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Why do media users multitask?: Motives for general, medium-specific, and content-specific types of multitasking

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ABSTRACT

This study examined the major motives for multitasking, and how those motives are related to general, medium-specific, and content-specific types of multitasking. The major motives for multitasking identified in this study are as follows: information, social, enjoyment, efficiency, and habit. Of these motives, general multitasking behavior was predicted by information, efficiency, and habit. In terms of medium-specific types of multitasking, TV-based multitasking was predicted by habit motive, Internet-based multitasking was predicted by information and enjoyment, and mobile-based multitasking was predicted by information motives. In terms of content-specific multitasking, news-related multitasking was predicted by information motives, entertainment-related multitasking was predicted by information and enjoyment motives, and advertising-related multitasking was predicted by information and social motives.

1. Introduction

Media multitasking refers to behaviors such as using two or more media simultaneously or engaging in some other activity while using a medium (Foehr, 2006; Jeong & Fishbein, 2007). The Middletown Media Studies in the U.S. (Holmes, Papper, Popovich, & Bloxham, 2006; Papper, Holmes, & Popovich, 2004) have documented that more than 90% of audiences multitask when they use the media and that more than half of the time one spends with the media involves multitasking. Multitasking is a global trend rather than a culture specific behavior. For example, in Korea, Kang (2011) found that more than 80% of media users multitask. Also, in Korea, about 66% (Korea Communications Commission, 2013) own a smartphone mobile device that allows users to watch videos as well as search the Internet. These days, media users are situated in an environment in which they can constantly multitask while they travel, read newspapers, or watch television.

In addition to descriptive research on multitasking, much research has examined the effects of multitasking and found that multitasking inhibits information processing because it distracts audiences' attention (Bolls & Muehling, 2007; Hembrooke & Gay, 2003; Jeong & Hwang, 2012; Jeong, Hwang, & Fishbein, 2010; Pool, Koolstra, & van der Voort, 2003; Voorveld, 2011; Zhang, Jeong, & Fishbein, 2010). Although multitasking generally reduces media effects, it may enhance media effects by facilitating information seeking if it involves the use of the Internet (Collins, 2008; Zigmond & Stipp, 2010). In other words, whether multitasking inhibits or facilitates information process could depend on the type of multitasking one engages in, which could be predicted by different motives for multitasking. Although users frequently engage in TV-print media multitasking as well as TV-Internet multitasking, the motives behind these different types of multitasking could be different. According to the uses and gratifications approach, motives predict uses, gratifications, and effects (Katz, Blumler, & Gurevitch, 1974), thus, understanding the motives for multitasking can help explain why different types of multitasking lead to differential effects.

Although much research has examined the effects of multitasking, relatively little research focused on the antecedents or motives that guide multitasking behaviors. Jeong and Fishbein (2007) examined some media factors such as ownership and psychological factors such as sensation seeking that predict multitasking, and Zhang and Zhang (2012) study examined the grantification factors related to computer-based multitasking. However, little research examined the motives for multitasking across various types of media (e.g., TV, Internet, print media, and audio media) and types of content (e.g., news, entertainment, and advertising). Based on the uses and gratifications model, this study examines

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the major motives for multitasking and how the motives differ for general multitasking, medium-specific multitasking, and content-specific multitasking.

2. Motives for multitasking

Uses and gratifications (U&G) theory is a useful theoretical framework to understand the relationship between psychological motives and multitasking behaviors. The theory proposes that "there are social and psychological origins of needs, which generate expectations of the media, which lead to differential patterns of media exposure, resulting in need gratifications and other consequences" (Katz et al., 1974, p. 20). The theory is particularly useful for understanding the motives underlying the uses of various media, such as television, the Internet, and online games.

