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How the Internet is Used by the Millennial Generation and Its Impact on Family Interaction

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Abstract

The purpose of the current study was to examine how Internet technology is used by the Millennial Generation and how it impacts family interaction. A questionnaire developed by the author was posted online and the final sample consisted of 92 participants, 13 men and 79 women. The average age of the participants was 27.97 (SD = 4.46). Findings showed that the Millennial Generation used the Internet multiple times a day and for many reasons which were sorted into six distinct themes: 1) research/information seeking, 2) work, 3) social media/communication (besides email), 4) academics, 5) email, and 6) personal/entertainment. In addition, the results implied that overall, the participants perceived that the use of Internet technology has a positive effect on family interactions and communications.
Dedication

This thesis is dedicated to my family. For my husband, who has been my rock through everything and my biggest supporter, my children who learned to be patient with me while I spent countless hours researching and writing, my parents and brother who have always been there for me and who always have encouraging words or hugs when I need them most, for my aunt who spent endless hours helping me with homework assignments and for being the wind beneath my wings, and for my grandparents who have always believed in me. I thank each and every one of you for your continuous support. Without you, this would not have been possible.
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Chapter 1

Introduction

Overview of Topic

In the 1980s personal computers became available and found their way into the homes of the children and families that could afford them. During the early 1990s, more homes were able to afford personal computers and the Internet became available to the general population and altered the way people were able to communicate with one another. At that time, approximately 22% of children between the ages 3 and 17 were using the Internet in their homes and, by 2003, that number had increased to 63% (Roberts & Foehr, 2008). In 2014, 74% of households had computers and Internet access, including desktop computers, laptops, smart phones, tablets, and other devices (File & Ryan, 2014). Given the myriad of ways to connect to the Internet and the endless arrays of content available on the Internet, it is no wonder that people now devote so much of their time to its use. However, measuring the precise amount of media usage appears to be a challenge, since there are a variety of factors to consider. With the rapid changes in the media environment, it is no longer realistic to assume that it is just a matter of media use and media exposure, but rather more of a confluence of media multitasking (Roberts & Foehr, 2008). With so much exposure to electronic media, there is ongoing debate over the digital divide.

The term, “digital divide,” became popular during the mid-1990s and refers to the degree of accessibility to electronic media based on one’s socioeconomic status, geography, gender, race, and ethnicity. The divide has narrowed over time as access to computers and the Internet has grown among the various subgroups. However, the digital divide is no longer as easy to define (Roberts & Foehr, 2008). Originally the digital divide referred to differences in access to the telephone when it was first made and when it was made available to the public. However,
once Internet access was achieved, the digital divide referenced those with access to the Internet and those without. Typically differences in Internet access refer to demographic factors (e.g., socioeconomic status, race, ethnicity, gender, and geography; Roberts & Foehr, 2008). As Internet technology accessibility increased, so did the differences in how and why people accessed it and its influence on their daily lives. As such, with so many variations to consider, the digital divide could no longer be generalized as it had in the past. With the gradual disappearance of the term, “digital divide,” new terms have emerged, such as “digital inclusion,” “digital inequality,” “digital differences,” “knowledge gap,” and “usage gap.”

One of the most common threads that are discernible under the umbrella of terms used to research the divide is age. Young people use technology much differently than older adults, which can lead to tension within families as members have different ideas about how much technology should be used (Clark, 2009). Adolescents are growing up during an era where they have unlimited access to Internet technology. This allows them to be connected and easily accessible to their peers at all times, and allows them to perform daily activities, like checking their email accounts. Since their parents’ generation was not exposed to this type of technology, their lack of experience and knowledge about the devices that their children use can leave many parents feeling inadequate in their ability to use digital media, which can be a source of family tension. Parents’ adopt strategies to manage the gap in digital knowledge, while children adopt strategies to incorporate digital media into their lives. The differences between how parents and children approach the knowledge gap can impact how they interpret interaction with one another (Clark, 2009).
Need for Study

Although research documents show how technology has impacted children’s development (see Barreto & Adams, 2011; Ching-ting, Ming-Chaun, & Chin-Chung, 2014), how digital gaming impacts child and adolescent cognition (Blumberg, Altschuler, Almonte, & Mileaf, 2013; Saleem, Anderson, & Gentile, 2012), and young adolescents’ aggression (Eden & Eshet-Alkalai, 2014), there is a gap in the literature regarding how technology is perceived by adolescents and young adults in today’s society. Those who were born between 1980 -1995 are members of what is called the “Millennial Generation.” There is a gap in the research regarding how and why members of the Millennial Generation use the Internet, how access to the Internet impacts family interaction and family relationships. This study is needed in order to contribute to the growing body of research on this important topic as it can help families learn how to navigate the digital divide more effectively and with less of a negative impact on family interactions and relationships.

Purpose of the Study

The purpose of the current study is to examine how Internet technology is used by the Millennial Generation and how it affects family relationships and interactions. More specifically, the current study will examine the following research questions:

1. How often does the Millennial Generation use the Internet?
2. Why do Millennials use the Internet?
3. Do Millennials use the Internet during meal times with family?
4. How does the use of technological communication affect family relationships among the Millennial Generation?
Definition of Key Terms

Terms used throughout this study include:

1. Online - “refers to the activities performed when accessing the internet, such as using Skype, sending or reading e-mail, going on Facebook, reading or writing a blog, or any other activities related to the Internet” (Dworkin et al., 2013, para. 5).

2. Use - “refers to the patterns of behavior in an online environment” (Dworkin, Connell, & Doty, 2013, para. 5).

3. Media - “The meaning of “media” differs from person to person…” (Roberts & Foehr, 2008, p.18). “The means of communication that reaches large numbers of people, such as television, newspapers, and radio” (The Free Dictionary.com, 2014, para 5).


5. Social Media – is in electronic form that allows people to communicate and interact with each other using computers, smart phones, and the Internet. It uses social networking sites, such as Facebook, Twitter, Google, Instagram, and Pinterest (Walker, 2014).

6. Digital Divide – is a gap between socioeconomically disadvantaged, less educated, and minority groups who have less access to online technologies than more affluent groups (Bobkowski & Smith, 2013).


8. Digital Inequality - is the amount of benefits Internet users receive from using Internet technology (DiMaggio, Hargittai, Celeste, & Shafer, 2004)

9. Digital Differences – “…differences between those who were using the internet and those who were not…” (Zickuhr & Smith, 2012, para. 1).

11. Usage Gap—“...differential uses and activities in all spheres of daily life, not just the perception and cognition of mass media” (Derusen & Dijk, 2014, p. 509).

12. Second-Level Digital Divide—explores how people use the Web for information retrieval and their ability to locate content online (Hargittai, 2002).

13. Generation— is a group of people, born approximately during the same time period that relates to an evolution in the development of technology (Levickaitė, 2010).

14. Internet Connectedness—is how important the Internet is in a person’s life measured based on time (Loges & Jung, 2001).

15. Digital inclusivity—is information technologies incorporated into the community in order to promote education and improve the quality of life (The Free Dictionary.com, 2014).

Summary

The current study seeks to examine how Internet technology is used by adolescents and young adults (i.e., the Millennial Generation) and how it impacts their family interactions. Potential divides exist within families because of Internet technology and how it is used by family members; however there is little research looking at how technology, particularly the Internet, impacts family interaction. This study attempts to contribute to the growing foundation of research on this topic.
Chapter 2

Review of Literature

For many, access to computers and the Internet has become a necessity. Computers and the Internet are used for a variety of reasons, including entertainment, schoolwork, communication, and information. Considering how intertwined people's lives are with technology, it is important to study the impact and influence that computer technology has on families across the life course. The family developmental life course and the human ecology theories are discussed first in this literature review to provide a framework for the body of research on the topic. This will allow researchers to better understand the concepts and relations of how Internet technology is used across the life span and how its use is theorized to impact family interaction.

Family Development Theory

According to Duvall (1971), the family development theory is a collaboration of different disciplines that focus on the family life cycle, awareness of developmental tasks, insights from social changes, families shaped by cultural influences, the interaction processes, and the applications of family relationships and child development. The family development approach looks at the sequential changes of the family throughout the family life cycle, by recognizing that as change flows from one generation into the next, there is an overlap of the various growth and interactions among the generations.

