When one medium is not enough: Media use and media multitasking among college students in Kuwait

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Abstract

        The current study explored media use and media multitasking activities among college students in Kuwait based on the results of a cross-sectional survey (N=179). The study examined what types of media students in Kuwait use the most, with which media they multitask the most, and what multitasking pairs are the most common. It was also explored how media ownership, sensation seeking, and demographic characteristics affect media use and media multitasking of students in Kuwait. The study results indicated that students in Kuwait tend to multitask with electronic media the most. Among others, respondents tended to combine watching television with surfing the Web, using phone, eating, and socializing, as well as listening to music with surfing the Web, driving, and exercising. Media ownership, sensation seeking, gender, age, and socio-economic status predicted the use of different media and/or media multitasking behaviors. Study implications are discussed.

Keywords: media multitasking, media use, media ownership, sensation seeking, college students in Kuwait

Media have been considered a powerful tool of education, social development, and change in Arab countries throughout the decades of media history (Adams, 2006). Describing the paradigms of development communication in the Middle East, Adams (2006) suggested that the key factor of successful mediated communication is the focus on media audiences. Since media audiences are put in the center of research examining today's highly mediated environment, it is important to explore what types of media people use and how they use these media.

In less than a decade, new communication technologies revolutionized media markets around the world, changing behaviors of media users. In this study, we focused on media multitasking as one of new media use behaviors that developed over the recent years (Roberts & Foehr, 2008). While the existing literature about media multitasking has predominantly covered western audiences (Carrier et al., 2009; Foehr, 2006; Jeong & Fishbein, 2007; Ophir, Nass, & Wagner, 2009; Rideout, Foehr, & Roberts, 2010; Roberts, Foehr, & Rideout, 2005), the primary goal of this study was to explore whether media multitasking became an international media use trend. The current study examined what types of media college students in Kuwait use and how they are engaged in concurrent use of these media. We also investigated whether media ownership, sensation seeking, and demographic factors significantly predicted media use as well as media multitasking.

Media in Kuwait

Kuwait is a country in the Middle East and North Africa (MENA) region that gained independence in 1961 (CIA World Factbook, 2012). This oil-rich wealthy state is a member of Gulf Cooperation Council (U.S. Department of State, 2012). Although Kuwaiti nationals constitute only 45% of the total country population (total population is about 2.6 million), Arabs are the dominant ethnic group (80% of the population) and Arabic is the official country language (CIA World Factbook, 2012). As Kuwait is part of the Arab world, some similarities between media systems in this country and other Arab states can be identified (Rugh, 2004). Media in MENA region share history from the development of newspapers in the 19th century and "traditional" electronic media (radio and television) in the 20th century to spreading the newest communication technologies in the end of the 20th and the beginning of the 21st centuries (Rugh, 2004). Rugh (2004) outlined several characteristics, shaped by political, economic, and cultural factors, that Arab media systems have in common. In particular, Arab

media can be seen as often politically dependent, fragmented, e.g., serving literate elites or urban populations, having low credibility rates, especially due to the importance of oral communication in the region. Despite political patronization, it has to be noted that private media operate successfully in many Arab countries (e.g., commercial satellite television networks, Ayish, 2002). Furthermore, Internet penetration has been growing fast in the MENA region (Internet World Stats, 2012; OpenNet Initiative, 2009).

Similar to media markets in other MENA countries, the media market in Kuwait grew tremendously over the recent years. The growth can be identified in three media-related areas: freedom of the press, diversity of traditional media products, both print and electronic, and new information and communication technologies. Kuwait keeps high ratings on press freedom allowing a great variety of media to represent the wide spectrum of political opinions and maintaining low-risk conditions for journalists and media practitioners to work in the country (Reporters Without Borders, 2012). The country took the 60th place in the 2009 Press Freedom Report (PFI), leaving behind Lebanon (61) and the United Arab Emirates (86, Reporters Without Borders, 2009). In 2011-2012, Kuwait fell to the 78th place, yet, the country remains the first in the region with regards to PFI (PFIs in Lebanon – 93 and United Arab Emirates – 112), even despite the uprisings that took place in several Arab countries in 2011 (compare: Tunisia – 134; Egypt – 166; Yemen – 171; Bahrain – 173; Syria – 176, Reporters Without Borders, 2012).

The growth of press freedom could be partially credited to the new media law instituted in Kuwait in 2006, which opened market to "new political daily newspapers" (OpenNet, 2009) and led to the increase in print media diversity. In addition, such development should be analyzed in the context of overall democratization processes that especially intensified in the 2000s, when Kuwaiti women were granted the right to vote in 2005 and four females were elected as the members of parliament (IFES Election Guide, 2012). According to Kuwait-Info.com (2011), as of today, there are 19 newspaper outlets both in Arabic and English. Rugh (2004) described the market of newspapers in Kuwait as diverse, i.e., offering a wide spectrum of political opinions including those opposing the government. In 2002, Rugh (2004) reported, seven daily newspapers distributed about half a million copies in the country with the population of 1.8 million 78% of which was literate.

Radio market in Kuwait also provides a variety of choices and the diversity of programming. Three radio transmission stations operate in the country (Kuwait Info, 2011).

Among others, radio listeners receive music, news, religious information, business and sport reports from radio channels in different formats, such as FM, MW, and SM (Kuwait Info, 2011).

While the radio market has not revolutionarily changed in Arab countries since 1990, television industry went through radical changes associated with the rise of satellite TV broadcasting in the region (Rugh, 2004). Current television channels in the Middle East can be classified with regards to the degree of governmental control (Abdulrahim, al-Kandari, & Haque, 2008; Ayish, 2002; Jamal & Melkote, 2008) and the type of technology involved (Rugh, 2004). Although the broadcasting system significantly suffered through 1990-1991, during the Iraqi invasion (Rugh, 2004), today it offers a wide variety of channels and programs to TV viewers in the country. There are four government-controlled television channels offering viewers news and entertainment (Abdulrahim et al., 2008; Kuwait Info, 2011), as well as a well-developed network of satellite TV, including entertainment and news channels (Abdulrahim et al., 2008; Jamal & Melkote, 2008). Wheeler (2000) referred to a survey conducted by Jamal al-Menayes, professor at Kuwait University, who found that 73% of respondents watched TV every day, with 95% devoting up to 2.5 hours to the medium daily. The most popular channels watched were foreign satellite channels including Middle East Broadcasting Center (MBC, Wheeler, 2000). Overall, television scene in Kuwait can be described as diverse, i.e., offering a wide choice of TV channels (pan-Arab, such as Al-Jazeera, and nation-specific) and a variety of TV programs from political news and religious programs to entertainment, such as movies and soap operas.