Uses and gratifications research has identified various motives for using media, which differ by the type of medium. For example, the key motives for television were information/learning, entertainment, companionship, escape, and habit (Rubin, 1983) or information, entertainment, escape, relaxation, status enhancement, and pass time (Conway & Rubin, 1991). For Internet use, the key motives were information seeking, entertainment, interpersonal utility, convenience, pass time (Lou, Chea, & Chen, 2011; Papacharissi & Rubin, 2000) or information seeking, diversion (e.g., feel entertained), monetary compensation (e.g., find bargains on products and services), aesthetic experience (e.g., find new features), personal status, virtual community (e.g., find companionship), and relationship maintenance (Song, LaRose, Lin, & Eastin, 2004). In addition, Ferguson and Perse (2000) examined the functional similarities for television and the Internet and have identified social information, entertainment, relaxation-escape, and pass time as the television-related web motives. There are some common factors related to media use identified in this line of research, which include information, entertainment/enjoyment, and habitual factors (for both television and the Internet), and social interaction motives (for the Internet).

The motives for media use mentioned above may explain the motives for multitasking as well. Based on a focus group interview, Bardhi, Rohm, and Sultan (2010) have identified various benefits of multitasking, which are consistent with the aforementioned motives. According to Bardhi et al., multitaskers perceive that (a) they have greater control over their media consumption experience (control), (b) they can process information efficiently when the media content available through each medium is related (efficiency), (c) they can enjoy the multitasking experience by engaging in multiple media stimuli (engagement), and (d) they can be easily connected to others through multitasking (assimilation).

One of the motives for multitasking is perceived efficiency. Although much research has found that multitasking has deleterious effects on information processing (Bolls & Muehling, 2007; Hembrooke & Gay, 2003; Jeong & Hwang, 2012; Jeong et al., 2010; Pool et al., 2003; Voorveld, 2011; Zhang et al., 2010), some audiences tend to believe that multitasking is beneficial. For example, Wober (1992) examined children's perceptions regarding television use while doing their homework and found that children believed that background television helps them to concentrate and work efficiently. Similarly in Patton, Stinard, and Routh's (1983) study, children believed background radio to be beneficial while doing math homework. Zhang and Zhang (2012) has suggested gratifications of convenience-efficiency needs as a predictor of work-related multitasking with computers.

Another motive that guides multitasking behaviors may be enjoyment. Previous research suggests that multitasking can meet an individual's need for stimulation by making one engage in multiple activities. For example, Jeong and Fishbein (2007) found that sensation seeking is related to multitasking in that high sensation seekers multitask more frequently than low sensation seekers. Sensation seeking refers to one's tendency to seek varied, novel, and complex sensations (Zuckerman, 1994). High sensation seekers have a greater need for arousal and stimulation, and multitasking involves a more varied and complex media experience than single medium use. Thus, multitasking is likely to be performed, particularly among high sensation seekers, because it is perceived to be fun and enjoyable.

Finally, multitasking may be habitual. Rubin (1984) has suggested that television viewing may a ritualized behavior as well as instrumental. Although some television viewers have an instrumental goal, such as learning or parasocial interaction, others are exposed to television simply as a habit. Previous research suggests that those who use a medium as a habit use it as a routine or to simply pass time (Rubin, 1979, 1983). Similarly, some audiences may multitask without specific goals such as information seeking, social interaction, or enjoyment.

3. Motives by type of multitasking

Motives for multitasking may vary across specific types of multitasking. For example, multitasking based on traditional media such as print media or television might be predicted by motives such as perceived efficiency, enjoyment, or habit. However, multitasking that involves the use of new media such as the Internet or mobile media can be explained by additional motives such as information seeking or social interaction in addition to the common motives for multitasking.

Information seeking or social interaction could be important motives for Internet multitasking and mobile multitasking. Previous research on Internet uses and gratifications has identified information seeking as well as social interaction as important motives for using the Internet (Lou et al., 2011; Papacharissi & Rubin, 2000; Song et al., 2004). Thus, the motives for engaging in Internet-based multitasking or mobile-based multitasking may be informational or social. Some researchers (Collins, 2008; Zigmond & Stipp, 2010) have raised the possibility that multitasking can facilitate information search, particularly if multitasking involves Internet use. This is because television viewers or newspaper readers may search additional information if they are multitasking with the Internet. Using Google search queries data, Zigmond and Stipp (2010) found that search queries for a particular product increased when an advertisement for the product was shown on TV.

