THE DIGITAL DIVIDE AND CULTURAL CAPITAL

A Thesis

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Matthew Damon Wright

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Department of Sociology

Abstract

of

THE DIGITAL DIVIDE AND CULTURAL CAPITAL

by

Matthew Damon Wright

The digital divide, the concept of an inequality in computer and Internet access and skills, has been a political and social scientific topic of research and debate. The prior analyses of Internet use grouped people based on “haves” and “have-nots” and did not specifically address who these people were and what kind of demographic, individual, and family characteristics might promote digital literacy. By combining the ideas of the digital divide in the usage of the Internet and the concept of cultural capital as a marker of socio-economic status, this study used data from the Pew Internet and American Life Project 2008 to test whether higher socioeconomic status (using measures of education and income) is associated with more frequent use of the Internet. An exploratory subsample analysis by gender was also conducted. As previous studies have found, education plays a significant role in predicting higher Internet use. Counter to previous studies, income was the only significant predictor for overall frequency of Internet use and of specific types of Internet activities. The study also found that gender conditioned the effects of socioeconomic status, family, and work on Internet use.

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Chapter 1

INTRODUCTION

Who uses the Internet? Does socioeconomic status predict availability and frequency of utilizing the Internet? Analyzing data from the Spring Tracking Survey 2008 collected as part of the Pew Internet & American Life Project, this thesis examines whether one's income and education are associated with how often he/she actually used the technology (frequency) and/or utilization for specific purposes, such as social networking and information gathering. Further, this thesis explores whether gender conditions the relationship between socioeconomic status and Internet use.

Accessing and using the Internet has become a nearly ubiquitous phenomenon for many (78% of the US population) however, not for all people (Pew Internet and American Life Project 2011). The idealistic view that the Internet would be a way for all people to have equal access to the open knowledge of the Internet and thus gain equal benefits from it must be carefully examined. It has become clear that while the access gap has substantially closed in the last five years, the gap in actual usage has not dramatically reduced (Smith 2010; Horrigan 2007). As technology advances at such a fast pace, up-to-date data on Internet use are needed in order to properly test the state of this gap.

Unlike many previous studies, this thesis used recent data from the Pew Internet and American Life Project (2008a). This dataset incorporated a representative sample of

the U.S. population and collected information about Internet use, attitudes about the Internet, and Internet connection speeds. Previous studies employed an older data set, or more recent, but smaller, qualitative samples of users in a specific city or region (e.g. DiMaggio and Bonikowski 2008; Robinson, DiMaggio and Hargittai 2003; Kvasny 2006; Robinson 2009; etc.), which made it difficult to generate up-to-date, generalizable information about the gap in Internet use at the population level. By using older datasets that pre-date the explosion in broadband Internet availability, the findings are less applicable to the current state of the digital divide (e.g. DiMaggio, et. al. 2001; Wellman 1996). While using more recent data is always desired, the use of a small sample in many of the past studies has limited generalizability, and use of qualitative data severely restrict the ability of the findings to be compared to other studies via replications. Therefore, using the representative data from the Pew Internet and American Life Project (2008a), this thesis attempts to overcome the challenges that have limited previous studies.

Who uses the Internet and why? The reasons why individuals use the Internet has been investigated in ongoing surveys throughout the last decade by the Pew Internet and Life group and many other surveys including the GSS in 2000 and in 2002 (e.g. Robinson, DiMaggio and Hargittai 2003; Horrigan 2007; Stern, et. al. 2009). However, demographic characteristics of the Internet users were only more recently seriously taken into account as the central topic (e.g. Horrigan 2007; Meyen, et.al. 2010; Stern, et. al. 2009). In other words, many researchers have focused mainly on the consequences of the Internet use more than the socio-demographic predictors of Internet use. In order to

address the Internet use gap, it is essential that the characteristics of the users are explored as well as the reasons why they might use the Internet. By using recent data and testing for variables that have shown to be important factors in Internet use, such as educational attainment, income, race, gender, and age, this thesis expands the body of knowledge on who Internet users are.

This thesis also explores whether there are gender differences in how education and income affect Internet use. In this gendered society, one's gender is seen as one of the pervasive statuses that tend to have impact on many different outcomes, invoke social expectations across various situations, and shape feeling, thoughts, and behavior of individuals. Therefore, it is plausible that socio-economic status interacts with individuals' Internet usage differently by gender. These gender differences have not been well examined in recent (post-widespread broadband availability) studies, and thus, this thesis conducts the exploratory analyses by gender to add to the previous studies.

Chapter 2

LITERATURE REVIEW

This chapter first describes the historical contexts in which the Internet developed and came to be widely used in the United States. Second, the previous literature on the access to and frequency of the Internet use is synthesized. Finally, this chapter will conclude with the theoretical frameworks that guide this thesis: the digital divide, Roger's Diffusion of Innovations, and cultural capital.

The History of the Internet and Social Research

The Internet came out of the work of major universities and government/military funding for a group of what were originally disparate computer networks for educational and government uses in the 1960s (Castells 2001). The 1960s were a time of social and political upheaval, one that started a focus on individual rights and freedoms. During this era, a uniquely individual way to communicate was innovated: via a computer network. It required no one on the "other end of the line" as a phone would. Asynchronous communication was normal. A posting on a newsgroup was left up for colleagues to see and comment on at their leisure. Early forms of electronic mail were used to coordinate teams all across the United States; time zones did not matter anymore. Eventually, the expansion and cooperation started to include universities and governments in Europe. Paradoxically, out of what was essentially an individualistic communication medium, a lone person in front of a computer screen, came a sense of group collaboration thanks to

the ease of exchanging electronic text with one another. As computing power became more affordable, users brought their work computers home with them in the form of newly available personal computers such as the Apple II and later the IBM PC and its clones from well-known vendors such as Compaq (Castells 2001). As the infrastructure for the Internet became privatized and opened up for public access, Internet Service Providers (ISPs) were there to monetize access for home users. By the mid-1990s, providers such as CompuServe and America Online (AOL) were household names to many (Guillen and Suarez 2005).

In the mid-1990s, social science researchers began investigating effects of the Internet on society and individuals (Wellman 2004). Much of this work was purely theoretical, trying to understand how the Internet expands or contracts social contact and how it has the ability to be a democratizing force for change, since anyone could access the Internet and post content that would be viewable by anyone (or everyone) else. This utopian idea became a common theme in much of the literature of the late 1990s and early 2000s. There was an assumption that the prevalence of Internet access and increasingly powerful personal computers for decreasingly less money was simply enough to make a level playing field.

Starting in the late-1990s, the term “digital divide” became part of political and economic discussions, usually in regard to funding for broadband (high speed) Internet access and school computing initiatives (Robinson, DiMaggio and Hargittai 2003). Social scientists set about asking the question, who uses the Internet? It became clear Internet

access and use followed existing lines of inequality (Drori 2005). It was especially tied to measures of class, specifically education and income. Those with a college degree have typically had readily available computers and Internet access, thanks to their college campus (Horrigan 2007). Because of this, when they got out of school they had already developed the skill sets needed to make the best use of a personal computer and how to sort through the wealth of information on the Internet.

