

Digital Feedback: Trends in Constituents' Communication with Elected Officials

Chelsea Hickey

Thesis submitted to the faculty of the Virginia Polytechnic Institute and State University  
in partial fulfillment of the requirements for the degree of

Master of Arts  
In  
Political Science

Craig L. Brians, Chair  
Dennis X. Medina Vidal  
Jason P. Kelly

May 7, 2013  
Blacksburg, Virginia

Keywords: Digital Political Communication, Age, Race, Income, Education

Copyright 2013

# Digital Feedback: Trends in Constituents' Communication with Elected Officials

Chelsea Hickey

## ABSTRACT

Individuals born after 1980 are often immediately labeled with the term, “digital generation”. This label assumes that young people are fluent, proficient, and constant users of digital media. This thesis explores digital communication behavior in the context of political communication. This thesis begins with an exploration of how age influences digital political communication, finding that while young people prefer digital media more so than older generations, they are less likely to utilize those media to communicate with government officials. Following the age comparison, this thesis examines race, income, and education as indicators for digital political communication. This thesis utilizes secondary data analysis of surveys collected by PEW Internet & American Life Project between 2003 and 2009. The findings herein suggest that although young people prefer digital communication in politics, the millennial generation continues to lag behind older generations in *actual* digital political communication behavior. Additionally, this thesis finds that young people falling into minority groups, with low-income and low-education are less likely to utilize digital political communication media than older Whites with high-income and high-education.

## Table of Contents

List of Tables .....	iv
List of Figures .....	v
Chapter 1: Introduction .....	1
Chapter 2: Literature Review .....	6
What is a Digital Native? .....	8
Digital Technology and Politics .....	10
Social Media and Political Communication .....	13
Theory .....	13
Hypotheses .....	14
Chapter 3: Research Design .....	17
Measurement/Methods .....	17
Control Variables of Interest .....	19
Chapter 4: Do Young People Communicate Differently? .....	23
Communication Media Preference, by Age .....	23
Do Older Generations <i>Actually</i> Communicate more through Non-Digital Media? .....	27
Do younger generations communicate more through <i>digital</i> media? .....	30
Where do text messages fall in the mix? .....	32
Chapter 5: Digital Political Communication by Race/ethnicity, Income, Education, and Age ....	35
Why Race/ethnicity, Income, and Education? .....	35
Logistic Regression Model .....	39
Chapter 6: Conclusions and Implications .....	53
Appendix .....	58
A. List of Relevant Survey Questions .....	58
B. Statistical Output .....	59
C. Predicted Probabilities Scenarios .....	76
Works Cited .....	77

## List of Tables

Table 3. 1 Demographic Description of Datasets .....	18
Table 4. 1 Percent of Americans Preferring Media Type to Communicate with Government Official, By Age.....	25
Table 4. 2 Percentage of Americans Believing Digital Media Improve the ways that they Interact with Gov Officials.....	27
Table 4. 3 Percent of Americans who have Communicated through Different Media with a Gov Official by Birth Year .....	28
Table 4. 4 Percentage of Americans who Signed up to Receive Alerts from Gov Officials (2009) .....	34
Table 5. 1 Sample Sizes for Demographic Groups.....	38
Table 5. 2 Change in Log Odds of Emailing a Gov Official by Demographic Inclusion in the Model .....	41
Table 5. 3 Frequencies and Beta Coefficients used to Calculate Predicted Probabilities (2003 & 2009) .....	43

## List of Figures

Figure 4. 1 Change in % of Americans Who Prefer Media by Birth Cohort (2003-2009).....	26
Figure 4. 2 Type of Non-Digital Communication Based on Age (2009) .....	29
Figure 4. 3 Percentage of Americans who have Sent Email to an Elected Official .....	31
Figure 5. 1 Predicted Probability that Respondent will send an email to a Gov Official - Low-Income/Low-Education (2003).....	45
Figure 5. 2 Predicted Probability that Respondent will send an email to a Gov Official - High-Income/High-Education (2003) .....	46
Figure 5. 3 Predicted Probability that Respondent will send an email to a Gov Official - Low-Income/Low-Education (2009).....	47
Figure 5. 4 Predicted Probability that Respondent will send an email to a Gov Official - High-Income/High-Education (2009) .....	49
Figure 5. 5 Differences in Predicted Probability Between 2003 and 2009 - Low-Income/Low-Education .....	50
Figure 5. 6 Differences in Predicted Probability Between 2003 and 2009 - High-Income/High-Education .....	51

## **Chapter 1: Introduction**

In today's political world, a growing emphasis is placed on digital political communication. Both citizens and political actors increasingly use Internet technology to convey promises, desires, and plans for the future of the United States. In recent decades, political communication studies increasingly emphasize the use of digital technology. Through the introduction of new technologies, constituents' options for communicating with government officials have clearly expanded.

Interest in digital political communication is on the rise in the United States, particularly the popular literature. Headline stories surrounding digital communication between public officials and constituents abound. In the recent 2012 Presidential election, popular social media news site, Mashable, published an infographic depicting Barack Obama as "ruling the email election" with constituents (Prakash, 2012). Additionally during the 2012 campaign, CBS released a study by PEW Research Center, claiming that campaign contributions from Democrats were more likely to be made through text messages or online contributions. These text message contributions constituted ten percent of Barack Obama's total funds raised in his 2012 campaign (CBSLocal, 2012).

Specifically, in 2008 and increasingly in 2012, Americans experienced an unprecedented use of technological communication by the Obama campaign in an effort to connect with "plugged-in" voters. According to reviews of 2008 campaign strategy, the Internet presence in the Obama camp more than doubled that of opponent John McCain (Hendricks & Denton, 2010). Obama's use of YouTube videos, social networking, online media, text messages, and digital response systems seemed to welcome in a new era of digital communication between constituents and elected officials in the United States.

Digital political communication is not limited to those seeking the office of the president, however. In 2011 in order to assist with easy and cheap constituent communication, an online grassroots effort was created which urges Americans to “Tweet Congress” and provides a comprehensive list of US Representatives who have Twitter pages (IdeaLoop, 2011). Additionally, USA.gov provides a comprehensive list of email contacts for all levels (presidents, governors, senators, representatives, etc.) for ease of constituent communication (USA.gov, 2013).

In addition to popular culture, Scholarly studies agree with this increasingly digital political communication landscape. Public officials often incorporate large digital efforts into campaigns, allowing for more ease of access and widespread constituency response (Howard, 2005). While more traditional forms of communication from constituents were often arduous, lengthy, and costly, digital survey techniques and communication systems are much faster and cheaper for constituents and public officials alike (C. A. Hill, 2003).

While much of the literature focuses on emerging digital communication by campaigns and office-holders, many studies examine emerging communication media used by the average citizen. Citizens’ actual *behavior* is critical to understanding the impact of the Internet on political communication (Min, 2010). It seems that citizens in the digital age face the same challenges as citizens before the rise of the Internet. Communication through digital media declines among citizens when there is limited access to the Internet, when the citizen does not feel that their voice matters, and when the citizen is unsure of the trustworthiness of the information (Gurevitch, Coleman, & Blumler, 2009). For many citizens, the uncertainty surrounding digital media creates what is termed a “democratic divide” (Min, 2010).

The democratic divide refers to the various demographic and attitudinal factors which influence digital communication in politics (Min, 2010). Many factors such as income, education, race/ethnicity, and skill influence citizens' likelihood of utilizing digital communication for political purposes (K. A. Hill & Hughes, 1998); (Norris, 2004); (Mossberger, Tolbert, & Gilbert, 2006). These studies demonstrate that it is critical to explore the behavior of constituents themselves, as technology has shifted political communication to what is now a two-way street.