Internet-based multitasking and mobile multiasking may facilitate social interaction and information exchange while using the medium. Past research has shown that watching television with others (i.e., coviewing) is a common behavior among viewers, which accounts for more than half of the time one spends with television (Jeong & Fishbein, 2007; Lee & Lee, 1995; McDonald, 1986; Mora, Ho, & Krider, 2011). Coviewing behaviors have been observed for rented video (Winn, 2009) as well as Youtube videos (Haridakis & Hanson, 2009). Willingness to engage in social interaction with friends and family members, such as receiving information from them and expressing one's opinions to them could be an important motive for multitasking. Recently the Internet allows media users to engage in multitasking that involves the exchange of information with distant others. For example, while viewing television, viewers can constantly interact with others through instant messaging and social media, such as Twitter and Facebook. For example, consumers exchange opinions about products during or after exposure to advertising (Petrescu & Korgaonkar, 2011; Tuten, 2008). Zhang and Zhang (2012) have suggested social interaction such as using a chat room or IMing as an

important aspect of computer-based multitasking, and they found that gratifications of social, affective and relaxation needs are related to social interaction.

The motives for multitasking may not only differ by the medium involved when multitasking but also by the type of content, such as news, entertainment, and advertising. These types of content are common classifications of media content (Armstrong & Neuendorf, 1992; Prior, 2005), and much previous research on uses and gratifications focused on news (Rubin, 1981; Rubin & Perse, 1987; Rubin, Perse, & Powell, 1985), entertainment (Perse, 1986; Rubin, 1985), and advertising (Ducoffe & Curlo, 2000; O'Donohoe, 1994; Plummer, 1971; Schmitt, Woolf, & Anderson, 2003). Previous research has found that one of the primary motives for news use is information and surveillance (Palmgreen, Wenner, & Rayburn, 1980; Vincent & Basil, 1997). In the context of multitasking, when exposed to news, audiences tend to have a high motivation to seek additional information to learn more about the issue. For example, Weeks and Southwell (2010) found that news about a specific topic such as the rumor that Obama was secretly Muslim led to increased online information search regarding the topic.

For entertainment content, various motives such as enjoyment, relaxation, and social interaction play an important role (Papacharissi & Mendelson, 2007), and for advertising messages, information and entertainment motives are both important (Choi, 2007; O'Donohoe, 1994). Although little research on multitasking examined the motives for multitasking with entertainment and advertising content, some studies found that, consumers search additional information about products and services (Zigmond & Stipp, 2010) as well as exchange opinions about them with other consumers (Petrescu & Korgaonkar, 2011; Tuten, 2008) after exposed to advertising.

In addition, previous research found that age, gender, and education are related to multitasking. Specifically, age was negatively related to multitasking in that younger media users were more likely to multitask than older media users (Brasel & Gips, 2011; Carrier, Cheever, Rose, Benitez, & Chang, 2009; Voorveld & van der Goot, 2013). In addition, previous research found that females are more likely to multitask than males (Pilotta, Schultz, Drenik, & Rist, 2004; Schultz, Pilotta, Drenik, & Rist, 2003), which has been explained based on gender differences in cognitive ability in terms of adapting to dual processing of information (Stoet, O'Connor, Conner, & Laws, 2013). Finally, level of education and income are related to multitasking such that those with a higher level of education and income are more likely to multitask (Kang, 2011; Rhee, Kim, & Shim, 2006). Thus, the present study also included these demographic characteristics as predictors of multitasking.

On the basis of the above review of the literature, we question the following.

RQ1: What are the major motives for multitasking?
RQ2: How are the major motives for multitasking related to general multitasking?
RQ3: How are the major motives for multitasking related to media-specific types of multitasking?
RQ4: How are the major motives for multitasking related content-specific types of multitasking?