Proficiency in using word processing, spreadsheets, electronic presentations, and ability to search for topics on the Internet go beyond personal or academic uses. As the economy rapidly transitioned from one of production to one of information and services in the 1990s, computer and Internet skills became increasingly important in employment (Castells 2001). Computing and Information Technology (IT) is the primary tool in modern corporations. In 1970, companies spent roughly 25% of their capital on IT, which was roughly equal to what the companies spent on physical infrastructure and manufacturing (Harvey 2005). By the year 2000, IT accounted for 45% of a corporation's investments. This meant that for nearly all of the professional jobs that college graduates might be placed in required some level of computing skills. The effects of a college degree in regard to IT use have been replicated in studies from the early 2000s (DiMaggio, et.al. 2001) to more recent data (Horrigan 2007). The proliferation of IT also meant that what were once lower-skilled jobs now increasingly relied on some form of computing; and thus computing skills started to become necessary for entry level work. With the increasing emphasis placed on ability to use the Internet in workplace, it may be

plausible that the inequality in the availability and frequency of Internet use in daily life translate into opportunities to gain skills making use of the Internet and further exacerbate the inequality in employment and income.

Availability of and Access to the Internet

Effects of education and income. Socioeconomic resources, such as income and education, are shown to constrain how readily the Internet is available for daily use and can become part of lifestyles. Thanks to aggressive pricing and infrastructure build-out due to competition from cable, telecom, and newer wireless based services, as of May 2010, sixty-six percent of Americans had some form of high-speed Internet at home (Smith 2010). Only 5% of the population still uses a dial-up connection. Much of the previous research has shown that education and income are two of the strongest indicators for having high-speed Internet access at home (e.g. Emmison and Frow 1998; Robinson, et. al. 2003; Martin and Robinson 2007; Meyen, Pfaff-Rudiger, Dudenhöffer, and Huss 2010). Being a high school graduate means a 21% greater likelihood of a home broadband connection than someone who did not complete high school, 54% vs. 33% (Smith 2010). Having "some college" makes another large leap to 76%; interestingly, being a college graduate only bumps this by 10 points to 86%.

Income has a similar trend as education, showing that the higher the income, the more likely the Internet adoption. Households that make more than $30,000 a year are 22% more likely to have broadband than those that make under $30,000 (67% vs. 45%) (Smith 2010). The effect of income starts to plateau at $50,000 and higher, with a 12%

increase over the previous income range (79% vs. 67%). However, households that make $75,000 a year or more have an extremely high adoption rate at 87%. Horrigan (2007) found a similar trend with regard to income; there seemed to be a “tipping point” where a middle-range of income was enough for adoption of high-speed Internet at home.

Effects of other demographic variables. Researchers have identified important demographic correlates of Internet use: race/ethnicity, age, and urbanicity. With regard to race, the gap between Euro-American and African-American broadband adoption narrowed between 2009 and 2010 and now 56% of African-Americans have high-speed Internet at home (Smith 2010). English-speaking Latino and non-Hispanic white adoption rates are nearly identical at 67% and 66% respectively (Smith 2010).

The older one is, the less likely he/she has a high-speed Internet connection at home. At least 60% of all age groups less than 65 years old have access to broadband, with ages 18-29 having the highest adoption rate (80%) and ages 30-49 almost as high (75%). It is the 65+ age range that is only at 30% adoption (Smith 2010). In his typology of high and low-tech Internet users, Horrigan (2007) found that some high-tech groups having a median age as high as age 40 or as low as 28 years old, each age cohort had early adopters and then the rest followed.

Finally, another demographic variable to be considered is the urban-suburban/rural split. Rural high-speed Internet access is still quite a bit harder to come by, given that only 50% of rural users have adopted a high-speed Internet connection at home versus 70% of the non-rural population (Smith 2010). Stern, Adams, and Elsasser (2009)

found a similar rural-urban Internet connection gap and also used their data set to test proficiency in using the Internet. The authors found that proficiency in Internet skills was heavily reliant on the type of Internet connection (dial-up versus high-speed) even when controlled for other demographic variables.

Thanks to the competition between Internet providers, such as cable companies, telephone companies, and new wireless providers, widespread build out of high-speed Internet infrastructure has extended the availability of such services to much of the US population. However, education and income played a rather important role in actual subscription to a fast Internet connection. This also leads to a question of frequency; once a person has a high-speed Internet connection, what kind of person is more likely to use the Internet and for what purpose?

Trends in Frequency of Internet Use and Its Effects on Further Opportunities

Though there is extensive research about level of income and Internet use habits, it is important to pay attention to the frequency of Internet use in addition to availability of and access to the technology. Even though high-speed Internet may have become more widely available across different groups in the U.S., the frequency of the utilization can vary. Compared with Internet users in other income cohorts, higher-income Internet users go online more often (Horrigan 2007). Controlling for race, education, sex, age, and rural/non-rural, on any given day, the Internet users in the higher-income bracket are more likely than the Internet users in lower-income brackets to be doing various online activities, such as using a mapping site for directions, researching a product before

purchase, or getting news online. As discussed previously, I argue that the more one uses the Internet, the more opportunities he/she would have in accumulating skills and knowledge associated with the technology, which would be beneficial in securing a job and advancing his/her career.

Up until the mid-2000's both political and social policies operated under the assumption that the mere fact that Information and Communication Technology (ICT) was made more easily available to lower status populations should be enough to boost their skills sets and thus their employability. One of the important markers of being a proficient Internet user is how often a person uses the Internet and how well he or she can make use of the online tools available. Though these skills are valued in the job market of a post-industrial economy, it has only been in recent years that sociologists have made an attempt to specifically measure the intersection of income, education, and Internet skills; that is, the general skills to use Internet resources optimally.

There are other factors at work that impede the adoption of information and communication technologies for people with lower income. Kvasny's (2006) study of an inner-city technology training facility found that the use of a spellchecker wasn't actually helping many of the students in the classes, because the words were so badly misspelled that the tools at their disposal (the spellchecker) couldn't help them automatically.

Socioeconomic inequality that determines the availability of and access to the Internet seems to further exacerbate the unequal distribution of opportunities to develop Internet skills. Robinson (2009) found that teens with low-quality Internet access (slow

speed and/or poor availability) are handicapped by the lack of time spent online. Those with the wealth for a computer at home and a high-quality Internet connection spent greater amounts of time surfing the web, much of it for pleasure. This greater time investment allowed them to "hone their information-seeking skills" (p. 491). In contrast, those teens who had to use public Internet sources (such as at a library), had to focus on what they needed to get done for the job at hand; they did not have extra time to casually surf the web. For these teens, the Internet became more like a chore; they generally did not see using the Internet as fun, but rather as necessary for certain homework tasks.

As such, when Robinson (2009) studied her sample's different levels of sophistication when searching for information, she found that teens with the reliable high-quality access were more adept at searching. They used better keyword combinations, understood Boolean search modifiers (and/or/not), and often used multiple browser windows to do simultaneous search queries (p. 501). The teens with low-quality access took a more linear approach with a more limited set of keywords; they would exhaust one search before moving on to the next. The lack of specific keywords would often lead to frustration since it led to less specific results, forcing them to sort through a large amount of unrelated information (p .502).

