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Abstract

This study extends Uses and Gratifications theory by examining the uses and gratifications of a new technological device, the tablet computer, and investigating the differential uses and gratifications of tablet computers across the life-span. First, we utilized a six-week tablet training intervention to adapt and extend existing measures to the tablet as a technological device. Next, we used paper-based and online surveys (*N*=847), we confirmed four main uses of tablets: 1) Information Seeking, 2) Relationship Maintenance, 3) Style, 4) Amusement and Killing time, and added one additional use category 5) Organization. We discovered differences among the five main uses of tablets across the life-span, with older adults using tablets the least overall. Builders, Boomers, GenX and GenY all reported the highest means for information seeking. Finally, we used a structural equation model to examine how uses and gratifications predicts hours of tablet use. The study provides limitations and suggestions for future research and marketers. In particular, this study offers insight to the relevancy of theory as it applies to particular information and communication technologies and consideration of how different periods in the life-span affect tablet motivations.

Keywords: tablet; uses and gratifications; life-span; technology; generations; multi-group model

1. Introduction

Over the last few years, the world has witnessed rapid changes and huge developments in new technologies. The use of new technologies has increased worldwide across the life-span. Many research institutions, like the Pew Research Center and Gartner Inc., a world leader in information technology research in the United States, contend that people embrace different types of technologies such as smartphones and tablets, and use them for a variety of reasons in their daily life (Pew Research Center, 2014a; Zickuhr, 2013; Gartner, Inc., 2013a). These technologies offer users many advantages, allowing them to manage their time and information more fluidly and efficiently. Given these benefits, it is no surprise that worldwide sales of these technologies is drastically increasing. For example, a recent study by Gartner, Inc. (2014) estimates that worldwide tablet sales topped 195 million units in 2013 alone.

With this rapid and widespread use of new technologies comes the concomitant need for studying and attempting to understand this phenomenon. Many scholars have applied Uses and Gratifications (U&G) theory in order to understand individuals' motives for using new technologies, such as smartphones (Park, Kim, Shon, & Shim, 2013), instant messaging, e-mail, and social networking sites (Ku, Chu, & Tseng, 2013). Thus, U&G theory is an appropriate theory to understand individuals' motives of using any type of media or technologies. In fact, some researchers have long suggested that we can glean a greater understanding of U&G theory by examining different media and content types in subparts (Ruffner & Burgoon, 1979).

Uses and Gratifications theory seeks to identify both the motives for and consequences of using new media (Katz, Blumler, & Gurevitch, 1973; Papacharissi, 2010). As previously mentioned, people use different types of media in order to satisfy a variety of needs. Although previous studies have applied U&G theory to the study of other technologies such as

smartphones (Park et al., 2013), this study applies Uses and Gratifications theory to examine individuals' motives for using tablets among different generations. According to Gartner Inc., (2014), tablet use is growing every year and tablet users are using these new devices in a variety of ways. Given the increase of tablet sales as well as the lack of studies about tablet use, this study seeks to gain a comprehensive understanding of how and why people from all ages are using tablets. Additionally, it is important to gain up-to-date insights on ever evolving handheld technology uses and add to knowledge of why this medium may gain in popularity (e.g., vs. the personal computer).

The tablet in particular may extend the ability to satisfy a number of different needs, some of which have practical implications for society. For example, the population of the U.S. is aging and the burden of chronic illness management is increasing (CDC, 2014). Telehealth interventions have demonstrated success, especially in diabetes management (Cassimatis & Kavanagh, 2013), as had mobile text messaging for public health (Hall, Cole-Lewis, & Bernhardt, in press). Tablets may be used to augment health management, especially when partnered with wearable technology and digital healthcare, as well as address issues of social isolation and loneliness (Cryer Downs & Javidi, 1990). However, research illustrates glaring differences in technology use and ownership across the life-span (Pew Research Center, 2014b). Understanding the generational differences of tablet use will also give researchers as well as marketers the opportunity to satisfy individuals' needs and demands—particularly, in how they develop tablet apps and programs. For example, Wright (2002) found a U&G perspective informative in accommodating sensitivity to the diverse types of needs met by the Internet, especially within online social support for health. This study will also help researchers in mass media gain a better understanding of tablet use among different audiences as Uses and

Gratifications Theory is rooted in the field of mass communication, but can also be applied to studying the value of communication (Eighmey & McCord, 1998). Finally, this study will provide a better understanding of how tablet technology affects communication among users across the life-span, providing further insight into what communicative needs are gratified through tablet use, and potentially help insure that meaningful communication is not lost in advancing technology.

1.2. Theoretical Framework and Hypothesis Development

1.2.1. Uses and Gratifications Theory (U&G)

Uses and Gratifications theory (U&G) is an investigative approach to communication that examines how individuals utilize media in a variety of contexts and settings. It is a theory that assumes that individuals actively choose specific media to fulfill their needs or wants. These desires motivate individuals to use specific technologies, and are linked to a person's social and psychological characteristics. Therefore, according to U&G, the individuals' uses and gratifications of media are determined by how the audience views their needs or wants, social and psychological makeup, and media attributes (Papacharissi, 2010).

Rubin (1994) nicely summarizes the five key claims of U&G: first, communication behavior (including media selection) is purposive, goal directed and motivated. Second, individuals take the initiative in choosing media to fulfill their needs and wants. Third, individuals' communication behavior (including media selection) is mediated by social and psychological factors. Fourth, other communication forms compete with media for attention, selection, and use to satisfy individuals' needs and wants. Lastly, in the relationship between audience and media, individuals are often more influential than the media, but not always (Papacharissi, 2010).

U&G research studies many areas. Palmgreen (1984) identifies six areas of uses and gratifications research: gratifications and media use, gratifications' social and psychological roots, media effects and gratifications, gratifications sought and obtained, expectancy-value to uses and gratifications, and audience activities. U&G has been used extensively to understand uses and consequences of media in many diverse areas, such as listening to talk radio, watching cable TV, channel surfing, magazine reading, and the internet (Papacharissi, 2010).

One of U&G strengths is its pertinence to a diverse range of media contexts. A typical U&G study will investigate motives for utilizing a specific medium, or compare U&G across different media. Motives are referred to as the factors that impact individuals' behaviors to satisfy their needs or wants. Also, the flexibility of U&G allows contemporary researchers to review a plethora of interpersonal and media motives, which allows for a deeper understanding of U&G in relation to usage of specific communication channels (Papacharissi, 2010).

In regards to the effects of media use, U&G emphasis is on the active audience, so the word "effects" should be used with care. However, uses and gratifications researchers believe that audiences are not universally active; they study the levels of audience activities. Levy and Windahl (1984) classified audience activities into three classifications: selectivity, involvement, and use, before, during and after media exposure. Katz et al., (1973) indicate that audience activities are related to the type of medium used, gratifications sought and obtained. Rubin (1994) explains the difference between instrumental and ritualized media orientation, claiming that these different types of orientations lead to different audience activities and involvement. Ritualized or hedonic use of media refers to habitual use to pass time, while instrumental or utilitarian use of media is selective in nature and relates to purposive and information-seeking use of media (Papacharissi, 2010).