Duvall (1977) asserted that in order for families to survive and grow, they must achieve basic family developmental tasks. These tasks are both constant and changing throughout the course of the life span and they represent a growth in responsibilities that arise at particular stages in the life of a family. The stages of the family life cycle include: 1) married couple, 2) childbearing, 3) preschool-age, 4) school-age, 5) teenage, 6) launching center, 7) middle-aged
parents, and 8) aging family members. The theory proposes that individuals experience rapid changes during certain stages in their lives, and when they experience these changes they assume new responsibilities causing the family to undergo stage-critical developmental tasks (See Appendix A for a list of stage-critical developmental tasks).

Even though individuals experience rapid changes during certain stages, it does not mean that each stage is experienced in the same way for every person. There is individuality in developmental timing and experiences, but not necessarily in the sequence of the stages. For example, the loss of a spouse’s income can impact families differently, depending on the stage they are in. For families with infants, the loss might mean dependence on daycare, and less parental attention. However, for parents with adolescents, it may mean a loss in adolescent recreation, and a need for adolescents to work after school to help support the family. It is not the age of the person that matters, but where the person is in his or her family development (Klein & White, 1996).

**Human Ecology Theory**

The human ecology theory is concerned with family habits, what purpose they serve, and the relationships that are involved in the habits (Hawley, 1950). According to Hawley (1950), human ecology is the study of the form and development of human population within the community. Human ecology proposes that the relationships of man in his geographic environment are critical, and that human interdependence develops while adapting to one’s environment.

To date, Hawley’s book entitled “Human Ecology” (1950, 1986), represents general propositions, yet remains the most thorough and organized treatment of the human ecology theory. However, it is Bronfenbrenner who foresaw the individual’s development within the
environment using ecological theory (Klein & White, 1996). Bronfenbrenner expanded on ideas from ecological theory and looked at human behavior as a consequence of the interactions between the person and their environment.

Bronfenbrenner proposed that human development was divided into five subsystems of the environment (see Appendix B, for Bronfenbrenner's ecological model). The micro-system consists of the individual's immediate environment (e.g., their family, school, friends), the meso-system consists of the relationships between micro-systems, (e.g., the family with the school or church), the exo-system makes up systems where the individual is not directly a part of (like the parents' workplace) but that still affect the individual, and, the macro-system represents the culture in which an individual lives. Finally, the chrono-system is made up of various events and transitions that affect the environment influences development over time (“Ecological theory of Bronfenbrenner,” 2012).

In an effort to provide a more in-depth look at the diverse effects and issues brought about by the introduction of computer technology into the family household, Watt and White (1999) created a typology adaptation of the family at each stage of development using both the family development theory and the human ecology theory. In their analysis, seven descriptive stages of family were identified. The stages include: 1) mate selection, 2) early marriages, 3) families with preschool children, 4) families with elementary school children, 5) families with adolescents, 6) post-parenting families, and 7) retirement families. The descriptive stages were not meant to imply a necessary sequence or that the same pattern is followed by all families (Watt & White, 1999).

Watt and White (1999) also provided examples of how the computer can affect family development over time. For example, during the mate selection stage, the computer's primary
influence on family development consists of communication. Case in point, computer communication allows two individuals, who have never met, an opportunity to establish a relationship with one another (Watt & White, 1999). In the early marriages stage, couples often use computers as financial planning tools. Computer software programs offer families ways to budget their finances, and show them potential scenarios of rent vs. own, cost of raising a family, and how to plan for retirement. Also during the early marriage stage, couples may find it useful to access the computer for recreational purposes to identify things to do during their free time. During the stages of development, families are gaining computer skills, which may later give them advantages in career opportunities (Watt & White, 1999).

Throughout the preschool children stage, many couples use the computer as they did prior to having a young child; however, with a child in the home, they may find themselves using the computer for work-related purposes, either by performing their office work at home, or by starting up their own home business, which can increase family time. By the age of three or four, the child becomes interested in using the computer, emulating the parent, which can lead to the purchase of computer games that are geared specifically towards young children and developmental tasks. This provides preschool-aged children exposure to the computer and its operation as well as the introduction of learning from computer programs (Watt & White, 1999).

Throughout the elementary school stage, children are starting school and parents are returning to work. Some parents may find themselves at a disadvantage, since technology keeps advancing so rapidly, and they may not have the computer skills necessary to gain entry-level jobs, while others, with computer technology access, may have developed the necessary computer skills that could lead to advanced employment opportunities. Also during this stage, children use computer programs to enhance their learning of the alphabet, spelling, and math.
The ability to access a computer at home to practice these skills may give these children a significant advantage over those who do not (or did not) have this access in their home (Watt & White, 1999).

The stage of families with adolescents finds that the family is embarking onto a new set of freedoms as adolescents become more self-sufficient. During this stage, parents and adolescents both take advantage of recreational activities on the computer, like computer games. Having access to a home computer can have both positive and negative effects on the adolescent. On one hand, the computer provides a tool to assist with the adolescent’s school work, as well as a communication device to socialize. Conversely, if adolescents are not monitored, there is a risk of viewing inappropriate material on various websites, or coming into contact with someone who may pose a potential threat to them. During the adolescent stage, it is crucial for parents to monitor their adolescents’ computer access. Furthermore, families may find that one computer in the household is no longer sufficient, since family members have multiple needs, often simultaneously, for the computer. This can cause conflict over computer access and/or funding for the purchase of a new computer (Watt & White, 1999).

The post-parenting stage occurs when the children leave home. During this stage, computers can allow parents the ability to communicate with their absent children. It may also be a time when the parents decide to embark on new challenges, such as attending school, or turning their computer into a hobby or furtherance of recreational use (Watt & White, 1999). The retirement stage provides additional opportunities which may have previously been unavailable. Many older adults, who have not had previous computer experience, now find themselves interested in learning how to use them. In the event that mobility becomes difficult, the computer
can allow older adults the ability to perform banking, shopping, and communication tasks all from the comfort of home (Watt & White, 1999).

Some researchers suggest that computers provide family cohesiveness, whereas, others surmise that family cohesion is reduced by computers. Certainly, computers have increased the amount of time adults spend alone and have reduced sleeping time, family interaction, and can possibly impact communication in a negative way (Watt & White, 1999). For example, when one spouse spends a tremendous amount of time on the computer they isolate themselves from their partner and family. When this occurs, the partner becomes what has been labeled a “computer widow” due to the loss of family communication (Watt & White, 1999).

Despite the widespread and rapidly expanding technology use in America today, research has indicated that age affects Internet use. There are five different generations that are exposed to the Internet in today’s society. The first four are: the Silent Generation or Veterans, those born from 1922-1945, the Baby Boomer Generation, those born from 1946 -1964, Generation X, those born from 1965-1980, and the Millennial Generation (also known as Generation Y), those born after 1980 (Pew Research Center, 2014). Generation Z is ascribed to those who are born from the mid-1990s to the late 2000s (Levickaitė, 2010). Another group is being referred to as Generation Alpha and refers to those born after 2010 (Holroyd, 2001). Generation Y, Generation Z, and Generation Alpha are the only age groups that have lived their entire lives in an era when computers and the Internet were available. Generation X was the first generation to see the inception of the home computer, videos, and Internet. Generation Y was the first generation exposed to instant communication, which has changed how people communicate and socialize. Generation Z is also sometimes called the “instant online” generation, since they are fully immersed in Internet technology (Levickaitė, 2010).
The Digital Divide

The ever changing pace of technology has created a digital divide among the generations. Historically, the term digital divide emerged in the 1990s under the influence of the diffusion theory (Tsatsou, 2011). In 1962, E.M. Rogers developed the diffusion of innovation theory, which is defined as a product or idea spreading, over time, through society and is then adopted by the population. It does not happen simultaneously, but rather as a process, with some people adopting the new innovation more so than others (Boston University School of Public Health, 2013). In the 1990s, the digital divide consisted of the “haves” and the “have not’s,” meaning those that had access to computers and the Internet and those that did not (Aarsand, 2007). The digital divide can also loosely describe the gaps of technology and its activities within a population (Ahn, 2011). There are common themes within the research to explain why this digital divide exists. They are: socioeconomic background, ethnicity, gender, geography, and generation (Aarsand, 2007; Dworkin et al., 2013; Ahn, 2011; Loges & Jung, 2001). Currently, however, the emphasis concerning the digital divide has shifted from computer and Internet access to how these technologies are actually being used (Aarsand, 2007). The digital divide has become an umbrella that covers computer use, Internet connectedness, digital differences, digital inequality, and the knowledge gap.