This thesis builds on the existing foundation of digital political communication by outlining trends over time based on analysis of multiple nationally representative datasets. Trend analysis over time will allow for conclusions specifically regarding potential shifts or consistency in constituent behavior.

In the following chapters, I highlight the necessity for an over-time analysis of the gap between digital political communications by different age groups. Age is a particularly important variable in this thesis, because age influences individuals' approaches to, avoidance of, efficacy from, cynicism of and participation in digital political communication (Lariscy, Tinkhan, & Sweetser, 2011). Specifically, young people are more likely to use the Web to gain political knowledge and communicate (Wattenberg, 2004). This thesis will expand this claim into present day, while also distinguishing between various types of communication (i.e. texting, email, phone calls and mail-in correspondence) to determine whether there is a bias toward a specific technique or communication tool.

As a politician in this increasingly technological world, it is no longer enough to simply reach out to a constituency face-to-face. Politicians and political leaders must keep up with the latest and greatest when it comes to new gadgets and technologies. Without an up-to-date

understanding of these technologies, government officials run the risk of falling behind more savvy opponents in a failure to connect with the increasingly “plugged-in” world. Particularly with the increasing use of digital communication technology among young people, politicians must tailor their strategies and techniques to mimic the technological trends in political communication. Throughout the coming decades, I expect an upward trend of texting and mobile-phone campaigning, as well as strong political drives on social networking sites and online contribution solicitations.

The following chapters examine constituents’ methods of communication with the express purpose of identifying whether young people differ fundamentally from older generations in their communication with elected officials. The evolution of younger citizens’ political communication is documented through survey data collected over a period of years. I find substantial support for my claim that: younger people prefer digital media more than older generations and feel that digital communication is important to their political participation more than older generations. Despite this desire for and increased efficacy from digital media, young people are also less likely to utilize digital media to communicate with government officials. Finally, I find that older generation Whites with high income and high education have the highest probability of communicating with a government official via digital media.

This thesis develops its arguments and tests each of them over the course of six chapters. The first two chapters contain the introduction and literature review. The third chapter presents the research design, data description and sample description.

The fourth chapter begins the substantive analysis testing the hypotheses that young people are more likely to utilize various methods of digital communication with elected officials. This chapter focuses solely on the influence that age has on political communication. This

analysis relies on original analysis of secondary data collected from various PEW Internet & American Life Project Surveys between 2003 and 2009.

The fifth chapter expands these analyses to include a multitude of control variables to explain constituent communicative behavior. These control variables include: race/ethnicity, income and education. Chapter five will contain the evolution of a regression model which explores four possible models in conjunction with predicted probabilities of various demographic scenarios in order to determine the likelihood of emailing a government official.

The thesis concludes in the sixth chapter which summarizes the findings, suggests possible implications of this research, and presents several avenues for productive future research. Namely, while younger generations favor digital media, older generations continue to utilize all forms of communication more than young people. Thus, further research should explore more tailored outreach to young people. Additionally, further research should develop techniques for increasing young people's motivations to be heard by government officials.

Among this thesis' strengths is its utilization of data spanning 2003 to 2009, permitting analysis of the consistency of youth behavior. These findings allow prediction into the future, suggesting that young people in the 2016 presidential election will likely desire the option for digital communication, however will lag behind older generations in actual use of such media.

## **Chapter 2: Literature Review**

Since the beginning of the United States, leaders have sought political feedback from their constituents. As far back as the founding fathers, these leaders cast great importance on the ability of citizens to communicate desires, values, and opinions with elected officials. Early non-digital forms of citizens' feedback included newspapers as well as broadsides (Berry, 1984); (Golden & Golden, 1993). Today, due to the high accessibility and volume of such feedback, elected officials hire entire divisions of professional staff to perform constituency service (Russell, 2004).

In the years following World War II, political communication through mass media flourished, expanding readership nation-wide (Blumler & Kavanagh, 1999). In the 1960's the mass distribution of limited-channel television broadened the reachable audience for political communication, allowing for visual depictions of communicative messages from elected officials (Blumler & Kavanagh, 1999). During the ages of both print media and television, communication was heavily one-directional – with a flow from the mass media to the individual consumer. Due to limitations posed by an era of reduced television broadcast, the effort was much larger for the constituent to reach out to an elected official than it was for the elected official to convey a message to a wide audience.

Today, constituents enjoy a wide range of two-way media for communicating with government officials. In addition to traditional mail-in communication, many officials offer digital options such as email, Facebook, tweeting, and texting. This broadened variety of media allows constituents to choose which is most comfortable and perhaps (in their minds) most effective in providing feedback to government officials.

Whether at the national, state, or local level, elected officials continue to depend on feedback from their constituents (Fenno, 1977). This feedback is critical to elected officials because most face re-election on a semi-regular basis<sup>1</sup>. Without attention to feedback, elected officials may incorrectly allocate time and energy in ways that do not align with the needs of the constituency (Miler, 2010, p. 2). Officials are therefore beholden to evaluation by those constituents that have the power to influence re-election (Mayhew, 2005).

Today, scholars and elected officials track constituents' communication patterns, documenting their influence on elected officials (Kaid, 2004). In particular, scholars have found that office-holders and candidates rely heavily on survey data and freely-offered feedback from constituents. However, freely-offered data (in the form of email, phone calls, text messages, and campaign contributions) may fall prey to accessibility bias when analyzed by office-holders and candidates (Miler, 2010, p. 6). Thus, it is critical to study the common characteristics of individuals who are more likely to reach out to government officials in order to understand and manage such potential biases.

This thesis seeks to update the study of constituent communication, focusing on young people in the digital age. Most importantly, this thesis will evaluate constituent behavior at different points in time in order to establish consistency across the 2000 decade. Ultimately, this enhancement will target the question: Do young people communicate *politically* more through digital media than older generations? From reading popular or scholarly commentary, one might assume that the so-called “digital natives” are much more likely to use digital communication sources in all aspects of their lives and are much better at it.

---

<sup>1</sup>Another function of this feedback is trust. This trust can be established through effective communication. Once established, constituent-official trust relationships benefit both the constituent (increased efficacy) and the official (capability to act as a trustee) (Burke, 1774).

## **What is a Digital Native?**

In 2001, Marc Prensky advanced the concept of digital natives, claiming that individuals who grow up engrained in the digital world process digital information differently due to physiological changes in the brain itself (Prensky, 2001b). This relationship to brain structure was a revolutionary theory in the world of digital processing. Prensky claims that this “Net-generation” will have a difficult time stepping backward into non-digital communication techniques once they have grown accustomed to the fast-pace abundant access that digital technologies provide (Prensky, 2001a, p. 2).

Digital natives are defined as “native speakers of technology, fluent in the digital language of computers, video games, and the Internet” (Prensky, 2006, p. 8). Furthermore, those termed digital natives grow up with ready-access to computers, the Internet, advanced gaming systems, and are comfortable with technology. They are native to the digital arena and are often quite comfortable navigating, searching, and locating vast sources of information with the click of a mouse (Stewart & Bernhardt, 2010). Contrastingly, digital immigrants are defined as “hav[ing] adopted many aspects of the technology, but just like those who learn another language later in life, [they] retain an ‘accent’ because [they] still have one foot in the past” (Prensky, 2006, p. 8).

