

## ***Mobile Phones Use in an Arab Context: Blending Modernity and Tradition***

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### **Abstract**

This exploratory study examines Arab college student use of mobile phones, and investigates the impact of mobile telephony on family structure, friendship, and face-to-face communication. The study utilizes the uses and gratifications theory as a theoretical framework, and employs a survey instrument to get answers from college students (N=303) to its research questions. The study found that the majority of the respondents used mobile phones to communicate with parents, relatives, and friends. They also used their mobile phones for coordinating activities and texting. The respondents reported that the mobile phones help them in emergency situations, but they did not emphatically stressed safety as an overriding concern. Underscoring the importance of face-to-face communication, the respondents did think a mobile phone substantially reduces their visits to their relatives or friends. They also did not consider using a mobile in public places a major disturbance. The respondents also did think that a mobile phone distracts a user from studying or driving. The study found that the majority of the respondents spent than two hours per day using various features of mobile phones including camera, video, texting, and the Internet. By critically appraising the use and perception of mobile telephony, the study concludes that college students, in an Arab context, appropriated mobile phone in various ways to suit their daily lives and serve their cultural needs.

Keywords: Mobile phones; telephone communication; SMS; New Communication Technologies

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## **Introduction**

The purpose of this study is to examine how college students in an Arab Islamic context perceive and use their mobile phones. Informed by previous research on the use of mobile telephony, this study investigates how a mobile phone is appropriated to serve family relations, friendship, and face-to-face communication. Extant research exists on the use of mobile phones in various parts of the world (Katz, 2008; Ling, 2008; Campbell, 2007; Castells et al., 20007; Leonardi et al., 2006). Yet, very few studies have dealt with the use of mobile telephony in the Arab world. For example, one study suggests that, at the microlevel, the mobile phone will lead to substantial change in identity construction in the Arab world (Kriem, 2009), leading to more individualism. Another study highlighting the macro-level, argues that the mobile phone will lead to dramatic political change in the Arab world, opening the door for more democratization (Ilbahrine, 2008).

The scarce literature on the use of mobile phones in the Arab world refers to numerous difficulties arising from adopting mobile phones in a conservative culture (Mishkas, 2004; Al-Zamie, 2001; Fareed, 2003). Previous studies did not deal in-depth with the younger generation's use of the mobile phone. They were also not carried out in the United Arab Emirates (UAE), which represents a mosaic of multicultural societies. Known for its luxurious shopping centers, the tallest building in the world (Burj Khalifa), and hospitality, the UAE is one of the most wired societies in the world. This makes young men and women's appropriation of mobile phones in this country intriguing. By focusing exclusively on college students, this empirical study fills a gap in literature dealing with mobile phone use in the Arab world.

Utilizing the uses and gratification theory as a conceptual framework, this study explores how young men and women in the UAE perceive and use their mobile phones. The study relied on a nonrandom sample consisting of students of private university. Because it aims at making a scholarly contribution to the field of mobile telephony, the study asked similar questions used by similar studies investigating the use of mobile phones in other parts of the world. A survey instrument helped in gleaning information from the respondents. The findings were interpreted in relations to the findings reported from other cultural contexts.

## **Uses and gratification**

The uses and gratification theory focuses on how individuals use media to gratify personal needs, and emphasizes individual differences during the process of media uses and effects (Rosengren, 1974). It's a theoretical framework typically researching media effects (Katz, Blumler, & Gurevitch, 1974; Rubin 1983, 1994). It can be viewed as a psychological communication perspective examining how individual use mass media and other forms of communication such as interpersonal communication to satisfy cognitive and affective needs (Rubin, 2002).

Kayahara and Wellman (2007) identified two categories of uses and gratifications: process and content. Process deals with media users' activities, whereas content results from acquiring information (Kayahara & Wellman, 2007). These needs include the need for personal identity, escape, and self-presentation. Stafford and Gonier (2004) have identified several gratifications from the Internet use that motivate users' behaviors. These include web searching, the acquisition of information, the ability to engage in interpersonal communication, and socialization.

Extant research based on the uses and gratifications approach has been extensively applied to a variety of mass media and new communication technologies, including the VCR (Cohen, Levy, & Golden, 1988; Rubin & Bantz, 1989), cable television (Bantz, 1982), online bulletin boards (James, Wotring, & Forrest, 1995; Rafaeli, 1986), and the Internet (Ferguson & Perse, 2000; Papacharissi & Rubin, 2000; Miller, 1996). Studies employing uses and gratification approach research on new media are also flourishing (Dimick, Kline & Stafford 2000, Leung & Wei 2000; Trepte et al. 2003; Peters & ben Allouch, 2005; Wei 2006).

## **Literature Review**

A mobile phone can be used in multi-faceted ways for the best or the worst of the society. Mobile phones can be used to sustain justice or spread crime (Uranaka, 2005). They can also be used for targeting enemies (Gaudin, 2001), or coordinating humanitarian relief. During the Tsunami disaster, mobile phones became instrumental in conveying vital information and coordination relief activities (Robinson & Robinson, 2006).

Rheingold (2002) predicted that the development of mobile technology would result in a "social revolution," which links the world by networks leading a reshuffle in existing social hierarchy and power structures. But, Winston (1998) refers to the "law of suppression" and suggests that social contexts are capable of creating "sufficiently amenable conditions" to promote the adoption and integration of new information and communication technologies (ICTs) in established social systems without adverse effects. Increased penetration of mobile telephony made mobile communication an integral part of many consumers' daily lives throughout the world (Castells et al. 2007). In December 2008, the International Telecommunication Union (ITU) reported that the milestone of 4 billion mobile subscriptions was achieved (ITU, 2008, p. 40)

Katz (2006) argues that sometimes technologies can help strengthen patterns counter to modernism, adding that "the technologies themselves get remade and customized by users creating yet new patterns and applications"(p. 182). He adds that "Paradoxically, the very technologies enabled by empiricism and skepticism are used to advance mindsets that are often hostile to science and technology"(Katz, 2006, p. 183). Katz concludes that "mobile devices "extend and enrich, rather than supplant, identity creation and displays already underway through other processes and items"(p. 183).

Mobile telephony research is flourishing (Castells et al. 2007; Ishii, 2006; Ito et al., 2005; Ling, 2004, 2006; Fortunati et al., 2003; Katz and Aakhus, 2002; Katz, 2003, 2006, 2008). Yet, many of mobile phone studies are exploratory in nature (Kriem, 2009; Maroon, 2006; Ingelbrecht & Trivedi, 2004; Rice & Katz, 2003; Taylor & Harper, 2001).