Does gender influence Internet use? While many researchers have investigated the effect of socioeconomic resources in shaping the availability and access to the Internet, the effect of gender is yet inconclusive. As far back as 2001, national data has shown the gender gap in computer use to be nearly non-existent (Ono and Zavodny

2005). Interestingly, Hargittai and Shafer (2006) found that men and women do not significantly differ in their abilities to find information online, but women were more likely to underrate the perceptions of their skills. In Horrigan's (2007) typology of Internet users there tended to be fairly equal gender distribution; however, the highest-tech groups tended to have more men. The combination of these findings seems to suggest that women and men are socialized in pervasive gender stereotypes: men are taught to be more logical, and are tracked into mathematics and the sciences more than women, which has led to computing as a hobby being a predominantly male arena (Spertus 1991). In more recent qualitative studies, Brock, Kvasny and Hales (2010) and Daniels (2009) found that women were participating in online forums and blogs increasingly more so than men. Teen girls also mirror this as they too choose to blog, instant message, and play social and/or non-competitive, less violent games, such as The Sims (Williams 2006). These trends in women's use tend to make sense given the socialization of women in our society to be more interested in social connections than men (Beutel and Marini 1995). In this thesis, I test whether gender conditions the effect of socioeconomic status on Internet use, while taking the specific purpose of Internet use into consideration (i.e. social networking and information gathering). Since previous studies have suggested mixed results, the analyses by gender will remain exploratory.

In sum, repeated studies of both quantitative and qualitative data have shown education and income affect proficiency of computer and Internet use in a variety of ways. These factors include ease of access to high-speed Internet connections, exposure

to computers, and familiarity with using the Internet because of the increasingly computerized nature of attending college. These skills become reinforced in the professional workplace where information technology has become an integral part of nearly all business. Limited but available evidence suggests that gender socialization shapes the way individuals use the Internet.

THEORETICAL FRAMEWORK

The Digital Divide

This thesis is guided by frameworks of the Diffusion of Innovations, Digital Divide, and Cultural Capital. The *digital divide* is a slightly nebulous term social scientists use to refer to the haves and have not's of Internet communication technology (Castells 2001). The concept is generally used in regard to unequal distribution of *access*—access to a computer, access to an Internet connection, etc. The term is also used to refer to the gap not just in physical access to a computer, but in the *skills to use* a computer and the Internet proficiently. The digital divide is in essence a descriptor for a specific kind of social inequality. This thesis investigates whether such a digital divide also exists in the form of uneven distribution of exposure to the Internet and *frequency of Internet use*.

Socioeconomic status (SES) has been shown to predict a digital divide in the rate of high-speed Internet adoption, which can influence the frequency of Internet use. Rogers (2003) explains that innovations (such as information technology) diffuse through

a society in an unequal manner by SES. There is a sequence of innovators and adopters from early adopters, to the middle group (the majority), and finally late adopters. Individuals who are more likely to adopt innovations earlier and use it more often tend to have more years of formal education, a greater degree of upward social mobility, higher aspirations, a more favorable attitude to change, the tendency to seek out information about innovations, and a high level of social involvement (Rogers 2003: 288-291).

Innovation adoption slowly reaches a mass adoption point, increasing gradually at first. As the availability of the innovated technology becomes more widespread and pricing becomes more affordable, the technology starts to be adopted at an increasingly faster rate by the majority. This incline then levels off after about half of the individuals in a society have adopted the innovation. While the United States has reached the leveling off point of high-speed Internet connection adoption, the fact remains that the most skilled Internet users from Horrigan's (2007) typology match the socioeconomic criteria of Rogers' (2003) "Early Adopter" category (e.g. higher levels of education and income). This seems logical as this group has had the most access to the innovation for the longest period of time, and thus they (and their offspring) reap the cultural capital benefits of the early access. This demonstrates how the differential rate of the diffusion of an innovation generally is caused by and can reproduce wider socioeconomic gaps within a society (e.g. DiMaggio and Bonikowski 2008).

Rogers' (2003) work explains how the digital divide develops based on socioeconomic status and other factors. In this thesis I will investigate whether

socioeconomic status predicts frequency of Internet use. The findings should add to the research that shows that both access and the ability to use the Internet frequently and skillfully are affected by social resources (i.e. socioeconomic status and cultural capital).

Cultural and Technical Capital

Socioeconomic status allows an individual a certain amount of time and money (resources) which would in turn shape the amount of opportunities a person has to afford a lifestyle of enjoying state-of-the-art technology and the time to accrue the skills necessary to utilize such devices. The life chances of individuals to further accumulate the different forms of resources (i.e. economic, social, and cultural capital) may depend on their class positions. Individuals' class position can affect their life chances or "…typical chance for a supply of goods, external living conditions, and personal life experiences" (Weber 1925 as cited in Gerth and Mills 1946:181). These life chances are "…determined by the amount and kind of power, or lack of such, to dispose of goods or skills for the sake of income in a given economic order" (Gerth and Mills 1946:181). The digital divide highlights the technological cultural capital (or lack thereof) that affects an individual's potential to increase or decrease his or her life chances for upward mobility.

Cultural Capital is use of language, consumption of art and literature, formal education, and lifestyle that are socially constructed as desirable or valued (Bourdieu 1986). These markers of "taste" can also be indicators of class position (North, Snyder and Bulfin 2008). Cultural capital is unequally distributed through the population and can allow one to maintain or attain higher socioeconomic status if he/she enjoys the form

of cultural capital or "taste" emphasized in a society. It is a unique form of capital that, unlike economic capital (wealth, goods, currency, etc.) or social capital (networks of acquaintances), is harder to define (Brock, Kvansy, and Hales 2010).

As a resource, the socially constructed desirable and valued "taste" or cultural capital can be used for social and economic gains. Computer literacy is a necessary skill in nearly all professional occupations, thus the ability to easily use computers and the Internet can be seen as a form of economically beneficial capital. Similarly, being comfortable with technology carries a social cachet. In the business world, Blackberry smart phones were once the symbol of import and using them for scheduling, e-mail, instant messaging, and so on carried social weight among the business elite. Having an Apple iPhone was and still is a common form of cultural capital; owning an iPhone shows that the owner of such technology is able to keep up with trends and is adept at using the vast array of tools that a smart phone can access. Such "tastes" not only represent one's class position, but also demonstrate the results of a lifestyle that has the wealth to afford the technological devices and allows the use of them as part of his/her personal and professional life.

This idea of cultural capital has been applied to information technology. Emmison and Frow (1998) interpret Bourdieu's discussion on *"objectified" cultural capital*. Objectified cultural capital is in the form of objects that are cultural goods, such as books, pictures, instruments and machines. By consuming these goods the cultural capital inherent in the goods are transmitted. Information technology is culturally defined as