Kuwait information and communication technology market is characterized as one of the fastest growing in the Middle East (MENA Financial Network, 2007; OpenNet Initiative, 2009). About 42.4% of the population use Internet services in this country, and about 34% have Facebook accounts (Internet World Stats, 2012). According to CIA World Factbook (2012), there were 2, 485 Internet hosts in Kuwait in 2010. According to Dashti (2009), governments and citizens of Gulf Cooperation Council countries, including Kuwait, perceive Internet positively and directly relate it to economic wealth, which makes governments to invest more in new information and communication technologies. Despite the existing Internet censorship policies in Kuwait that prohibit users to view websites with specific contents (pornography, anti-religious, anti-tradition, and anti-security contents, OpenNet, 2009), the number of Internet users exchanging their opinions via new media (weblogs, forums) has grown (Dashti, 2009).

As for mobile phones, 4.4 million cell phone devices were in use in Kuwait in 2010 (CIA World Factbook, 2012). Out of 3,256 surveyed people in Kuwait, about 90% reported they used a cell phone (Al-Khamees, 2008).

The development of satellite television, Internet, and mobile phone industries prepared a fruitful ground for the growth of media use in Kuwait. Young generation of Kuwait residents, who were born and/or grew up when new media and communication technologies penetrated domestic market, are viewed as particularly affected by these rapid changes (Wheeler, 2003). Multiple media options and the availability of information and communication devices could affect young generations of consumers in Kuwait as much as they did affect the youth in the western world (Carrier et al., 2009; Foehr, 2006; Rideout et al., 2010; Roberts et al., 2005; Roberts & Foehr, 2008). Taking into consideration that two thirds of the population in the Middle East are under the age of 30 (Arab Youth Survey, 2010), including Kuwait where the median age is 28.5 years old (CIA World Factbook, 2012), we focused on exploring media use and multitasking among the youth in Kuwait, in particular, college students (N=179; M_{age}=21).

Kuwait youth and media use

While some evidence exists with regards to lifestyles of the Arab youth, including their use of media (Arab Youth Survey, 2008, 2010), the research of media uses among Kuwaiti youngsters is rather fragmented. Kuwait was one of MENA region countries that participated in a series of Arab Youth Surveys (2008, 2010) aiming at clarifying demographic and psychographic characteristics of young Arabs. Parts of the surveys were devoted to media technology ownership and use. Despite the concern about economic disparity between Gulf and non-Gulf countries (Arab Youth Survey, 2008, 2010), it is important to mention that overall, Arab youth, including samples from Kuwait, are well introduced to information and communication technologies. The First Arab Youth Survey (2008; age group of 18-24, N=1,500) reported that respondents spent their spare money to buy mobile phones (40%), books and magazines (29%), watch movies and go to cinema (13%), and listen to music (8%). The representatives of the Arab youth, including respondents from Kuwait, reported they had access to or owned new technological devices, such as mobile phones (68%), desktop computers (41%), laptops (34%), iPods and MP3 players (17%), and game consoles (13%, Arab Youth Survey, 2008). As for the specifics of media use in Kuwait, the youth in this country stood out with

regards to online social networking. Thus, according to the Third Arab Youth surveys (2010; age 18-24, N=2,000), about 70% of Kuwait youth have been found to actively participate in social network sites (Arab Youth Survey, 2010).

Taking into consideration the growing access to and ownership of different types of media in Arab countries, including Kuwait, and the increasing popularity of Internet and cellular phones in the region, we asked how much time on average college students in Kuwait devote to each medium per week and what media college students in Kuwait use the most (RQ1 and RQ2).

According to Arab Youth surveys (2008, 2010), a country's level of wealth can affect the possession and, thus, the use of certain media devices. We hypothesized that such disparity might exist within Kuwait, such that income per household would affect the extent of media use among college students in Kuwait (H1). We also asked whether a few other demographic characteristics, such as gender, age, and parental education, would affect media use among college students in Kuwait (RQ3).

Media multitasking: Application to college students in Kuwait

Media multitasking, or the involvement in several concurrent activities at least one of which is related to media use (Foehr, 2006; Vega, 2009), increased significantly during 2000s (Roberts et al., 2005). It was argued that a younger generation of media users, named Net Generation (Carrier et al., 2009), Generation Millennial, Generation M[2] (Rideout, Foehr, & Roberts, 2010), or iY Generation (Luck & Mathews, 2010), tended to multitask more than older generations such as "Baby Boomers" (Carrier et al., 2009). The purpose of this study was to explore how the representatives of the youth outside the U.S., in particular, in Kuwait, multitask with media.

Survey and diary data on multitasking among American youth shed the light on the most popular media pairs often used together and non-media activities involved in the process of multitasking with media (Foehr, 2006). It was found that about 80% of surveyed youngsters were involved in media multitasking to different degrees (Foehr, 2006). According to a more recent diary study (Rideout et al., 2010), American children reported they multitasked nearly 30% of the time when they used media. Regarding media types engaging in multitasking, it was found that watching television was the most popular primary media activity followed by listening to music and reading. The use of computer for multiple purposes was the most popular secondary

media activity among children (Foehr, 2006). In addition, young respondents reported they multitasked often or some of the time while texting or playing video games (Rideout et al., 2010). Furthermore, people tend to multitask with electronic media the most and with print media the least (Jeong & Fishbein, 2007; Pilotta & Schultz, 2005).

A number of scholars emphasized that media multitasking can involve only media use activities, for example, when one watches television and surfs Internet at the same time, as well as media and non-media activities, such as walking and listening to music (Foehr, 2006; Jeong & Fishbein, 2007; Rideout et al., 2010). Wallis (2010) outlined minimum three types of media multitasking: 1) multitasking "between two or more media"; 2) multitasking "between medium and face-to-face interaction"; and 3) multitasking "within a single medium" (Wallis, 2010, p. 8). Slightly altering this classification, we measured how Kuwait college students multitask 1) with different media and 2) with media and non-media activities, such as doing homework, driving, eating, exercising, listening to a lecture, and socially interacting. Thus, another research question asked with which media college students in Kuwait multitask the most, considering both multitasking between media and multitasking that involves media and non-media activities (RQ4).

With regards to multitasking only with media, the previous research has indicated that computer and online activities such as computer games, visiting Web sites, and checking email, as well as watching television, listening to musical and non-musical audio, and using mobile phones were most likely to be paired with the use of other media sources (Foehr, 2006; Luck & Mathews, 2010; Rideout et al., 2010). As for pairing media and non-media activities, eating and doing homework were identified as the most popular non-media activities involved in media multitasking (Foehr, 2006; Luck & Mathews, 2010; Rideout et al., 2010). Jeong et al. (2005) stated that people often eat while watching television; do homework while using audio media, Internet, and TV; and listen to music/radio while traveling. Texting while driving has been another area of research illuminating a certain danger of the new media habit (Nemme & White, 2009). To continue the line of media multitasking research, we asked what the most common media multitasking pairs among college students in Kuwait are (RQ5).