Still another study examined the use of Yelp.com through U&G perspective to show that information seeking was the most common motive for using the website (Hicks et al., 2012). U&G has also been utilized to investigate why and how individuals use new technologies, especially social networking sites, e-mail, and instant messaging (Ku et al., 2013). The results of the study indicate that individuals use instant messaging for both sociability and killing time gratifications, whereas individuals use social networking sites for sociability gratification (Ku, et al., 2013).

However, despite the insights gained from U&G, there is little to no research that applies this theory to tablet use. Given both the ubiquity and flexibility of these powerful multimedia devices, this study aims to provide a greater understanding of why this sharp increase in tablet use occurs. Ultimately, it is argued that this can further help researchers track the role that tablets play in the broader socio-cultural environment.

1.2.2. Tablet Use

Tablets are becoming more popular among people from different age groups around the world. According to Gartner Inc. (2013b) the media tablet is "a device based on a touchscreen display, typically multi-touch, that facilitates content entry via an on-screen keyboard. The device has a screen with a diagonal dimension that is a minimum of five inches" (n.p.). In addition, tablets are occupied with advanced features, which allow individuals to connect to the Internet either via 3G/4G cellular network or Wi-Fi.

With high-resolution screens and fast processors, people become more capable of accessing different types of information in a fast and easy way. The world has witnessed a drastic growth in tablet sales. According to Gartner, Inc. (2014), the tablet sales in 2013 exceeded 195.4 million units worldwide, an increase of 65% from 2012. A report was released

by the Pew Research Center in 2014 indicating that around 42% of Americans own a tablet in a variety of brands, such as iPad, Samsung Galaxy, Kindle fire, Google Nexus, etc. The report indicates that the use of tablets among individuals in the United States has risen within a few years from 3% in 2010 to 42% in 2014 (Pew Research Center, 2014a; Zickuhr, 2013).

A survey of 726 people in U.S, U.K, and Australia discovered that people spend an average of four hours a day using different types of devices such as tablets and smartphones to entertain themselves through games and music; spending 50% of screen time on entertainment. The study also indicates that people spend 26% of the screen time on communication, including using emails and social network sites. Meanwhile, 15% of the screen time is spent on content production, such as writing blogs, posting on social media, and uploading videos. Only 9% of the screen time, however, is spent on information seeking, including seeking news and weather information (Gartner Inc., 2013a). Another study of 510 tablet owners in the U.S, U.K, and Australia suggested that checking e-mail, seeking and reading news, looking for weather information, visiting social networking sites, and playing games were the most common activities among tablet owners (Gartner Inc., 2012). The same study showed that people tend to use their tablets more than any device inside their homes and people are more likely to use tablets on weekdays in the evenings (Gartner Inc., 2012). Thus, People tend to use tablets to seek news and information about a variety of topics, such as politics, economics, sports, fashion, health, entertainment, and other topics that relate to people's lives (Gartner Inc., 2013a). Therefore, many companies worldwide strive to develop new technologies that have advanced features in order to attract individuals to own these devices and use them in everyday activities (Park et al., 2013). Large corporations have attempted to dominate the tablet and smartphone markets by applying different marketing and communication strategies (Park et al., 2013). The

world has witnessed rapid development of new smartphones and tablets to meet and satisfy

individuals' demands and needs. Tablets, therefore, are used in many workplaces as well as

educational institutions to accomplish different tasks and deliver information to stakeholders, due

to their advanced features (Yusup, 2014).

One of the reasons that could contribute to the fast adoption rate of new technologies

among younger generations is the implementation of new technologies in schools. Many schools

around the world use tablets for pedagogical purposes, including the attempt to help students use

these technologies to build stronger connections between curriculum and everyday life (Yusup,

2014). For example, in 2011 Malaysian Higher Education officials distributed iPad devices to

primary school teachers as part of the ministry's plans to enhance the teaching and learning

processes in Malaysia (Yusup, 2014). Furthermore, the study shows that teachers used iPads to

check emails, participate in the school forum, browse the Internet, access social media, and play

video games (Yusup, 2014). Turkey has also used tablets to reinforce and enhance the education

system (Pamuk, Ergun, Cakir, Yilmaz, & Ayas, 2013). As part of this initiative, new

technologies were given very high priority and were inserted in schools in order to develop both

teaching and learning processes in Turkish schools.

Recent studies argue that there is an increase in screen time devoted to reading e-books

from tablets as the level of ownership has risen over the past few years among individuals in the

U.S. (Zickuhr & Rainie, 2014). Telephone interviews conducted by Princeton Survey Research

Associates International sampled 1005 U.S. citizens aged 18 years and older, revealed that more

than 78% of people who own tablets indicated that they read e-books from them, and 44% of

respondents said that they did so on a weekly basis (Zickuhr & Rainie, 2014). The study also

indicates that overall, Americans own either a tablet or an e-reader. In fact, the emergence of

more widespread wireless Internet allows individuals to access new technologies and browse a

variety of content online, which allows for the seeking of news and information, online

shopping, building relationships, and looking for social activities.

1.3. Technology Use across the Life-span

The motivation and ability to use techonology has many potential practical implications

for society, especially in the contexts of health and relationships. The elderly popluation in this

country is growing, thus augmenting their use and dependence on technologies that facilitate

home care services and nursing (Alvseike & Brønnick, 2012). Alvseike and Brønnick (2012)

studied the impact of age, self-efficacy, and technology experience on the capability of older

generations in how they perceive and use iPads for smart house technologies. Smart house

technologies are "automated or intelligent technological solutions installed in the home to

monitor, alert, and perform actions according to selected criteria, e.g. light and temperature

control using an iPad" or any kind of tablets (p. 299). This technology has the potential to assist

older adults in their daily living activities, provide for a more convenient and independent life in

their own homes, and for diminish the costs of home care services and nursing.

Selwyn, Gorard, Furlong, and Madded (2003) examined the use of technology among

older people. They found that older people (aged 61 to 96 years with a mean of 72.3 years) were

less likely to use computers and Internet than younger people. However, other studies suggest

that the use of computers and different technologies among the elderly has increased remarkably

since 2003 (Czaja et al., 2006). Today's older generations are more familiar with new

technologies than previous older generations, in part because they coexisted with the emergence

of these technologies, yet many studies have shown that older people encounter more difficulties

than other groups when using them. For example, Czaja et al. (2006) has shown that the

demographic variables as well as the intellectual abilities of older people might influence how they use the computers and new technologies. Additionally, seniors were found to have greater anxiety about using new technologies and computers, and they tended to be less confident than younger people in their skillset and their abilities to learn about new technologies (Marquié, Boddaert, & Huet, 2002).