Online Behavior, Age, and Internet Usage

Computers can take on other functions as children age; for instance, computers allow children the ability to listen to music, watch movies and film clips, play games, and read. Roberts and Foehr (2008) discussed how reports were used to gain information concerning children’s Internet use from birth to eighteen years of age. For children ages eight to eighteen, surveys were completed in schools and time-use diaries were completed at home to gather data. The surveys
focused on various households that contained electronic media, whose bedrooms contained the electronic media, and who had their own media devices. Findings indicated that children ages eight through ten reported that they use the computer a little over a half hour daily for leisure activities. Children eleven to fourteen years of age increased that time to one hour; fifteen to eighteen year olds reported using the computer for leisure activities close to an hour and a half per day.

Hargittai and Hinnant (2008) reviewed existing literature on the relationship of age to Internet uses, and it was found that the most connected age groups were the 18-29 year olds. In 2004, Pew Internet and American Life Project reported that 77% of 18-29 years old reported that they were online, followed by a study in 2006 showing 88% of the same age group online (Note: The sample sizes for these two studies were not included in the literature review). The high rate of access and use ratifies the predictions about the generational differences that would occur with regard to Internet use (Hargittai & Hinnant, 2008). “In 2005, Pew Internet and American Life Project reported that of the 87% of U.S. teens who used the Internet, more than half (55 percent) used online social networking sites, and that 55% had created a personal profile online” (Roberts & Foehr, 2008, p. 21).

Ching, Gasham, and Jang (2005) conducted a study that examined the importance that college students placed on technology in different contexts. The participants included 130 students, 39 males and 89 females. Eighty-four percent of the students were under the age of 26, and 60% were 21 or younger. A survey using a Likert-type scale was used to collect data. When delving into communication technologies (e.g., e-mail, chat, cellphone), construction technologies (e.g., digital cameras, scanners, PowerPoint), and entertainment technologies (e.g., computers, video games, and digital music), Ching et al. found that these factors ranged from
38% frequency of use to 66%, in both personal and work life (Ching, et al., 2005). For participants that had acquired a home computer before age 10, they appeared to have developed technology skills at an early age, giving them technological fluency. It is likely that the age of family computer ownership is a predictor of the frequency of use and ways technology is used (Ching et al., 2005). Young adults were more likely to use online communication tools, such as instant messaging and chat. They were also more likely to download music from the Internet, surf the web for fun, and use the Internet to handle daily tasks, such as shopping and banking online.

Dworkin, Connell, and Doty (2013) reviewed 27 published articles on parents’ online behavior and developed three main themes from their findings: 1) what parents are doing online, 2) social support online, and 3) the digital divide. Dworkin et al. found that, within the U.S., parents were more connected to and enthusiastic about Internet technology compared to non-parents. According to the research Dworkin et al. reviewed in 2002, 70% of parents used the Internet compared to 53% of non-parents (Dworkin et al., 2013). Parents mainly used the Internet to help them do the same things that they do offline. “26% of parents reported the Internet improved how they spend time with children, 19% reported the Internet improved how they cared for children’s health, and 73% of parents reported that the Internet helped them learn new things” (Dworkin et al., 2013, p. 2).

Parents were more likely to access information about health and how to improve their lifestyles and religion compared to non-parents. Forty-six percent of parents claimed that the use of the Internet gave them more control over their lives, compared to 39% of non-parents. Only 10% of parents in the studies that were analyzed, compared to 17% of non-parents, claimed that the Internet gave them less control (Dworkin et al., 2013). Parents typically reported that they
accessed the Internet to gather information that would improve their parenting skills, monitor their children’s online activities, and seek social support through discussion boards and e-mail, as well as the use of social media to document life experiences and maintain contact with family and friends (Dworkin et al., 2013).

Madden, Lenhart, Duggan, Cortesi, and Gasser (2013) conducted a study using a phone survey to collect data from 802 parents and their 802 adolescents ages 12-17. According to Madden et al.‘s research Internet usage by adolescents has steadily increased over time, although the way they connect is changing. With the portability of Internet devices, adolescents are now accessing the Internet in numerous ways. In another study conducted by Pew Research Center’s Internet and American Life Project Madden et al., (2013) reported that “About three in four (74%) teens ages 12 – 17 are “mobile Internet users” who access the Internet... By comparison, 55% of adults are mobile Internet users. However, this gap is driven primarily by adults ages 65 and older, many of whom are not using the Internet in any capacity.” Today individuals, primarily the young, have become adept at multitasking in the media world. According to Roberts and Foehr, “... the proportion of shared computer activity time ranges from 60% (doing homework on the computer) to 83% (sending e-mail)” (2008, p. 30). This data demonstrates that it has become common practice to be on the computer working on multiple tasks.

The US Census Bureau (2014) collected data from a sample of an estimated 60,000 households in 2013. The households were asked to complete surveys that asked whether they owned or used a computer, were connected to the Internet, and what type of Internet connection was used. Households that did not initially respond were followed up by telephone and personal-visit interviews. According to the U.S. Census Bureau’s research “… in 1984, only 8.2% of all households had a computer, and in 1997, 18.0% of households reported home Internet use. This
report shows that, in 2013, these estimates had increased to 83.8 percent for household computer ownership and 74.4% for household Internet use" (U.S. Census, 2014, p. 4). With the U.S. Census Bureau (2014) reporting that at least 74% of households have Internet access, it is obvious that a majority of individuals are able to stay connected in today's society. According to the U.S. Census Bureau (2014) when comparing different age groups, 77.7% of householders ages 15-34 use the Internet, 82.5% of householders ages 35-44 years of age use the Internet, 78.7% of householders ages 45-65 use the Internet, and only 58.3% of 65 years and older use the Internet. Even though there have been some gains in seniors using Internet technology, they still continue to lag behind the younger generations.

Smith (2014) conducted a study for the Pew Research Center on older adults and technology use. The sample size consisted of 6,010 adults ages 18 and older, and a survey was administered from July 18 to September 30, 2013, by Princeton Survey Research Associates International via landlines and cellphones. Smith reported that more than half of the older adults aged 65 or older were Internet users, and that today, 59% of seniors claim that they go online. This is a 6% increase over the course of one year; however, 41% claimed that they did not use the Internet at all (Smith, 2014). Adults 65 and older seem to understand some advanced computer functioning, such as using touch screens on phones and computers, but have less knowledge on how they work compared to younger adults. They are also less likely than young adults and adolescents to access search engines (Volkom, Stapley, & Amaturo, 2014).

Volkom et al. (2014) examined sex and generational differences in uses and perceptions of technology among 262 participants; 104 men and 158 women, ranging from 18-92 years of age. Participants reported how they felt towards technology use, the device they preferred using, and which social networking services they used. The data was collected by student research
assistants over two six-week summer courses during the 2012 and 2013 school year and combined together for the analysis of this study. Volkom et al. found that age was a more important factor in determining the use of technology than gender. When looking at young adults versus middle adults compared to middle and older adults, all three generations differed among each other. Young adults adapted more easily than both middle aged and older adults. Young adults were more comfortable using current technology compared to the other two generations. In addition, older adults reported more frustration when using technology than younger adults and the middle aged group showed no significant differences in frustrations of use. Overall, young adults have more experience with technology and its functions and are more comfortable with using technology, whereas older adults (ages 65-90) have some basic knowledge about how computers function, but they have less experience using them (Volkom, Stapley, & Amaturo, 2014). Even though young adults are dominant in their Internet technology skills, 22% of the 65 and over population reported that they go online, and are just as likely as younger adults to access e-mail, play games, and use a search engine. However, they were less likely to shop, surf the web, and access the Internet in various locations (Hinnant & Hargittai, 2009). Additionally, older adults and young adults differed when it came to Internet use. First, older adults were less familiar with the technology itself and they tended to find it too complex to use (Heinz et al., 2013; Czaja et al., 2006; Volkom, Stapley, & Amaturo, 2014). Secondly, as older adults aged, their physical, cognitive, and sensory capabilities started to diminish, which can serve as barriers when using Internet technology (Ji, Choi, Lee, Han, Kim, & Lee, 2010).