Empirical evidence suggests that there are several factors predicting media multitasking (Foehr, 2006; Jeong & Fishbein, 2007; Rideout et al., 2010). Among these factors are media and audience factors (Jeong & Fishbein, 2007). Media factors include structural (access to

technology) and individual (media ownership) factors. Media ownership is defined by the number of media devices in possession of an individual and determines the extent to which he/she is surrounded by media. Further, it was found that the more children are surrounded by media, the more they tend to use media and multitask. Thus, the number of television sets in a household and the possession of computers increased multitasking rates (Foehr, 2006; Jeong & Fishbein, 2007).

As per our knowledge, no studies directly and systematically examined media ownership among young people in Kuwait. However, some evidence suggests that younger generations of Kuwait residents are highly surrounded by media. As it was mentioned in the first section of the literature review, Kuwait government has been increasingly investing in the development of new information and communication technologies, which significantly contributed to the popularity of new media in the country (Al-Khamees, 2008; Alsaleh, 2006; Hamade, 2009; Wheeler, 2000, 2003). In addition, the youth of Kuwait have been described as Internet active (Wheeler, 2000, 2003). Hamade (2009) reported that over 50% of students surveyed in Kuwait used this medium 15 and more hours per week. Finally, mobile phones successfully penetrated domestic market. A serious issue associated with the use of these devices is driving while speaking by phone or texting. Alsaleh (2006) surveyed more than 1,600 students who were drivers ($M_{age} = 20$) and found that 67% of them used their cell phones while operating a vehicle. The evidence offered by previous studies leads to ask legitimate questions about media ownership in Kuwait. First, the current study asked to what extent college students in Kuwait are surrounded by media in their homes (RQ6). Then, it was hypothesized that media ownership would be associated with media multitasking behaviors of college students in Kuwait (H2).

Audience factors, both psychological (sensation seeking) and socio-demographic (gender, socio-economic status), were among other predictors of media multitasking (Foehr, 2006; Jeong & Fishbein, 2007). "Sensation seekers", or people who seek adventures, complex, novel experiences, and like risky situations, were found to multitask with media more than those who do not seek new sensations (Foehr, 2006; Jeong & Fishbein, 2007). Thus, we hypothesized that sensation seeking would be a significant predictor of multitasking among college students in Kuwait (H3).

It was found that media multitasking differs by gender. Female children were shown to multitask more than male children (Foehr, 2006; Jeong & Fishbein, 2007). We predicted that gender would significantly affect multitasking (H4).

Socio-economic status, measured by the level of parental education, has been reported to predict media multitasking (Jeong & Fishbein, 2007). Adding income as the second indicator of SES, we hypothesized that income and parental education would be significant predictors of media multitasking (H5).

Finally, despite the fact that most of the common demographic characteristics, such as age, did not significantly predict media multitasking in previous studies (Foehr, 2006), we wondered if it would be the case with the sample of college students in Kuwait. Thus, the last research question was whether age would affect the extent of media multitasking (RQ7).

Hypotheses and research questions

RQ1: How much time on average do college students in Kuwait devote to each medium per week?

RQ2: What media do college students in Kuwait use the most?

H1: Income per household will affect the extent of media use of college students in Kuwait.

RQ3: Will demographic characteristics, such as gender, age, and parental education, affect the extent of media use?

RQ4: With which media do college students in Kuwait multitask the most, considering both multitasking between media and multitasking that involves media and non-media activities?

RQ5: What are the most common media multitasking pairs among college students in Kuwait?

RQ6: To what extent are college students in Kuwait surrounded by media in their homes?

H2: The degree to which college students in Kuwait are surrounded by media will be associated with their media multitasking behaviors.

H3: Sensation seeking will be a significant predictor of multitasking among college students in Kuwait.

H4: Gender will be a significant predictor of multitasking among college students in Kuwait.

H5: Income and parental education will be significant predictors of media multitasking.

RQ7: Does age affect the extent of media multitasking?

Method

Sample

A paper-and-pencil cross-sectional survey was conducted in several classrooms of a liberal arts college in Kuwait to collect data and explore media use and media multitasking behaviors of young people in Kuwait. A total of 179 students participated in the study. About 76.5% (N=137) reported they were Kuwaiti citizens, while 22.3% were the nationals of other Arab and Asian countries (N=40). Two respondents (1.1%) did not report their nationality. Forty six percent of the sample were males. The average sample age was 21 (*M*=21.21; *SD*=2.25). Ten percent of the sample were freshmen, 26% were sophomores, 24% were juniors, and 39% were seniors.

Procedure

The survey was administered in a class setting to ensure high response rate. Paper-and-pencil questionnaires were distributed in a number of classes, and students filled them out in the beginning or at the end of class. As per arrangement with instructors, in some classes, students received extra credit for participation. In other classes, participation was voluntary. The survey was administered in English, which is the official language of the university where the study was conducted. Before answering questions, students read a brief consent form, which guaranteed anonymity and confidentiality. After filling out the questionnaire, they were thanked for participation and welcomed to ask questions.

Measures

Media use. Respondents were asked to report average hours per week they spend using each of eight types of media: television; music; nonmusic audio; video or computer games; telephone/mobile phone/ voice calls and SMS; Internet; Internet-based communication tools (i.e., email); and print media (Ophir et al., 2009). The responses totaled in eight ratio-level variables used in further statistical analyses.

Media multitasking. The formula to calculate media multitasking index was borrowed from Ophir et al. (2009). This media multitasking measure was utilized in this study because it offers a wider categorization of media, including the newest media forms, and, thus, accounts for a wider range of media multitasking pairs. Participants reported the total number of hours per week they usually spend using eight different media types (see previous subsection). Then, they estimated how often they used each medium concurrently with other media on ordinal scales with four categories: "never," "rarely," "sometimes," and "often." Each ordinal category received a numerical value: "often" = 1; "sometimes" = .67; "rarely" = .33; and "never" = 0. The media multitasking index (MMI) was calculated with the use of the following formula: $MMI = \Sigma\ (m_i \times h_i)\ /\ h_{total}$, where m_i was the number of media used at the same time with the primary medium i, h_i is "the total number of hours per week spent using primary medium i, and h_{total} is the total number of hours per week spent with all primary media" (Ophir et al., 2009, p. 15586).

Multitasking with media and non-media activities. Multitasking index for media-related and non-media activities was calculated in a way similar to calculating media multitasking index. Non-media activities, such as "eating," "interacting with friends/relatives," "doing homework," "exercising," (Jeong & Fishbein, 2007), "driving," and "listening to a lecture", were utilized instead of secondary media use activities. The same formula was applied to calculate the index (see the previous subsection).