Globally, cultural variations exist in perception and use of mobile phones. Katz and Aakhus (2002) studied the use of mobile phones in United States, France, Finland, Bulgaria, and Korea, and referred a trend toward “conformity and uniformity” (pp. 313-314). Caporael and Xie (2003) studied mobile phone use and found cultural similarities in use among American and Chinese participants. Whereas, the Dutch regard mobile phone as necessity (Beckers et al., 2003), the Koreans consider it as expensive and stylish (Katz et al., 2003). In Italy and France mobile phones are adopted for personal reasons unrelated to work. ).

Katz and Aakhus (2002) argue that mobiles are used as interpersonal communication devices in a similar way in the USA, Korea and a number of European countries. Moreover, they argue that there is a universal drive towards perpetual contact; that people from different cultures share a spirit that guides their interest in the adoption and use of mobiles. At the same time, yet, the literature underscores cultural differences in usage (Campbell, 2007; Sundqvist et al., 2005; Oksman & Rautiainen, 2003). Fortunati (2002) reports significant differences in using mobile phones for social relationships. But, Mante (2002) finds little differences in mobile phone use between the United States and Netherlands.

Mobile telephony is used in many parts of the world for various reasons. A number of studies emphasize varying theories of social interaction (Geser, 2003; McGuigan, 2005; Srivastava, 2005), personal identity (Perterra, 2005; Garcia-Montes et al, 2006), cultural identity (Horst & Miller, 2006), economic viability (Rouvinen, 2005), instrumental and working practices (Hurme, 2005) and social space (Gordon, 2006; Rosen, 2004).

A number of studies concluded that safety as a primary reason for adopting a mobile phone (Ling, 2008; Leonardi et al., 2006; Katz, 2006). Ling (2008) suggests that mobile phone extend reach of parents as well as children and friends. The issue of security and safety becomes vital for parents who want to know the whereabouts of their children (Green, 2002b; Roos, 1993). This perpetual monitoring can be seen as “parental panopticon.” But, the same device used to ensure safety of its user can be a curse if not used appropriately.

Mobile phones are used for expanding bonds with families and neighbors in Taiwan (Wei & Lo, 2006; Kriem, 2009). According to Smoreda and Thomas (2001) mobile phones are used to foster relationships within friendship circles. Similar uses existed between friends in Japan (Matsuda, 2005). Mobile phones strengthen family bonds (Wei & Lo, 2006), facilitate friendships (Ishii, 2006), and build mutual support (Campbell & Kelley, 2006; Ling, 2008). Yet, Horst and Miller (2005) argue that the



mobile phone is used for establishing contacts outside the in-group

Young people coordinate their activities through mobile phones (Ling & Yttri, 2002; Ling, 2008). According to Katz (2006), people use mobile phone to redo schedules and alter plans for the purpose of coordination with others (p. 179). Mobile devices are used as interpersonal communication devices, facilitating the sharing of information and the coordinating daily activities with family, friends and colleagues (Bolin, 2008; Bolin & Westlund, 2009; Ling, 2004; Westlund, 2007).

One of the downsides of using mobile phones is the distraction they cause users and people around them (Licoppe & Heurtin 2001; Ling, 2004; 2008). A number of scholars reflected on the deleterious effects of mobile phone on education, particularly texting during classes. Texting students can be present in classroom, but their minds are not (Maroon, 2006, p. 13; Katz, 2006, p. 99). Although mobile phones are used by religious groups to sustain and spread their faith, the same mobile phones cause distraction in worship places (Ilkonetel, 2004). Worships from various denominations (Jews, Christians, Muslims) complained that mobile phone ringing cause disturbance during prayer time (Al-Zamie, 2001).

Commuters using public transportation in many places around the world face the problem of having to listen to a mobile phone user discussing his/her private activities in public. In many places around the world, some mobile phone “users are willing to sacrifice considerations about the comity and civility of public space in order to indulge their own private pleasures of personal communication” (Katz, 2006, p.177). Ling (2008) cited interviews asserting that using mobile phone while driving is hazardous (pp. 178). According to Leonardi et al. (2006), following some fatal accidents some countries enacted laws prohibiting using a mobile phone while driving. Maroon (2006) argues that laws against use of handheld cell phones by automobile drivers are justifiable. Some concerns are more tangible, as for example, concerns over driving and mobiles. Some countries, including Japan, Australia, United States, and United Kingdom, and recently UAE, have introduced legislation governing the use of mobile phones by users while driving motor vehicle. A survey in United States stated that 71% of the respondents said that they can drive safely while talking on the cell phone; 28% answered yes, that sometimes they could not drive safely when talking on the cell phone (Schulman et al., 2006).

Some scholars argue that digital technologies including mobile telephony are diverting individuals away from participating in public sphere (Wolak et al., 2003; Bugeja, 2005; McPherson, 2006; Gergen, 2008). On the other hand, some scholars assert that new communication technologies nurture new forms of associations (Kavanaugh & Patterson, 2001; Katz & Rice, 2002; Boase et al., 2006). Ling (2008) refers to a middle ground between the strong ties of the “clique” and the weak ties of the marginally known (p. 176). He argues that mobile communication help in forging “the links of friendships and solidarity that can be seen as social cohesion”(2008, p. 175).

Reaffirming notion of “perpetual contact” (Katz & Aakhus, 2002), Licoppe (2004) asserts that mobile phones facilitate social cohesion. They foster mediated interaction (Campbell & Russo, 2003; Haddon, 2005). Arminen (2007) argues that mobile phone mediated ritual sustains social cohesion. Hargittai (2007) argues that members of online communities mirror people’s “social networks in their everyday lives”. That means one’s friends and relatives with whom one has face-to-face contacts are the same people one’s as online friends. The mobile phone may not be effective in maintaining weak-tie relationships, yet it has a relative advantage compared to other mediated communication for sustaining strong-tie relationships (Miyata, 2006). Ling (2008) describes mobile phone as a facilitator for “connected presence.... leading to tighter integration of the groups” (Ling, 2008, pp. 172-173).

According to Castells et al. (2004), texting is a catalyst for constructing and reinforcing peer groups. A slew of studies on mobile phone use in United States (Campbell & Kwak, 2007), Europe (Smoreda & Thomas, 2001), Japan (Igarashi et al., 2005; Ishii, 2006), Norway (Ling, 2008), and Philippines (Leonardi et al., 2006) suggest that text messaging is used to link disparate friends and foster relationships.