In recent years, Marc Prensky’s claims of a changing physiological landscape have met controversy. Many scholars claim that while metaphorically descriptive, Prensky’s notion of a “digital native” being physiologically different from a digital immigrant is ill founded (Brown & Czerniewicz, 2010). Although the digital native is familiar with technology, these young people may not actually possess an intricate understanding of the ways in which the technology works nor an altered physiological brain structure (Guo, Dobson, & Petrina, 2008, p. 237).

Others scholars claim that the digital native student is fascinated by technology and is engaged in learning in the digital arena (McGlynn, 2005). Regardless of young people's use of and fascination with digital technology, Prensky may exaggerate the notion of a deeply engrained physiologically evolved understanding of that technology.

Rather than portraying "digital natives" as possessing a physiologically altered brain, evidence has emerged that young people today may simply be more narcissistic and less informed of politics due to technological advancement in information access (Stewart & Bernhardt, 2010); (Twenge & Campbell, 2009); (Thomas, 2011). In fact, Mark Bauerlein of Emory University finds that young people today are six times more likely to accurately name the recent American Idol than to know the name of the Speaker of the House (Bauerlein, 2008). While young people's political knowledge is not the immediate focus of this thesis, if young people are indeed communicating through different media, future research may show that they learn through different media as well.

Whether or not today's young people have a physiologically unique digital skill set, research establishes that they are more likely to use digital communication media (Lariscy et al., 2011, p. 750). This increase in digital communication is the foundation for this thesis. This thesis extends the exploration of behavioral differences in digital communication of different age groups to the *political* realm.

Due to the aforementioned controversies surrounding Prensky's theories, this thesis will avoid the specific "digital native" terminology for those born after 1980 (Thomas, 2011). However, in the following chapters, I categorize individuals born during or after 1980 as "young people" for the purpose of age comparison, since they have lived their lives with readily-available access to computers (Wattenberg, 2012).

It is also important to note that political interest is a key factor in determining whether an individual will engage in political communication with government officials (Prior, 2007). While young people today are highly invested in Internet technology for entertainment purposes, if they are largely disinterested in politics, it is possible that their Internet engagement will not translate to political communication. Individuals belonging to older generations tend to invest more time politically than young people (Prior, 2007). The following hypotheses predict that young people's political communication will be higher than older generations based on their overall higher use of digital technology. However, if young people are found to communicate politically less through digital media than older generations, that result may be due to the argument of political disinterest.

### **Digital Technology and Politics**

This section explores the contemporary campaign environment as well as voters' digital technology responses to that environment. Existing literature suggests a dramatically changing landscape for office holders and political candidates, due to the rise of the Internet and other digital media over the last couple of decades. Prior to the wide availability of these technologies, individuals typically garnered information on politics from newspapers, radio, personal encounters and television. In the past, politicians timed their communications to the news cycle, reaching out once or twice daily to their constituents (Kaid, 2004).

Today, the digital landscape of political communication has created an environment that allows high speed, high volume communication between constituents and their elected representatives. Politicians and elected officials increasingly recognize the importance of focusing attention on digital communication, with over 210 million Americans having access to the Internet in 2011 (Trent, Friedenber, & Denton, 2011). Elected officials and candidates no

longer need to storm the streets in order to garner support and/or feedback because they can access individuals through the Internet and telephone at the click of a button (Guzman, 2007).

Specifically, constituents are more likely to participate in politics in general when the cost is low. Internet technology and digital political communication media provide a low-cost, low-risk environment for constituents (Bimber, 2001, p. 54). In other words, individuals are more likely to engage with elected officials when doing so does not require high levels of initiative, money, or time on the part of the constituent. The Internet acts as a low-cost, low-risk outlet for many Americans to participate in politics and voice their opinions.

Additionally, *campaigns* since 2000 have capitalized on advantages awarded to political outreach through digital media. Specifically, in 1999, Senator John McCain began a trend toward online campaigning with the introduction of McCain2000.com (Tomlinson via Kaid, 2003). In addition, during the 2000 general election, both the Democratic National Convention and Republican National Convention established strong cyber campaign presences in order to collect support and encourage voting (Tomlinson via Kaid, 2003). This change in campaign style permanently altered the face of campaigning in the United States.

Another term used to describe the shift toward digital campaigning is “hybrid campaigning”. Hybrid campaigning employs mixed methods in terms of television advertising, phone canvassing, and Internet outreach (Kerbel, 2009, p. 146). Hybrid campaigning reinvigorates the personal relationship between politicians and constituents. Internet technology and hybrid campaigning mandate a focus on individual citizens and forces candidates to respond to the opinions and values of those who elect them to office (Kerbel, 2009, p. 146). This increases the influence of individuals in relation to large interests because Internet advertising and outreach are cheap and widely accessible to the public. As such, elected officials can focus

more efforts on responding to the needs and desires of their constituencies without having to focus solely on simple fundraising efforts.

The notion of hybrid campaigning is a critical piece of the dialogue surrounding Internet communication between constituents and elected officials. Internet communication is changing the face of representative interaction (Kerbel, 2009, p. 148). The efficient and quick accessibility that the Internet and digital political communication provide increases the accountability of politicians to the will and needs of the people (Cook, 1998).

A key example of the rise of Internet campaigning was John McCain's integration of Live Internet Campaign Fundraising. Incorporating digital communication in his effort to garner support, John McCain was able to raise funds across the nation by establishing a system for online contributions. Consequently, "the McCain Internet effort was not simply a component of the campaign but was fully integrated into all aspects of the organization" (Tomlinson via Kaid, 2003, p. 180). The use of online contributions in this instance saw one of the first elections in history characterized by over 60% of online donations given by individuals under age 45 (Tomlinson via Kaid, 2003). This unprecedented figure highlights the importance of digital technology in political communication for young people.

Finally, voters respond to digital political campaigning when the campaigns engage, reach out, and offer creative infrastructure Online. Voters' response to digital campaigning has increased the amount of political communication through digital media, by providing an outlet for easier connection to political discourse and opinions. Additionally, Internet politics and campaigning draw voters in and heighten political interest through a blend of creative audiovisual and textual cues. Voters are drawn to websites for information and communication when they perceive the sites as providing interesting and helpful information (Lupia & Philpot,

2005). Increasingly politicians pique voters' interest through personal bios, videos, and invitations to contact the officials' office on their professional websites.

### **Social Media and Political Communication**

Much of the existing literature exploring digital technology's influence on political communication focuses solely on social media use by young people. With increased activity on social networking sites such as Myspace, Facebook, and Twitter, individuals exhibit increased political participation and communication, particularly with campaigns (Klotz, 2012).

Additionally, social media and networking sites bolster political communication by fostering debate and allowing for the establishment of "collective identities" (della Porta & Mosca, 2010).

In 2008, Barack Obama organized a highly technological campaign which utilized email, online donations, social networking, web site marketing, YouTube broadcasts, text messages and phone calls (Lutz, 2009). This campaign specifically relied heavily on social networking site feedback from young people. Furthermore, the reliance on social networking and digital campaigning assisted in mobilizing an historic number of young people to vote for Barack Obama in 2008 (Keeter, Horowitz, & Tyson, 2008).

While social networking sites foster collective discourse, media such as email, text messages and online campaign donations more closely mimic individualized and traditional communication efforts between constituents and public officials. Therefore, it is important to note that social networking is not the sole form of political communication in which individuals engage. This thesis seeks to expand the discussion of digital communication beyond social networking sites, instead focusing on email, and text message activity.

### **Theory**

This thesis will expand the current digital political communication literature beyond its focus on social media and isolated variables. Additionally, in this thesis I incorporate a

generational understanding of digital political communication, exploring the trends of communication media over time. This thesis seeks to differentiate the level and nature of digital political communication between young people and their elders. I will examine the theory that individuals born after 1980 communicate with elected officials more through digital media, because they have grown up embedded in technology and interact with it heavily in their social lives.