The developments of technologies have enabled individuals to access the Internet almost anytime and anywhere through handheld devices, such as touchscreens, smartphones, and tablets. Beside the spread of new technologies, some studies have identified different reasons for not using the new technologies: lacking interest or perceived usefulness, lacking knowledge of how to use them, being unable to reach these technologies or afford them, being busy or not having time to learn about them (Barnard, Bradley, Hodgson, & Lloyd, 2013). Actual knowledge of computers and how to use new technologies, nonetheless, were found not to be the key difference between older and younger generations. Instead, confidence in their ability to use new technologies and their tendency to underestimate their ability and knowledge about how to use them, were more powerful indicators (Mitzner, et al., 2010).

As stated by Wagner, Hassanein, and Head, (2010), all research concerning the use of new technologies by older people considers three elements: the older adults themselves and their physical and psychological conditions, their computer use/technological skills/habits, and the interaction with their social and economic environments.

Studies have found that younger generations who lived and grew up within the new cellphones and tablets age, are more capable of understanding, and more willing to engage with information and communication technologies (ICT). In fact, young people are so comfortable with the use of the internet that they do not always recognize or worry about the potential

privacy risks, while older people may be more hesitant to access the internet and websites for fear of privacy violations (Volkom, Stapley, & Malter, 2013; Debatin, Lovejoy, Horn, & Hughes, 2009). In a study by Czaja et al. (2006), older people were shown to have less experience with technologies in general and more specifically with computers than other age groups. Older adults were found to have greater anxiety from using new technologies, and women were found to have higher anxiety levels from using computers and technologies than men (Czaja et al., 2006; Broos, 2005).

Previous studies reported that older adults are more likely to use technology for its original design purpose. For instance, cellphones are mainly used to make phone calls not for chatting or surfing the web; televisions are used to watch some shows and movies not to interact with people and participate in programs as a two-way communication. Older adults are more likely to go online only through computers. Although older generations are less likely to use different types of technologies for new purposes, some of them are willing and eager to learn and practice these new types of usage for technologies (Volkom et.al. 2013).

Melenhorst, Rogers, and Bouwhuis (2006) found that older generations differ from other age groups in that they are more "benefit-driven" in their adoption of new technologies. In other words, older peoples' decision of whether or not to adopt certain technology depends upon the perceived benefits from that technology and not on its cost or other factors, like usability or sociability.

As people grow older, their physical and mental functions decrease in a way that could affect their technological adjustment qualities (Volkom et. al., 2013). In their study, Volkom et al (2013) indicates that there is a significant relationship between age and the perception of

technologies. Older adults are less likely to use new technologies for communication and entertainment purposes compared to other age groups.

The literature review has shown previous studies that examined the uses and gratifications of different modern technology, but not yet for tablet technology. Further, studies that indicate how age groups have different motives for using technological devices, but current U&G research treats all effects the same regardless of life stage. Therefore, the aim of this study is to investigate the following research question:

RQ1: What are the uses and gratifications people seek from tablets?

RQ2: How do generational groups use tablets differentially?

Finally, we suggest that:

H1a: Tablet Uses and Gratifications will predict hours of tablet use H1b: differentially across generations.

2. Empirical Work

2.1. Study 1 (Pilot Study)

We utilized a community intervention (the Intergroup Communication Intervention, Magsamen-Conrad, 2014; Magsamen-Conrad, Hanasono, & Billotte Verhoff, 2013; Magsamen-Conrad, Dillon, Hanasono, & Valdez, 2016) with a goal toward increasing technology and tablet literacy. During the spring of 2013 (Wave 1), college students (n=20, ages 19-21, 45% male) taught older adults (n=34, ages 53-90,average age = 74, 26% male) how to use tablet technology across four weeks during one-hour weekly workshops. After the four weeks of workshop instruction, college students developed tablet manuals based on content covered in the four weeks. To generate additional items for Tablet uses and gratifications scale (to add to Ku, Chu, &

Tseng's 2013 scale), we utilized direct observation across the four weeks, open-ended survey

item answers, and coded tablet manuals developed by students

During fall of 2013 (Wave 2), students (n=16, ages 18-21, 56% male) again taught

workshops for the older adults (n=25, ages 59-88, average age = 77, 15% male), this time

generating PowerPoint presentations weekly. We pre-tested the measure generated in Wave 1 in

this population, and added items based on content analysis of the PowerPoint presentations.

2.2. Study 2 (Main Study)

2.2.1. Procedure and Sampling

This study investigates the uses and gratifications of tablets across the life-span. The

dependent variables are the uses of tablets (information seeking, relationship maintenance,

amusement and killing time, style, and organization). The independent variable is generations

including four different generational groups (Builders, Boomers, Generation X, and Generations

Y). This paper is based on a recent paper survey and online self-administered survey of a sample

that was recruited through the social networks of students in Northwest Ohio (*N*=847, 470 males

and 365 females aged 19-99, *M*= 45.90 years).

We surveyed a convenience sample of the social networks of undergraduate students in

Northwest Ohio. The students' participations in the research team were part of a method's

course; upper-level undergraduate students recruited multiple individuals of different age groups.

The students were trained and certified by Human Studies Review Board (HSRB). Survey

respondents were called back with 100% of participants to verify participation and age. Each

participant that was surveyed had two consent forms, one we retained for the documentation of

the study and one for participants to keep. Data that were not verified were excluded from the

sample.

2.2.2. Measurements

We measured participants' motives for using tablets among the generations using 58 Likert-type items ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). We adapted 26 items from Ku, Chu, and Tseng (2013) in order to measure the uses and gratifications of tablets. We added 32 items from Study 1. We conducted principle components analysis with varimax rotation and scree plot in order to extract the main gratifications for the use of tablets among four generations: Builders (69-99 years old), Boomers (50-68 years old), Generation X (33-49 years old), and Generation Y (19- 32 years old) (Oblinger et al., 2005). See Table 1 for psychometric information for all items.

The factor analysis indicates five factors (see Table 2 for correlation matrix): the first factor, *information seeking* (eigenvalue= 20.4, 56% var., all items loading above .70, and not above .37 on other subscales), had good reliability, α= .98, M= 5.13, SD= 1.44). The second factor, *relationship maintenance* (eigenvalue= 3.28, 9% var., all items loading above .68, and not above .43 on other subscales), had good reliability, α= .97, M= 4.35, SD= 1.60). The third factor, *style* (eigenvalue= 1.81, 5% var., all items loading above .86, and not above .25 on other subscales), had good reliability, α= .94, M= 3.36, SD= 1.70). The fourth factor, *amusement and killing time* (eigenvalue= 1.5, 4% var., all items loading above .54, and not above .35 on other subscales), had good reliability, α= .88, M= 4.67, SD= 1.4). The fifth factor, *organization* (eigenvalue= 1.18, 3% var., all items loading above .64, and not above .33 on other subscales), was created in Study 1 and had good reliability, α= .88, M= 4.18, SD= 1.63. This factor consists of four items: "I use tablet to do my banking", "to manage accounts", "to use word processing software", and "to replace a laptop or desktop computer" (See Table 1). 22 of the original 58 items were dropped due to not meeting the requirements of factor analysis.