Ching et al. (2005) found (as cited earlier in the current paper) that in 1984, there were approximately 24% of children in grades 1-12 who used a computer at home. By 1997 that number had increased to 75%. Madden, Lenhart, Duggan, Cortessi, and Gasser (2013) found in
their study that 93% of adolescents either had a computer or had access to one (see review of study in earlier section of the current paper). However, a majority of adolescents with access to a computer, shared that computer with other family members. Eighty-one percent of 12 to 13 year olds reported that they relied on the family computer. Sixty-six percent of 12-14 year olds shared the family computer, but, by 17 years of age, only half were still relying on shared family computers. According to the U.S. Census Bureau, “In 2013, 83.8 percent of U.S. households reported computer ownership, with 78.5 percent of all households having a desktop or laptop computer, and 63.6 percent having a handheld computer” (2014, p. 2). To break these numbers down further by age groups and computer ownership: 15-34 year olds claimed ownership rates of 92.1%, 35-44 year olds claimed 92.5%, 45-64 years olds claimed 86.8%, and 65 years or older claimed 65.1% (U.S. Census Bureau, 2014). In addition to computer ownership, these age groups used the Internet at different rates. Internet use among the 15-34 years olds was 77.7%, among the 35-44 year old group it was 82.5%, Internet use was 78.7% among the 45-64 year old group, and the 65 years or older group reported a 58.3% usage rate (U.S. Census Bureau, 2014). These numbers indicate that even though households may own computers, it does not necessarily follow that all age groups are accessing the Internet in the same way for the same amount of time.

**Cellphone Use**

The cellphone has become a major source of Internet connectivity. While the use of cellphones has remained steady, there has been an increase in smartphone usage. According to a Pew Internet and American Life Project study conducted by Madden et al, (2013; as cited earlier), “Some 78% of teens now have cellphones, and almost half (47%) of those say they have smartphones... By comparison, 45% of all adults have a smartphone” (Madden et al, 2013, p. 6-
There are over 80% of American adults who own a cellphone, and almost half of those use the phone to access the Internet. This is a sizeable increase from 2009 when only a third of adults were using Internet on their phones (Library Technology Reports, 2012).

In 2010, Pew found that close to 60% of adults access the Internet wirelessly either by laptop or smartphone, and that about one-third of these use the Internet on the phone, due to a lack of access at home (Library Technology Reports, 2012). The U.S. Census Bureau, (2014), found that there is evidence that certain groups rely on handheld computers more than others. Fifteen to thirty-four year olds seem to have the highest percentage of handheld computers at 9.5%, whereas 35-44 year olds are at 5.8%, followed by 45-64 year olds at 3.9%, and 65 and older at 2.5% (U.S. Census Bureau, 2014). This data shows that adolescents and young adults are more likely to have a handheld device compared to older adults. Smith (2014) found in his study (as cited earlier) that, according to the Pew Research Center, 77% of older adults have a cellphone, an 8% increase over the course of a year; however, 23% do not use a cellphone at all.

There is also a generational difference in how people make use of the same device. Young adults tend to use cellphones more for texting, whereas, middle aged adults use cellphones to actually make calls (Volkom, Stapley, & Amaturo, 2014). The use of the smartphone enables the user to have quick access to information, entertainment, or social connection, anywhere, anytime; whereas, computers are more user friendly when navigating websites, reading news, and typing information (Library Technology Reports, 2012).

**Internet Connectedness**

“For individuals and groups to take advantage of the advantages of communication opportunities and resources, they have to be connected to the communication infrastructure available in their communication environment” (Loges & Jung, 2001, p. 537). In this approach,
Internet connectedness is not based on the individual’s uses of communication, but rather the relationship between the individual and a social structure within the communication environment. By using this method, the digital divide has become a multi-level occurrence. It is no longer a matter of an individual struggling to access the Internet, but rather about an individual achieving various goals and how those goals are embedded in Internet communications of the various age groups. “The Internet may be a different resource for older people who may have different media experience, different goals, or different social opportunities for connecting to the Internet” (Loges & Jung, 2001, p. 538).

Internet connectedness can be categorized into three parts: (a) history and context, which refers to the time individuals have acquired Internet skills and have integrated the Internet into their daily lives, as well as how they use the Internet, (b) Scope and intensity, which includes personal goals they are seeking to achieve while using the Internet and the amount of time spent on these activities, “a person may have an amount of access (intensity) and access in a variety of places (scope)…” (Loges & Jung, 2001, p. 538), (c) Centrality, which refers to their evaluation of the impact that the Internet has on their personal lives, and whether or not they would miss the Internet if they no longer had access. The concept of Internet connectedness may add layers of complexity to the traditional thoughts on media use. However, the concept of connectedness allows for a greater appreciation of the different relationships between the Internet and the individual, as well as, recognition of the various factors in the creation of divide between those with and without Internet connectedness (Loges & Jung, 2001).

**Digital Inequality**

The issue of accessing the Internet has become more complex over time. On one hand, there is digital inclusion, encompassing “service provision, access to data, creating a presence on
the Internet, and having an influence in shaping the future of ICTs” (Modarres, 2011, p. 5). On the other hand, there is digital inequality. There are five broad forms of digital inequality: (a) technical means, (b) autonomy, (c) inequality in skill, (d) social support, and (e) the purpose for which people use the technology (DiMaggio & Hargittai, 2001). Inequality of technical means refers to how well the computer is equipped with up-to-date software and Internet speeds sufficient to complete the tasks. Autonomy is examined through the study of the origin of the access, either from work or home, whether they are being monitored while using, and whether they share Internet use with other users. The inequality in skill consists of whether or not they have technical skills which can enhance their professional and social life. Social inequality is whether or not they have a support system which can help them enhance their Internet technology skills. There are many reasons why people use the Internet. The use of the computer and Internet may provide them access to new skills, perhaps increasing their employment opportunities. Furthermore, individuals may follow news on the Internet to make informed decisions on social or political issues, or may simply use it for entertainment (DiMaggio & Hargittai, 2001). The gradual shift in the definition of the term digital divide has diverged into a world of digital differences.

**Digital Differences**

If we focus on the nature of Internet use, it indicates that the digital divide has evolved from just access to differential patterns of usage. The differences in skill levels and motivations appear to have the most influence upon an individuals’ use of the computer and Internet. There are three barriers that contribute to these differences: (a) lack of motivation, (b) lack of willingness to learn a new skill, and (c) lack of desire of lifelong learning (Tsatsou, 2001). Zickuhr and Smith (2012) conducted a study of 2,260 adults age 18 and older, using a survey
that was administered via landlines and cellphones. According to the Pew Research Center (2000), the reason a majority of adults did not use the Internet was that 54% believed that the Internet was a dangerous thing, 39% thought Internet access was too expensive, and 36% thought that the Internet was too hard to use. However in more current research, 48% claim that the Internet is not relative to them, 21% claim that the Internet is costly, 21% claim they do not know how to use it, and only 6% claim they lack access to the Internet.

Differences in skill may increase the "knowledge gap" (Hinnant & Hargittai, 2009; Hargittai & Hinnant, 2008). The knowledge gap hypothesis predicts that those with higher socioeconomic status tend to acquire mass media information faster, creating a gap in knowledge between groups (Free Dictionary, 2014; Harittai & Hinnant, 2008; Hinnant & Harittai, 2009; van Deursen & van Dijk, 2014). However, it is difficult to apply Internet use to the knowledge gap hypothesis, since it is primarily directed toward traditional mass media. Whereas mass media is straightforward, Internet use is more complex, requiring a broader range of skills. Traditional media uses mental processing; the Internet user is required to interact with boundaries (van Deursen & van Dijk, 2014). Additional reasons for this gap are: (1) motivation, (2) education, and (3) media use (Harittai & Hinnant, 2008; Hinnant & Harittai, 2009).

The differences in the functionality of traditional media are small compared to those of the Internet, which may generate a user gap. Whereas, the knowledge gap is about the differential sources of mass media, the user gap is broader, encompassing differences in Internet use and Internet activities during the course of an individual's daily life. "The background of the usage gap lies in a combination of societal tendencies and technological characteristics" (van Deursen & van Dijk, 2014, p. 509). The method a person employs to search online can influence the gap, as it creates a divide between those who use technology for work, for education, or,
primarily, for entertainment (Hinnart & Hargittai, 2009; van Dijk & Hacker, 2003). Hence, there are several ways that Internet skills affect how a person uses the Internet and whether or not they receive a benefit from its use. An inconsistency in beneficial use could result in the further widening of the digital divide (Hinnart & Hargittai, 2009).

**Perception of Self**

An individual’s use of Internet technology and computers is influenced by their skill level. Adults over 25, even if they have had computer and Internet exposure, tend to perceive themselves as possessing a lower aptitude for computers than adults under 25. Older adults, on the other hand ages (60+), have lower efficiency and less interest in using the technology. However, those who feel that they have poor computer skills are interested in learning better computer skills. Trying to stay up-to-date with the rapidly changing technology is the major impetus for older adults to improve their skills (Volkom, Stapley, & Amaturo, 2014). Even though many adolescents have access to Internet technologies and are engaged in a large amount of media daily, they still find it significant and valuable to remain sociable, by engaging in activities and visiting with friends. This finding indicates that these kinds of experiences cannot be replaced by digital technologies (Sánchez, Salinas, Contreras, & Meyer, 2011). Despite the fact that the new digital environment is overwhelming to some, the majority of people claim to enjoy having access to Internet technologies, citing the benefits of a sense of freedom and unlimited information. Those who did not claim to enjoy the exposure to new media technology cited the frustration of use, the annoyance of social media, and the inability to know whom to trust online (Hargittai, Neuman, & Curry, 2012).