## **Hypotheses**

I test this theory in two stages. Chapter 4 consists of analyses that deal directly with age as an explanatory variable. I explore the relationships between age of the respondent and type of media, preference toward media, and efficacy toward government officials. The hypotheses in this chapter are:

*H<sub>1</sub>: Young people prefer to communicate with government officials through digital means more than older people.*

*H<sub>2</sub>: Young people communicate with government officials through phone calls less than older people.*

*H<sub>3</sub>: Young people communicate with government officials in-person less than older people.*

*H<sub>4</sub>: Young people communicate with government officials through traditional mail less than older people.*

*H<sub>5</sub>: Young people communicate with government officials through email more than older people.*

*H<sub>6</sub>: Young people sign up to receive text messages from government officials more than older people.*

Chapter 5 more deeply explores the impact of a set of variables that seek to explain the previous chapters' relationships. In this chapter, I introduce controls for tests of the main effect

(age), These variables include income, education, and race/ethnicity. This chapter investigates a number of testable hypotheses. These include:

*H<sub>7</sub>: Individuals with higher income are more likely to send email to government officials than individuals with lower income.*

*H<sub>8</sub>: Individuals with at least a high school degree are more likely to send email to government officials than individuals who have not obtained a high school degree.*

*H<sub>9</sub>: Whites are more likely to send email to government officials than minority individuals.<sup>2</sup>*

The foregoing research suggests that there is a critical changing trend in political communication in the United States that positions young people at the center of the dialogue. However, unexamined in this literature is the fundamental question: why do young people differ fundamentally in their communication with elected officials in the United States?

I expect that the results of this analysis will show that individuals born during or after 1980 utilize more email, texting and online contributions, and less mail-in and in-person correspondence with public officials than individuals born before 1980. Additionally, I expect to find that young people prefer to use digital media more than older generations. Finally, I expect to find that Whites with high-income and high-education utilize digital media to communicate with government officials more than minority individuals with low-income and low-education.

This thesis expands on existing literature, drawing the discussion of the digital generational gap into the political realm. Many existing studies address the importance of age on how individuals utilize digital technology (Stewart & Bernhardt, 2010), however few fully connect the relationship between age and communication media with politics.

---

<sup>2</sup> See Appendix A for a list of all relevant variables analyzed in this thesis.

Of the few studies that do make the political connection, most interpret this relationship from the top-down view of representative-communicating-with-constituent (Gurevitch et al., 2009), (Howard, 2005), (Carty, 2010) rather than evaluating behavior from the perspective of the constituent. This thesis will explore the behavior of constituents in the form of actual communication with public officials.

## **Chapter 3: Research Design**

### **Measurement/Methods**

While many existing studies examine the perceptions of elected officials themselves (Guzman, 2007; Williamson, 2009), this thesis directly evaluates constituent behavior. Digital political communication is a two-way street between constituents and officials. As such, examining behavior from the bottom-up is a critical piece in understanding the overall concept of communication by generation<sup>3</sup>.

This thesis follows a format used by Martin Wattenberg in *Is Voting for Young People* to capture trends over time. In table 7.4A, which compares political communication volume among varying age groups, Wattenberg includes data from the 1967 Political Participation in America Study, 1987 General Social Survey, and the 2004 General Social Survey to indicate an age trend (Wattenberg, 2012, p. 160). In much the same way, this thesis will combine analyses of multiple datasets in order to paint a more complete picture of trends over time.

### **Data Description**

The most appropriate way to gather mass, representative data on individual-level behavior is using surveys (Harris, Garramone, Pizante, & Komiya, 1985). Due to its focus on individuals' political communication behavior, this thesis capitalizes on existing nationally representative data from three individual PEW Research Center Studies between 2000 and 2009. These studies include: e-Government (2003), Civic Engagement (2008) and Government Online

---

<sup>3</sup> This two-way dialogue is exemplified through an examination of the number and volume of staffers that public officials employ to process and respond to constituent communications. Congressional members in particular receive and increasingly high number of constituent correspondence and employ a generous amount of staffers as “legislative correspondents” whose sole job it is to receive and process the high volumes of constituent communication (Cullison, 2009).

(2009)<sup>4</sup>. The PEW Research Center is a survey organization that has fielded hundreds of surveys querying the American public regarding everyday choices and behaviors. Internet and American Life Project is a division of PEW that has studied American Internet behavior for over a decade. For this reason, these data are highly appropriate for this thesis.

When studying trends over time, it is typical for scholars to employ several datasets that span a specific time period (Wattenberg, 2012)<sup>5</sup>. However, studying emerging technologies is extremely challenging due to both continuous changes in available technology and inconsistency in surveys querying of technological use. For example, in PEW's 2008 Civic engagement survey, email behavior was described as having:

“contacted a national, state or local government official in person, by phone, or by letter; sent an email to a national, state or local government official; signed a paper petition; signed a petition online)?” (PEW, 2008).

Contrastingly, in PEW's 2009 Government Online survey, the question was changed to read:

“use the Internet to send email to your local, state or federal government” (PEW, 2009).

Fortunately this change retains the essence of the email behavior that is necessary for this analysis; however, it illustrates the inconsistency present between surveys. Due to variation in question wording over the years, email is the only digital technology consistently available, and thus it will be used to operationalize digital political communication for this thesis.

*Table 3. 1 Demographic Description of Datasets*

---

<sup>4</sup> The sample sizes of these studies are: 2003 (n=2925); 2008 (n=2251); 2009 (n=2258).

<sup>5</sup> For further description of these datasets, please see the sample section of this chapter as well as Appendix A.

**Demographic Description of Datasets**

	<i>e-Government 2003</i>	<i>Civic Engagement 2008</i>	<i>Government Online 2009</i>
<b>Demographic</b>			
Survey Sample n	2925	2251	2258
Mean Age	46	48	46
Median Income	~50k	~50k	40k-50k
Median Education Level	at least HS Graduate	at least vocational/trade school	at least vocational/trade school
Margin of Error	+/-2%	+/-2%	+/-2%

Source: PEW Internet and American Life Project e-Governance 2003; Civic Engagement 2008; Government

Table 3.1 describes the typical case in each dataset. Each of the three datasets used in the following analysis is similar in mean age, mean income, and mean education level. Additionally, each dataset has a margin of error of +/- 2%. It is appropriate to compare the responses from these three PEW surveys due to their similarity in descriptive characteristics of the respondents.

**Control Variables of Interest**

Finally, much of the existing literature fails to address the control for multiple variables on the relationship between age and digital political communication. This thesis will explore each of these control variables through multivariate regression, rather than simply isolating one or two effects.

*Age*

Chapter 4 focuses solely on age as a factor in determining communicative preference and behavior. Studies show that age influences how individuals interact with digital media, with younger individuals typically more skilled in the use of digital technology and more prone to such use (Loges & Jung, 2001).

For all three datasets, the first birth-year cohort consists of individuals who were born after 1980. This group represents the Millennial generation, as well as the catalyst year that I use to define “young people”. The second birth-year cohort includes individuals born between 1961 and 1979. These individuals generally fall into the category of Generation X, which is

characterized by ambition and hard-work (Mitchell & New Strategist Publications, 2005).

Finally, the oldest cohort consists of individuals born before 1960. This cohort largely mirrors the Baby-boomer generation<sup>6</sup>. For the purposes of this thesis, I place a clean bookend using decades on each generation.