We used year born to create generational groups following Oblinger et al.'s (2005) age group categorization, which includes four age groups: Builders, Boomers, Generation X and Generation Y.

Finally, we assessed multiple indicators of tablet use. We asked participants if they use a tablet (yes/no, see Table 3). We also asked participants how many hours they use a tablet in the average week (range = 0-165 hours, M = 8.64, SD = 18.59, 399 participants reported using the tablet for 0 hours per week).

3. Results

We conducted one-way ANOVAs to address the research question about whether there are life-span differences in uses and gratifications related to tablets. In order to measure actual uses and gratifications, we conducted and reported analyses using only respondents who reported the use of tablets (n = 604) (see Table 4), however, results were very similar among the entire sample, including an additional 186 participants who reported that they do not use tablets. We tested H1 in the full sample using maximum likelihood structural equation modeling (AMOS 18), examining generational differences in a multilevel model This strategy accounts for measurement error, and makes it possible to assess hypothesized associations, especially in the context of subscales that are highly correlated, protecting against issues of multicollinearity. We used full information maximum likelihood estimation to account for missing data (Allison, 2012). We used three goodness-of-fit indices to evaluate the model. χ^2/df adjusts the χ^2 statistic for sample size (Kline, 1998). *CFI* calculates the ratio of the noncentrality parameter estimate of the hypothesized model to the noncentrality parameter estimate of a baseline model (Bentler, 1990). *RMSEA* accounts for errors of approximation in the population (Browne & Cudeck,

1993). We determined that the model fit the data if χ^2/df was less than 3, *CFI* was .90 or greater, and *RMSEA* was less than .10 (Browne & Cudeck, 1993; Kline, 1998).

3.1. Life-span Differences in Tablet Uses and Gratifications

The one-way ANOVAs illustrated that all five uses and gratifications factors are significantly different among all four generations: information seeking ($M = 5.13$, $SD = 1.43$, $F_{(3, 592)} = 4.48$, $p < .01$), relationship maintenance ($M = 4.35$, $SD = 1.59$, $F_{(3, 590)} = 8.1$, $p < .001$), style ($M = 3.35$, $SD = 1.70$, $F_{(3, 593)} = 19.9$, $p < .001$), amusement and killing time ($M = 4.68$, $SD = 1.39$, $F_{(3, 587)} = 19.12$, $p < .001$), and organization ($M = 4.16$, $SD = 1.63$, $F_{(3, 569)} = 13.37$, $p < .001$) (see Table 4). The following reports the highlights of the analyses, see Table 3 for complete results. The post hoc analysis with Bonferroni test shows that Generation X (33-49 years old) use tablets for information seeking ($M = 5.46$, $SD = 1.39$) more than Builders (69-99 years old) ($M = 4.41$, $SD = 1.7$, $p < .01$). Also, Boomers (50-68 years old) use tablets for information seeking ($M = 5.13$, $SD = 1.45$) more than builders ($p < .05$). Generation Y (19- 32 years old) use tablets for relationship maintenance ($M = 4.67$, $SD = 1.47$) more than builders ($M = 3.70$, $SD = 1.67$, $p < .01$), and boomers ($M = 4.05$, $SD = 1.62$, $p < .001$). Generation Y use tablets for style ($M = 3.95$, $SD = 1.69$) more than builders ($M = 3.00$, $SD = 1.35$, $p < .05$), boomers (M = 2.82, $SD = 1.56$, $p < .001$) and generation X ($M = 3.17$, $SD = 1.66$, $p < .01$). Generation Y use tablets for amusement and killing time ($M = 5.10$, $SD = 1.39$) more than builders ($M = 3.83$, $SD = 1.23$, $p < .001$) and boomers ($M = 4.28$, $SD = 1.32$, $p < .001$). Also, Generation X use tablet for amusement and killing time ($M = 4.77$, $SD = 1.40$) more than builders ($M = 3.83$, $SD = 1.23$, $p < .01$) and boomers ($M = 4.28$, $SD = 1.32$, $p < .05$). Generation Y use tablets for organization ($M = 4.45$, $SD = 1.50$) more than builders ($M = 3.10$, $SD = 1.60$, $p < .001$) and boomers ($M = 3.80$, $SD = 1.70$, $p < .001$). Also, Generation X use tablets for

organization ($M = 4.61$, $SD = 1.50$) more than builders ($M = 3.10$, $SD = 1.60$, $p < .001$) and

boomers ($M = 3.80$, $SD = 1.70$, $p < .001$).

3.2. U&G and Hours of Tablet Use

Initial results indicated the hypothesized model did not adequately fit the data, $\chi^2(9) =$

186.06, $p > .001$, relative $\chi^2 = 20.67$, $CFI = .94$, $RMSEA = .15$. Because of the high degree of

correlation among subscales, we correlated uses and gratifications subscales one at a time based

on strength of correlation until we reached a model that adequately fit the data. The χ^2 difference

statistic showed no significant difference between the unconstrained model and the equal-

constrained model; therefore the model has measurement invariance across the life-span $\chi^2(24) =$

53.34, $p > .001$, relative $\chi^2 = 2.23$, $CFI = .99$, $RMSEA = .04$ (see Figure 1). We present an

overview of the results below.

First, we consider the way each U&G subscale loads onto the latent concept. Overall,

results collect such that for each subfactor loading there are several scores that are similar in

strength and one score that is either much stronger or much weaker for a particular generation.

For example, Builders have the lowest loading for relationship maintenance but the highest

loading for style. Although amusement and killing time had one of the most consistently high

loadings across generations, Generation X had the weakest loading. Boomers had the weakest

loading for organizational U&G and for information seeking. Information seeking is the weakest

of the U&G sub scales in terms of loading onto the latent concept.

Second, we consider the relationship between U&G and hours of tablet use. In short,

tablet uses and gratifications predicted hours of tablet use differentially across generations, thus

H1a and b were supported. In fact, the SEM multi-group model fit better than the model that

included all data. In terms of strengths of standardized regression weights, tablet U&G predicted

use most strongly for Generation X (β = .37), followed by Generation Y, All Data, and Boomers with loadings at similar strengths (β = .32, .30, .29). Builders U&G did not significantly predict tablet use (β = .16).

4. Discussion

Previous CMC research (e.g., Ku et al., 2013) worked to isolated which specific CMC technologies satisfied particular gratifications. As technology evolves, a single device is able to satisfy a number of different gratifications. Further, some platforms examined are no longer relevant. For example, Ku et al. (2013) examined differential gratifications between email, SNS, and IM. Although the study publication was only two years ago, IM is no longer a popular channel of communication. Further, there may be life-span differences in specific CMC channel selection (e.g., younger generations use email and Facebook less, with snapchat and instagram the preferred SNS). Individuals may not conceptualize CMC in terms of channels as in the Ku et al. (2013) study, instead thinking about uses and gratifications in terms of device. Like trends in specific CMC technology use, devices are also trending with tablets currently at the top of the trending wave. We were interested in examining how people might use tablets to satisfy needs above and beyond those identified for studies focusing on specific CMC channels (e.g., IM, email, SNS) across the life-span. Thus, we first observed and coded actual tablet use to examine life-span differences in device specific uses and gratifications, and then investigated how those uses predicted actual tablet use.

