**를 사용하십니까?

- ① 일반형 ② 다량형 (프리미엄 정액제) ③ 청소년 (ting, Bigi, Khai 홀맨)
 ④ TTL/ Na/ Khai 등 ⑤ Uto/ Main 등 ⑥ 여성용 (Cara/ Drama)
 ⑦ 실버요금제 ⑧ 기타 ()

◆ 다음은 귀하의 이동전화 **이용습관**에 관한 질문입니다.
(해당되는 번호에 V 표를 해 주시기 바랍니다.)

1-1. 귀하께서는 **이동전화**로 다음의 사람들과 얼마나 자주 **통화** 하십니까?
(각각 5 점 척도 측정)

- ① 부모님
- ② 형제나 자매
- ③ 친구(선후배 포함)
- ④ 이성친구(연인)
- ⑤ 직장동료

1-2. 귀하께서는 **문자메시지**로 다음의 사람들과 얼마나 자주 **연락** 하십니까?
(각각 5 점 척도 측정)

- ① 부모님
- ② 형제나 자매
- ③ 친구(선후배 포함)
- ④ 이성친구(연인)
- ⑤ 직장동료

1-3. 귀하께서는 이동전화의 **무선인터넷**을 통해 다음의 사람들과 얼마나 **자주 이메일을 교환**하십니까?
(각각 5 점 척도 측정)

- ① 부모님
- ② 형제나 자매
- ③ 친구(선후배 포함)
- ④ 이성친구(연인)
- ⑤ 직장동료

2. 귀하께서는 다음 중 어느 시간대에 가장 **많이 이동전화를 사용**하십니까?

- ① 오전 ② 점심 ③ 오후 ④ 저녁 ⑤ 심야시간
- ⑥ 시간대에 관계없이 고루 사용

3. 귀하께서는 다음 중 어디에서 가장 **자주 이동전화로 통화**를 하십니까?

- ① 집(다른 사람 집도 포함) ② 학교 수업 중에 ③ 직장(아르바이트 포함)
- ④ 공공장소(지하철, 버스, 쇼핑몰 등) ⑤ 운전 중에 ⑥ 장소에 관계없이

4. 귀하께서는 다음 중 어디에서 가장 **자주 문자메시지**를 사용하십니까?

- ① 집(다른 사람 집도 포함) ② 학교 수업 중에 ③ 직장(아르바이트 포함)
- ④ 공공장소(지하철, 버스, 쇼핑몰 등) ⑤ 운전 중에 ⑥ 장소에 관계없이

◆ 끝으로 통계분석을 위한 귀하의 인적사항에 관한 항목입니다. 꼭 필요한 자료이오니
성심껏 응답해주시면 감사하겠습니다.

1. 귀하의 **출생년도**는 어떻게 되십니까? ()년
2. 귀하의 **성별**은? ① 남 ② 여
3. 귀하께서 **한 달에 지출하시는 용돈**은 얼마입니까?
① 50 만원 미만 ② 50-80 만원 ③ 80-110 만원 ④ 110-140 만원
⑤ 140-170 만원 ⑥ 170 만원 이상
4. 귀하께서는 사시는 곳에 전화를 따로 가지고 계십니까?
① 예 ② 아니오 (설문 끝)
5. 댁에 있는 전화를 얼마나 자주 사용하십니까? (5 점 척도 측정)