In order to consistently code each survey, I calculated the age range for each generation based on the year that the survey was collected. With these calculations, I created a new variable that contained the generational cohort (youngest, middle, oldest) for each respondent regardless of the year in which the data were collected<sup>7</sup>.

### *Race/ethnicity*

Race/ethnicity is an important control variable to consider in terms of digital political communication. According to PEW research center's 2009 Annual Tracking Survey from the Internet and American Life Project, no real difference exists among different race/ethnicities' use of the Internet to access government information (PEW, 2009b). However, additional factors may play interacting roles in the impact of race/ethnicity on digital political communication. In both the 2003 and 2009 studies, "minority groups" include African Americans, Hispanics, Asian/Pacific Islanders, and Native Americans/American Indians.

For instance, regardless of Kolko's depiction of widespread access to in-home broadband and personal Internet connections (Kolko, 2010, p. 147), racial effects may be impacted based on whether in-home broadband access actually identifies individuals who have computers and

---

<sup>6</sup> Obviously because this is the oldest age category, it also includes people born during and before the Second World War, sometimes called the "traditionalists" (Patterson, 2005).

<sup>7</sup> Ages included in each tercile for 2003 (from youngest tercile to oldest tercile) are 18-23; 24-42; 43-Oldest. For 2008 (from youngest tercile to oldest tercile) are 18-28; 29-47; 48-Oldest. For 2009 (from youngest tercile to oldest tercile) are 18-29; 30-48; 49-Oldest.

systems in place to be able to capitalize on that in-home access. True access to the Internet may potentially shift along racial and socioeconomic lines.

### *Income*

In the same way that race/ethnicity may play a factor in whether or not individuals can effectively utilize digital communication media, income appears in the literature as a positive indicator of web exposure. If individuals reside in an area that has the potential for high-speed Internet connections, as income increases, so does the likelihood that individuals will actually own or have access to a personal computer (Boyle, via Kaid, 2003). For this reason, this thesis will explore the impact that income of respondents has on the proposed age-communication relationship.

For the purposes of this thesis, I have recoded income to reflect the median United States household income respective to the years in which the survey was conducted. If the respondent fell below the median US household income in each year, the respondent was coded as low-income<sup>8</sup> (Census, 2013). I coded income as a dichotomous split in order to simulate either having access (high-income) or not having access (low-income). In this situation, it would be difficult to tease out various levels of access simply using income as an operationalization. Therefore it is most appropriate to use a dummy variable to indicate the respondents' levels of income in the model.

### *Education*

Popular literature regarding Internet use and communication finds that like income, education is positively related to web access (Loges & Jung, 2001). In particular, individuals with only some high school education are the least likely to tune into a campaign via the Internet

---

<sup>8</sup> Unfortunately, as the surveys did not inquire as to how many members each household contained, the following analysis is slightly limited in its understanding of "household income".

(Boyle, via Kaid, 2003). Consequently, education should be considered when developing a model for the factors influencing the age divide in digital political communication.

For the purposes of this analysis, high-education is coded as respondents who have attained at least a high school degree. For the following model, “at least a high school degree” may include high school graduates, trade school graduates, respondents with some college, bachelors degrees, masters degrees, or post graduate degrees.

I also coded education as a dichotomous split in order to simulate either having the necessary skill (high-education) or not having the necessary skill (low-income). While education is not the only potential operationalization for skill, many classrooms incorporate digital technology into everyday learning scenarios (even at the high school level). For this reason, education is the best indicator of the respondent having been taught the necessary skill to effectively communicate through digital technology.

#### **Chapter 4: Do Young People Communicate Differently?**

Initially, I begin by exploring the question: Do young people communicate differently with government officials than older generations? This question relies heavily on the actions, behaviors, and perceptions of individual constituents. In order to test this question, I analyze participant responses to various PEW Internet and American Life Study surveys between 2000 and 2009.

For the purposes of this thesis, I have split birth years into terciles in order to test the above hypotheses. These three cohorts span all ages included in each survey. In order to ensure that each cohort is substantively and descriptively homogenous, the three groups are not equal in size. Additionally, I recoded each dataset individually, as most outlined age in years-alive rather than the year of birth. Fortunately this recode ensures that the same groups of people are examined in each cohort regardless of the year that the survey was collected.

#### **Communication Media Preference, by Age**

As previously noted, the millennial generation is characterized as approaching technology in an optimistic and all-consuming way. This generation of young people is engaged in electronic technology and fascinated by the digital world (McGlynn, 2005). However, while many studies explore young people's interaction with entertainment technology (to say, communicate their vote for the next American Idol via text message), existing literature fails to explore whether that fascination translates to *political* communication. In order to determine the extent of this translation, this thesis explores the hypothesis:

*H<sub>1</sub>: Young people prefer to communicate with government officials through digital means more than older people.*

In order to test the above hypothesis, I included the PEW 2003 e-government Survey and the PEW 2009 Government Online Survey in the following analysis. The inclusion of both allows for comparison over time, particularly because both surveys contained the same question: “When you must communicate with a government official, do you prefer to communicate via phone, in-person, mail, web site, or email?” (Where phone, in-person and mail are coded as non-digital media, and web site and email are coded as digital media)<sup>9</sup>.

It appears that young people’s fascination with and preference for digital technology translates to political communication. According to Table 4.1, in a 2003 survey of American citizens’ electronic communication behavior, individuals born after 1980 were almost twice as likely as those born before 1960 to prefer digital media when communicating with a government official. This trend continued, with 2009 data showing that throughout the past decade, individuals in the millennial generation claim much greater preference for digital communication than those in the baby boomer generation, even when it comes to politics.

---

<sup>9</sup> Ideally this analysis would contain more survey years between 2003 and 2009 in order to pinpoint a catalyst year. Unfortunately, however, neither this question nor a form of this question was included in all survey years between 2000 and 2009.

*Table 4. 1 Percent of Americans Preferring Media Type to Communicate with Government Official, By Age*

Percent of Americans Preferring Media Type to Communicate with Government Official, By Age