This paper makes two primary contributions. First, it adapts an existing psychometrically validated measure to be applicable to a device that facilitates multiple channels of CMC and other U&G instead of a channel, and extends that measure by adding items and one additional dimension. Second, it provides a deeper explanation of the generational differences of the uses

and gratifications of tablets, which may have practical applications, especially for health management.

Previous studies inform knowledge about the uses and gratifications of different types of technologies (Papacharissi, 2010; Gartner Inc., 2013a; Volkom et. al., 2013; Yusup, 2014). This study adapts and extends the uses and gratifications scale developed by Ku et al. (2013), which includes the following: seeking information, maintaining social relationships, keeping up with style and being fashionable, and killing time and amusement. In addition to these four categories of technology use, this study suggests a fifth usage of the tablet called organization. Organization-related tablet motivations may include keeping personal and work documents well-ordered and easy to reach and use. The result is consistent with previous studies that show how technologies are used for time management, information management, scheduling different activities, and to manage and arrange various daily life activities (Park et al., 2013). The addition of this category may also illustrate how work and personal life become increasingly interwoven.

Regardless of the variables related to broad media use, this study did find differences in tablet-related uses and gratification across the life-span for all five motivational categories, both when examining tablet U&G in multi-group model with the full sample (e.g., including individuals who reported using the tablet zero hours per week) as well as when examining only the portion of the sample who report actually using tablets. Broadly, we found minimal use of tablets by older generations, aligning with previous studies of Volkom et al. (2013) and Czaja et al. (2006), and the most use concentrated in the Boomer (age 50-68) and Generation Y (age 19-32) cohorts.

Participants aged 69-99 years old (Builders) reported using tablets the least (for all types of tablet uses and gratifications), and are the only generation for which U&G did not predict

tablet use in the SEM (see Figure 1). However, this generation may have the most to gain in

terms of practical implications (e.g., health management, social isolation). Tablets and

smartphones in particular have great potential in terms of health management, but our study

illustrated differential uses and gratifications across the life-span that would affect handheld

devices utility in integrating them to be used for older adults health management.

Generation Y are more likely to use tablets than Builders and Boomers for relationship

maintenance, amusement and killing time, style, and organization. The SEM illustrated the

relationship maintenance dimension loaded significantly weaker for builders than for all other

generations. This may be especially important in the context of loneliness, depression, and social

isolation (Cotton, Anderson, & McCullough, 2013). For example, Cotten, Ford, Ford, and Hale

(2014) analyzed four waves of the Health and Retirement survey and found that Internet Use

contributed positively to the mental well-being of retired adults in the US, especially those living

alone. They argue that Internet use allows retirees the opportunity to maintain relationships and

exchange social support.

Information seeking had the weakest factor loadings to the latent concept of U&G across

all dimensions in the SEM. In regards to information seeking among actual users, Builders are

using tablets less than Boomers and Generation X for information seeking, but Generation Y was

not significantly different than any age group. Individuals who were 33-68 years old (Boomers

and Generation X) use tablets for information seeking more than builders (69-99 years old). This

finding is important in the context of a reflection of the general and primary means by which

information is increasingly made available. Said otherwise, because alternative forms of seeking

and accessing information are becoming less available (i.e. fewer print sources such as

newspapers, magazines, etc.), it would follow that most of the generations' primary means of accessing information would be tablets and other digital devices.

Individuals who were 19-43 years old (Generation X and Generation Y) indicated using tablets for entertainment and organization significantly more than Builders. Similarly, builders reported the lowest use of tablets for relationship maintenance and style. As suggested by previous studies, adults aged 65+ face some challenges and barriers in regard to adopting new technologies, including physical and health barriers which could explain differences in adopting new technologies in general and tablets in particular (Smith, 2014; Selwyn et.al, 2003; Volkom et. al., 2013). The elderly, as suggested by Melenhorst et al. (2006), are usually "benefit-driven" people whose adoption of new technology depend largely on their perceived usefulness of that device. This could explain some of the lower usage of tablets by builders in this study as shown in Table 4. Furthermore, studies have shown that younger generations go online more frequently than older generations (Smith, 2014). Thus, having internet access as well as differential perceptions in usefulness might be considered potential motives for adopting new technologies. This consideration is especially important in the context of health, as several studies purport the benefits of health information seeking, especially for older adults (e.g., Medlock et al., 2013, 2015).

The youngest generation (19-32 years old) in this study reported the highest use of tablets for all uses compared to other generations except for information seeking and organization. However, other studies show that younger generations are more likely to use smartphones than other age groups and that adults aged 35-44 are more likely to use tablets than any other group, including younger generation (Zickuhr, 2013). This study suggests that (Generation X) is more

likely to use tablets for seeking information and organization than any other age groups, which is reflected in the SEM (see Figure 1).

The findings for the style dimension of U&G were somewhat inconsistent between the analysis of only those who use tablets and the full sample. Style is the only factor in which Generation Y is significantly different than all the other age groups in using tablets among actual tablet users; Generation Y uses tablets for style more than Builders, Boomers, and Generation X. However, the standardized regression weights in the SEM revealed that Style loaded onto the latent concept of U&G most strongly for Builders in the full sample. The style dimension included questions that assessed the degree to which a tablet made users feel "like a grown up", fashionable, stylish, and as a status symbol. Thus, style is more meaningful to builders in the entire sample, including those who do not use tablets, whereas style is more important to Generation Y participants who actually used tablets. One explanation for this phenomenon could be related to perceptions of ageism that are still rampant in the US (Palmore, 2001). Older adults continue to be perceived as less competent, both physically and mentally, change aversive, and less flexible and adaptable (see Magsamen-Conrad, Upadhyaya, Youngnyo Joa, & Dowd, 2015). Thus, in the context of specific internalized and age-related stereotypes and ageism, Builders might be more self-consciously aware of what is "in style", particularly as they relate to technology because technology and ageing together are often appraised in a negative way. That is, not using tablets could exacerbate feelings of social pressure for Builders. In contrast, technology is perceived as an assumed component of daily life for Generation Y, thus making style more salient for those who actually use tablets. This finding should be explored in future research.