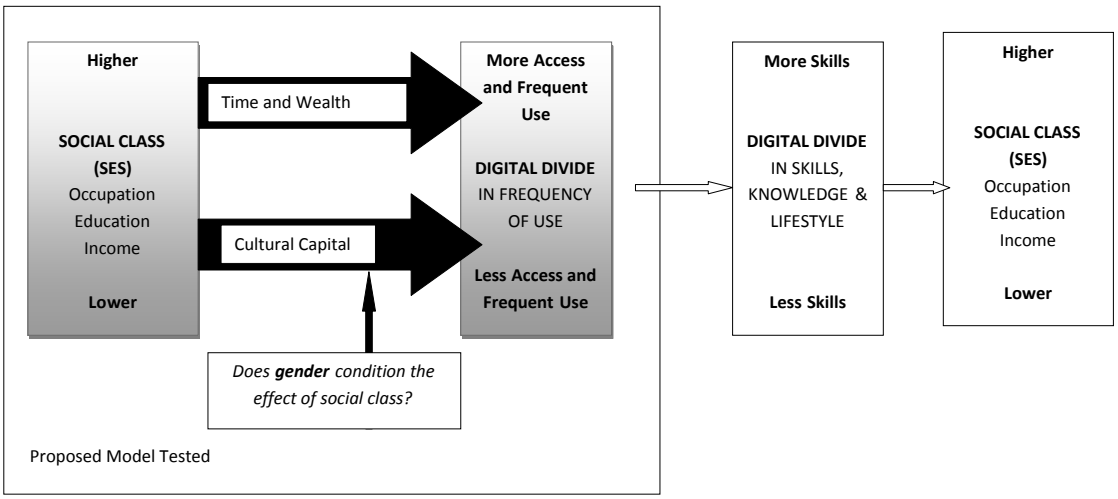
important and necessary in the dominant middle-class culture. Matching Bourdieu's terminology, information technology can be conceived of as an instrument (computers are simply modern tools of information processing) and as a machine, since information technology uses computers (which are essentially electrical machines built of complex silicon chips, rather than pistons or chains, etc.). Objectified cultural capital must be actively consumed by the user, so to consume the cultural object costs a person time—the time to assimilate and understand it:

> There is, then, implicit within the overall arguments that Bourdieu deploys in relation to the concept of cultural capital, an assumption that an early exposure within the family to the use of scientific instruments, machines and other forms of technology could be as efficacious in bestowing privilege and advantage on children as the more traditional forms of competence in the fine arts. (Emmison and Frow 1998:42)

In 2002, Bourdieu added a sub-type of cultural capital he called *technical capital*. Brock, Kvansy, and Hales (2010) take the application of information technology as cultural capital and define technological capital as following:

> Technical capital serves as a power resource as certain groups mobilize around their technical expertise to gain resources and position. This form of capital accrues through education, economic means, and social networks that include others knowledgeable about ICT, and unfettered access to ICT. (p. 1042)

Figure 1. Proposed Theoretical Frameworks: Digital Divide in Access, resulting in the Divide in Use and Skills, Leading to Perpetuated Inequality in Social Class



Summary. With the dramatic increase in emphasis on information technology in the last decade, the digital divide is an increasingly important concept that must be researched from multiple perspectives. Figure 1 illustrates the proposed model in this thesis. The digital divide refers to unequal access to a resource, a form of cultural capital, created based on socioeconomic inequality. Although the dataset examined in this thesis does not allow the test of the long term impact of the digital divide, such a divide in use of the Internet could potentially contribute to the reproduction of social inequality. Skills and familiarity with the Internet represent a form of cultural and technical capital which are accumulated as a result of continued exposure to, and on-going consumption of, the Internet by the user. I argue that it is important to investigate the extent of digital divide

not only in the accessibility and availability of the Internet, but also in the frequency of its use.

HYPOTHESES

By combining the ideas of the digital divide, both in regard to access and usage, and the concept of cultural capital as a marker of socio-economic status, this leads to four general hypotheses shown below. This study conceptualizes the usage based on three measures representing the use of the Internet in a person's daily life. The first measure is how often a person accesses the Internet overall, second is a measure of how often they use social networking, and lastly, a measure of the frequency of commonplace information-seeking activities such as checking the news or weather online. As exploratory analyses, I will also investigate the gender differences in patterns of the use and in ways through which socioeconomic status affects Internet use (moderating effect). Therefore, each of the following hypotheses will be tested using a whole sample as well as subsamples by gender.

H1: Higher socioeconomic status is associated with more frequent use of the Internet in daily life.

H1a: Higher educational attainment is associated with more frequent use of the Internet in daily life.

H1b: Higher income level is associated with more frequent use of the Internet in daily life.

H2: People with higher socioeconomic status use the Internet for social networking more often than those with lower socioeconomic status.

H2a: People with higher educational attainment use the Internet for social networking more often than those with lower education.

H2b: People with greater income use the Internet for social networking more often than those with lower income.

H3: People with higher socioeconomic status use the Internet for information gathering more often than those with lower socioeconomic status.

H3a: People with higher educational attainment use the Internet for information gathering more often than those with lower education.

H3b: People with greater income use the Internet for information gathering more often than those with lower income.

I expect higher usage of all kinds of Internet activities to be associated with higher socioeconomic status given that according to Rogers' (2003) Diffusion of Innovations theoretical framework those of higher socioeconomic status tend to be early adopters and thusly have had longer exposure to using the Internet and computers in general. Similarly, the exposure strengthens the cultural capital cachet that comes from ease of use and familiarity with trends in technology.

Chapter 3

SAMPLE AND METHODS

This chapter describes the data used. First, a background on the organization that gathered the data, an overview of the sampling process, and characteristics of the sample will be explained. Then, the chapter describes the variables and measures in this study.

Data and Sample

This thesis used secondary data from the Pew Internet and American Life Project (2008a). The Pew Research Center is a non-profit organization that provides information on the issues and trends that shape American life. The dataset was collected in a one month span from April to May 2008 as part of a study about the upcoming presidential election in that year. Its general focus was cloud computing, social networking, and politics. In this thesis, I will primarily focus on part of the data regarding respondents' Internet use, frequency of the use, and demographic information. The survey contained a wide variety of questions regarding the Internet use such as Internet access type, availability at home, work, and school. Questions were also asked about what types of activities the respondent does while online, with a subset specifically about social networking sites.

This project utilized a random digit dial telephone survey as sampling and data collection methods (Pew Internet and American Life 2008b:36). The target sample was adults age 18 or older residing in the United States. The telephone interviews were

conducted only in English, and therefore, non-English speakers were excluded. After deleting missing cases, the final sample size for this study was 2,251. The response rate was 25%. The sample is weighted to compensate for biases in telephone surveys using information from the Census Bureau's March 2007 Annual Social and Economic Supplement (see Pew Internet and American Life 2008b:35 for more detailed information regarding weights). Table 1 in the document describes the socio-demographic characteristics of this sample.

Variables and Measures

Dependent Variables. Three aggregate measures were made to show overall use of the Internet in general, information gathering activities, and social networking activities. *Internet usage* is defined as the frequency of Internet usage, at home, at work, and from other places such as libraries, coffee shops, etc. This variable was measured by three questions asking "About how often do you use the internet or email from… [Home, Work, Someplace other than home or work] – 1.) Several times a day, 2.) About once a day, 3.) 3-5 days a week, 4.) 1-2 days a week, 5.) Every few weeks, 6.) Less often or 7.) Never?" These responses were reverse-coded from 0-6; thereby the higher number indicated more frequent Internet use and zero meaning "Never." Then the three categories were combined into an overall frequency of Internet use variable with a range from 0 to 18.