The internet is used to extend existing social networks and establish new relationships (Baym et al., 2004; Thurlow and McKay, 2003). Oksman and Turtiainen (2004) assert that prolific mobile phone users sustain existing social networks and embark on creating new relationships. For Finnish teenagers, use is important in the establishment of new relationships (Oksman & Turtiainen, 2004). But, in developing countries this becomes impractical for lack of financial resources (Sooryamoorthy et al., 2008).

### **Mobile telephony in the UAE**

According to ESCWA (2006), “The UAE also boasts one of the highest rates of mobile line distribution in the ESCWA region with 5,519,000 subscribers in 2006, compared with 4,534,000 in 2005” (ESCWA, 2007, p. 5). A report prepared by Madar Research Group and Orient Planet (2009), states that the UAE achieved a 42.61 per cent growth in mobile phone subscriptions in 2007 while mobile phone penetration rate rose to 131.64 per cent, the highest in the Arab World in 2007, up from 124.52 per cent in 2006 at a compounded annual growth rate of 27.57 per cent between 2003 to 2007 period (*Gulf News*, 2009a).

The Global Information Technology Report indicated that the UAE moved up two places from the number 29 position it held in last year’s WEF report to reach a commendable 27 rank in this year’s 2008-2009 index (itp.net, 2009). Dutta (2009), one of the co-authors of the report, argues, “The e-government initiatives of the UAE and its overall investment in the ICT sector have been recognized as the drivers for the country’s leading position among its Middle Eastern peer economies.” The International Telecommunication Union (ITU) statistics states that the mobile penetration in the UAE has reached 93% by February, 2009 (ICT stat.). But as conceptualized by a number of scholars (van Dijk, 2005; van Dijk & Hacker 2003),

physical or material access alone is too simplistic as a measure. Relying on subscription rates alone is problematic because the correlation between access and use is likely to be greater in developed countries than in developing countries (James, 2004).

### **Research Questions**

RQ 1: What are the uses and perceptions of mobile phone among a sample of mobile phone users in a private Gulf Arab state private university?

RQ 2: To what extent does mobile phone use affect face-to-face communication?

RQ 3: Do gender and age lead to different uses and perceptions of the mobile phone among participants?

RQ 4: How many hours per day do participants spend using various features of their mobile phones?

RQ 5: Are uses and perceptions of mobile among youth in an Arab context comparable to their peers' uses and perceptions in other countries?

### **Method**

#### **Participants**

The study took place in a mid-sized private university in an Arab Gulf state, where 303 students volunteered to complete an online survey. The non-random sample consisted of 177 females (58%) and 66 males (42%). These variations in gender distribution represent a normative male-female ratio in most Gulf States Council (GCC) countries. The mean age of respondent was 20 years. Students whose age was above 25 years (N=6) were removed from the sample. All participants were undergraduates: Freshmen, 15% , Sophomores 25%, Juniors 24%, and Seniors 36%. The participants were from four colleges: Business and management 34%, Engineering 29%, Arts and Sciences 27%, and Architecture, art and design 9%.

#### **Instrument**

A self-report survey containing asked 63 questions pertaining to the use and perceptions of mobile telephony. Thirty-seven questions were used in this study and the rest was used for another investigation. Some factors in this study focus on use of mobile phone in lieu of face to face communication. Additional factors examined in this study (i.e. mobile phone use in public places, safety/security, instrumental as well as expressive use) were derived from an instrument developed and used by Campbell and Russo (2003). The study includes questions on the use of mobile phones while driving because death rate and injuries resulting from car accidents are relatively high in the United Arab Emirates (UAE). For items measuring uses of mobile telephony, the participants were asked to respond using a 6-point Likert-type scale, with response options ranging from "Strongly agree" to "Strongly disagree." For items assessing hours of use, the survey asked respondents the time they spend using their mobile phones for voice, texting, camera, video, and mobile television.

## Procedure

After securing a permission from the university's office of institutional research, the researcher distributed and tested the survey for readability before posting it online. The survey informed the respondents that participation was voluntary entailing neither an incentive nor a penalty. The survey took approximately 13 to 15 minutes to complete. Participation in the survey was voluntary involving neither incentive nor punishment. The participants were also informed that their responses will remain anonymous and confidential.

After data collection, a principal components factor analysis was conducted with varimax rotation for the 35 items assessing uses and perceptions of mobile phones. The criteria for loading on a factor were: a factor loading of at least 0.50; maximum loading of a secondary factor no more than 0.40; and an eigenvalue greater than 1.00. Five items were removed from the analysis for failing to meet these criteria. The 30 remaining items resulted in ten interpretable factors for uses and perceptions of mobile telephones.

Three items loaded highly on the first factor, with two item loading 0.85 and the third item 0.80. These items reflect the use of mobile phone for online communication including using e-mail, sharing information, and using social media networks. The factor was labeled 'mobile Internet'. Survey items assessing this factor include: "My mobile phone helps me seek or share information on the Internet", "My mobile phone allows me to send or receive email messages", "My mobile phone helps me participate in online social networks (Facebook, Twitter, MySpace, blogs)".

One item loaded very high 0.81, two items loaded 0.70, and one item 0.67 on the second factor. These items deal with using mobile phones as fashion statement. Thus, these items were named "fashion". Survey questions assessing this factor include "If I buy a new expensive and fashionable mobile phone it adds to my prestige", "I believe that I am satisfied with the attention I get when showing my mobile phone to my friends", "I feel embarrassed when I see others using better mobile phones compared to my mobile phone", and "A mobile phone is a status symbol".

Two items loaded above 0.73 and one item above 0.61 on the third factor. These items were named 'shopping' because mobile phones are used as instruments for shopping and gathering information about goods and services. Survey items related to this factor include: "My mobile phone helps me in shopping", "My mobile helps me use my time efficiently", "My mobile helps me seek information about products and services", "My mobile phone allows me to multitask", "I use my mobile phone for educational purposes."

Two items loaded above 0.77 and one item above 0.66 on the fourth factor. The items on this factor was labeled 'entertainment' because they reflect the use of mobile phone as entertainment instruments to overcome boredom. The following survey questions illustrate this factor: "My mobile phone helps me to pass time when I feel bored", "My mobile phone provides me with entertainment", "I use my mobile phone for entertainment".

Two items loaded above 0.65 on the fifth factor. They were labeled ‘instrumental use’ because they assess mobile phone use coordinating activities and knowing what is happening to other people. Survey items representing ‘instrumental use’ include: “My mobile phone helps find the exact location of people that I want to meet”, “My mobile phone helps me know what is happening to people who I know”.