Ji et al. (2010) conducted two qualitative studies to identify key UX (user experience) factors for mobile phone use by older adults. A sample size of 11 adults over the age of 65 from
a Senior Care Center in Korea participated in semi-structured interviews that were video-recorded and transcribed with participants’ consent. In addition to the first study, Ji et al. conducted a session of helping older adults to use their mobile phones (Note: The sample size for this study was not included in the literature review). Adults, over 65, who struggle with cellphone use, were divided into two categories, positive and negative. The positives consisted of what they hoped to experience and the negatives consisted of what they hoped to avoid (Ji et al., 2010). One of the most important positive factors of cellphone use was dignity followed by autonomy. It was noted that low usability often caused reduced independence. Thirdly, the sense of belonging, the feeling of being connected to friends and community activities, was rated as a positive. Finally, solidarity was preferred, the attitude and behaviors of being able to connect to family members. While many claimed that it is important to stay connected to family members, they did not enjoy text messaging, finding it too difficult to use (Ji et al., 2010). The negative factors impacting cellphone use are technology anxiety, the worry that they will break or lose their cellphones, and stigmatization. They do not like the implications of products geared towards their age, since it makes them feel old, nor do they like feeling embarrassed when needing to explain the difficulties they have when using texting (Ji et al., 2010).

**Family Interactions**

In trying to navigate the knowledge gap, parents and children adopt different opinions about the gap, which in turn affects their own strategies to incorporate digital media into their lives (Clark, 2009). An increase in technology use appears to foster parent/adolescent conflict. Parents may view it in moral and social norms, whereas adolescents may look at it as a personal choice. For example, parents may view adolescent texting while they are talking to them as rude, whereas, the adolescent may look at it as a form of multitasking (Clark, 2009).
In some instances, parents who lack technological skills, such as gaming, position themselves as the learner, without actively becoming involved. In other instances, children take the role of instructor, attempting to teach a parent/caregiver a new skill. Sometimes technology is used as a negotiation chip, wherein a parent/caregiver attempts to control a situation. Yet, other parents may see the technologies as a joint social action between adult and child, placing them in their respective roles (Aarsand, 2007). These interactions point to a noticeable gap between the two groups. Young people tend to become frustrated with their parents’ lack of experience with the technology and their subsequent actions, which is sometimes interpreted as an invasion of privacy, or an obstacle to their social and academic goals (Clark, 2009). Some children hide their actual Internet use from their parents, while others attempt to teach their parents how to use it. For those parents with less knowledge of the digital technology, there is a dependence on others to help monitor or educate their children.

Overall, the relationships where trust had already been established were more likely to have effective strategies when dealing with the challenges of the digital divide within their families (Clark, 2009). For families using technology as a form of socialization, there was an influence upon how well children access the Internet and computers. In addition, family members who actively use technology in their daily lives may find that their adolescents have an increased participation in digital activities. The type of Internet access a family uses may also influence how social networking sites are used (Ahn, 2011). Access to portable Internet has minimized the need for interaction to perform daily tasks, leaving the individual loosely connected, if not totally disconnected, from others (Cerulo, 2008). The impacts upon the family could have pros and cons. The impact has the ability to create a divide, since not everyone is knowledgeable on the ever changing technology (Carbone & Nauth, 2012).
Summary

When studying Internet, computer, and cellphone technology used in today’s society, there are many facets that control how it is used and for what purpose. Age appears to be a dominant factor in how that technology is used. Children are more likely to access the Internet more often, as well as multitask while using a digital device. The use of computers in the home has increased dramatically over the years, although not everyone accesses the Internet this way. Cellphones are used for quick information and entertainment. Almost half of adolescents and adults, who have a cellphone, use a smartphone to access the Internet. Young adults appear to be more connected to social activities and entertainment when accessing the Internet, whereas, older adults tend to search for information to improve lifestyles. There are more parents online than non-parents. They tend to look for information to improve their parenting skills, as well as ways to monitor their children’s online activities. Older adults are less likely to go online, but make use of the Internet in many of the same ways as younger adults.

The digital divide has become an umbrella of several things and not just a simple definition. It is no longer just a question of access, but rather broadened to include how the technology is being used. This broadened area of study has expanded to include the generational differences that exist in terms of access, means of access, and perceptions toward that access. Therefore, it is the intention of the principal investigator to explore in more detail how Internet technology is used by the Millennial Generation and how it impacts family interactions. The research questions that will be examined in this study include the following:

1. How often does the Millennial Generation use the Internet?
2. Why do Millennials use the Internet?
3. Do Millennials use the Internet during meal times with family?
4. How does the use of technological communication affect family relationships among the Millennial Generation?
Chapter 3

Methodology

The purpose of this study was to examine how the use of Internet technology varies among different generations and how the use of Internet technology impacts family relationships. The following research questions were addressed in the current study:

1. How often does the Millennial Generation use the Internet?
2. Why do Millennials use the Internet?
3. Do Millennials use the Internet during meal times with family?
4. How does the use of technological communication affect family relationships among the Millennial Generation?

Research Design

A quantitative, non-experimental research design with self-report survey methodology was selected for this study in order to allow participants the anonymity needed to gather honest and precise information and to collect data in a timely and cost effective manner. Surveys were distributed to potential participants via the Internet.

Procedure for Data Collection

Participants were recruited using a convenience, non-random, snowball sampling procedure. The primary investigator advertised the study on her Facebook page, her advisor’s Facebook page, through the EIU ‘School of Family and Consumer Sciences’ faculty list server (only to those that were teaching a summer class), and email to others that were interested in participating (by asking others to forward to the survey to potentially interested parties). A script was developed by the principal investigator and her thesis advisor to accompany the recruitment, so that potential participants would understand the nature of the study prior to volunteering to
participate (see Appendix C). Potential volunteers needed to be over the age of 18, U.S. citizens, and use technology to some extent in their life to participate. If they met those criteria for the study, they were directed to a website that contained the survey (see Appendix C) and the Informed Consent Form (see Appendix D). The survey was developed using Qualtrics software. The researcher attempted to recruit approximately one hundred participants for the study. Participants were directed to an email address set up specifically for the purpose or the study, but not linked to the survey, if they were interested in having their name added to a drawing for a $25 Amazon gift card. Only (the student’s thesis advisor) had access to the email in order to insure the anonymity of the participants. After the data collection ended, a name was drawn randomly from all those that emailed and a gift card was awarded.

Instrumentation/Measurement Description

The first section of the survey collected demographic data; including the year the participants were born, gender identity, and ethnicity. The second part of the survey asked about Internet use, types of devices used to access Internet, how access to Internet was used professionally and personally, and how the Internet affected family interactions.

The instrument was an adapted and modified version of studies/surveys conducted by the Pew Research Center (2014) and a research article by Ching, Basham, and Jang (2005). Other questions were self-developed by the researcher through review of literature.

Reliability and Validity

The survey was pilot tested with a small group from the Millennial generation in order to gather feedback for improvement. It was also viewed by a small group of Family and Consumer Sciences’ faculty in order to establish face validity. Cronbach’s alpha was computed to determine the reliability of the measure. Findings indicated that $\alpha = .87$ on the section of the
instrument that asked about frequency of Internet and social media website use and \( \alpha = .85 \) on the family interaction section.

**Data Analysis**

Corbin and Straus' (2008) work was used as a guide in conducting the qualitative analysis. SPSS (v. 21) was used to analyze all of the quantitative data. To answer the first research question, which asked how often the Millennial Generation uses the Internet, a frequency was computed on survey item #6. To answer research question number two, which inquired as to why Millennials use the Internet, answers from survey item #8 were analyzed for commonalities and then themes will be developed and named. The third research question asked about the use of the Internet during family meal times. Survey items #9a, #9b, and #9c were analyzed using frequencies. The last question was answered by computing the mean and standard deviation for the items in #13a-#13f. Frequencies on survey questions #1-#3 were calculated to determine the demographics of the sample.
Chapter 4

Results

The purpose of the current study was to examine how Internet technology was used by the Millennial Generation and how it affected family relationships and interactions. More specifically, the current study examined the following research questions:

1. How often does the Millennial Generation use the Internet?
2. Why do Millennials use the Internet?
3. Do Millennials use the Internet during meal times with family?
4. How does the use of technological communication affect family relationships among the Millennial Generation?