Similar to the traditional factors of U&G, the new factor added in this study (organization) also shows significant differences among how the different age groups use tablets to facilitate work-related activities and help in keeping them organized. For instance, Joo and Sang (2013) examine the motives for using smartphones among Koreans, integrating U&G model and the technology acceptance model (TAM) in order to understand the real intention of using smartphones. The findings of the study show that the use of smartphones among Koreans is mainly affected by instrumental (goal-oriented) motives rather than ritualized (less goal-oriented) motives. Similarly, other studies show that people are motivated by social inclusion to use smartphones (Park et al., 2013). The new features added to smartphones have contributed to enhancing peoples' communication in everyday activities. Information and new technologies have made individuals more dependent on new devices, such as smartphones and tablets, to complete a variety of tasks and achieve different goals. The ease of using smartphones as well as their advanced features, such as information management and time management motivates people to consider smartphones an indispensable tool for use in their daily lives (Park et al., 2013). However, this new dimension also highlights a potential problem as organization, work, and technology become increasingly interwoven. Even nearly two decades ago researchers emphasized the essential nature of information technology within organizations, and the co-occurring struggle IT creates (Rice, Collins-Jarvis, & Zydney-Walker, 1999).

With regards to tablet use, one survey of 2,252 U.S. adults aged 18 and older found that 49% of American adults aged 35-44 owned a tablet in 2013, which is considered significantly higher than any other age group, particularly the younger generations (Zickuhr, 2013). However, in 2012, young people aged 18-29 had rates of tablet usage similar to people aged 35-44. The same study suggests that younger generations are more likely to own smartphones rather than

tablets (Zickuhr, 2013). Pew Research (2014a) identifies that Americans aged 18-29 as the group

with the highest smartphone ownership, 83%, followed by people aged 30-49, 74% and aged 50-

64, 49%. Seniors aged +65, however, have the lowest adoption of smartphones by 18%. Yet, the

majority of adults own a cell phone, jumping from 67% in 2012 to 77% in 2014, a telephone

interview of 6,224 people aged 16 and older in the U.S supports this claim (Smith, 2014). The

studies have shown that there are no significant differences between males and females or

between ethnic groups in regard to smartphone ownership in the US. Although while some

studies suggest that younger generations have the highest rates in owning smartphones, adults in

their late thirties still have the highest rate in owning tablets. Other research suggests that elderly

adults aged 65 and older are less likely to have a tablet (18%) than younger people (Zickuhr,

2013). However, the study suggests that there are alternative factors that might explain tablet

ownership, such as education level and household income (Zickuhr, 2013). Because growing

older and being among a particular age group was one of the most important factors that affects

the adoption behavior and habitual utilization of new technologies, we need to shed some light

on previous studies that explored the relationships between these factors. Future research should

also uncover the ways in which these factors relate to and influence tablet adoption and use,

especially as that knowledge may advance our understanding of communication in practical

settings (e.g., health care).

Other possible variables that might influence media use include social and psychological

factors, which are thought to be mediating factors that impact the selection of media, motivations

of media consumption, and any potential consequences of using media. Additionally, user

demographics, socio-psychological states, and socio-economic variables also are important to

consider. Researchers have discovered more attributes related to media usage, such as locus of

control, affinity with certain media, unwillingness to communicate, loneliness, para-social

interaction, anxiety, creativity, and sensation seeking. Studies have also found that individuals

employ mass media as an alternative function to complement other factors in the environment

that they are not satisfied with (Papacharissi, 2010), as well as a link between loneliness and

interpersonal communication motivations such as escape, pleasure, relaxation, control, affection,

and inclusion in older populations (Cryer Downs & Javidi, 2009). Loneliness and anxiety are

particularly interesting given both the proliferation of new media and the increase in feelings of

loneliness, isolation, and the anxieties that accompany these. The relationship between overload

and boredom, as well as the decrease in perceived and/or real social capital is somewhat

counterintuitive in a media rich culture.

Moreover, the distinction between devices continues to blur as smartphones, tablets, and

laptops are becoming increasingly redundant. That is, consumers have smartphones that work

like tablets, and tablets (with Wi-Fi, 3/4G capabilities, and communication apps like skype, etc.)

working more like smartphones. The same overlap exists between laptops and tablets such as the

Asus Transformer and Toshiba Satellite U925t (Cross, 2013). Yet, many of us continue to buy

and own all three devices, which are becoming more integral to our daily lives and more salient

in practical contexts. Future research from a U&G framework might explore how these hardware

and cultural trends of media convergence (see Jenkins, 2008) influence the design, adoption, and

use of new media, especially in the context of social problems.

Another area of media use that received significant attention by scholars is media

dependency. Media dependency perspective refers to the tendency to rely heavily on a particular

media to fulfill needs or wants, and it is operationalized by the extent to which users will miss a

certain medium if it is not available. The reliance on certain media implies the absence or lack of

alternatives and the reliance or dependency on a particular medium increases the effects of that

medium (Papacharissi, 2010). For instance, people used to rely on TV for weather news; the

emergence of smartphones has provided other alternatives to get weather reports, which

decreases some demographics' dependence on TV. However, dependence results from more than

simply making rational choices as to which technology to utilize. For example, research is

emerging that suggests that certain media behaviors trigger similar areas of the brain as are

triggered during and in anticipation of drug use (and sex). It is suggested that this might be

related to the intrinsic rewards garnered through acts of self-disclosure (Tamir & Mitchell,

2012). Our results suggest that this phenomenon may be more salient at certain points across the

life-span, for example for Baby Boomers and Generation X.

Additionally, it is now widely suspected that increased multitasking is rewiring the brain

in ways that make it difficult to concentrate and learn new information, which has practical

implications for education. For example, Loh and Kanai (2014) found that heavier multitaskers

consistently perform more poorly on cognitive tasks as well as demonstrate greater socio-

emotional difficulties than lighter media-multitaskers. Moreover, heavy multitaskers have lower

grey-matter density than occasional users (Loh & Kanai, 2014). This is compelling when

thinking about U&G, especially in the context of the results of this study, which often seems to

be predicated more on rational and deliberate choice rather than compulsion and/or addiction.

Dependency may operate in at least two distinct ways. First, the social/pragmatic dependency

that emerges when social systems structurally create the necessity to engage with new media

(online banking, shopping, job applications, etc.), which has clear practical implications for

certain demographics (e.g., older adults). Second, we have the dependency that emerges out of

physiological reactions, which includes emotional, cognitive, and bodily dependency.

5. Limitations and Future Directions

The results of this study should be interpreted within the context of its limitations. One of the limitations that might be considered in this study is the use of a convenience sample, albeit large, which does not follow probability theory. Future studies could conduct a similar study using a random sample that can reflect generalizable results. Another limitation is that the generation groups are not equal in size, for example, Builders who used tablets (n=33) compared to Generation Y (n=247), although these distributions are not completely out of line with population estimates according to the U.S. Census. Future research could apply another sampling method, such as stratified sampling, which helps in recruiting equal sizes of age groups, or age groups that mirror the current population. This study did not take into consideration some other demographic and socioeconomic factors in regard to using tablets. Previous studies have shown relationships between income and education in regard to tablet use.