Two items loaded above 0.75, and one item above 0.66 on the six factor. These items were named ‘distraction’ because they highlight the distraction that mobile phones cause to users while driving, studying, or spending time with families. The following survey items represent ‘distraction’: “My mobile phone distracts me when I am studying”, “My mobile phone distract me when I am driving”, “My mobile phone distracts me when I am with my family members/friends”.

Three item loaded above 0.67 on the seventh factor. These items were named ‘expressive use’ because they assess mobile phone use to communicate with immediate family members, relatives, and friends. Survey items representing this factor include: “My mobile phone helps me communicate with my parents, brothers, and sisters”, “My mobile phone helps me keep in touch with members of my extended family (relatives)”, “My mobile phone helps me keep in touch with my friends”.

Two items loaded above 0.63, and one item above .050 on the eighths factor. This factor is designated ‘security/safety’ because it illustrates mobile phone use for providing users with a sense of security. Survey items reflecting this factor include: “My mobile phone keeps my family from worrying about me”, “My mobile phone helps me as for help when I am in an emergency situation”, “My mobile phone gives me a sense of security”.

Two items loaded higher than 0.69 and one item loaded above 0.50 on the ninth factor. This factor was labeled ‘mediated communication’ because they reflect the use of mobile phone to reduce visits to family members and friends as well as using SMS message to avoid the embarrassment of face-to-face communication. Survey items illustrating ‘mediated communication’ include: “My mobile phone helps me reduce my visits to my friends”, “My mobile phone helps me reduce my visits to my relatives”, “I use my mobile phone SMS to avoid the embarrassment of face-to-face communication”.

One item loaded at 0.66 on the tenth factor. It is named “public space”, because it deals with the use of mobile phones in public places. One questions exploring mobile phone use in public places is “I think speaking on a mobile phone in public places (e.g. theatres, meetings) disturb other people”. Table 1 illustrates factor eigenvalues, Cronbach’s alpha and descriptive statistics for each factor.

Table 1 about here

Table 1: Factor eigenvalues, scale reliabilities and summary statistics

Factor Range	Eigenvalue	Alpha	M	SD
Expressive use	5.07	.72	2.30	3.25
Fashion 500	3.25	.79	13.7	5.1
Instrumental use	1.71	.74	2.71	3.42
Distraction	1.54	.77	2.79	3.74
Safety/security	1.30	.62	1.73	2.18
Public use	1.10	.16	2.23	1.40

## Findings

An analysis of variance (ANOVA) was conducted for each of the dependent variables (expressive use, instrumental use, fashion, safety/security, public use, and mediated communication) to assess the influence of each of the independent variables (age, gender, college, and year in college). A Bonferroni procedure was used to protect against type 1 error, so each ANOVA was tested at the 0.01 level. With regard gender, a one-way ANOVA on safety/security use of mobile phones was significant ( $F(1,301)=8.0, p=.005$ ). With regard, to age, a one-way ANOVA on expressive use of mobile phones, namely keeping "in touch with my friends", was significant ( $F(14,294)=2.227, p=.007$ ). The ANOVA for instrumental use, namely coordination and finding "location" of people ( $F(14,294)=1.83, p=0.034$ ) was not significant. This partially answers RQ1, and RQ3. Also, a one-way ANOVA on mediated communication, namely "use of SMS to avoid the embarrassment of face-to-face communication", was significant ( $F(1, 301)=8.33, p=.004$ ). This answers RQ2.

A factorial MANOVA Box's Test for homogeneity of dispersion matrices was conducted to determine whether the variances and covariances among the dependent variables were the same for all levels of factors. The results Box's Test for College was statistically significant ( $F(2460,98833.5)=1.26, p<0.000$ ). Moreover, Year in College was also significant ( $F(1640,165804.1)=1.21, p<0.000$ ) suggesting that there were differences in the matrices and that the assumption of homogeneity of variance was violated for two independent variables.

An analysis of time spent on mobile phones show some statistically significant differences across age, gender, college, and level in college. Although there was no significant ANOVA difference in time spent using voice, text, camera, video, Internet, and television, Levene's test of homogeneity of variance is significant ( $p<0.002$ ) for hours spent using mobile phones cameras. For item dealing with time spent on texting, there is statistically significant difference between the College of Arts and Sciences ( $M=3.5, SD=1.99$ ) and the College of Engineering ( $M=4.4, SD=1.55$ ). The Post Hoc Test demonstrates that significance. Tuckey HSD is significant ( $p<0.004$ ) between the College of Arts and Sciences and the College of Engineering. This answers RQ4.

There was only one statistically significant difference ( $p < 0.02$ ) between juniors and seniors in time spent using videos. Gender also exhibited a statistically significant difference ( $M = 3.7$ ,  $SD = 1.8$ ,  $p < 0.003$ ) in time spent on texting. This partially answers RQ2.

Table 2: about here

Table 2: Descriptive statistics of mobile phones' features use: hours per day

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Voice	303	5	1	6	3.75	1.709
Texting	301	5	1	6	3.96	1.812
Camera	303	5	1	6	5.26	1.290
Video	303	5	1	6	5.47	1.127
Internet	303	5	1	6	4.36	1.810
Television	303	5	1	6	5.53	1.156
Valid N (listwise)	301					

## Discussion

The respondents reported that their mobile phones help them communicate with their friends more than their family members. This information indicates that communicating with members of the family is not necessarily adversely affected by the advent of mobile telephony. With regard to security and seeking help in emergency situations, it wasn't a surprise to see significant differences between female and male students. But, female and male respondents don't differ substantially in using their mobile phones to build social networks. In this regard, these findings are to some extent similar to college students' of mobile phones in other countries (Becker & Hanley, 2008; Campbell, 2007).

Some scholars argue that new communication technologies including mobile phones can lead to individualism in collectivistic societies. Maroon (2006) argued that in Morocco, "Utilizing mobile phones as pathways to anonymity, mobility, and individualism allows greater opportunity for transgressing moralized social roles" (p. 189). The findings of this study do not corroborate that argument. The respondents did not think that using a mobile phone reduced their visits to the members of their extended families. The items dealing with "e-mediated interpersonal communication" is significant. This finding supports Maroon's (2006) assertion that in Morocco, "the mobile phone does not in any manner replace face-to-face encounters as the pivotal form of socialization" (p. 200).

Although the percentage of the students who think security is not a big problem is relatively small compared that expressed their peers in some Western countries, the use of the mobile phone kept their parents from worrying about the safety of their children. This can be attributed to the cultivation effect and the "mean world"

syndrome portrayed in the U.S. mass media channels (Gerbner & Gross, 1976).