Media ownership. Media ownership index was computed with the use of four items that somewhat reflected how much respondents were surrounded by media in their homes. Participants were asked if they had television set in their bedroom (Jeong & Fishbein, 2007; Foehr, 2006), computer with Internet access in their bedroom, laptop, and wireless Internet in their house. The responses to each question were coded as dummy variables. Positive answers were coded as "1" and negative answers – as "0". Then, a five-point continuous media ownership variable (from "0" to "4") was calculated by summing the quantified responses to four questions.

Sensation seeking. Sensation seeking was measured with the use of seven items. Respondents rated seven statements ("I am often bored," "I like new and exciting experiences, even if I have to break the rules," "I like friends who are exciting and unpredictable," "I sometimes choose friends my parents disapprove of," "I get into trouble a lot," "I like to explore strange places," "I like to do frightening things," Arnett, 1994; Jeong & Fishbein, 2007) on 7-point scales from 1 "Strongly disagree" to 7 "Strongly agree." Then, a single sensation-seeking index was calculated (Cronbach's alpha = .72).

Demographic measures. Each participant was asked to report his/her *age*, *gender, income,* and *the level of parental education*. A three-group median split was performed to convert variable *age* into a categorical variable. Three age groups were defined: "younger than 20" (40.8% of the sample), "21 years old" (23.5%), and "22 and older" (29.1%). About 6.7% responses were marked as outliers and excluded from further analysis.

Household income was measured as a categorical variable with seven answer choices ("300 KD or less," "301-500 KD," "501-800 KD," "801-1,500 KD," "1,501-3,000 KD," "3,001-4,500 KD," "4,501 KD or more"). The decision to measure income per household rather than personal income was made due to the fact that all respondents were students and some of them could depend on their families' financial support. It has been indicated that 49.7% of respondents reported their household income was 1,500 KD or less, while the rest of participants reported a higher level of income. For the purposes of further statistical analyses, this variable was transformed into a two-level variable: 1) lower income (1, 500 KD or less) and 2) higher income (1,501 KD or more).

Parental education was measured with the use of two questions: "What best describes your mother's/ female guardian's education level?" and "What best describes your father's/ male guardian's education level?" (Jeong & Fishbein, 2007). Respondents had six choices to answer these questions: "Did not graduate high school," "Graduated high school," "Some college," "Graduated college," "Graduated college with master's and/or doctoral degree," and "Do not have this person/don't know." Then, these variables were coded as dummy variables, where "0" indicated education level lower than having college degree and "1" stood for college bachelor's, master's, and doctoral degrees. The values from the last category ("Do not have this person/don't know") were coded as missing. Finally, the results were summed into one three-level variable, where "0" indicated that both parents did not have a college degree, "1" showed that at least one parent had some type of college degree, and "2" meant that both parents had some type of college degree.

Results

Research question 1 asked how much time on average college students in Kuwait devoted to each medium per week, and research question 2 asked what media college students in Kuwait used the most. Descriptive statistics were examined for each media use variable to answer these questions. It was found that students devoted most of their time using telephone options, such as landline and mobile call services as well as SMS (*M*=15.29; *SD*=13.19), followed by surfing Internet (*M*=14.13; *SD*=12.25), listening to music (*M*=12.83; *SD*=10.87), watching television (*M*=9.89; *SD*=8.02), and using Internet-based communication tools, such as email (*M*=8.95; *SD*=9.30). See Table 1.

Table 1

Average Time Spent Using Media per Week (in Hours)

Medium	N	M	SD	Maximum value
Telephone/mobile phone/ voice calls and SMS	155	15.29	13.19	60.00
Internet	167	14.13	12.25	50.00
Music	166	12.83	10.875	44.00
Television	169	9.89	8.020	32.00
Internet-based communication tools (i.e., email)	159	8.95	9.30	45.00
Print media	161	4.43	4.15	17.50
Non-music audio	162	2.63	2.75	10.00
Video or computer games	158	2.48	3.23	12.00

Hypothesis 1 predicted that income per household would affect the extent of media use among college students in Kuwait. To test this hypothesis, eight independent sample t-tests were

run to examine possible differences in the use of each medium between two groups of students reported different levels of income. Only significant findings were reported in this study (additional statistical information is available per request). A difference in the use of Internet for surfing was indicated ($t(150)=-2.27$, $p<.05$), such that students from wealthier families spent significantly more time ($M=16.27$; $SD=13.82$) surfing online than students from less wealthy families ($M=12.02$; $SD=10.11$). The time spent listening to music also differed by household income ($t(155)=-1.79$, $p=.076$), indicating a similar pattern: students from wealthier families listened to more music ($M=14.35$; $SD=11.95$) than students from less wealthy families ($M=11.34$; $SD=9.55$). A significant difference in playing games between two income groups ($t(145)=2.79$, $p<.01$) was found. Students from wealthier families devoted significantly less time ($M=1.79$; $SD=2.74$) to playing games than students from less wealthy families ($M=3.19$; $SD=3.53$). Hypothesis 1 was partially supported.

Research question 3 asked whether other demographic characteristics, such as gender, age, and parental education, would affect the extent of media use. No significant differences in time devoted to each medium by age were found. Gender significantly predicted the use of computer and video games ($t(103)=4.27$, $p<.001$), phone ($t(148)=-2.09$, $p<.05$), surfing Internet ($t(158)=-1.82$, $p=.071$), and using Internet-based communication tools ($t(153)=-1.71$, $p=.089$). In particular, female students played games less often ($M=1.49$; $SD=2.33$) than male students in Kuwait ($M=3.69$; $SD=3.70$). However, females spent more time using phones ($M=17.54$; $SD=13.91$), surfing Internet ($M=15.55$; $SD=13.76$), and using Internet-based communication tools ($M=10.07$; $SD=10.27$) than males ($M_{phones}=13.10$; $SD_{phones}=12.25$; $M_{Web\ surfing}=12.18$; $SD_{Web\ surfing}=9.99$; $M_{Internet\text{-}based\ communication\ tools}=7.60$; $SD_{Internet\text{-}based\ communication\ tools}=7.84$). Eight ANOVA tests have been conducted to explore the differences in media use by parental education. Parental education only significantly predicted the use of computer and video games ($F(2, 149)=2.88$, $p=.06$, $\eta^2=.04$). Pairwise comparisons indicated that students with parents who had a lower level of education spent significantly more time playing games ($M=4.13$; $SD=.79$) than students who had at least one parent with a college degree ($M=1.85$; $SD=.53$, $p=.054$). Pairwise comparisons did not show statistical significance for difference between students who had parents with lowest levels of education and students who had highly educated parents ($M=2.44$; $SD=.32$, $p=.054$, $p>.10$).