Finally, the data was collected through mixed-mode methods (paper survey and online survey) to reach more types of participants, which may raise reliability issues. Future studies could investigate the uses and gratifications through using one survey mode. Further, this study followed Oblinger et al. (2005) age group categorization, which includes four generations: Builders, Boomers, Generation X and Generation Y, however, there is some discrepancy across different scholars and areas of research about in what years a generation "starts" and "ends." Future studies could use other age group categorization, such as the age group categorization utilized by Czaja et al., (2006) who divide the generations into three age groups: younger (18–39 years), middle aged (40–59 years), and older (60–91 years).

6. Conclusion

Understanding the motivations for using new media and technological devices has become an area of interest not only in practical contexts (marketing and health care) but also for academics from different fields. The vast development of technology has increased the number of technological devices available as well as the applications of these devices (Park et al., 2013). One day, for instance, there is a particular popular device for playing music, the next day there is a totally different technology that satisfies the same need of listening to music but through a new device, such as the dramatic switches from listening to music through a Walkman to iPod devices. One of the new technological devices that has been increasingly used around the world is the tablet (Gartner Inc. 2013a). Although there are many studies that investigate the use of different technologies, such as smartphones (Park et al., 2013) and social media (Ku et al., 2013), there are few studies that examine tablets use in educational institutions to see how tablets contribute to foster the educational systems in different countries (Yusup, 2014; Pamuk et al., 2013). Pew research data (2014a, b) shows that age is considered as an important factor in regard to using tablets, and generally younger generation are more likely to use tablets than older generations. Therefore, this paper investigates the motives of using tablets through the U&G perspective among the generations (Builders, Boomers, Generation X, and Generation Y).

The authors adapted and extended the uses and gratifications scale developed by Ku et al. (2013), and modified the scale by adding more items that are specifically designed for tablet use and dropping the items that did not satisfy the factor analysis test (see Table 1). The findings of this study show that there are significant differences among the different generations in all the five different uses of tablets (information seeking, relationship maintenance, style, amusement and killing time, and organization).

The findings of this study provide useful information for understanding how and why different generations use tablets. Marketers can better understand the needs of each age group in regard to using tablets and then they can develop marketing strategies accordingly. Technology developers can also benefit from the findings of this study and design more suitable devices and applications that target different generations, especially considering how these devices might be adapted to promote health.

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Table 1. Psychometric information for Tablet Uses and Gratifications

I use a tablet…	F1	F2	F3	F4	F5	M	SD
F1: Information Seeking						**5.13**	**1.44**
(18) to find out consumer information	.67					4.88	1.61
(19) to find out new information for myself	.70					4.98	1.66
(20) to obtain useful information	.81					5.24	1.52
(21) to obtain helpful information	.80					5.22	1.53
(22) because it is an inexpensive way to get information	.69					4.88	1.70
(23) to find out information about travel [A]	.78					5.07	1.65
(24) to find out information about events [A]	.79					5.12	1.60
(25) to find out information about history [A]	.72					4.89	1.66
(26) to find out information about the weather [A]	.80					5.24	1.59
(27) to find maps/directions [A]	.80					5.22	1.61
(28) because it is faster/quicker way to find information [A]	.80					5.21	1.58
(29) because it is a convenient way to find information [A]	.82					5.24	1.52
(30) because it makes finding information easier [A]	.82					5.18	1.58
(31) because it is an easy way to find information [A]	.81					5.22	1.59
F2: Relationship Maintenance						**4.35**	**1.60**
(1) to tell friends and family I am all right		.73				4.25	1.81
(2) to let others know I care for them		.76				4.24	1.77
(3) to keep in contact with family and friends		.76				4.79	1.79
(4) To feel closer to my family and friends		.77				4.39	1.75
(5) to improve the relationship with my family and friends		.77				4.35	1.74
(6) to organize social events		.61				4.40	1.78
(7) to keep in contact with people I have no time to meet		.69				4.40	1.78
(8) to interact with my family easily		.77				4.60	1.79
(9) to interact with my friends easily [A]		.75				4.70	1.77
(10) to look at photos [A]		.45				5.09	1.63
(11) to Skype with family and/or friends [A]		.46				4.36	1.95
(12) to email with family and/or friends [A]		.63				4.95	1.74
(13) because it is a faster/quicker way to maintain relationships [A]		.72				4.31	1.82
(14) because it is a convenient way to maintain relationships [A]		.76				4.48	1.79
(15) because it makes relationship maintenance easier [A]		.73				4.31	1.78
(16) because it is an easy way to maintain relationships [A]		.72				4.38	1.74
F3: Style						**3.36**	**1.70**
(43) to feel that I am a grown-up person			.80			3.53	1.89
(44) as a status symbol			.86			3.27	1.84
(45) to look stylish			.87			3.31	1.85
(46) to look fashionable			.86			3.34	1.85
(47) to keep up with the 21st century			.55			4.32	1.88
(48) to meet people (make new acquaintances)			.65			3.54	1.82
(49) to be less inhibited chatting with strangers			.74			3.26	1.74
(50) to allow people to find me easily			.47			3.80	1.79
F4: Amusement & Killing time						**4.67**	**1.4**
(31) because it is entertaining for me				.61		5.19	1.57
(32) because it is pleasant				.58		4.99	1.52
(33) because it relaxes me				.59		4.64	1.59
(34) to have fun				.69		5.08	1.55
(35) to enjoy the pleasure of contacting people				.36		4.60	1.68
(36) to play games [A]				.67		4.88	1.79
(37) to maintain hobbies [A]				.34		4.51	1.62
(38) to shop [A]				.31		4.78	1.67
(39) to listen to music [A]				.38		4.84	1.67
(40) to watch movies [A]				.46		4.53	1.79
(41) to watch TV episodes [A]				.48		4.51	1.82
(42) to read books [A]				.47		4.68	1.80
(51) to relieve boredom [A]				.74		4.64	1.74
(53) to pass the time [A]				.38		4.21	1.77
(52) to joke with friends [A]				.76		4.82	1.67
F5: Organization						**4.18**	**1.63**
(55) to keep organized [A]					.49	4.63	1.72
(56) to do my banking [A]					.73	4.30	1.97

(57) to manage accounts [A]					.73	4.38	1.92
(58) to use word processing software (e.g., Microsoft Word or excel, Corel work press) [A]					.57	4.05	1.84
(59) to replace a laptop or desktop computer [A]					.55	3.99	1.88
Eigenvalue:	20.40	3.28	1.816	1.482	1.178		
Variance %:	56.67	9.10	5.045	4.116	3.271		
Cronbach's Alpha:	.98	.97	.937	.881	.878		

A line through = dropped based on factor analysis
A = Items added from Study 1

Table 2. Correlation Matrix

	(1)	(2)	(3)	(4)	(5)	(6)
(1) AGE	1					
(2) Information Seeking	-.05	1				
(3) Relationship Maintenance	-.21***	.75***	1			
(4) Style	-.30***	.34***	.50***	1		
(5) Amusement and Killing Time	-.30***	.65***	.64***	.54***	1	
(6) Organization	-.23***	.64***	.65***	.52***	.57***	1