4. Methods

4.1. Participants

We conducted an online survey of 462 adults in Korea. We recruited the respondents based on a panel of respondents maintained by an online survey firm, Embrain Survey. The respondents' ages ranged from 19 to 59, and the mean age was 41.53 (SD = 10.52). In addition, 39.3% (N = 262) of the respondents were male. In terms of education, 20.1% had a high school degree or less; 13.0% had a two-year college degree; 53.9% had a bachelor's degree; and 13.0% had a postgraduate degree. The median monthly household income was approximately 4.5 million Korean Won (approximately US$4000).

4.2. Measures

General multitasking was asked using the following item: "Multitasking refers to using two or more media simultaneously or doing something else while using a medium. In general, how often do you multitask with media?" Response options were never (= 1), rarely (= 2), sometimes (= 3), often (= 4), very often (= 5). In this sample, 2.2% reported that they never multitask, 9.3% rarely multitask, 43.1% multitask sometimes, 39.8% multitask often, and 5.6% multitask very often.

Content-specific multitasking was measured using the following items: "How often do you multitask while using each of the following types of content in the media?" The content categories were news, entertainment, and advertising. Response options were never (= 1), rarely (= 2), sometimes (= 3), often (= 4), very often (= 5).

Medium-specific multitasking was calculated based on a set of two questions: the frequency with which they multitask for each medium in terms of percent and the amount of time spent with a medium. First, respondents were asked the percent of time they multitasked with each medium using the following item: "Of the total amount of time you _____ [watch television, use the Internet, read print media, listen to audio media, and use mobile media], how often do you multitask? Please estimate the percentage of time in a number from 0 to 100." In addition, respondents were asked to report the amount of time they use each medium as follows: "On an average day, how many minutes do you spend using _____? [television, Internet, print media, audio media, and mobile media]" Response options could range from 0 to 1440 min. Based on the information, we calculated the time spent multitasking with each medium by multiplying (a) the time spent with each medium and (b) the percent of time multitasking with each medium. The time spent multitasking with each medium was as follows: TV-based multitasking (M = 48.54, SD = 59.96), Internet-based multitasking (M = 49.35, SD = 61.83), print-based multitasking (M = 2.97, SD = 6.04), audio-based multitasking (M = 23.36, SD = 53.84), mobile-based multitasking (M = 12.05, SD = 48.02).

Motives. Based on a review of the literature, we created a list of motives relevant for multitasking. In addition, we conducted an open-ended pilot survey to identify any additional motives. Thus, respondents were provided with a list of motives for engaging in multitasking (see Table 1). For each motive, respondents were asked the following: "To what extent do you engage in multitasking due to each of the following reasons?" Response options ranged from not at all (= 1) to very much (= 5).

5. Results

5.1. Motives for multitasking

This study extracted five main factors as the motives of multitasking (Table 1). The major motives for multitasking included information, social, enjoyment, efficiency, and habit. First, 'information' factor included items such as "to seek additional information", "to resolve curiosity", "to check facts", "to gain more information about product or services", "to look up unfamiliar words or people", and it accounted for 36.29% of the variance (M = 3.31, SD = 0.80, Cronbach's Alpha = 0.93). Second, 'social'

Table 1
Factor analysis results for multitasking motives.

Movies items	Factor loadings				
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Information					
To seek additional information	.88				
To resolve curiosity	.87				
To check facts	.86				
To gain more information about product or services	.81				
To look up unfamiliar words or people	.80				
Social					
To express my opinion		.85			
To feel a sense of belonging to a group		.82			
To maintain (interpersonal) relationship		.82			
To share opinions with others		.81			
To learn about others' opinions		.78			
Efficiency					
To save time			.88		
To manage time efficiently			.86		
Because I have little time			.71		
Because multitasking is efficient			.68		
Enjoyment					
Because multitasking is fun				.87	
Because multitasking is enjoyable				.87	
Because it is boring to use a single medium				.72	
Habit					
Because multitasking is a habit					.83
To pass time					.77
Because it is a routine					.70
Eigenvalue	7.26	3.05	2.10	1.36	1.21
% Of variance	36.29	15.26	10.49	6.81	6.04
Cronbach's Alpha	0.93	0.91	0.83	0.88	0.80
M (*SD*)	3.31 (0.80)	2.67 (0.80)	3.32 (0.76)	2.65 (0.89)	3.12 (0.85)