Online information gathering refers to frequency of Internet use for information seeking tasks people do on the Internet: this includes finding information using a search

engine, checking the weather and the news, and finding job listings. This concept was captured by five questions following the same standardized form: “Please tell me if you ever use the internet to do any of the following things. Do you ever use the internet to [list of activities]?” The activities asked included “Get news online,” “Check weather reports and forecasts online,” “Send instant messages to someone who’s online at the same time,” “Look online for information about a job,” and “Use an online search engine to help you find information on the Web.” The responses were yes (=1) and no (=0) and summed to create a count variable measuring the extent of engagement in activities in information gathering online. The summed score ranged from 0 to 5, with zero meaning a “No” response to all types of activities reflecting lowest level of information seeking using the Internet, and five being a “Yes” response to all activities showing the highest level.

Similarly to the online information gathering, a standardized group of questions were asked to those who identified themselves as social networking users. *Online social networking* refers to frequency of the Internet use for common online social networking activities, such as finding friends, keeping in contact with distant friends, and making new business connections online. The question was asked in this format: “What are the different ways you use social networking sites? Do you ever use those sites to… make new friends, stay in touch with friends, flirt with someone, make plans with your friends, make new business or professional contacts, promote yourself or your work, or organize with other people for an event, issue or cause?” The responses were coded as yes (=1)

and no (=0) and then were added to create a count variable to measure the extent of participation in social networking activities online. The summed score had a range of 0 to 7, with zero meaning a "No" response to all types of activities representing the lowest frequency of the online social networking, and seven being a "Yes" response to all activities meaning the highest level.

Independent Variables. Socioeconomic status is often defined based on one's standing on education, income, and occupational prestige. In this study, I use two of the variables (i.e., education and income) to measure socio-economic status. *Education* refers to a respondent's highest level of education completed. The response categories included less than high school (=1), incomplete high-school education (=2), high-school graduate (=3), technical, trade or vocational school (=4), some college, no 4-year degree (includes AA degrees) (=5), college graduate (=6), and lastly, post-graduate training/professional school after college (toward a Masters/Ph.D., Law or Medical degree) (=7). Therefore, the higher the number, the higher the level of education completed.

Income was measured by asking "Last year, that is in 2007, what was your total family income from all sources, before taxes?" The results are represented by eight categories in $10,000 increments until $75,000 where there is a jump to $75,000 to $100,000 and a $100,000 or more category as the highest level. This variable, thus, ranged from 1 to 8, representing the higher the number, the more income respondents' family income.

Possible Moderating Variable. As stated previously, this thesis explores potential moderating effect of gender on the relationship between socioeconomic status and Internet use. *Sex* is a dichotomous variable, which was dummy coded for male (=1) and female as a reference category (=0).

Control Variables. Various demographic variables that have been suggested as other possible sources of inequality were controlled in this study. More specifically, I take into account the effects of individual attributes (i.e., age, race, ethnicity, and employment status), family characteristics (i.e., marital status and parent status), and area of residence (i.e., urbanicity). In whole sample analyses, sex will also be controlled.

Age, race, ethnicity, and employment status were used to represent respondents' individual attributes. *Age* is measured by years and ranged from 18 to 97. *Race* has been recoded into multiple dummy variables testing for the effects of being identified as black (=1) and other racial/ethnic group (=1) compared to their reference group: white (=0). The survey instrument also includes a specific question about being of Hispanic origin (e.g., Mexican, Puerto Rican, Cuban, or some other Latin American background). *Hispanic origin* was recoded into a dummy variable of Latino (=1) and non-Latino (=0). *Employment status* asked as "Are you now employed full-time, part-time, retired, or are you not employed for pay?" was dummy-coded with employed for pay either part-time or full-time combined (=1) compared to unemployed or no source of income (=0).

The family life of the individual was captured by marital status and whether one has at least one child. *Marital status* is assessed by a question "Are you currently

married, living with a partner, divorced, separated, widowed, or have you never been married?" A dummy variable was created that compared anyone currently married or living with a partner (=1) to anyone who lives by him/herself (=0). Parental status was asked as a dichotomous variable of yes (=1) or no (=0) to a question "Are you the parent or guardian of any children under age 18 now living in your household?"

Lastly, urbanicity matters, as the literature shows people in rural areas have less widespread availability of reliable high-speed Internet access (Stern, Adams, and Elsasser 2009). The interviewers asked respondents where they lived, and then during the coding process used census data to code for rural, suburban, or urban. This data was then recoded into a dichotomous variable to test for living in a rural area (=1) against non-rural area (=0).[1]

[1] A chi-square test was performed between the variables rural and high_speed, which tested for a high-speed Internet connection regardless of region. The two variables were found to be significantly and strongly related, thus a decision was made to leave high_speed out of the models to prevent issues with multicollinearity.

Chapter 4

RESULTS

This chapter describes the univariate, bivariate, and multivariate results. First, I will describe the sample characteristics based on univariate statistics and will also highlight statistically significant gender differences in these characteristics. Then, discussion of the multivariate results will follow for each hypothesis based on a whole sample and by subsamples of gender.

UNIVARIATE AND BIVARIATE RESULTS

Table 1 shows univariate results based on the whole sample and bivariate findings by gender. To test for significance *t*-tests were run for means and chi-square tests were run for proportions. With regard to the Internet use for social networking purposes, there was a significant difference between men and women. The mean for men was higher (3.43) than for women (2.84), indicating that men tended to report higher frequency of using the Internet for social networking purposes than did women. The frequency of information gathering and general Internet use were not significantly different between men and women.

Table 1 - Measurement Descriptions and Comparisons of Means and Proportions

			Means and Proportions				
Variables	**Description**	**Range**	**Total**	**Male**		**Female**	
Internet Usage	Sum of how often R uses Internet at home, work, and elsewhere	0 (Never) - 18 (Several times a day in all places)	8.72	9.03		8.42	
Information Gathering	Sum of information gathering uses	0 - 5	3.31	3.34		3.28	
Social Networking	Sum of social networking uses	0 - 7	3.12	3.43	†	2.84	
Education	Educational achievement	1 (none, or grades 1-8) - 7 (post-graduate training)	4.31	4.31		4.31	
Income	Total family income in 2007	1 (Less than $10,000) - 8 ($100,000 or more)	4.99	5.28		4.71	
Age	Age in years	1 - 97	47.15	46.02		48.2	
Male (1=Yes)	Dummy coded	0 (Female) - 1 (Male)	51.9 %	--		--	
Race - Black (1=Yes)	Dummy coded	0 (Others) - 1 (Black)	12.1 %	10.6 %	†	13.4 %	
Race - Others (1=Yes)	Dummy coded	0 (Black or White) - 1 (Others)	7.2 %	8.6 %	†	5.9 %	
Latino (1= Yes)	Dummy coded	0 (Non-Latino) - 1 (Latino)	9.4 %	10.1 %	†	8.7 %	
Employed (1=Yes)	Dummy coded	0 (Not-employed for pay) - 1 (Employed for pay)	61.4 %	69.4 %	†	54.0 %	
Married (1=Yes)	Dummy coded	0 (Not currently married) - 1 (Married or Living with Partner)	56.7 %	61.2 %	†	52.6 %	
Parent (1=Yes)	Dummy coded	0 (Not currently a parent of a child under 18) - 1 (Currently a parent)	31.9 %	28.7 %	†	34.8 %	
Rural (1=Yes)	Dummy coded	0 (Urban or Suburban) - 1 (Rural)	18.8 %	17.9 %		19.6 %	

† = significant difference between male and female at p<.05 based on t-test or chi-square

Men and women were either over or underrepresented depending on racial/ethnic identification. Among African Americans, men were significantly underrepresented (10.6%) compared to women (13.4%). For respondents who identified as another race (not white or black), men were significantly overrepresented; this was also true of those who identified as Latino. There were 15% more men employed than women, despite roughly equal proportions of gender in the sampling population.