***$p < 0.001$ level (2-tailed).

Table 3. Generational Differences in Tablet Use (Crosstabs)

	Generations				Total
	Builders	Boomers	GenX	GenY	
I use tablet	33	229	95	247	604
I don't use a tablet	52	86	27	21	186
Total	85	315	122	268	790

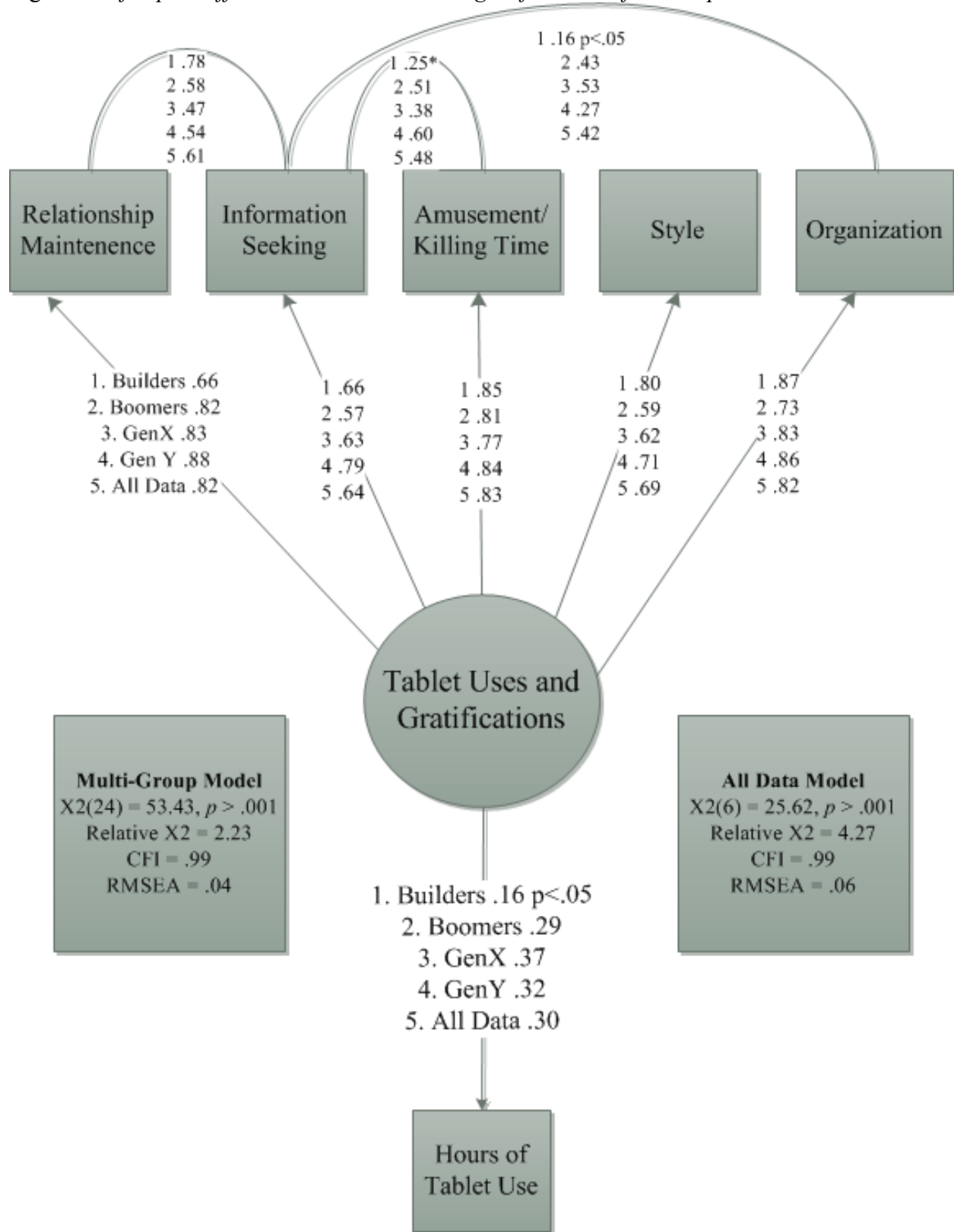(109 participants did not answer this question)

Table 4. Tablet Uses and Gratifications Across the Life-span by Factor (only Tablet Users)

	Generations	M	SD	F	*df*	P	Post hoc analysis (Bonferroni)			
							1	2	3	4
Information Seeking	1 Builders	4.41	1.70	4.48	595	.00		b	a	
	2 Boomers	5.13	1.45				b			
	3 GenX	5.46	1.39				a			
	4 GenY	5.10	1.36							
Relationship Maintenance	1 Builders	3.70	1.67	8.10	593	.00				a
	2 Boomers	4.05	1.62							c
	3 GenX	4.45	1.60							
	4 GenY	4.67	1.47				a	c		
Style	1 Builders	3.00	1.35	19.90	596	.00				b
	2 Boomers	2.82	1.56							c
	3 GenX	3.17	1.66							a
	4 GenY	3.95	1.69				b	c	a	
Amusement & Killing time	1 Builders	3.83	1.23	19.12	590	.00			a	c
	2 Boomers	4.28	1.32						b	c
	3 GenX	4.77	1.40				a	b		
	4 GenY	5.10	1.39				c	c		
Organization	1 Builders	3.10	1.60	13.37	572	.00			c	c
	2 Boomers	3.80	1.70						c	c
	3 GenX	4.61	1.50				c	c		
	4 GenY	4.45	1.50				c	c		

a: ($p < .01$),   b: ($p < .05$),   c: ($p < .001$)

Note: 1= Builders; 2= Boomers; 3= GenX; 4= GenY

Figure 1. *Life-span differences in how uses and gratifications of tablets predict tablet use.*

1 .16 p<.05
2 .43
3 .53
4 .27
5 .42

1 .78
2 .58
3 .47
4 .54
5 .61

1 .25*
2 .51
3 .38
4 .60
5 .48

| Relationship Maintenence | Information Seeking | Amusement/ Killing Time | Style | Organization |

1. Builders .66
2. Boomers .82
3. GenX .83
4. Gen Y .88
5. All Data .82

1 .66
2 .57
3 .63
4 .79
5 .64

1 .85
2 .81
3 .77
4 .84
5 .83

1 .80
2 .59
3 .62
4 .71
5 .69

1 .87
2 .73
3 .83
4 .86
5 .82

Tablet Uses and Gratifications

Multi-Group Model
X2(24) = 53.43, *p* > .001
Relative X2 = 2.23
CFI = .99
RMSEA = .04

All Data Model
X2(6) = 25.62, *p* > .001
Relative X2 = 4.27
CFI = .99
RMSEA = .06

1. Builders .16 p<.05
2. Boomers .29
3. GenX .37
4. GenY .32
5. All Data .30

Hours of Tablet Use

all paths are significant at *p*>.001 unless otherwise noted. **p*>.05