Research question 4 asked with which media college students in Kuwait multitasked the most. Responses to questions about the concurrent use of media as well as simultaneous involvement in media and non-media activities were summed for each medium. The means of new variables were examined. It was found that respondents tended to use other media the most while operating the phone (M=4.40; SD=1.62), utilizing Internet-based means of communication (M=4.32; SD=1.33), surfing Internet (M=4.12; SD=1.25), listening to music (M=4.02; SD=1.13), and watching television (M=3.96; SD=1.22). See Table 2. A different picture was discovered when multitasking with non-media activities was examined. Students multitasked with the same types of media, however, in a different manner: listening to music (M=3.51; SD=.90) and watching television (M=3.02; SD=1.15) were most likely to be paired with non-media activities, followed by using phone options (M=2.86; SD=1.45), Internet-based communication tools (M=2.43; SD=1.49), surfing Internet (M=2.19; SD=1.22), and listening to non-music audio (M=2.16; SD=1.32). See Table 3.

Table 2

Multitasking only with media

Medium	N	M	SD
Telephone/mobile phone/ voice calls and SMS	170	4.40	1.62
Internet-based communication tools (i.e., email)	170	4.32	1.33
Internet	170	4.12	1.25
Music	170	4.02	1.13
Television	170	3.96	1.22
Print media	170	3.02	1.72
Nonmusic audio	170	2.92	1.69
Video or computer games	170	2.44	1.72

Table 3

Multitasking that Involves Media and Non-Media Activities

Medium	N	M	SD
Music	156	3.51	.90
Television	156	3.02	1.15
Telephone/mobile phone/ voice calls and SMS	156	2.86	1.45
Internet-based communication tools (i.e., email)	156	2.43	1.49
Internet	156	2.19	1.22
Nonmusic audio	156	2.16	1.32
Print media	156	1.77	1.22
Video or computer games	156	1.17	1.05

Research question 5 asked about the most common multitasking pairs among college students in Kuwait. To answer these questions, frequency tables were examined for each medium. Respondents reported they often or sometimes paired *watching television* with using phone options (often: 63.1%; sometimes: 29.6%), surfing the Web (often: 43.6%; sometimes: 40.2%) and using Internet-based communication tools (often: 41.3%; sometimes: 35.2%), eating (often: 53.1%; sometimes: 40.8%), interacting with friends and family (often: 50.3%; sometimes: 36.3%), and doing homework (often: 28.5%; sometimes: 33.0%). See Figure 1.
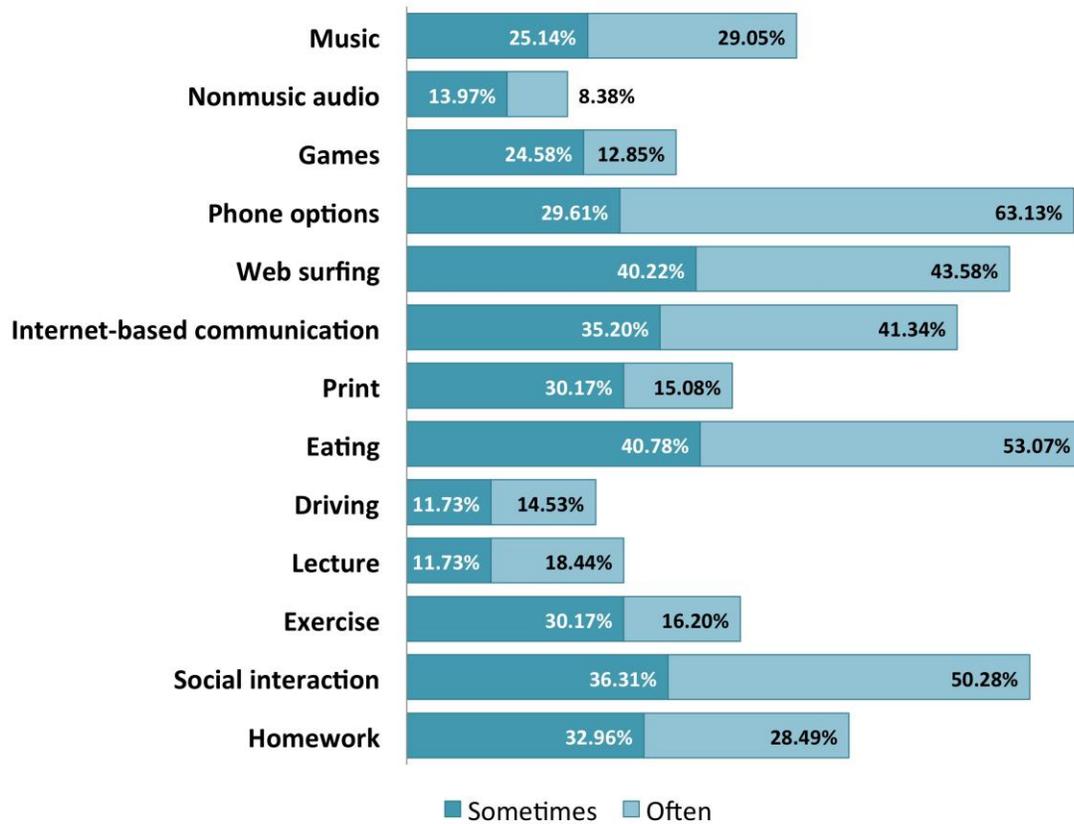
Figure 1. Multitasking with Television