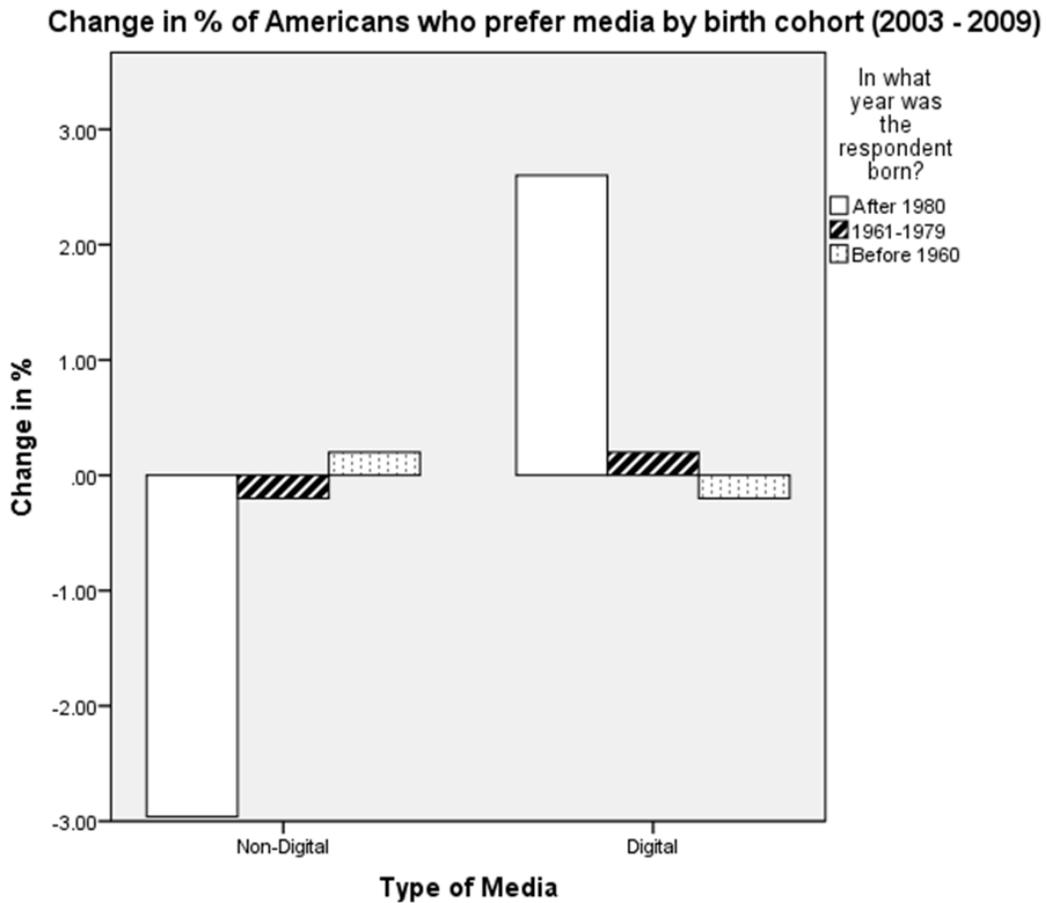
Year of Survey	After 1980		<i>Birth Year</i> 1961-1979		Before 1960	
	Digital	Non-Digital	Digital	Non-Digital	Digital	Non-Digital
2003	38.70 (599)	61.3 (315)	35.6 (791)	64.4 (1106)	19.60 (536)	80.4 (1867)
2009	41.3 (599)	58.7 (852)	35.8 (791)	64.2 (1420)	19.4 (536)	80.6 (2220)
<b>CHANGE</b>	<b>2.60</b>	<b>-2.60</b>	<b>0.20</b>	<b>-0.20</b>	<b>-0.20</b>	<b>0.20</b>

Note: Numbers contained in parentheses above denote cell counts. For the above table,  $\chi^2 = 160.095$  (2003) and  $\chi^2 = 269.132$  (2009).

Sources: PEW 2003 e-gov Survey; PEW 2009 Government Online Survey.

The visual representation presented in Figure 4.1 dramatically demonstrates the Millennial generation’s increasing preference for digital political communication between 2003 and 2009. This indicates not only that Millennials prefer digital tools to communicate with government officials, but they are perhaps increasingly passionate about that preference when compared to older generations.

Figure 4. 1 Change in % of Americans Who Prefer Media by Birth Cohort (2003-2009)



The relationship between age and preference in both 2003 and 2009 produced  $\chi^2$  values that are statistically significant at the 95% confidence level.<sup>10</sup> In addition to simple preference, both 2003 and 2009 surveys asked respondents whether they believe that digital media improve the ways that they interact with government. The results of this question, broken down by birth cohort are displayed in Table 4.2.

<sup>10</sup> See Appendix B for a full list of statistical tests and SPSS-generated output. This includes all tests of significance and strength of association, as well as any output utilized in subsequent chapters.

Table 4. 2 Percentage of Americans Believing Digital Media Improve the ways that they Interact with Gov Officials

Percentage of Americans believing digital media improve  
the ways that they interact with government officials

---

Year of Survey	Birth Year		
	After 1980	1961-1979	Before 1960
2003	69.70 (281)	74.40 (966)	68.40 (793)
2009	84.00 (1259)	82.50 (1872)	73.10 (1949)
<b>CHANGE</b>	<b>14.30</b>	<b>8.10</b>	<b>4.70</b>

Note: Numbers contained in parentheses above denote cell counts. For the above table,  $\chi^2 = 11.338$  (2003) and  $\chi^2 = 94.845$  (2009). "Believing digital media improve the ways that they interacts" is defined by: a response of "a lot"/"some"/"only a little" to the question, "How much, if at all, has the Internet improved the way you interact with the federal government? (2003); a response of "Strongly agree"/"Somewhat agree" to the question, "Having a way to follow and communicate with the government using [Internet] tools makes the government agencies and officials more accessible" (2009).

Sources: PEW 2003 e-gov Survey; PEW 2009 Government Online Survey.

As depicted in Table 4.2, in both 2003 and 2009 young people are more likely to believe that digital media improve the ways that they interact with government. Additionally, the gap in percentage between the oldest age group and the youngest age group in 2009 is much larger than the gap in 2003. Furthermore, the growth in positive responses between the two surveys for the youngest age group (+14.3%) is more than three times the growth for the oldest age group (+4.70%).

**Do Older Generations *Actually* Communicate more through Non-Digital Media?**

As evidenced in the previous section, younger generations (particularly individuals born after 1980) present a strong affinity for digital forms of communication with government officials. However, a preference for digital media does not guarantee that young people do in fact

utilize digital formats more than older people. The following analysis examines the actual *behavior* of younger vs. older generations in communicating with government officials. The first analysis will examine non-digital forms of communication through the following hypotheses:

*H<sub>2</sub>: Young people communicate with government officials through phone calls less than older people.*

*H<sub>3</sub>: Young people communicate with government officials in-person less than older people.*

*H<sub>4</sub>: Young people communicate with government officials through traditional mail less than older people.*

In order to examine the proposition young people communicate with government officials through non-digital means less than older generations, Figure 4.2 measures how many Americans claim to have communicated through traditional, non-digital forms of communication.

*Table 4. 3 Percent of Americans who have Communicated through Different Media with a Gov Official by Birth Year*

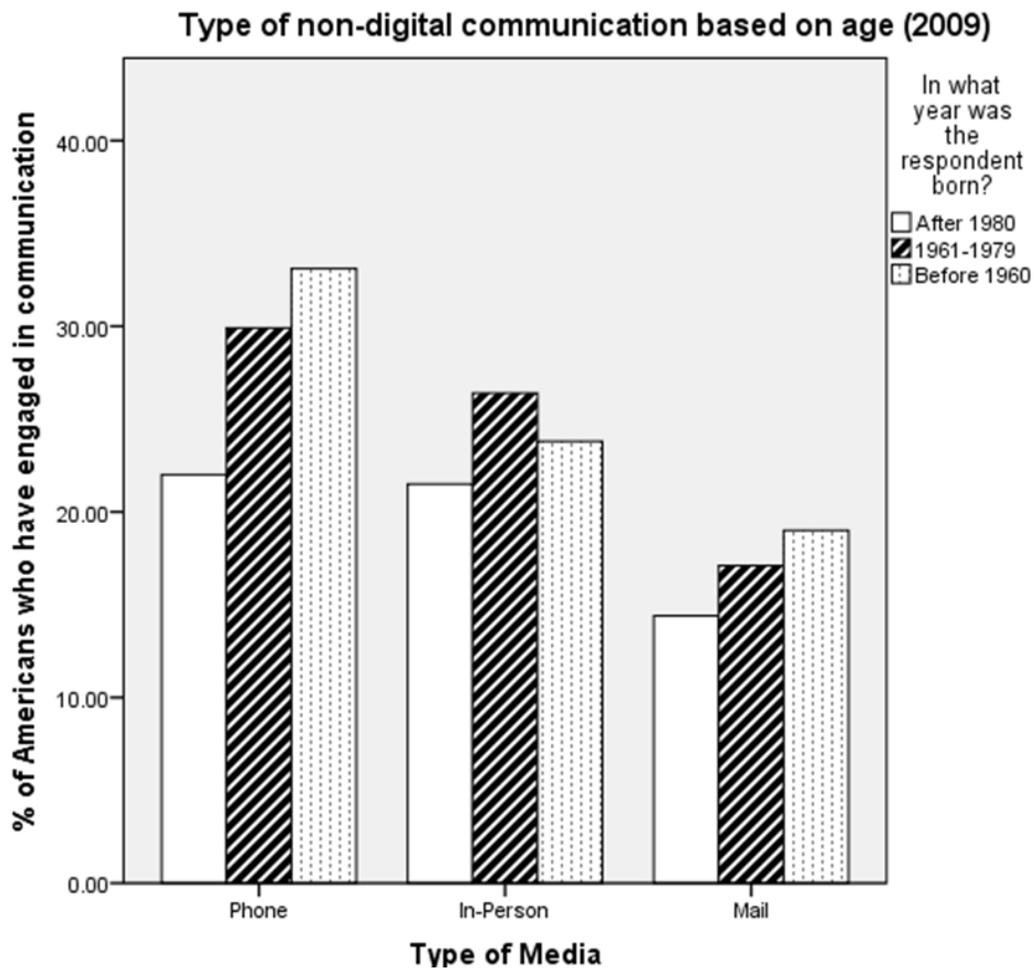
Percent of Americans who have communicated through different media with a government official by birth year (2009)