The respondents did not think the mobile phone distracts them from studying despite existing literature indicating its deleterious use in classrooms (Katz, 2008). It's interesting to note that these young respondents did not consider using a mobile phone while driving a distraction, despite the considerable volume of traffic accidents in the UAE. But, the respondents' views are similar to those expressed by respondents in the United States (Schulman et al., 2006). Mobile phones are also helpful in multitasking (Pan, 2004; Pendleton, 2004). About half of the respondents strongly and moderately agree that their mobile phones help them in multitasking.

Many of the findings of this study corroborate the findings of previous studies, particularly the most pervasive utilitarian uses of mobile phones (Campbell & Kwak (2007). Keeping in touch with family and friends, coordinating daily activities, and feeling safe and secure in emergency situations are the most pronounced reasons for using mobile phones. Sustaining relationships with relatives is explicitly propagated by Islam, particularly the Holy *Quran* as well as *Hadith* (Prophet Mohammed teachings). Relationship with kin is called *Silatu al-Rahm* in Arabic language. Muslims use mobile phones to foster these bonds of kinship. Kriem (2009) described using mobile phone in this context as "mediated *silatu rahim*." Because one family can ask another family member to convey his/her greetings verbally to a third family member without using a mobile phone can rightly be described as "mediated *silatu rahim*", using a mobile phone, to mediate such an interaction can be accurately described as an "e-mediated *silatu rahm*."

With regard to time spent on using various features of smart phones, texting ( $F(1,299)= 9.29, p=0.003$ ) was significant. But, this finding does mean that there is strong similarity between across age and gender groups in time spent on other mobile phone's features (camera, video, television). A closer examination of the findings indicates that although the differences between juniors and seniors in time spent on mobile video ( $p<0.02$ ), and between sophomores and seniors on mobile television ( $p<0.014$ ), were statistically significant, but they approached significance and would have been so had a Bonferroni procedure not been applied..

Miscalling is widely used in many parts of the developing world (Donner, 2005). It can be described as a form of nonverbal communication, because the source of the message and the recipient have a common code conveying a specific meaning. But the mobile phone can also create some problems for its users. For a reason or another, a mobile phone user may not be able to respond to an incoming call. Being perpetually accessible cause the call receiver to face the problem of "having to explain why... [he/she didn't] want to talk"(Levinson, 2006, p. 15). Kriem (2009) argues that the use of mobile phone in Morocco could lead to significant changes in "identity construction."

Katz (2008) articulately reasoned that mobile phones enrich and extend what is existing rather than supplant it. Thus, the mobile phone can be necessary, but not sufficient for a social change. Social change results from an interaction of various



interlocking socio-economic factors. Mobile telephony can be seen as part of the nexus of these contributing factors influencing social change. Whereas 55% of respondents spent from one to three hours per day using voice, about 60% of them spent the same amount of time on texting. Time spent on visuals by far exceeds time spent on audio or texting. About 80% of respondents spent from one to two hours on using camera, whereas 85% of them spent the same amount of time on using videos. The majority of the respondents spent from one to two hours per day on the Internet. This finding and the problems it entails resonates with similar phenomena in other societies (Jordan et al., 2007). Yet, Livingstone and Helsper (2007) argue, “as older teens expand their social lives, time spent online [or with other digital media] is displaced by time spent on other activities”(p. 686).

## **Conclusion**

The study found that the majority of the respondents used mobile phones for communicating with family members and friends, coordinating activities, and using of camera, video, and texting. Although the respondents reported that the mobile phone can help them in emergency situations, they did not consider security as a major concern. This can be attributed to the scarcity of violent crimes in the UAE. The respondents did not resent being disturbed by others talking on their mobile phones in public places. They also did not think that a mobile phone causes a serious distraction when one is studying or driving. Although it is widely believed in a number of Arab countries that mobile phones could undermine the structure of extended family and make personal contacts more impersonal, the findings of this study proved otherwise. The findings suggest that the structure of the extended family seems to remain stable, and new communication technologies, including mobile phones, are appropriated to sustain its structure.

Mobile phone usage does not necessarily diminish the intimacy of face-to-face communication. The majority of the respondents spent from one to two hours per day using mobile phones' features, including camera, video, texting, and the Internet. The study suggests that the respondents appropriated mobile phone to serve their purposes and satisfy their needs. It can be argued that Arab culture is instrumental in shaping the use and perception of mobile telephony. Thus, one should not expect a dramatic social change resulting from using mobile phones. New communication technologies, including mobile phones, can facilitate social change, but they can hardly be its major driver. Socio-economic change is incremental and occurs within a nexus of other interconnected factors. Thus, the use of the mobile phone can be a necessary, yet, not a sufficient cause for social change.

This exploratory study does not claim that its findings represent all college students, much less college students in the UAE. Using a purposive sample of student mobile phone users precludes generalizing the findings to other non-surveyed publics. Future research can focus on exploring the impact of the mobile phone on its users' communication behaviors.

## Bibliography

- Al-Zamie, A. (2001, Aug. 12). System to cut mobiles in mosques. *Arab News*.  
*Arab News* (2004a). Mobile phone being used for sorcery. *Arab News*. Retrieved from <http://www.arabnews.com/?page=1&section=0&article=49721&d=12&m=8&y=20034>  
*Arab News* (2004, Sept. 30). Grand Mufti slams trading in camera cell phones. *Arab News*, Retrieved from <http://www.arabnews.com/?page=1&section=0&article=52164&d=30&m=9&y=20034>  
*Arab News* (2005, Aug. 21). Tribal punishment for wedding snapper. *Arab News*. Retrieved from <http://www.arabnews.com/?page=1&section=0&article=68783&d=21&m=8&y=2005>
- Arminen, I. (2007). New reasons for mobile communication- intensification of time-space geography in the mobile era. In *The mobile communication research annual*, volume 1, Ling, R. and S. Campbell (Eds.).
- Beckers, J., E. Mante & Schmidt, H. G. (2003) 'Communication Anxiety among "Smart" Dutch Computer Users', in J. Katz (Ed.) (2003). *Machines that become us: The social context of personal communication technology* (pp. 147–60). New Brunswick, NJ: Transaction Publishers
- Becker, M., and Hanley, M. (2008). Cell Phone Usage and Advertising Acceptance Among College Students: A Three-Year Analysis. A paper presented at the AEJMC Southeast Colloquium, Auburn, Alabama.
- Bendeich, Mark (2005). Putting SMS genie back in bottle (Reuters). *Hindustan Times*, September 2. Retrieved from [http://www.hindustantimes.com/news/181\\_1479540,00040006.htm](http://www.hindustantimes.com/news/181_1479540,00040006.htm)
- Baym, N.K., Y.B. Zhang & M. Lin (2004). 'Social Interactions Across Media: Interpersonal Communication on the Internet, Telephone and Face-to-face', *New Media & Society* 6(3), 299–318.
- Boase, J., Horrigan, J., Wellman, B. & Rainie, L. (2006). 'The Strength of Internet Ties', *Pew Internet & American Life Project*. Retrieved <http://www.pewinternet.org>
- Bolin, G. (2008). Mobila generationer i skilda världar [Mobile generations in a divided world]. In S. Holmberg & Weibull, L. (Eds), *Skilda världar* [Divided Worlds], pp. 435–44. Göteborg: SOM Institute.
- Bolin, G. & Westlund, O. (2009). Mobile generations: the role of mobile technology in the shaping of Swedish media generations. *International Journal of Communication* 3, 108–24.
- Bohlin, E., & Westlund, O. (2008, June 24-27) Mobile internet adoption and use: results from a national survey in Sweden. Paper presented at 17th Biennial ITS Conference, Montreal, Canada.