Listening to music was often paired with using phone (often: 59.8%; sometimes: 23.5%), surfing the Web (often: 62.6%; sometimes: 24.6%), using Internet-based communication tools (often: 57.0%; sometimes: 24.0%), eating (often: 30.7%; sometimes: 30.7%), driving (often: 77.7%; sometimes: 10.6%), exercising (often: 55.9%; sometimes: 26.3%), social interacting (often: 31.3%; sometimes: 33.5%), and doing homework (often: 31.8%; sometimes: 27.9%). See Figure 2. *Non-music audio* was used while operating the phone (often: 31.8%; sometimes: 33.5%), surfing the Web (often: 30.2%; sometimes: 27.9%), and driving (often: 40.2%; sometimes: 28.5%).
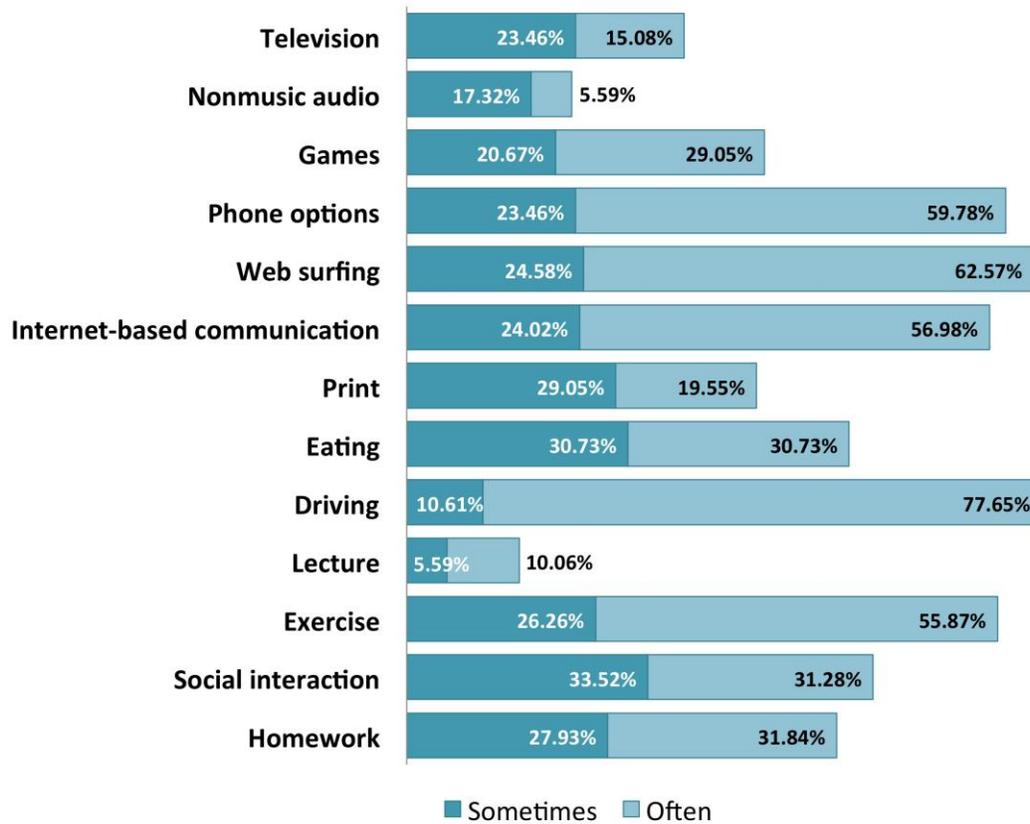
	Sometimes	Often
Television	23.46%	15.08%
Nonmusic audio	17.32%	5.59%
Games	20.67%	29.05%
Phone options	23.46%	59.78%
Web surfing	24.58%	62.57%
Internet-based communication	24.02%	56.98%
Print	29.05%	19.55%
Eating	30.73%	30.73%
Driving	10.61%	77.65%
Lecture	5.59%	10.06%
Exercise	26.26%	55.87%
Social interaction	33.52%	31.28%
Homework	27.93%	31.84%

Figure 2. Multitasking with Music

Playing games was not the most popular media activity to pair with other activities, yet respondents reported they played games and simultaneously listened to music (often: 31.3%; sometimes: 24.6%) and used phone (often: 25.7%; sometimes: 24.6%). On the contrary, *using phone* was reported to be often pared with other activities, such as watching TV (often: 48.0%; sometimes: 34.6%), listening to music (often: 49.2%; sometimes: 26.8%), playing games (often: 27.4%; sometimes: 29.1%), surfing the Web (often: 47.5%; sometimes: 31.3%) and using Internet-based communication tools (often: 39.7%; sometimes: 34.1%), eating (often: 34.6%; sometimes: 33.0%), driving (often: 38.5%; sometimes: 24.6%), and interacting with others (often: 32.4%; sometimes: 29.8%). See Figure 3.
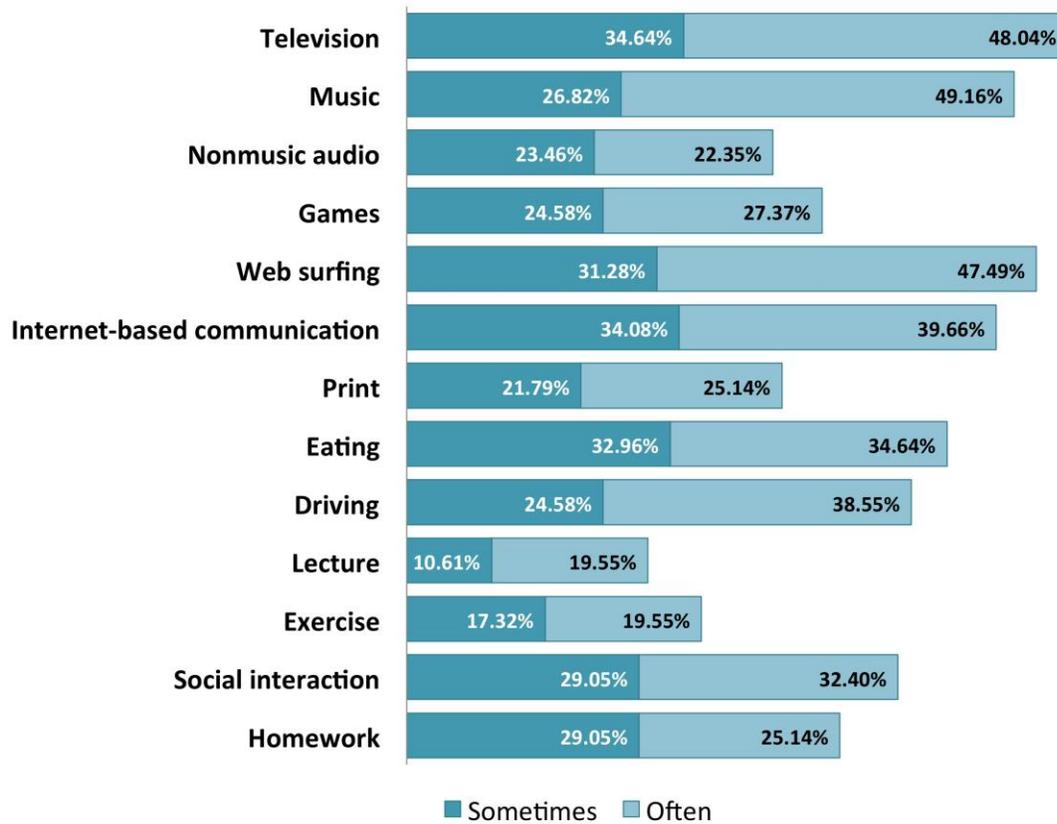
Figure 3. Multitasking with Phone