factor included items such as "to express my opinion", "to feel a sense of belong to a group", "to maintain interpersonal relationship", "to share opinions with others", and "to learn about others' opinions", which accounted for 15.26% of the variance ($M = 2.67$, $SD = 0.80$, Cronbach's Alpha = 0.91). Third, 'efficiency' factor included items such as "to save time", "to manage time efficiently", "because I have little time", and "because multitasking is efficient", which accounted for 10.49% of the variance ($M = 3.32$, $SD = 0.76$, Cronbach's Alpha = 0.83). Fourth, 'enjoyment' factor included items such as "because multitasking is fun", "because multitasking is enjoyable", and "because it is boring to use a single medium", which accounted for 6.81% of the variance ($M = 2.65$, $SD = 0.89$, Cronbach's Alpha = 0.88). Fifth, 'habit' factor included items such as, "because multitasking is a habit", "to pass time", and "because it is a routine", which accounted for 6.04% of the variance ($M = 3.12$, $SD = 0.85$, Cronbach's Alpha = 0.80).

5.2. Relationship between motives and multitasking

5.2.1. General multitasking

General multitasking was predicted by the following motives: information ($\beta = .15$, $t = 2.90$, $p < .01$), efficiency ($\beta = .17$, $t = 3.45$, $p < .01$), and habit ($\beta = .18$, $t = 3.24$, $p < .01$). Those who have a higher need for information and efficiency as well as those who multitask as a habit are more likely to multitask in general. In addition, general multitasking was predicted by gender ($\beta = .13$, $t = 2.87$, $p < .01$), age ($\beta = -.09$, $t = -2.01$, $p < .05$), and education ($\beta = .09$, $t = 1.87$, $p < .05$). Females, younger adults, and those with a higher level of education were more likely to multitask in general.

5.2.2. Medium-specific multitasking

TV-based multitasking was predicted by habit motive ($\beta = .21$, $t = 3.71$, $p < .001$) in that those who multitask as a habit are more likely to multitask when they watch television. In addition, TV-based multitasking was predicted by gender ($\beta = .24$, $t = 5.14$, $p < .001$). Females were more likely to perform TV-based multitasking.

Internet-based multitasking was predicted by information motive ($\beta = .15$, $t = 2.72$, $p < .01$) and enjoyment motive ($\beta = .12$, $t = 2.06$, $p < .05$). Those who multitask for information or for enjoyment motives were more likely to engage in Internet-based multitasking. In addition, Internet-based multitasking was predicted by age ($\beta = -.16$, $t = -3.31$, $p < .01$), and income ($\beta = .12$, $t = .\ 2.42$, $p < .05$). Younger adults and those with a higher level of income were more likely to perform Internet-based multitasking.

Mobile-based multitasking was predicted by information motive ($\beta = .14$, $t = 2.61$, $p < .01$) in that those who multitask for information motives were more likely to engage in mobile-based multitasking. In addition, mobile-based multitasking was predicted by age ($\beta = -.16$, $t = -3.36$, $p < .01$), and income ($\beta = .11$, $t = 2.25$, $p < .05$). Younger adults and those with a higher level of income were more likely to perform mobile-based multitasking.

5.2.3. Content-specific multitasking

Multitasking while using the news was predicted by information motive ($\beta = .30$, $t = 4.67$, $p < .001$) in that those who multitask for information are more likely to multitask while exposed to the news. In addition, multitasking while exposed to the news was predicted by gender ($\beta = -.12$, $t = -2.09$, $p < .05$). Males were more likely to multitask while exposed to the news.