Description of the sample. One-hundred and seventeen participants completed the online survey. However, only 92 of them were born between 1980-1995, thus fitting the parameters of the current study. The final sample included 13 men (14.1%) and 79 women (85.9%). Half of the participants were born before 1988 and the other half were born in 1988 or after (see Table 1). The ages ranged from 21 to 36. The average age of the participants was 27.97 (SD = 4.46).

Frequencies were computed for the ethnicity of the participants and the findings showed that most participants were Caucasian (93.5%; see Table 2).

Research Questions

How often the Millennial Generation uses the Internet. The first research question asked how often the Millennial Generation used the Internet. Participants were asked to indicate
Table 1

Year Participants Were Born (N = 92)

<table>
<thead>
<tr>
<th>Year participants born</th>
<th>Frequency</th>
<th>Percent of sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>1981</td>
<td>6</td>
<td>6.5</td>
</tr>
<tr>
<td>1982</td>
<td>6</td>
<td>6.5</td>
</tr>
<tr>
<td>1983</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>1984</td>
<td>6</td>
<td>6.5</td>
</tr>
<tr>
<td>1985</td>
<td>4</td>
<td>4.3</td>
</tr>
<tr>
<td>1986</td>
<td>8</td>
<td>8.7</td>
</tr>
<tr>
<td>1987</td>
<td>6</td>
<td>6.5</td>
</tr>
<tr>
<td>1988</td>
<td>5</td>
<td>5.4</td>
</tr>
<tr>
<td>1989</td>
<td>6</td>
<td>6.5</td>
</tr>
<tr>
<td>1990</td>
<td>6</td>
<td>6.5</td>
</tr>
<tr>
<td>1991</td>
<td>7</td>
<td>7.6</td>
</tr>
<tr>
<td>1992</td>
<td>6</td>
<td>6.5</td>
</tr>
<tr>
<td>1993</td>
<td>8</td>
<td>8.7</td>
</tr>
<tr>
<td>1994</td>
<td>9</td>
<td>9.8</td>
</tr>
<tr>
<td>1995</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>Total</td>
<td>92</td>
<td>100.0</td>
</tr>
</tbody>
</table>

how often, on average, they accessed the Internet using a five point Likert-type scale. The five responses included “multiple times every day,” “once a day,” “once every few days,” “once a week,” and “less than once a week.” Most (98%) of the participants responded that they accessed the Internet “multiple times every day.”

Why do Millennials use the Internet? The second research question explored the reasons members of the Millennial Generation accessed the Internet. Participants were asked to “please describe the main reasons you access the Internet” in an open-ended survey question. After a careful review of the data, findings indicated that there were six common themes. The six themes named were: 1) research/information seeking, 2) work, 3) social media/communication, 4) academics, 5) email, and 6) personal/entertainment. After the themes were identified and named, the principal investigator computed the percentage of the sample that had included each of the
Table 2
Ethnicity of Participants (N = 92)

<table>
<thead>
<tr>
<th>Ethnic Identity</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caucasian</td>
<td>93.5</td>
</tr>
<tr>
<td>African-American</td>
<td>3.3</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>2.2</td>
</tr>
<tr>
<td>Multiple ethnicities</td>
<td>1.1</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
</tr>
</tbody>
</table>

themes in their response (so the percentages do not add up to 100 because participants could be included in more than one category).

The first theme identified was research/information seeking and 24 out of 75 (32%) participants responded that they used the Internet for this reason. For instance, one respondent reported “…to find information on topics of relevance to me” while another responded “Phone numbers, directions, travel arrangements, reference tools…”

The second theme identified was work and 25 out of 75 (33.33%) participants indicated that they used the Internet for work purposes. One participant answered “for work I travel to different locations and using the internet (email) is the way we communicate to send information to one another.” Another respondent elaborated “…all of my lesson plans and teaching materials are on Google drive.”

The third theme identified was social media/communication and 44 out of 75 (59%) members of the sample revealed that they used the Internet to access social media in order to connect with friends and family. For example, one participant stated “…check what my friends/family have to say on social media…” and another said “…communicating with family and friends on social media.”

The fourth theme identified was academics and 22 out of 75 (29%) participants declared that they used the Internet for school and homework. One noted they used the Internet “to do
homework assignments, connect for online courses...” and another indicated “I mainly use it for homework...”

The fifth theme identified was email and 15 out of 75 (20%) participants responded that they used the Internet to check their email accounts. Answers were pretty straightforward about this category and included “…to check my personal email...” and “Email...”

The sixth theme identified was personal/entertainment and 44 out of 75 (59%) of the sample indicated that they used the Internet for personal reasons, such as banking, shopping, reading news, streaming music, videos, and playing games. For example, one respondent wrote “…For me, the internet has replaced newspapers and magazines and for the most part, cable television.” Another noted “…entertainment (TV, music, movies, etc.)…to pay bills.” And one subject reported that they used the Internet for “…games, banking and bills” From these findings, it is clear to see that the Millennials are using the Internet for a variety of reasons, but the two most common were social media and personal reasons/entertainment (59% of the sample wrote about both themes in their response).

Do Millennials use the Internet during meal times with family? A Likert-type scale was created to measure how often participants and their romantic partners (if they had one) accessed the Internet during family meals. The responses on the four point scale included “never, sometimes, frequently, or almost always.” A third of the participants (32.2%) selected “never,” while 58.6% answered “sometimes” (see Table 3). (Note: Only 87 of the 92 participants reported data for this question.)

Participants were also asked to report on how often their romantic partner accessed the Internet during meals with their participant’s family. Forty-three percent (43.2%) claimed
Table 3
*How Often Participants Accessed the Internet During Family Meals (n = 87)*

<table>
<thead>
<tr>
<th>How Often Internet Accessed</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>32.2</td>
</tr>
<tr>
<td>Sometimes</td>
<td>58.6</td>
</tr>
<tr>
<td>Frequently</td>
<td>5.7</td>
</tr>
<tr>
<td>Almost always</td>
<td>3.4</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
</tr>
</tbody>
</table>

"never" and 49.4% selected "sometimes" (see Table 4). (Note: Only 81 of the 92 participants reported data for this question.)

Finally, participants were asked to indicate how often they accessed the Internet during meals with their romantic partner’s family. More than half (53.1%) said "never" and 39.5% claimed “sometimes” (see Table 5). (Note: Only 81 of the 92 participants reported data for this question.)

*How does the use of technological communication affect family relationships among the Millennial Generation?* The fourth research question inquired about how the use of technology communication affected family relationships and interactions among the Millennial Generation. Participants were asked to use a slide scale (0 = very negative and 100 = very positive) to indicate what kind of influence the Internet has had on five family domains: Family communication, amount of time spent together, quality of relationships, emotional environment and family cohesiveness (see Table 6). The results suggest that the Internet has the most positive effect on family communication, although the values did not vary a great deal from one another overall (range = 47.0 – 64.56).
Table 4
*How Often Participants’ Romantic Partners Accessed the Internet During Meals with Participants’ Family (n = 81)*

<table>
<thead>
<tr>
<th>How Often Internet Accessed</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>43.2</td>
</tr>
<tr>
<td>Sometimes</td>
<td>49.4</td>
</tr>
<tr>
<td>Frequently</td>
<td>4.9</td>
</tr>
<tr>
<td>Almost always</td>
<td>2.5</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 5
*How Often Participants Accessed the Internet During Dinner with Their Romantic Partner’s Family (n = 81)*

<table>
<thead>
<tr>
<th>How Often Internet Accessed</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>53.1</td>
</tr>
<tr>
<td>Sometimes</td>
<td>39.5</td>
</tr>
<tr>
<td>Frequently</td>
<td>6.2</td>
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<td>Almost always</td>
<td>1.2</td>
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<tr>
<td>Total</td>
<td>100.0</td>
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</table>

Table 6
*Descriptive Statistics for the Family Interaction Variables (N = 92)*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family communication</td>
<td>64.56</td>
<td>25.21</td>
</tr>
<tr>
<td>Amount of time spent with family members</td>
<td>54.91</td>
<td>26.07</td>
</tr>
<tr>
<td>Quality of family relationships</td>
<td>47.04</td>
<td>25.79</td>
</tr>
<tr>
<td>Family emotional environment</td>
<td>50.97</td>
<td>23.20</td>
</tr>
<tr>
<td>Family cohesiveness</td>
<td>58.60</td>
<td>26.34</td>
</tr>
</tbody>
</table>
Chapter 5
Discussions and Conclusions

A number of studies have looked at how technology has impacted children’s development, but very little research has examined how technology affects family development. Additionally, there is a lack of research regarding why young adults of the Millennial Generation use Internet technology. In order to contribute to the emerging exploration of this topic, a mixed-design research study using survey methodology was conducted to answer the following research questions:

1. How often does the Millennial Generation use the Internet?
2. Why do Millennials use the Internet?
3. Do Millennials use the Internet during meal times with family?
4. How does the use of technological communication affect family relationships among the Millennial Generation?