It was popular among the surveyed students to pair *Web surfing* and watching TV (often: 36.3%; sometimes: 37.4%), listening to music (often: 58.1%; sometimes: 31.3%), using phone (often: 44.7%; sometimes: 41.9%), communicating via Internet (often: 48.6%; sometimes: 30.7%), eating (often: 30.7%; sometimes: 38.5%), socially interacting (often: 24.6%; sometimes: 37.4%), and doing homework (often: 31.3%; sometimes: 35.2%). See Figure 4. Similar patterns have been found with regards to using *Internet-based communication*, which were paired with watching TV (often: 46.4%; sometimes: 29.1%), listening to music (often: 54.7%; sometimes: 27.9%), using phone (often: 52.5%; sometimes: 30.2%), surfing the Web (often: 52.5%; sometimes: 34.6%), eating (often: 29.6%; sometimes: 32.4%), and socially interacting (often: 27.4%; sometimes: 33.5%). See Figure 4.
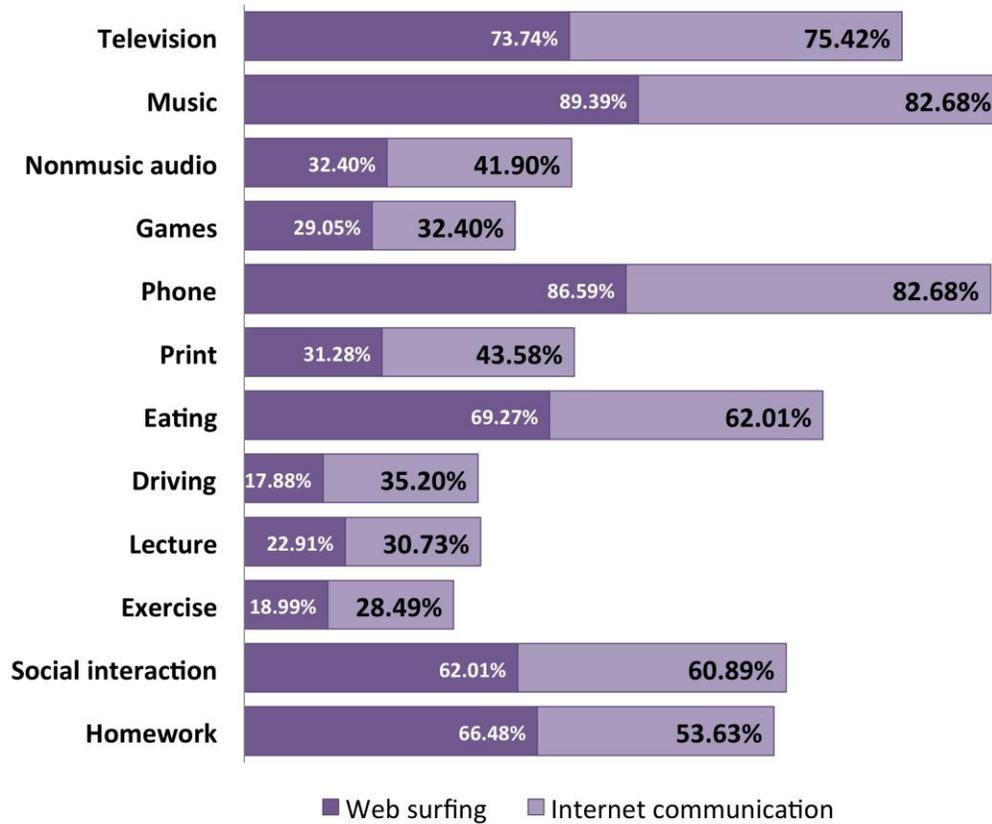
Figure 4. The Percentage of Respondents Reported They Often or Sometimes Multitask V

Surfing the Web and Using Internet-based Tools of Communication

Reading *print media* was the activity not associated with extensive multitasking. Respondents combined reading print media with watching TV (often: 20.1%; sometimes: 33.0%), listening to music (often: 23.5%; sometimes: 31.8%), using phone (often: 30.7%; sometimes: 31.3%), and eating (often: 19.6%; sometimes: 38.0%).

Research question 6 asked to what extent college students in Kuwait were surrounded by media in their homes. About 50% (49.7%) of respondents reported they had television sets in their bedrooms; 88.7% said they had computers in their bedrooms; 97.2% had personal laptops; and 95% reported they had wireless Internet in their houses.

Hypothesis 2 predicted that the degree to which college students in Kuwait were surrounded by media would be associated with their media multitasking behaviors. Two simple linear regression analyses were run to examine the correlation between media ownership variable and two multitasking variables. It was indicated that the degree to which Kuwaiti students were

surrounded by media was positively correlated with their media multitasking behaviors, β=.17, t=2.25, p<.05, meaning that the more students were surrounded by media, the more they were involved in concurrent use of media. However, regressing the variable reflecting multitasking that involve media and non-media activities on media ownership variable did not give significant results, β=.05, t=.64, p>.10. Hypothesis 2 was partially supported.

Hypothesis 3 stated that sensation seeking would be a significant predictor of multitasking. Simple linear regressions showed that sensation seeking was positively associated with media multitasking behaviors, β=.23, t=3.06, p<.05, and multitasking that involved media and non-media activities, β=.20, t=2.71, p<.05. Consistent with the theory, high sensation seekers tended to multitask more than low sensation seekers. Hypothesis 3 was supported.

Hypothesis 4 stated that gender would be a significant predictor of multitasking. Two independent sample t-tests were utilized to test the hypothesis. While no significant difference was found between males and females in the way they combined media and non-media activities (t(158)=-.47, p>.10), the difference between two gender groups approached significance for media multitasking index t(168)=-1.79, p=.075, such as female students (M=4.12; SD=1.23) multitasked with media more than male students (M=3.79; SD=1.23). Hypothesis 4 was supported.

Hypothesis 5 stated that socio-economic status represented by income and parental education would be a significant predictor of media multitasking. This hypothesis was not supported. A two-way ANOVA with income and parental education as fixed factors did not show any significant main effects (income: F(1,171)=.11, p>.10; parental education: F(2,171)=.10, p>.10) or interaction effect (F(2,171)=.84, p>.10) on media multitasking. A two-way ANOVAs with income and parental education as fixed factors did not show any significant main effects (income: F(1,170)=.05, p>.10; parental education: F(2,170)=.53, p>.10) or interaction effects (F(2,170)=.34, p>.10) on multitasking that involves media and non-media activities.

Research question 7 asked whether age would affect the extent of media multitasking. Three independent sample t-tests comparing age groups with regards to media multitasking indicated that the youngest respondents (20 years old and younger) multitasked with media more (M=4.14; SD=1.19) than the oldest respondents in the sample (22 years old and older, M=3.69; SD=1.23; t(122)=2.02, p<.05). However, no significant differences were indicated between those

who were 20 years old and younger and 21-year-olds, $t(113)=-.08$, n.s, and 21-year-olds and those who were 22 years old and older, $t(91)=1.75$, n.s. In addition, there was no difference between age groups in the simultaneous engagement in media and non-media activities ("20 and younger" and "21-year-olds": $t(112)=-1.57$, n.s.; "21-year-olds" and "22 and older": $t(91)=1.63$, n.s.; and ("20 and younger" and "22 and older": $t(121)=.33$, n.s.).