Bugeja, M. (2005). *Interpersonal divide: The search for community in a technological age*. Oxford University Press.

Campbell, S. W., & Kelley, M. J. (2006). Mobile phone use in AA networks: An exploratory study. *Journal of Applied Communication Research*, 34, 191–208.

Campbell, S. & Kwak, N. (2007). *Mobile communication and social capital, in localized, globalized, and scattered networks*. In proceedings of International Communication Association, San Francisco, USA.

Campbell, S.W. (2007) 'A Cross-cultural Comparison of Perceptions and Uses of Mobile Telephony', *New Media & Society* 9: 343–63.

Campbell, S.W., & Russo, T. C. (2003) 'The Social Construction of Mobile Telephony: An Application of the Social Influence Model to Perceptions and Uses of Mobile Phones within Personal Communication Networks', *Communication Monographs* 70 (4), 317–34.

Castells, M., Fernandez, Ardevol, M., Qiu, J.L., & Sey, A. (2007) *Mobile Communication and Society: A Global perspective*. Cambridge, MA: MIT Press.

Castells, M. et al. (2004). *The mobile communication society: A cross-cultural analysis of available evidence on the social uses of wireless communication technology*. Research report, Annenberg Research Network on International Communication, Los Angeles.

Caporael, L.R. & B. Xie, B. (2003) 'Breaking Time and Place: Mobile Technologies and Reconstituted Identities', in J. Katz (ed.) *Machines that Become Us: The Social Context of Communication Technology* (pp. 219-32). New Brunswick, NJ: Transaction Publishers.

Cohen, A. A., Levy, M. R., & Golden, K. (1988). Children's uses and gratifications of home VCRs: Evolution or revolution. *Communication Research*, 15, 772-780.

Dimmick, J., Kline, S., & Stafford, L. (2000). 'The Gratification Niches of Personal E-mail and the Telephone: Competition, Displacement and Complementarity', *Communication Research*, 27(2), 227–48.

Donner, J. (2005). The rules of beeping: Exchanging messages using missed calls on mobile phones in sub-Saharan Africa. A paper presented at the annual meeting of the International Communication Association.

Dutta, S. (2009). UAE leads the Middle East in ITC readiness. Accessed: <http://www.arabianbusiness.com/518509?tmpl=print&page>

ESCWA (2007, August). National profile of the information society in the United Arab Emirates.

Rafaeli, S. (1986). The electronic bulletin board: A computer-driven mass medium. *Computers and the Social Sciences*, 2, 123-136.

Fareed, S. (2003). Cell camera sparks fistfight at women's party. Arab News (2004, Jan.). Retrieved from <http://www.arabnews.com/?page=1&section=0&article=21681&d=4&m=1y=2003>  
Ferguson, D. A., & Perse, E. M. (2000). The World Wide Web as a functional alternative to television. *Journal of Broadcasting & Electronic Media*, 44, 155-174.

Fortunati, L. (2003, June 22-24). 'Mobile Phone and the Presentation of Self'. Paper presented at the Front State/Back Stage Mobile Communication and the Renegotiation of the Social Sphere Conference, Grimstad, Norway.

Fortunati, L. (2002). "The Mobile Phone: Towards New Categories and Social Relations", *Information, Communication & Society*, vol. 5 (4), 513-528  
Garcia-Montes J. M, Caballero-Munoz D., Perez-Alvarez, M., (2006, Jan)  
Changes in the self resulting from the use of mobile phones. *Culture and Society*, 28 (1), 67-82.

Gaudin, S. (2001). "The terrorist network." *Network World*, Nov. 26. Accessed at <http://www.nwfusion.com/research/2001>

Gerbner, G., & Gross, L. (1976). Living with television: The violence profile. *Journal of Communication*, 26(2), 172-199.

Gergen, K. (2008). Mobile communication and the transformation of democratic process. In J. E. Katz (Ed.). (2008). *Handbook of mobile communication* (pp. 297-309). Cambridge, MA: The MIT Press.

Geser, H. (2003). Towards a sociological theory of the mobile phone. Release 2.1. Retrieved from [http://socio.ch/mobile/t\\_geser.htm#8](http://socio.ch/mobile/t_geser.htm#8)

Gordon, J. (2006). The cell phone: An artifact of popular culture and a tool of the public sphere. In A., Kavoori & N., Arceneaux, (Eds.), *The cell phone reader: Essays in social transformation* (pp. 45-59). New York, NY: PeterLang.

Green, N. (2002). 'Who's Watching Whom? Surveillance, Regulation and Accountability in Mobile Relations'. In B. Brown, N. Green, & R. Harper (Eds.) *Wireless*

*World: Social, Cultural and Interactional Issues in Mobile Communications And Computing*. London: SpringerVerlag.  
Haddon, L. (ed.) (2005). *International Collaborative Research: Cross-cultural Differences and Cultures of Research – User Aspects and ICTs*. COST Action 269. Brussels: EU Publications Office.

Hargittai, E. (2007). 'Whose Space? Difference Among Users and Non-users of Social Network Sites', *Journal of Computer-mediated Communication* 13(1), URL (consulted April 15, 2008):

<http://jcmc.indiana.edu/vol13/issue1/hargittai.html>

Harrison, R. (2004). Camera phones freely available despite ban. Arab News, (2004, April). Retrieved From <http://www.arabnews.com/?page=1&section=0&article=42472&d=4&m=4y=2004>

Horst, H. A. & Miller, D. (2006). The cell phone: An anthropology of communication. Oxford, NY: Berg.