Multitasking while using entertainment content was predicted by information ($\beta = .22$, $t = 3.55$, $p < .001$) and enjoyment ($\beta = .14$, $t = 2.26$, $p < .001$) motives. Those who multitask for information and enjoyment are more likely to multitask while exposed to entertainment content.

Multitasking while exposed to advertising was predicted by information ($\beta = .14$, $t = 2.33$, $p < .05$) and social ($\beta = .25$, $t = 4.10$, $p < .001$) motives. Those who multitask for information and social reasons are more likely to multitask while exposed to advertising. In addition, multitasking while exposed to advertising was predicted by age ($\beta = -.15$, $t = -2.66$, $p < .01$). Younger adults were more likely to multitask while exposed to advertising (Table 2).

6. Discussion

This study examined the major motives for multitasking, and how those motives are related to general and specific types of multitasking. The major motives for multitasking identified in this study were as follows: information, social, enjoyment, efficiency, and habit. General multitasking behavior was predicted by information, efficiency, and habit. The results suggest that multitasking behaviors are generally guided by needs for information and efficiency and are often performed as a habit.

In terms of medium-specific types of multitasking, TV-based multitasking was predicted by habit motive. This may be because television is a relatively passive medium, which is often used as a habit (Rubin, 1983). Because viewers watch television as a ritualized behavior without a specific instrumental goal, they are likely to use other media or engage in some other activity while they have the television on as a secondary, background medium. Previous research has found that when a medium is used as a secondary medium, the effects may reduce significantly compared with when it is used as a primary medium (Jeong & Hwang, 2012). Future research may examine the relationship among multitasking motives, attention (primary vs. secondary), and effects.

Internet-based multitasking was predicted by information and enjoyment motives. Because audiences can seek information on the Internet, Internet-based multitasking may gratify one's information need. Some studies have suggested that Internet users tend to search information after exposure to traditional media such as television or print media (Collins, 2008; Weeks & Southwell, 2010; Zigmond & Stipp, 2010). Thus, those who have a higher need for information may be more likely to perform Internet-based multitasking. Although previous studies have shown that multitasking generally has negative effects on information processing (Bolls & Muehling, 2007; Hembrooke & Gay, 2003; Jeong & Hwang, 2012; Jeong et al., 2010; Pool et al., 2003; Voorveld, 2011; Zhang et al., 2010), Internet-based multitasking may be different. If Internet-based multitasking is guided by information motives, those who engage in such type of multitasking may gain more information by seeking information on the Internet. An additional motive for performing Internet-based multitasking is to reduce boredom and enhance stimulation. The Internet is an interactive medium (Hoffman & Novak, 1996; Yoo, 2011), which allows machine interactivity (i.e., interaction with the machine) and person interactivity (i.e., interaction with other individuals). Thus, Internet-based multitasking may gratify the user's enjoyment-related needs.

Mobile-based multitasking was predicted by information motive. This may also be due to the changing nature of mobile devices. In the past, the primary function of mobile phones was to make phone calls; however, smartphones allow users to watch videos as well as search the Internet. Smartphone users may constantly search for information while they use various other media or travel. Thus, information motives could be an important factor that guides mobile-based multitasking. Although Internet use is a major function of mobile media, making phone calls and using social media are also important functions of mobile media (Bertel, 2013; Ling, 2004; Rainie & Fox, 2012; Sumita & Zuo, 2010). Future research could further examine the motives for using specific functions in mobile media.

In terms of content-specific multitasking, multitasking while using the news was predicted by information motive. This may be because, to process news messages, audiences need background information, such as schemata (Graber, 1988; Tichenor, Donohue, & Olien, 1970). The knowledge gap hypothesis suggests that high education individuals tend to gain more knowledge from the media than low education individuals, in part due to their existing knowledge or schemata. News-related multitasking could contribute to the knowledge gap, depending on how it is performed. For example, if television news audiences search additional information on the Internet after exposure to news topics, then this type of multitasking may facilitate information gain. Future research may examine the relationship among education, information motives, news-related multitasking, and information gain.