Using an online survey, created by the principal investigator in conjunction with her advisor, that included both open and closed ended questions, the findings from the current study revealed that the participants \((N = 92)\) accessed the Internet multiple times every day and that many (almost half) got onto the Internet during meals with their family. When asked, the respondents indicated that they accessed the Internet for many different reasons, which were sorted into six distinct themes: 1) research/information seeking, 2) work, 3) social media/communication (besides email), 4) academics, 5) email, and 6) personal/entertainment. In addition, the results implied that overall, the participants perceived that the use of Internet technology has a positive effect on family interactions and communications.
The current study, which was conducted in 2016, defined the Millennial Generation as young adults born between 1980-1995 (Levickaitė, 2010). This age group was chosen as previous research has shown that 18 to 29 year olds were the most connected age group (Hargittai & Hinnant, 2008). An item was added to the online survey asking participants to report on how much they agreed with the following statement “The Millennial Generation is more experienced with technology than other generations.” A slide scale (0 = do not agree at all, 100 = completely agree) was used to measure the participants’ level of agreement. The findings indicated that the answers ranged from 15 to 100, and that the mean was 82.03 (SD =16.04). Even though only members of the Millennial Generation answered this question, most of them agreed that the statement was true, which was consistent with Hargittai and Hinnant’s (2008) research.

Ching, Casham, and Jang’s (2005) study examined the importance that college students placed on technology in different contexts. They found that the frequency of use ranged from 38% to 66% for both personal and work reasons. The Ching et al. study also indicated that young adults were more likely to use online communication tools, surf the web for fun, and conduct personal tasks, such as shopping and banking online. The findings from the current study were consistent with Ching et al., it was evident that the reasons the Millennials reported that they used the Internet overlapped with existing published research.

Currently, there is very little research, about how the use of technology communication affects family relationships and interactions among the Millennial Generation. The current study revealed that roughly half of the participants did not use the Internet during meals with family members and roughly half only “sometimes” used the Internet during family meals. However,
the participants also reported that even though they might access the Internet during meals with their own family, they were less likely to do so when dining with their romantic partner’s family.

When it came to family interactions, the overall perception by the participants was that the Internet had a positive effect on family communication, the amount of time spent with family members, conflict among family members, the family emotional environment, and family cohesiveness (refer to Table 2) as the means for these domains were ranked higher than 50%. On the other hand, the mean for the “quality of family relationships” domain was 47.04, which was lower than 50% and lower than the rest of the categories under consideration. Compared to other research, Ji (2010) found older adults reported that they felt more connected to friends and community activities with the use of mobile phones and Clark (2009) found that an increase in technology use appeared to escalate parent/adolescent conflict. The results from the current study supported the notion that access to the Internet can be beneficial for some families, but not all, and about half felt that the Internet had a positive effect on family conflict. The discrepancy between Clark’s (2009) research and the current study could be due to the fact that the Millennials were reporting from their perspective, while in the Clark study it was the parents’ perspective.

Limitations

There were several limitations to the current study. The first limitation was the use of a non-random convenience sampling procedure. All of the participants were recruited from the principal investigator’s Facebook page, her advisor’s Facebook page, through the School of Family and Consumer Sciences’ faculty list server (only to those that were teaching a summer class in 2016), and through email to others that may have been interested in participating (by asking others to forward the survey to potentially interested parties). Another limitation was that
only the participants who had access to the Internet were able to participate, which could affect the outcome of the study as well.

A third limitation was the use of the survey methodology. Survey methodology allows for larger sample sizes and is much more inexpensive than other methods; however, it can limit the type of data that is collected. For example, although the survey included an open-ended question to allow participants to write their own responses, the principal investigator noted that overall the responses were short and lacked detail. This could be a result of having to write (type) up responses, rather than telling a researcher in an interview or focus group.

A fourth limitation of the study was that it used a cross-sectional research design, so the data that were collected represented a “snap shot in time” as opposed to following individuals over time. A longitudinal design would have permitted an examination of how Internet use varied over time. Finally, using the Millennials as the unit of analysis was a limitation as the findings represented their perspective only, as opposed to the perspectives of other members of the family.

While the limitations reported here restricted the generalizability of the findings, it is important to note that this was an exploratory research study and the results will help provide an important foundation for this area of research in future studies.

**Recommendations for Future Research**

Future research should employ a randomized sample procedure and try to recruit participants from all generations to see if there are differences among family members of different generations in Internet use and the effect on family interactions. A longitudinal research design would also allow researchers to study families over time, allowing for a much deeper understanding of how Internet technology impacts family development. By expanding on
the current research, future research would provide families with knowledge on how to navigate the digital divide more successfully.

**Conclusion**

Research on how Internet technology is used by the Millennial Generation and its impact on family interactions is beneficial for families. The results from this study indicated that overall, participants from the Millennial Generation use the Internet multiple times during the day for numerous reasons, sometimes during meals, and can have a positive effect on family interactions. The findings from this study are important to the Family and Consumer Sciences discipline because of the influence that Internet technology has on family interactions. The results provide families with knowledge on how to deal with technology and family interactions more effectively and to minimize the potential negative impacts that Internet technology can have on family relationships.
References


### Appendix A: Stage-critical Family Development Tasks through the Family Life Cycle

<table>
<thead>
<tr>
<th>Stage of the family life cycle</th>
<th>Positions in the family</th>
<th>Stage-critical family developmental tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Married Couple</td>
<td>Wife, Husband</td>
<td>Establishing a mutually satisfying marriage, Adjusting to pregnancy and the promise of parenthood, Fitting into the kin network</td>
</tr>
<tr>
<td>2. Childbearing</td>
<td>Wife-mother, Husband-father, Infant daughter or son or both</td>
<td>Having, adjusting to, and encouraging the development of infants, Establishing a satisfying home for both parents and infant(s)</td>
</tr>
<tr>
<td>3. Preschool-age</td>
<td>Wife-mother, Husband-father, Daughter-sister, Son-brother</td>
<td>Adapting to the critical needs and interests of preschool children in stimulating, growth-promoting ways, Coping with energy depletion and lack of privacy as parents</td>
</tr>
<tr>
<td>4. School-age</td>
<td>Wife-mother, Husband-father, Daughter-sister, Son-brother</td>
<td>Fitting into the community of school-age families in constructive ways, Encouraging children’s educational achievement</td>
</tr>
<tr>
<td>5. Teenage</td>
<td>Wife-mother, Husband-father, Daughter-sister, Son-brother</td>
<td>Balancing freedom with responsibility as teenagers mature and emancipate themselves, Establishing post parental interests and careers as growing parents</td>
</tr>
<tr>
<td>6. Launching Center</td>
<td>Wife-mother-grandmother, Husband-father-grandfather, Daughter-sister-aunt, Son-brother-uncle</td>
<td>Releasing young adults into work, military service, college, marriage, etc., with appropriate rituals and assistance, Maintaining a supportive home base</td>
</tr>
<tr>
<td>7. Middle-aged Parents</td>
<td>Wife-mother-grandmother, Husband-father-grandfather</td>
<td>Rebuilding the marriage relationship, Maintaining kin ties with older and younger generations</td>
</tr>
<tr>
<td>8. Aging Family Members</td>
<td>Widow-widower, Wife-mother-grandmother, Husband-father-grandfather</td>
<td>Coping with bereavement and living alone, Closing the family home or adapting it to aging, Adjusting to retirement</td>
</tr>
</tbody>
</table>
Appendix B: Bronfenbrenner’s Ecological Theory
Appendix C: Instrument

Kendra Myers thesis survey

You are invited to participate in a research study conducted by Kendra Myers, a graduate student in the Master's in Family and Consumer Sciences' graduate program at Eastern Illinois University, under the direction of Dr. Lisa Moyer. Your participation in this study is entirely voluntary. Please ask questions about anything you do not understand, before deciding whether or not to participate. My email address is ksmyers2@eiu.edu and my advisor's email is Immoyer@eiu.edu.