Hurme, P. (2005, April). Mobile Communication and Work Practices in Knowledge Based Organizations. Human Technology 1(1), 101-108.

Igarashi, T., et al. (2005). A longitudinal study of social network development via mobile phone text messages focusing on gender differences. Journal of social and personal relationships, 22, 691-713.

Ilbahrine, M. (2008). Mobile communication and sociopolitical change in the Arab world. In J. Katz (Ed.). Handbook of mobile communication (pp. 257-272). Cambridge, MA: The MIT Press.

James, M. L., Wotring, C. E., & Forrest, E. J. (1995). An exploratory study of the perceived benefits of electronic bulletin board use and their impact on other communication activities. Journal of Broadcasting & Electronic Media, 39 (1), 30-50.

Jordan, A., Trentacoste, N., Henderson, V., Manganello, J., & Fishbein, M. (2007) 'Measuring the Time Teens Spend with Media: Challenges and Opportunities', Media Psychology, 9, 19-41.

Ingelbrecht, N. & Trivedi, G. (2004). Mobile and wireless services and service providers in Hong Kong. Gartner research, ID No. DPRO-90882, Stamford, CT.

Ishii, K. (2006). 'Implications of Mobility: The Uses of Personal Communication Media in Everyday Life', Journal of Communication, 56(2), 346-65.

Ito, M., Okabe, D. & Matsuda, M. (Eds.) (2005). Personal, Portable, Pedestrian: Mobile Phones in Japanese Life. Cambridge, MA: MIT Press.

Jin, B. (2007, November). Mobile communication as a mode of interpersonal communication. Paper presented at the National Communication Association Convention, Chicago, Illinois.

Katz, J. E. (Ed.) (2008). Handbook of mobile communication. Cambridge, MA: The MIT Press.

Katz, J. E. (2006). Magic in the air: Mobile communication and the transformation of

social life. New Brunswick, NJ: Transaction Publishers.

Katz, J. (Ed.) (2003). *Machines that become us: The social context of personal communication technology*. New Brunswick, NJ: Transaction Publishers

Katz, J. E., Aakhus, M. A., Kim, H. D., & Turner, M. (2003) 'Cross-cultural Comparison of ICTs', in L. Fortunati, J. Katz & R. Riccini (Eds.) *Mediating the Human Body: Technology, communication, and fashion* (pp. 75–86). Mahwah, NJ: Lawrence Erlbaum

Katz, J. & Rice, R. E. (2003). *Social consequences of Internet use: Access, involvement, and interaction*. Cambridge, MA: MIT Press.

Katz, J. E. & Aakhus, M. (Eds.) (2002). *Perpetual Contact: Mobile Communication, Private Talk, Public Performance*. Cambridge: Cambridge University Press.

Katz, E., Blumler, J. G., & Gurevitch, M. (1974). Uses and gratifications research. *Public Opinion Quarterly*, 37 (4), 509-524.

Kavanaugh, A., & Patterson, S. (2001). The impact of community computer networks on social capital and community involvement. *American behavioral scientist*, (45), 496-509.

Kayahara, J., & Wellman, B. (2007). Searching for culture—high and low. *Journal of Computer-Mediated Communication*, 12(3), Article 4. Accessed. <http://jcmc.indiana.edu/vol12/issue3/kayahara.html>

Kim, S. D. (2002). 'Korea: Personal meanings', in J. Katz & M. Aakhus (Eds.). *Perpetual contact: Mobile communication, private talk, public performance* (pp 63-79). Cambridge UK: Cambridge University Press.

Kavoori, A., & Arceneaux, N. (Eds.) (2006). *The cell phone reader: Essays in social transformation*. New York, NY: Peter Lang.

Leonardi, P., Leonardi, M., & Huson, (2006). Culture, organization, and contradiction in the social construction of technology: Adoption and use of the cell phone in three cultures. In A., Kavoori & N., Arceneaux, N. (Eds.) (2006). *The cell phone reader: Essays in social transformation* (pp. 205-225). New York, NY: Peter Lang.

Leung, L. & Wei, R. (1999) 'Who Are the Mobile Phone Have-nots?', *New Media & Society* 1(2), 209–26.

Levinson, P. (2006). The little big blender: How the cellphone integrates the digital and the physical, everywhere. In A., Kavoori & N., Arceneaux, N. (Eds.) (2006). *The cell phone reader: Essays in social transformation* (pp. 9-17). New York, NY: Peter Lang.

Licoppe, C. (2004). 'Connected' Presence: The Emergence of a New Repertoire for Managing Social Relationships in a Changing Communication Technoscape', *Environment and Planning D: Society and Space*, 22(1), 135–56.

Licoppe, C. & Heurtin, P. (2001). Managing one's availability to telephone communication through mobile phones: A French case study of the development and dynamics of the use of mobile phones. *Personal and Ubiquitous Computing*, 5, 131-140.

Ling, R. (2008). *New tech, new ties: How mobile communication is reshaping social cohesion*. Cambridge, MA: The MIT Press.

Ling, R. (2007). 'Children, Youth and Mobile Communication', *Journal of Children and Media* 1 (1), 60–7.

Ling, R. (2004). *The Mobile Connections: The Cell Phone's Impact on Society*. Amsterdam: Morgan Kaufmann.

Ling, R. & B. Yttri (2002) 'Hyper-coordination via Mobile Phones in Norway', in J. Katz & M. Aakhus (Eds.), *Perpetual Contact: Mobile Communication, Private Talk, Public* (pp.139–69). Cambridge: Cambridge University Press.

Mante, E. (2002) 'The Netherlands and the U.S.A. Compared'. In J. Katz & M. Aakhus (Eds.) *Perpetual Contact: Mobile Communication, Private talk, Public Performance*, (pp. 110-25). Cambridge: Cambridge University Press.

McPherson, M. (2006). Social isolation in America: Changes in core discussion networks over two decades. *American Sociological Review* (71), 353-375.

Mishkhas, A. (2004). Saudi Arabia to overturn ban on cameraphones. *Arab News*, August 12. Retrieved from <http://www.arabnews.com/?page=1&section=0&article=56187&d=17&m=12&y=20054>

Maroon, B. (2006). Mobile sociality in urban Morocco. In A., Kavoori & N., Arceneaux, N. (Eds.) (2006). *The cell phone reader: Essays in social transformation* (pp.189-204). New York, NY: Peter Lang.