Discussion

Wheeler (2000), who analyzed the links between the national identity of people in Kuwait, globalization, and the popularity of new media and foreign media, stated that the growing use of Internet and the popularity of foreign satellite channels did not erode Kuwaiti national identity but rather increased the openness of Kuwaitis to the world and globalization processes. This study indicated that the surveyed young people studying in Kuwait are receptive to new media use trends. Similar to western young audiences, college students in Kuwait use predominantly electronic media, such as phone, Internet, devices to listen to music, and television. These media are often used concurrently with other media and combined with non-media activities, such as eating, driving, socializing, exercising, and doing homework. It is important to note that even though the four types of electronic media are highly involved in multitasking, their uses qualitatively differ. Thus, television is often paired with using phone, Internet, eating, and socializing. Listening to music is a popular activity combined with the use phone, Internet, driving, and exercising. Respondents multitask with Internet while watching TV, listening to music, using phone, eating, interacting with others, and doing homework. Finally, the phone identifies its presence in almost all spheres of respondents' life as it is used concurrently with television, music devices, and Internet, and combined with eating, driving, socializing, and doing homework. Computer and video games, as well as print media, are the least popular media to use and multitask with, which can be explained by a higher degree of attention each of these media requires users to pay. Surprisingly, participants did not rate such activities as listening to a lecture or doing homework as highly involved in media multitasking. This can suggest a study limitation. Since the survey was conducted in a classroom setting with the help of teachers, the likelihood of reporting desirable results increased.

The results of the study contribute to the empirical evidence that media ownership and sensation seeking (Foehr, 2006; Jeong & Fishbein, 2007) predict media multitasking. Hence, it is suggested that despite some cultural differences might exit with regards to the nature of media use in different countries, economic and audience factors can predict media use behaviors of different

audiences in similar ways. It has to be noted though that the lifestyles of the surveyed students in Kuwait appear to be highly westernized, such that students are exposed to western media, have the opportunity to buy popular western-brand commodities, eat at western restaurants, study at European and American schools, and travel to famous western destinations. These experiences could definitely contribute to the increasing media multitasking trend that we witness in the western world.

Another important factor has to be discussed with regards to the lifestyles of and media use habits among the youth in Kuwait. As it has been previously mentioned, only 45% of the country's population have Kuwait citizenship, according to the CIA World Factbook (2012). This segment of the population can be described as highly educated (education rate was 94% in 2008, World Bank, 2012) and wealthy (gross national income per capita is $47,926, UNDP, 2011). More than three quarters of the surveyed students who reported they were Kuwaiti nationals can be seen as representatives of this highly educated and wealthy segment of Kuwait society. The last quarter of respondents, who also reported high levels of household income, could be considered as coming from families in a wealthy group of non-nationals who could afford paying for their children's college education. This is why it was no surprise that students who took part in the survey reported high levels of media ownership and, hence, media use and media multitasking. It has to be mentioned that by no means this study aimed at generalizing the findings to the whole population of Kuwait, including 55% of non-nationals (CIA World Factbook, 2012), who might not live a lifestyle similar to the lifestyle of citizens. While it was not in the focus of the current research to compare the patterns of media use, ownership, and multitasking among different social groups in Kuwait, it is an interesting area to be examined in future studies. In this regards, it is especially important to study media use, ownership, and multitasking from the theoretical perspective of digital divide. The question of how socio-economic variables, such as income, citizenship, education, and literacy, including skills to use technology, may affect psychical and social access to media and, thus, influence media use habits in Kuwait is yet to be answered.

Although we did not compare media use patterns among different social groups in Kuwait, we had a chance to examine whether the "digital divide" occurred within the surveyed sample. We found that the respondents reported high levels of media ownership, especially with regards to having computers in bedrooms, owning laptops, and using wireless Internet at home. This suggested little disparity with regards to physical access to media technology among the respondents. Nevertheless, media ownership was positively correlated with media multitasking, which falls in line

with the assumption of the digital divide theory (Norris, 2001) that the extent and nature of media use, including media multitasking trend, depends on the level of accessibility to media. Socio-economic status did not predict two media multitasking variables. The only significant result associated with household income and parental education was that students from wealthier families and with more educated parents played games less often than their mates from less wealthy homes with parents who did not have college degrees. This interesting finding needs further investigation.

The present study showed that female students multitask more than their male counterparts. The evidence that female respondents use phones and Internet significantly more than their male classmates can explain this finding, which is consistent with the existing evidence (Foehr, 2006). Finally, even a small difference in age significantly contributed to media multitasking behaviors, such that younger students multitasked more. This difference was not significant for multitasking with non-media activities, which suggests that the nature of these two types of multitasking have to be studied separately, as two qualitatively different processes.

The current research has some conceptual and methodological limitations that have to be considered in future studies. First, the new approach to differentiate among media types is needed to measure the extent of media use. The distinction among eight media types borrowed from Ophir et al. (2009) does not include mutually exclusive categories. For example, print media contents are available electronically, and music can be accessed on an advanced mobile phone. In addition, the measure of phone use did not include surfing Internet as an option although the newest ICTs allow users to do so. Moreover, the newest media activities, such as involvement in online social networking, were not reflected in the existing classification. Finally, when it comes to media type categorization, there should be a clear distinction between media contents, media activities, and the medium itself. For example, music or online news can be considered as content; Web surfing, checking email, and twitting can be defined as Web activities; and Internet would be the medium that provides the content and allows to participate in various activities. The absence of clear distinction among media types could lead to the increased rate of reported multitasking simply because multitasking occurred within one medium.

Media ownership index should be adjusted in future studies, as well. While the current study accounted for TV, computer, and laptop ownership, as well as the access to wireless Internet, it did not take into consideration phone ownership. It is suggested that future studies utilize a more diverse measure of media ownership. For example, Rideout et al. (2010) suggested to take into consideration

media in the home, media in the bedroom, media in the car, and mobile media (phone, laptop). In addition, Wallis (2010) proposed to include fast-evolving media form, such as online social networking, in the list.

Media multitasking activities have to be further categorized and analyzed as qualitatively different behaviors. Wallis (2010) suggested that multitasking occurs 1) between different media; 2) within one medium; and 3) between medium and face-to-face interaction. The current study also suggested the type of multitasking that involves media and non-media activities. In this context, non-media activities have to be clearly defined. For example, it stays unclear whether doing homework and listening to a lecture are purely non-media activities because media component can be still present (e.g., lecturers show movies in class, and students use computers and Internet to complete their homework).

The last limitation of the current study is the size of the sample, which was not large enough to generalize the findings to the whole population of college students in Kuwait. However, we believe that one should not overlook the importance of the survey as it illuminates valuable results that support the existing theory. In addition, this research has the exploratory advantage that refers to applying theory beyond the borders of western countries and using culturally different samples to test it.

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