In terms of family characteristics, there were also significant gender differences. A higher percentage of men were married or cohabiting with a partner (61.2%) than the women (52.6%) in the sample. Conversely, a higher proportion of women had a child under the age of eighteen at home (34.8%) than the men (28.7%). There was no statistically significant gender difference in indicators of socioeconomic status (i.e., education and income), age, and place of residence.

MULTIVARIATE RESULTS

Effects of Socioeconomic Status on Frequency of Internet Use

Table 2 shows the multivariate results for hypothesis 1: a positive relationship between socioeconomic status and the frequency of general Internet use. In the whole sample model, education and income had significant positive effects on frequency of Internet use (education $b=.743$, $p<.001$; income $b=487$, $p<.001$), controlling for, place of residence, individual and family characteristics. Thus, hypothesis 1 was supported in the

whole sample. The socioeconomic status variables with other control variables explained 27.1% of variations in the frequency of Internet use.

Table 2 - Effects of S.E.S. on Frequency of Internet Use

	Whole Sample		Male			Female	
	b	SE	b	SE		b	SE
Socio-economic Status							
Education	.743 ***	.041	1.038 ***	.061		.434 ***	.055
Income	.487 ***	.034	.502 ***	.053		.522 ***	.043
Individual Characteristics							
Age	-.084 ***	.005	-.091 ***	.007		-.093 ***	.006
Male (1=Yes)	-.122	.123					
Race - Black (1=Yes)	-.279	.201	-.923 *	.319	†	.036	.256
Race - Others (1=Yes)	-.830 **	.241	-1.114 ***	.343	†	-.46	.336
Latino (1= Yes)	.302	.201	.668	.308		.152	.262
Employed (1=Yes)	1.424 **	.148	.663	.263	†	1.836 ***	.176
Family Characteristics							
Married (1=Yes)	-.508 **	.144	-.137	.228	†	-.756 ***	.184
Parent (1=Yes)	-.397 *	.137	-.263	.213	†	-.716 ***	.176
Regional Characteristics							
Rural (1=Yes)	-.693 ***	.165	-.308	.258	†	-.987 ***	.209
R-square	.271		.286			.290	
F	134.901***		77.369***			84.200***	
Sample Size	4010		1940			2069	

† = significant difference between male and female
*p<.05 **p<.01 ***p<.001

Other factors that had significant impact on general Internet use included age, race, employment status, marital status, parenthood, and place of residence. Age affects Internet use in the expected direction; as age increased, Internet use frequency decreased. Non-black racial minority respondents reported a significantly lower frequency of Internet usage compared to whites. Latinos and African-Americans did not differ from

whites. Being employed, single, without a child and living outside a rural area was significantly associated with higher frequency of general Internet use than being unemployed, married, a parent, and living in rural area. Gender did not have a significant direct impact on the frequency of general Internet use.

Table 2 also presents the subsample analyses of the model by gender. With regard to hypothesis 1, education and income had positive effects on the frequency of Internet use regardless of gender, and the effects did not differ significantly by gender (comparison t-statistics $p > .05$). Therefore, the hypothesis was supported for both genders; the size of the effects of socioeconomic status on Internet use was about the same between genders. The socioeconomic variables with other control variables explained 28.6% of variations in the frequency of Internet use for men and 29% of the variations for women.

Although gender did not have direct impact, nor interact with socioeconomic status, on the frequency of Internet use, subsample analyses showed interaction effects between gender and some of the control variables. Being a racial minority reduced the frequency of Internet use compared to whites, but this trend existed only for men. Women's Internet use was not influenced by race. While income was a significant predictor of the Internet use for both men and women, employment status was only significant for women which raised Internet use frequency if they were employed. Women were significantly affected by being married or cohabiting with a partner and by

having a child under the age of 18 living with them. Both of these family life characteristics were shown to lower the frequency of Internet use for women, but not for men. Women were also significantly influenced by living in rural areas, where their Internet use was reduced more greatly by living in a rural area while their male counterparts were not affected by rural residence. Employment, marital status, parenthood, and place of residence did not have any influence on men's Internet use.

Effects of Socioeconomic Status on Online Information Gathering Activities

Table 3 shows the multivariate results for hypothesis 2: a positive relationship between socioeconomic status and the frequency of online information gathering activities. Contrary to the expected direction of the relationship, the whole sample analysis showed that education had a significant negative effect on the frequency of online information gathering (education $b = -.130$, $p < .001$), controlling for individual, family, and regional characteristics. The effect of income was not significant. Therefore, hypothesis 2 was not supported. Socioeconomic status variables and control variables explained only 10.4% of variations in the frequency of online information gathering activities.

Table 3 - Effect of S.E.S. on Frequency of Online Information Gathering Activities

	Whole Sample		Male			Female	
	b	SE	b	SE		b	SE
Socio-economic Status							
Education	-.130 ***	.035	-.209 ***	.061	†	-.063	.041
Income	.038	.024	.059	.044		.025	.027
Individual Characteristics							
Age	-.019 ***	.005	-.023 **	.008	†	-.006	.006
Male (1=Yes)	.381 ***	.105					
Race - Black (1=Yes)	.589 ***	.150	.991 ***	.286		.532 ***	.165
Race - Others (1=Yes)	.015	.168	.533	.247	†	-.784 ***	.230
Latino (1= Yes)	.186	.139	.092	.233		.101	.166
Employed (1=Yes)	.289	.125	.273	.243		.213	.132
Family Characteristics							
Married (1=Yes)	-.284	.116	-.553 **	.201	†	.127	.137
Parent (1=Yes)	-.243	.113	.031	.190	†	-.495 ***	.135
Regional Characteristics							
Rural (1=Yes)	.367	.151	.359	.250	†	.386 *	.175
R-square	.104		.154			.070	
F	12.342***		10.167***			4.553***	
Sample Size	1184		570			614	

† = significant difference between male and female
*p<.05 **p<.01 ***p<.001

Other factors that had significant impact on information gathering activities include age, gender, and race. As age increases, frequency of online information gathering decreases. Males tended to use the Internet for information gathering more frequently than women. African-Americans, as compared to whites, reported a higher frequency of information gathering, while other racial and ethnic groups were not significantly different from whites. Employment status did not have significant impact on Internet use for information gathering nor did being married or cohabitating, being a parent, or living in a rural area.

Table 3 also reports the subsample analyses of the model by gender. Hypothesis 2 was not supported regardless of gender. Although education had a significant effect for men, the result indicated that the more education, the less frequently one uses the Internet for information gathering, which is contrary to the expectation. Age was only significant for men, following the negative trend as in the whole sample. Regardless of gender, African Americans reported higher frequency of information gathering activities than whites. However, for women of the "other" race category (not white and not African-American) there was a significant negative impact on the frequency of online information gathering compared to white women. Being married or cohabiting with a partner was significant for men which reduced the frequency of online information gathering as compared to women. For women, having a child under the age of 18 living with them resulted in decreased online information gathering. Unlike the previous model, women in rural areas had significantly higher frequency of online information gathering than their urban and suburban counterparts. Men were not impacted by the region in which they live. Following the trend of the whole sample: income, employment status, or being Latino had no significant effect for men and women on the frequency of online information gathering. The socioeconomic variables with other control variables explained 15.4% of variations in the frequency of online information gathering for men and 7% of the variations for women.