	<i>Year Born</i>		
	After 1980	1961-1979	Before 1960
Phone	22.0 (333)	29.9 (698)	33.1 (973)
In-Person	21.5 (326)	26.4 (616)	23.8 (706)
Mail	14.4 (219)	17.1 (398)	19 (565)

Note: Numbers contained in parentheses above denote cell counts. For the above table,  $\chi^2 = 59.819$  (Phone),  $\chi^2 = 12.580$  (in-person), and  $\chi^2 = 14.989$  (Mail). Above percentages reflect individuals who claim to have communicated by phone, in-person, or through mail in the past 12 months. Source: Pew 2009 Government Online Study

As demonstrated in Table 4.3, younger individuals claim to have communicated with government officials non-digitially about 10% less than older individuals. These data report only responses in 2009, and inquire simply as to whether the respondent has *ever* communicated by telephone, in-person, or through mail<sup>11</sup>. Therefore, it is possible that this large gap between the youngest and oldest cohorts simply depicts a longer span of eligible time to communicate for the older generation. On the other hand, the 10% difference is quite substantial.

Figure 4. 2 Type of Non-Digital Communication Based on Age (2009)



<sup>11</sup> Due to limitations in the datasets, 2009 is the only year that asked the question, “In the past 12 months, have you communicated with a government official through: phone, in-person, or mail?”.

Both in-person communication and mail-in communication follow the same general trend. In Figure 4.2, all three media (phone, in-person, and mail-in), show the youngest generation of individuals reports communicating with a government official the least<sup>12</sup>. Interestingly, however, for phone and mail-in communications the oldest generation communicates at the highest percentage, while for in-person communication the middle generation (1961-1979) reports communicating the most. This discrepancy in the trend could be due to the limitations that in-person communication presents to the oldest generation in terms of potentially restricted physical mobility.

### **Do younger generations communicate more through *digital* media?**

After examining respondent preference as well as non-digital behavior, the next logical step is studying how constituents digitally contact their elected officials. This behavior is predicted in H<sub>5</sub>.

*H<sub>5</sub>: Young people communicate with government officials through email more than older people.*

For the following analysis I use “sending email” as an operationalization in order to explore digital communicative behavior<sup>13</sup>. Fortunately, although PEW Internet and American Life Project tends to have rotating survey questions, within the 2000 decade multiple surveys asked whether the respondent has ever sent an email to a national, state or local government

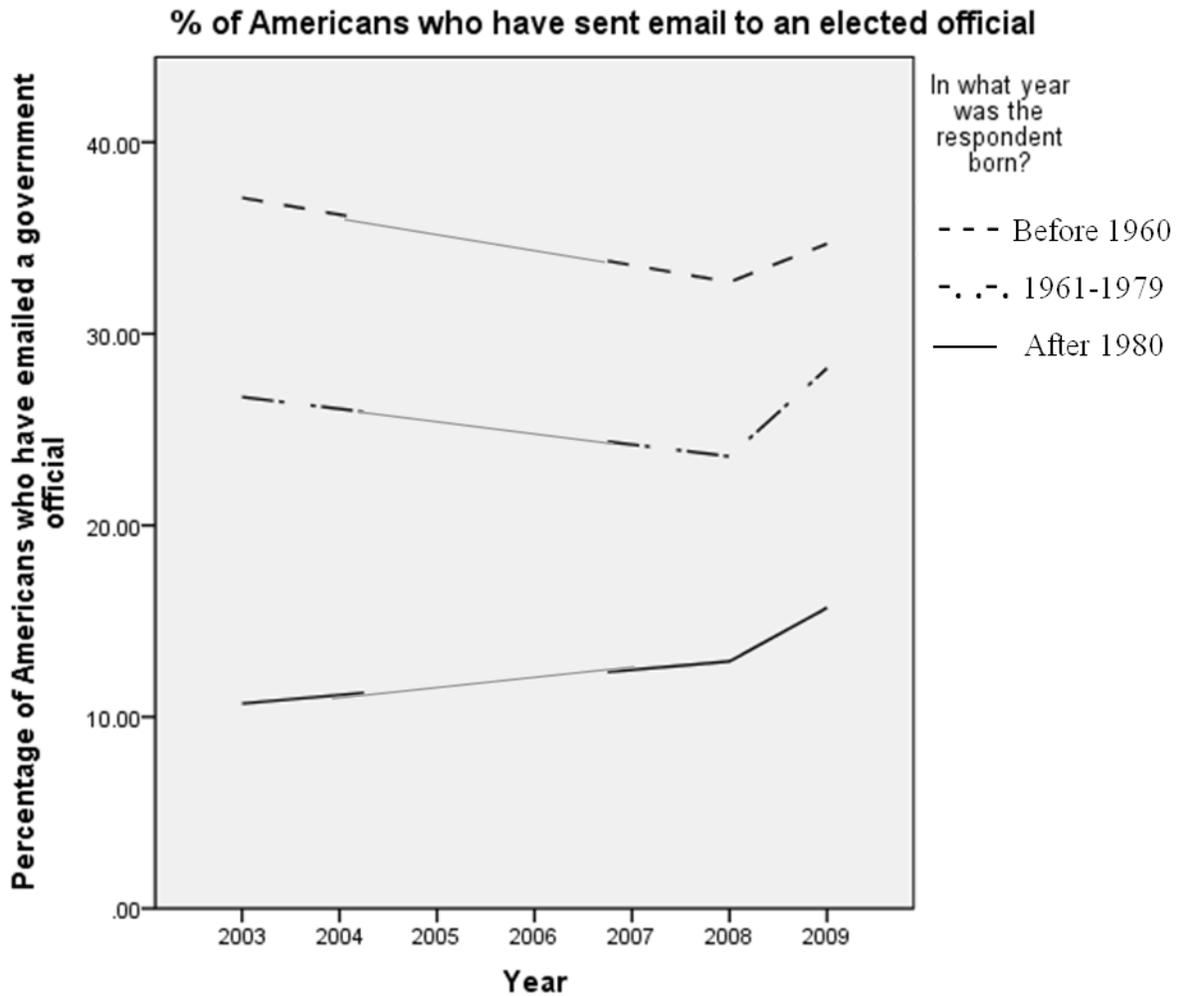
---

<sup>12</sup> The data contained in the analysis are taken solely from the PEW 2009 Government Online Survey.