McGuigan J (2005, April). Towards a Sociology of the Mobile Phone. *Human Technology*, 1(1), 45-57.

Miyata, K. (2006). Longitudinal effects of mobile Internet use on social network in Japan. Paper presented at the annual convention of the International Communication Association, Dresden, Germany.

Oksman V. & Rautiainen, P. (2003). 'Perhaps it is a body part': how the mobile phone became

Pan, G. (2004, March 24). 'Seventy Percent of Media Consumers use Multiple Forms of Media at the Same Time, According to a Study for the Media Center at API', Media Center at the American Press Institute. Accessed: [http://www.americanpressinstitute.org/pages/apinews/api\\_news\\_releases/seventy\\_percent\\_of\\_media\\_consumers/](http://www.americanpressinstitute.org/pages/apinews/api_news_releases/seventy_percent_of_media_consumers/)

Pendleton, J. (2004, March). 'Multitaskers: Kids Quick to Master Myriad Choices in Media but Marketers Questions Effectiveness of Ad Impact in their Fast Paced Lives, Special Report: Marketing to Kids, Tweens and Teens', Advertising Age 75, 3- 29, S1.

Pertierra, R. (2005, April) Mobile Phones, Identity and Discursive Intimacy Human Technology, 1, (1), 23-44

Peters, O. & ben Allouch, S. (2005). Always connected. A longitudinal field study of mobile communication. Telematics and Informatics, 22, 239-256.

Rheingold, H. (2002). Smart mobs: The next social revolution. Cambridge: Perseus.  
Rice, R. E. & Katz, J. E. (2003) 'Comparing Internet and Mobile Phone Usage: Digital Divides of Usage, Adoption and Dropouts', Telecommunications Policy 27(8– 9): 597– 623.

Robinson, W., & D. Robinson (2006). Tsunami mobilization: Considering the role mobile and digital communication devices, citizen journalism, and the mass media. In A. Kavoori & Arceneaux, N. (Eds.), The cell phone reader: Essays in social transformation (pp. 85-103). New York, NY: Peter Lang.

Rubin, A. M., & Bantz, C. R. (1989). Uses and gratifications of videocassette recorders. In

J. L Slavaggio & J. Bryant (Eds.), Media use in the information age: Emerging patterns of adoption and consumer use (pp. 181–195). Hillsdale, NJ: Lawrence Erlbaum Associates.

Rosengren, K. (1974). Uses and gratifications: A paradigm outlined. In J. G. Blumler & E. Katz

(Eds.), The uses of mass communications: Current perspectives on gratifications research (pp. 269-286). Beverly Hills, CA: Sage.

Roos, J.P. (1993) 'Sociology of cellular telephone: The Nordic model (300000 Yuppies?

Mobile phones in Finland)'. Telecommunications policy 17(6), 446-456.

Rouvinen P. (2005). Diffusion of digital mobile telephony: Are developing countries different? Telecommunications Policy 30 (2006), 46-63.



Rubin, A. (1994). Media uses and effects: A uses-and-gratifications perspective. In J. Bryant & D. Zillmann (Eds.), *Media effects: Advances in theory and research* (pp. 417-436). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Rubin, A. (2002). The uses-and-gratifications perspective of media effects. In J. Bryant & D. Zillmann (Eds.), *Media effects: Advances in theory and research* (2nd ed., pp. 525-548). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Rubin, A. M., & Bantz, C. R. (1987). Utility of videocassette recorders. In J. L. Salvaggio & J. Bryant (Eds.), *Media Use in the Information Age: Emerging Patterns of Adoption and Consumer Use* (pp. 181-195). Hillsdale, NJ: Lawrence Erlbaum Associates.

Rubin, A.M. (1983). Television uses and gratifications: The interactions of viewing patterns and motivations. *Journal of Broadcasting*, 27, 37-52.

Schulman, Ronca, & Bucuvalas, Inc. (2006, March 28). AP/AOL/PEW Research Center Survey of cellular phone users.

Smoreda, Z., & Thomas, F. (2001). Social networks and residential ICT adoption and use. In proceedings of EURESCOM Summit. EUROSCOM.

Solis, R. (2007). Texting love: An exploration of text messaging as a medium of romance in the Philippines. *M/C Journal*, 10 (1). Retrieved. <http://journal.media-culture.org>

Sooryamoorthy, Miller, B. P. & Shrum, W. (2008). Untangling the technology cluster: mobile telephony, internet use and the location of social ties *New Media Society* 2008; 10; 729. DOI: 10.1177/1461444808094354

Srivastava, L. (2005, March-April) Mobile Phones and the evolution of social behavior *Behaviour and Information Technology* 24(2), 111-129.

Sundqvist S, Frank L., & Puumalainen, K. (2005) The effects of country characteristics, cultural

similarity and adoption timing on the diffusion of wireless communications. *Journal of Business Research*, 58, 107–10.

Stafford, T., & Gonier, D. (2004). What Americans like about being online. *Communications of the ACM*, 47(11), 107-112.

Uranaka, T. (2005). "Telecom carriers' policies split on prepaid cell phones." *Japan Times* (2005, Jan.12). Accessed at <http://search.japantimes.co.jp/print/business/nb01-2005/nb20050112a2.htm>

Taylor, A.S. & Harper, R. (2001, April 1-2) 'Talking "Activity": Young People and Mobile Phones'. Paper presented at the CHI 2001 Workshop: Mobile communications: Understanding Users, Adoption and Design, Seattle, WA. Trepte, S.,

Ranné, N & Becker, M. (2003). „Personal Digital Assistants"-Patterns of user gratifications. *Communications. European Journal of Communication Research*, 8, (4), 457-473.

van Dijk, J., & Hacker, K. (2003). The digital divide as a complex and dynamic phenomenon. *Information Society*, 19, 315-26.

Wei, R., & Lo, V. H. (2006). Staying connected while on the move: Mobile phone use and social connectedness. *New Media & Society*, 8, 53–72.

Westlund, O. (2007). The adoption of mobile media by young adults in Sweden. In G. Goggin & L. Hjorth (Eds), *Mobile Media 2007* (pp. 116–24). Sydney: University of Sydney.

Winston, B. (1998). *Media Technology and Society: A History from the Telegraph to the Internet*. London: Routledge.

Wolak, J., Mitchell, K., & Finkelhor, D. (2003). Escaping or connecting? Characteristics of youth who form close online relationships. *Journal of Adolescence* (26), 105-119.