The purpose of this research project is to examine how the use of Internet technology is used by the Millennial Generation and how the use of Internet technology impacts family relationships. To participate, you have to have access to the Internet and have been born during the years of 1980 and 1995. Participation involves completing a survey, which will take about 10-15 minutes to complete. The survey includes questions about your computer and Internet usage. Other survey questions address your perceptions of how the use of computer and Internet impacts family relationships. The survey also includes some demographic information (e.g., age, education level, marital status) so that we can accurately describe the general traits of the group of individuals who participate in the study. After you are finished participating in the survey, if you want your name to be entered into a random drawing for a $25.00 Amazon gift card, please email the Principal Investigator at: eiumillennialsurvey2016@gmail.com. Your email will not be connected to your responses in any way.

If you have any questions or concerns about the treatment of human participants in this study, you may call or write:

Institutional Review Board
Eastern Illinois University
600 Lincoln Ave.
Charleston, IL 61920
Telephone: (217) 581-8576
Email: eiuirb@www.eiu.edu

You will be given the opportunity to discuss any questions about your rights as a research subject with a member of the IRB. The IRB number for this study is: 16-075. The IRB is an independent committee composed of members of the University community, as well as lay members of the community not connected with EIU. The IRB has reviewed and approved this study.

If you are interested in participating, please press the "yes" button below to continue. If you decide not to participate, press the "no" button and you will close out of the survey. Thank you in advance for your consideration.

YES
NO

Q1 What year were you born?

Q2 What is your gender identity?
   1. Male
   2. Female
   3. Other:___________
Q3 What is your primary ethnic identity?
   African-American
   Asian
   Caucasian
   Hispanic/Latino
   Native Hawaiian or other Pacific Islander
   American-Indian
   Multiple ethnicities
   Other

Q4 Use the sliding scale below to indicate to what extent you agree with the statement "The Millennial generation is more experienced with technology than other generations."
   ______ 0 = do not agree at all; 100 = completely agree

Q5 Did your family own a computer at any point in time while you were growing up?
   Yes
   No

Q6 On average, how often do you access the Internet?
   Multiple times every day
   Once a day
   Once every few days
   Once a week
   Less than once a week

Q7 Which of the following devices do you use to access the Internet (check all that apply)
   Smart phone
   Laptop computer
   Desktop computer
   Tablet
   Other: __________________________

Q8 In your own words, please describe the main reasons you access the Internet.
Q9 Please use the scale below to indicate how often you engage in the behaviors under question.

<table>
<thead>
<tr>
<th>Question</th>
<th>Never (1)</th>
<th>Sometimes (2)</th>
<th>Frequently (3)</th>
<th>Almost always (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you access the Internet during family meals? (a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If you have a romantic partner, how often do they access the Internet during meals with your family? (b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If you have a romantic partner, how often do you access the Internet during meals with their family? (c)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q10 How frequently do you access the Internet for each of the following reasons?

<table>
<thead>
<tr>
<th>Reason</th>
<th>Never (1)</th>
<th>Sometimes (2)</th>
<th>Frequently (3)</th>
<th>Always (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>To check email (a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To get information (b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For business/work (c)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social media/networking (d)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For entertainment (e)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To shop (f)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (g)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q11 How frequently do you use the websites and/or social media applications below for PROFESSIONAL/WORK reasons?

<table>
<thead>
<tr>
<th></th>
<th>Daily (1)</th>
<th>2-3 times a week (2)</th>
<th>Once a week (3)</th>
<th>Once every two weeks (4)</th>
<th>Once a month (5)</th>
<th>Never (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook (a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Twitter (b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pinterest (c)</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>LinkedIn (d)</td>
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<tr>
<td>Google (e)</td>
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<td></td>
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<tr>
<td>Snapchat (f)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instagram (g)</td>
<td></td>
<td></td>
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<tr>
<td>YouTube (h)</td>
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<td></td>
</tr>
<tr>
<td>Other (i)</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Q12 How frequently do you use the websites and/or social media applications below for PERSONAL reasons?

<table>
<thead>
<tr>
<th></th>
<th>Daily (1)</th>
<th>2-3 times a week (2)</th>
<th>Once a week (3)</th>
<th>Once every two weeks (4)</th>
<th>Once a month (5)</th>
<th>Never (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook (a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Twitter (b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pinterest (c)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LinkedIn (d)</td>
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<td></td>
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<tr>
<td>Google (e)</td>
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<td></td>
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<tr>
<td>Snapchat (f)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Instagram (g)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>YouTube (h)</td>
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<td></td>
</tr>
<tr>
<td>Other (i)</td>
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<td></td>
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<td></td>
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</tbody>
</table>
Q13 Use the slide scale to indicate what kind of influence the Internet has had on each of the domains listed below (with 0 = very negative and 100 = very positive):

_____ Family communication
_____ Amount of time spent with family members
_____ Quality of family relationships
_____ Conflict among family members
_____ Family emotional environment (affect, expressiveness, growth, control)
_____ Family cohesiveness (closeness)

Thank you very much for your participation in my thesis research. If you are interested in having your name entered into a random drawing for a $25.00 Amazon gift card, you can send an email to the following address (which was created solely for this research study; your email will not be linked to your responses in this survey):
eiumillennialsurvey2016@gmail.com
Appendix D: Informed Consent

Consent to Participate

To examine how the uses of Internet technology vary among the different generations and how the use of Internet technology impacts family relationships.

You are invited to participate in a research study conducted by Kendra Myers, the Principal Investigator, and the Co-Principal Investigator, Dr. Lisa Moyer, from the Department of Family and Consumer Sciences at Eastern Illinois University. Your participation in this study is entirely voluntary. Please ask questions about anything you do not understand, before deciding whether or not to participate.

You have been asked to participate in this study because you were born during the years of 1980 and 1995.

Purpose of this study
This is a study in Family and Consumer Sciences that is being conducted by Kendra Myers, graduate student of Eastern Illinois University. The purpose of this research project is to examine how the uses of Internet technology vary among the different generations and how the use of Internet technology impacts family relationships.

Procedures
You will complete a survey, which will take 10-15 minutes to complete. The survey includes questions about your computer and internet usage. Other survey questions will address your perceptions of how the use of computer and internet impacts family relationships. We will also ask for some demographic information (e.g., age, education level, marital status) so that we can accurately describe the general traits of the group of individuals who participate in the study.

Benefits of this Study
You will be contributing to knowledge about how internet technology is used by different generations and how it impacts family relationships. In addition, you will be entered in a drawing for a $25.00 Amazon gift card. After we have finished data collection, we will conduct the drawing. The winner will receive the gift card via e-mail.

Risks or discomforts
No risks or discomforts are anticipated from taking part in this study. If you feel uncomfortable with a question, you can skip the question or withdrawal from the study altogether. If you decide to quit any time before you have finished the questionnaire, your answers will NOT be recorded, nor will you be eligible for the drawing of the $25.00 Amazon gift card.

Confidentiality
Any information that is obtained in connection with this study and can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by means of anonymous surveys. Only the primary investigator and co-principal investigator will have access to your information.

Participation and Withdrawal
Participation in this research study is voluntary and not a requirement or condition for being the recipient of benefits or services from Eastern Illinois University or any other organization sponsoring the research project. If you volunteer to be in this study, you may withdrawal at any time without consequences of any kind or loss of benefits of services to which you are otherwise entitled. There is no penalty if you withdraw from the study and you will not lose any benefits to which you are otherwise entitled. You may also refuse to answer any questions you do not want to answer.

**Identification of Investigators**
Kendra Myers  
Principal Investigator  
Email ksmyers2@eiu.edu  
600 Lincoln Ave.  
Eastern Illinois University  
Charleston, IL 61920

Dr. Lisa Moyer  
Co-Principal Investigator  
Email lmmoyer@eiu.edu  
600 Lincoln Ave.  
Eastern Illinois University  
Charleston, IL 61920

**Rights of Research Subjects**
If you have any questions or concerns about the treatment of human participants in this study, you may call or write:

Institutional Review Board  
Eastern Illinois University  
600 Lincoln Ave.  
Charleston, IL 61920  
Telephone: (217) 581-8576  
Email: eiuirb@www.eiu.edu

You will be given the opportunity to discuss any questions about your rights as a research subject with a member of the IRB. The IRB is an independent committee composed of members of the University community, as well as lay members of the community not connected with EIU. The IRB has reviewed and approved this study (16-075).