Multitasking while using entertainment content was predicted by information and enjoyment motives. Those who multitask for information and enjoyment reasons are more likely to multitask

Table 2
Regression of general, medium-specific and genre-specific multitasking behaviors on demographics and multitasking motives.

	General		Medium-specific multitasking				Content-specific multitasking		
	MT	TV	Internet	Print	Audio	Mobile	News	Entertainment	Ad
	β	β	β	β	β	β	β	β	β
Demographics									
Female	.13**	.24***	.04	.04	.09	.09	−.12*	.10	.03
Age	−.09*	−.03	−.16**	.14**	.00	−.16**	.01	−.10	−.15**
Education	.09*	−.02	−.03	.11*	−.01	.06	.01	.01	.01
Income	.01	−.08	.12*	.04	.07	.11*	.02	−.02	−.03
Motives									
Information	.15**	.02	.15**	.05	.04	.14**	.30***	.22***	.14*
Social	−.03	−.06	−.08	.07	−.04	.07	.01	.10	.25***
Efficiency	.17**	−.03	.03	−.04	.06	.05	−.00	.00	−.01
Enjoyment	−.01	.02	.12*	.09	−.02	−.10	.06	.14***	.10
Habit	.18**	.21***	.01	−.07	−.04	−.04	.02	.03	.04
Adjusted R^2	.17***	.10**	.07**	.03	.00	.06	.10***	.13***	.16***

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

while exposed to entertainment content. Although the primary purpose of entertainment media is not providing information, audiences who are interested in entertainment content tend to be motivated to seek additional information. Thus, needs for information as well as enjoyment may guide audiences' multitasking behaviors while using entertainment content.

Multitasking while exposed to advertising was predicted by information and social motives. Those who multitask for information and social reasons are more likely to use other media while exposed to advertising. This is because advertising-related multitasking could involve information seeking as well as social interaction. For information seeking, Zigmond and Stipp (2010) found that Google search queries for new products increased when the product commercials were aired on television. Thus, information motives may guide multitasking behaviors while exposed to advertising. Advertising-related multitasking may involve "electronic-word of mouth", "viral marketing", or "buzz" (Petrescu & Korgaonkar, 2011). For example, audiences could share ad videos on YouTube and exchange their opinions about products using Facebook or Twitter (Tuten, 2008). These social motives could lead to multitasking behaviors while exposed to ad messages.

In addition, demographic characteristics predicted multitasking behaviors. Age was a significant predictor of multitasking. Younger adults were more likely to perform general multitasking, Internet-based multitasking, mobile-based multitasking, and multitasking while exposed to advertising. The results are consistent with previous research suggesting that younger adults not only multitask frequently but also spend much time using new media while watching TV (Foehr, 2006; Lenhart, Lewis, & Rainie, 2001; Vogt, 2005). Gender was a significant predictor of multitasking in that females were more likely to multitask in general and also perform TV-based multitasking. The results are also consistent with previous research (Pilotta et al., 2004), based on the explanation that females are more cognitively adapted to multitasking than males (Stoet et al., 2013). Finally, those with a higher level of education were more likely to multitask in general and those with a higher level of income were more likely to perform Internet-based multitasking and mobile-based multitasking. These results are consistent with previous research. For example, Kang (2011) found that college students and those with a higher income were more likely to use the Internet or mobile media while watching TV. Rhee et al. (2006) also suggest that those with a higher level of education were more likely to use multiple media because they have a tendency to seek information while using the media.

The results have important practical implications. Media practitioners could design effective messages, such as informational vs. entertainment, based on multitaskers' motives. If TV-based multitasking is guided by habit and Internet-based multitasking is guided by information motives, it is possible that these two types of multitasking have different effects. In addition, when news, entertainment, and ad practitioners provide their messages in different media, they should be aware that their audiences are multitasking. Considering that content-specific types of multitasking are often guided by information motives, news, entertainment, and ad practitioners might consider this an opportunity, rather than a threat, to produce messages that would encourage multitaskers to seek further information while being exposed to such messages in the media.

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