Effects of Socioeconomic Status on Online Social Networking Use

Table 4 shows the multivariate results for hypothesis 3: a positive relationship between socioeconomic status and the frequency of social networking Internet site use. In the whole sample model, education had a significant positive effect on the frequency of social networking use (education b= .185, p<.001), holding effects of individual, family, and regional characteristics constant. Income was not significant. Therefore, hypothesis 3 was partially supported by the whole sample. Socioeconomic status and other control variables explained 14.6% of variations in the frequency of online social networking use.

Table 4 - Effect of S.E.S. on Frequency of Online Social Networking Use

	Whole Sample		Male			Female	
	b	SE	b	SE		b	SE
Socio-economic Status							
Education	.185 ***	.013	.210 ***	.018	†	.159 ***	.018
Income	-.014	.01	.023	.015	†	-.041 **	.014
Individual Characteristics							
Age	-.028 ***	.001	-.030 ***	.002		-.029 ***	.002
Male (1=Yes)	.004	.038					
Race - Black (1=Yes)	-.058	.062	-.139	.091		.001	.085
Race - Others (1=Yes)	-.013	.074	-.146	.099	†	.215 *	.109
Latino (1= Yes)	-.041	.062	-.069	.089		.028	.088
Employed (1=Yes)	.191 ***	.046	-.029	.076	†	.284 ***	.058
Family Characteristics							
Married (1=Yes)	.032	.044	-.002	.066		.088	.061
Parent (1=Yes)	-.137 ***	.042	.047	.061	†	-.322 ***	.058
Regional Characteristics							
Rural (1=Yes)	-.061	.051	-.021	.075		-.111	.069
R-square	.146		.177			.142	
F	62.461***		41.893***			48.104***	
Sample Size	4046		1960			2085	

† = significant difference between male and female
*p<.05 **p<.01 ***p<.001

Other factors that had significant impact on frequency of online social networking use include age, employment status, and parental status. Age continues the trend of the previous two models; as age increases, social networking use decreases. Similarly, being a parent with a minor who lives at home decreased the use frequency of social networking. As with the frequency of overall Internet use, having a full or part-time job increased the frequency of social networking use.

The subsample analyses by gender presented in Table 4 showed that hypothesis 3 was partially supported for both genders. For women, both education (b= .159, p<.001)

and income (b= -.041, p<.01) had significant impact on the use of the Internet for social networking; however the direction of income is the opposite of the expectation. As income increased, frequency of social networking use decreased for women. For men, only education had a significant positive effect (b= .210, p<.001) on social networking use. The effect of education and Internet use for social networking is also significantly different between genders (comparison *t*-statistics $p < .05$) with education for men showing a much greater positive effect than for women. The socioeconomic variables with other control variables explained 17.7% of variations in the frequency of online social networking use for men and 14.2% of the variations for women.

Following the trend of the previous models, as age increased social networking use for both genders decreased. The impact of age is not significantly different between genders, however (comparison t-statistics $p > .05$). Concordant with the other models, being a parent significantly decreased frequency of Internet social networking for women, but not for men. Women of the "other" race category (not white and not African-American) showed a significantly higher frequency of social networking use than white women, but such trend did not exist for men. Employment significantly increased social networking use for women, but men's Internet use for social networking was not impacted by employment status. Employment status, race/ethnicity, marital status, and parenthood did not have any significant influence on men's social networking use, and living in a rural area had no significant effect for either gender.

Chapter 5

DISCUSSION AND CONCLUSION

This chapter summarizes the results of this research. First, I will highlight the main findings based on the whole sample. Second, a discussion of main findings based on the subsample of gender will be presented. Next, I will situate the findings of this study within the literature on and the theoretical frameworks of *the digital divide*, *cultural capital,* and *technical capital,* which guided this study. Lastly, I will discuss the limitations of the study.

Overall Sample

This study investigated how socioeconomic status (income and education) affected the frequency of Internet utilization in general and different uses of the Internet: frequency of gathering information online and frequency of online social networking activities. Generally, the findings were consistent with the literature on both the availability and access to high-speed Internet. Education was a significant predictor of all types of Internet use. As has been shown in prior research (e.g., Martin and Robinson 2007), education increased both overall Internet use and social networking uses. However, unexpectedly, education decreased the frequency of information gathering. At first this seems backward; however, more education may help develop alternative information-gathering skills and expose a person to alternative information resources, such as libraries, periodicals, etc. Education may also result in increased critical thinking

skills, then the more education a person accumulates, the more he/she might become able to critically examine the information presented online, which may lead him/her to not rely on the Internet as a primary information source by taking into account other sources of information. This has been found repeatedly (e.g. Johnson and Kaye 1998; Mulder 1981) with different sources of mass media (television, print, and the Internet): "the young, less educated, and lower income Web users judged the Internet as more credible." (Johnson and Kaye 2004:40).

Surprisingly, income predicted only the overall frequency of Internet usage, but did not have significant relationships with online information gathering and social networking. That is, while income did not predict the specific types of the Internet use, income did have an impact on the frequency of general Internet use. Income's inability to predict specific types of Internet use may have been because income determines the access to or adoption of the Internet and the specific purpose of using the Internet may depend on other factors, such as education, gender, and characteristics of residential areas. Smith (2010) showed that making $30,000 a year seemed to be the point where broadband adoption takes off. $30,000 a year is not a very large annual household income and according to the US Census Bureau is an attainable income level for many working-class households (DeNavas-Walt, Proctor, and Smith 2011). Clearly, the findings demonstrated that education and income – aspects of SES – have a unique impact on one's pattern and frequency of Internet use. In other words, education and income did not uniformly influence the specific purposes of Internet use. Future studies should

investigate what it is about education and income that have different impacts on Internet use patterns.

In addition to the main findings, an effect of age was consistent with the literature (Horrigan 2007, Smith 2010); the older a person, the lower the frequency of Internet use. Rural living was associated with lower frequency of overall Internet use compared to living in non-rural areas. Compared to whites, being part of the "Other" racial group (non-white, non-African-American) showed a drop in frequency of general Internet use, and, being an African-American had a positive impact on the frequency of online information gathering. This may be due to the fairly recent boom in African-American household high-speed Internet connections (Smith 2010). Using Rogers (2003) diffusion of innovations framework, African-American households may be termed as later adopters of high-speed Internet and thus are using the Internet for information gathering at a disproportionately higher rate than whites and English-speaking Latinos due to the novelty of easy access.

Gender, SES and the Internet

This thesis posed an exploratory question whether gender conditions the effects of SES on the overall Internet use and specific purposes of the Internet use. Gender had a less clear-cut impact on Internet use and specific purposes of the use. Education was significant for men in predicting overall Internet use, Internet use for social networking, and online information gathering. More specifically, the more education men had, the

more frequently they utilized Internet in general and for social networking and information gathering purposes. However, for women, education was not always a significant predictor of Internet use. Education was a significant positive predictor for women in regard to overall Internet use and social networking activities, but not for information gathering.

Income, when analyzed by gender, matched the trends of the overall sample in Internet use and information gathering. However, contrary to the whole sample results, higher income was associated with lower frequency of social networking activities only for women. Social networking may be considered more of a leisure time activity, as it is not related to general Internet usage or information gathering, which may be useful skills learned at the workplace. As such, leisure activities require more time and money; women tend to make less money than men (18% less in median weekly earnings) and so income may impact women more severely (U.S. Bureau of Labor Statistics 2011).

Alternatively, lower-income women may utilize the Internet for social networking more often as a means of status attainment compared to higher-income women and men in general. Compared to their higher-income counterparts, lower-income women may face an additional hurdle to employment based not only on gender but income as well. Such barriers in employment are often faced in the form of difficulty entering male-dominated professional networks. Social networking becomes crucial for women to climb up the corporate ladder (Davies-Netzley 1998). Higher-income women may have the

cultural resources and structural arrangement (i.e. schooling, access to professionals in the field, etc.) to gain access to professional networks. While lower-income women are at a cumulative disadvantage (Karabel and McClelland 1987), by being both female and of lower income, as such, they may utilize social networking websites as a form of professional networking to help gain entry.

Rural residence significantly impacted women's Internet use, but not men's use. In the case of overall use of Internet, living in a rural area significantly reduced women's abilities to get online compared to living in urban or suburban areas. However, living in a rural area increased the frequency of information gathering for women. Perhaps because of living in a more remote area, with less access to common suburban/urban institutions such as libraries, shopping malls, bookstores, etc., women were more likely to do research online. This fits with previous literature (ex. Milkie 1999) that found that media is an important way for young women in rural areas to try to understand the rest of the world and to have pseudo-contact with others in the larger world through mass media.

Gender and Impact of Family and Work. The findings of this study demonstrated that gender exerts a strong impact on Internet use through family and work arrangements. In predicting Internet use in general and for specific purposes, being a parent significantly and consistently decreased the frequency of a woman's Internet uses. For men, parental status was never significant. Marital status also impacted women more consistently than men. Being married or with a partner decreased general Internet use frequency and

frequency of social networking use for women. For men, being married only decreased the frequency of information gathering; general Internet use and social networking use were unaffected by the marital status of men.

Employment status was never significant for men but being employed had a positive impact for women's general Internet use and online social networking. Given that much of the findings impact women rather than men, this may point to the ways in which our society is still quite gendered. Working women have the "second shift" (Hochschild 1989). The social expectations of their role as mothers, wives, girlfriends, and/or daughters require them to work both a shift at work and shift at home doing homemaking. These traditional gender roles require women to spend more time focused on the spouse, children, and general household chores (Coltrane 1989). This may mean less leisure time to explore the online realm. Employment increased frequency of Internet use for women, likely because those who work may have more connections (social networking) outside the home. As prior literature showed (e.g. Castells 2001, Ono and Zavodny 2003), more and more fields of employment require computer skills, thus the women who are employed may get more familiar with computers when on the job, while traditional social roles of women may constrain their Internet use

Theoretical Implications

Using the frameworks of digital divide and cultural and technical capital, the goal of this study was to shed light on relationships between socioeconomic status and Internet

use. The digital divide is a term used to describe the inequalities that exist in access to, and training for, computers and the Internet. Cultural Capital is use of language, formal education, and lifestyle that are socially constructed as desirable or valued to gain resources or power. Technical Capital is a resource whereby people use their technical skills and expertise to gain resources. Combining these ideas, I hypothesized that the higher the SES (education and income), the more frequent use of the Internet in general and for information gathering and social networking.

The findings generally support the framework of the digital divide. There were indeed groups with less access and more access. The indicator of education played a significant role in shaping people's frequency of Internet use. However, it was not always in the predicted direction. According to Rogers' (2003) Diffusion of Innovations theory, individuals who are more likely to adopt innovations earlier and use it more often tend to have more years of formal education and a greater degree of upward social mobility. Education increased the frequency of general Internet use and of online social networking. Contradicting the Diffusion of Innovations theory, higher education tended to reduce the frequency of the Internet for information gathering. The variables used in this study were about utilization of the Internet and not adoption in-and-of-itself. Future studies should pay close attention to the distinction between utilization and adoption. If a person has access to (i.e. adopted) the Internet, it does not guarantee that the person will use it or use it for the specific purposes measured by the dataset.

The findings also reveal that the digital divide is beyond the standard measures of socioeconomic status; the divide is narrowed or widened based on gender and family characteristics. The current study showed that having a child at home and/or being married can dramatically decrease a woman's frequency of Internet use. The same cannot be said for men; the men in the study were rarely affected by their family life. This raises questions of gender equity in the home, gendered occupations, and gendered socialization of attitudes toward using computers and the Internet.

As an increasingly important form of capital, technical capital must be more seriously studied. Technical capital is accrued through "education, economic means, and social networks that include others knowledgeable about ICT [Information and Communication Technology], and unfettered access to ICT" (Brock, Kvansy, and Hales 2010:1042). It is the third criteria that may have been seen indirectly through the results of the analysis of the family characteristics. One must have unfettered access to ICT. Unfettered access simply may not be possible to women with children, as they are busy working and caring for children, and these activities appear to be a detriment to Internet use. Similarly, the second criterion is that a person uses social ties to others knowledgeable about computers and the Internet to gain technical capital. Nguyen (2011) in her work with Vietnamese American immigrants and their children found that the low income, less educated, families in her sample had a difficult time attaining computer skills since their parents were unskilled; often seeking help from teachers and peers, the children would often then try to teach basic computer skills to their parents. Without a

broad group of people who are also technology savvy to interact with on a regular basis, this limits the ability to accrue technical and cultural capital. This may explain why there was decreased Internet use with the "Other" racial minorities' category. This also applies to any group of people who are less likely to be surrounded by technically savvy people such as the people with lower level of education, senior citizens, stay-at-home parents, and rural residents.

Limitations and Future Studies

While an effort was made to select a dataset that represents the general U.S. population, the data were only collected from English-speaking households and neglected non-English speakers. The research from Ono and Zavodny (2008) found that recent Latin American immigrants that only speak Spanish were substantially less likely to use information technology. This is a possible explanation as to why respondents who identified as Latino had no significant interactions with the dependent variables. However, with the present data, meaningful investigation of the role of spoken language is impossible. Future studies should consider employing a linguistically more diverse sample.

It is clear from the findings in this study that gender needs further examination. A different approach, such as qualitative study, would be beneficial in comparing the processes of information and communication technology knowledge transmission (formal training, informal peer feedback, searching online for answers, etc.) of a group of men

and women. How does each gender find the resources for what they need to know to get online and to be proficient with the variety of online tools? The quantitative secondary data analyses done in this study were helpful in highlighting the general tendencies in the U.S. population, but are not possible to show the standpoint of each gender in depth.

Conclusion

Education played a significant role in the frequency of the three different models of Internet uses, however contrary to prior literature, education was shown to decrease the frequency of Internet information gathering activities. Income had much less of an impact than prior literature had found. The analyses by gender found new patterns for men and women that had previously been left out of most prior investigation of digital divide as they tended to focus on socioeconomic inequality. The gender subsample results pose new questions about how men and women are socialized differently in regard to the encouragement of the use of computers and how variables beyond education and income shape access to, and interest in, gaining general Internet and computer skills.

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