<sup>13</sup> Unfortunately, sending an email to a government official is a slightly restrictive illustration of digital behavior. In an ideal setting, this analysis would include sending text messages and using web site communication platforms as well. However, the datasets available often do not A) ask whether a respondent has themselves sent a text message, or B) distinguish specifically web site communication.

official (PEW, 2003, 2008, 2009a). Due to this consistency, I am able to illustrate trends over time of email behavior by age (Figure 4.3).

Figure 4. 3 Percentage of Americans who have Sent Email to an Elected Official



Note: These projections do not include data from 2004-2007. The lines shown during these periods are simply estimates, as these data are not available in the surveys that I had access to.

Sources: PEW 2003 e-gov Survey; PEW 2008 Civic Engagement Survey; 2009 Government Online Survey

According to Figure 4.3, across all survey years, young people send emails to their government officials less. Those born before 1979 decreased their email contact with government officials from 2003 to 2008. Contrastingly, young peoples' email communication increased slightly between 2003 and 2008<sup>14</sup>. Regardless of trending, consistently in all three surveys, the older age cohorts have significantly higher percentages of emailing government officials. In all years, the oldest cohort's reported percentage is almost triple that of the young people. Due to this stacked/parallel effect, there is little-to-no evidence to support the hypothesis that younger individuals email government officials more frequently.

It is also interesting to note the upward trend beginning in 2009 across all age cohorts. This may be due to the fact that in 2008 an historic election had just taken place and consequently constituents may have been more strongly mobilized even in the months following the election to speak out to government officials. Future research exploring this same question in surveys following 2009 may drop back to the more linear trend prior to that year.

### **Where do text messages fall in the mix?**

While the previous analysis focuses on email as digital communication, it is important to explore the relationship between age and text messaging opportunities with government officials. Since the 2008 campaign, government officials have begun to tap texting as a vital resource for constituent outreach (Von Fuchs, 2007). As such, it is critical to recognize the importance that text messaging plays in the realm of digital political communication, particularly for young people who are continuously "plugged-in" to smart phones and other handheld devices.

Signing up to receive text messages is not an ideal proxy for constituent-driven, bottom-up behavior, as signing up to receive electronic alerts is a passive act and may only tell us that

---

<sup>14</sup> Looking at the years 2004-2007, I have drawn in rough estimates in order to complete the trend, as this question was not asked during those years. I included this estimation in order to visually simplify the apparent trend between 2003 and 2009.

that individuals desire to be spammed. Regardless, for the purposes of this thesis, it is important to explore what little text-message data are available. Consequently, the following analysis will explore the hypothesis:

*H<sub>6</sub>: Young people sign up to receive text messages from government officials more than older people.*

In order to test this hypothesis, I analyzed the question: “In the past 12 months, have you signed up to receive text message or email alerts from a government official?”. This question was contained in the PEW 2009 Government Online Survey only. Table 4.4 displays the respondents who answered “yes” to having signed up to receive alerts. It is important to note that email alerts are also included in the table (in addition to text messages) in order to provide a comparative baseline for interpretation of the percentage of individuals signing up to receive texts.

Once again, looking at Table 4.4, we see that there is a positive relationship between age and signing up to receive text message alerts from a government official. Based on the above trend, I can conclude with 95% confidence that there is not enough evidence to support the hypothesis that younger individuals sign up to receive more text messages from government officials. This is consistent with the results thus far that older generations consistently communicate with government officials more than young people through all forms of media.

Table 4. 4 Percentage of Americans who Signed up to Receive Alerts from Gov Officials (2009)

Percentage of Americans who signed up to receive alerts from government officials (2009)

	Year Born		
	After 1980	1961-1979	Before 1960
Email Alerts	11.6 (158)	16.6 (298)	15.3 (255)
Text Message Alerts	2.1 (28)	4.2 (67)	5.9 (55)

Note: Numbers contained in parentheses above denote cell counts. "Signing up for communication media" above includes respondents who have signed up in the past 12 months to receive text message or email alerts from a government official. All relationships shows above are significant at the  $\alpha=0.05$  level.

Sources: Pew 2009 Government Online Study

Through the previous analysis, I find sufficient evidence to support the hypotheses: 1) Young people prefer to use digital media to communicate with government officials more than older people; 2) Young people feel more influential through digital political communication than older people. However, the analysis does not find sufficient evidence to support the hypotheses that: 1) young people communicate more through email with government officials than older individuals; nor 2) young people sign up to receive text messages from government officials more than older generations. In the following chapter I explore the relationship between email behavior and age, controlling for race, income, and education.

## **Chapter 5: Digital Political Communication by Race/ethnicity, Income, Education, and Age**

In this chapter, I analyze the impact of race/ethnicity, income, and education in conjunction with birth cohort on the digital communicative behavior of constituents. It is important to note that these factors do not constitute an exhaustive list of possible explanations for these communication behaviors, but the literature suggests that these four concepts have the most influence on voters' digital communication (Bucy, 2000); (Ferber, Foltz, & Pugliese, 2008); (Whitacre, 2010); (Nam, 2011).

For the purposes of this chapter, I explore only active constituent digital communication with government officials. In doing so, I operationalize digital political communication as emailing a government official. Email constitutes the most appropriate operationalization for two reasons. First, email most closely mimics the format of traditional mail-in correspondence. Second, an identical variable denoting email participation was contained in PEW surveys in both 2003 and 2009<sup>15</sup>: Therefore, I conduct the following analysis across both 2003 and 2009 to determine whether digital political communication has remained stable or changed over time.

### **Why Race/ethnicity, Income, and Education?**

In exploring the digital political communication literature, a few factors play an important role in determining who utilizes digital technology. At the societal level, scholars study how both unequal access and unequal skill impact interactions through digital media (Nam, 2011). Presumably, if an individual does not possess easy and cheap access to a high-speed Internet connection as well as the necessary skill required to utilize that Internet connection, the probability of emailing a government official decreases. Existing research finds

---

<sup>15</sup> “Do you ever use the Internet to send email to your local, state, or federal government official?” (PEW, 2003, 2009a).

that age, education, race/ethnicity, and income are the main factors that influence access and skill in the digital age. Furthermore, studies show that these same four demographics greatly influence the likelihood of emailing a government official at the aggregate level (Richardson, Daugherty, & Freeman, 2001). For this reason, this chapter will explore the relationship between these control variables and the probability of emailing a government official in 2003 and 2009 to determine whether this access and skill divide translates to politics throughout the 2000's decade.

### ***Race/ethnicity***

It is critical to consider the race/ethnicity of the respondent when exploring digital communication trends in politics. Existing literature demonstrates that race/ethnicity plays a significant role in both access as well as motivation to utilize digital communication media. Studies report that minority use of Internet communication, particularly email, falls below White use of Internet communication (Richardson et al., 2001). The inclusion of race/ethnicity in the following model suggests the following testable hypothesis:

*H<sub>7</sub>: White individuals are more likely to email government officials when compared with citizens who identify as ethnic or racial minorities<sup>16</sup>.*

The following analysis delves deeper than simply white vs. non-white races/ethnicities. In the chance that certain racial/ethnic minorities behave similarly to Whites and certain do not, substantively, it is important to explore various categories of non-white groups in order to test the above hypothesis.

### ***Income***

For the purposes of this thesis, I have recoded income to reflect the median United States household income respective to the years in which the survey was conducted. If the respondent

---

<sup>16</sup> In both the 2003 and 2009 studies, "minority groups" include African Americans, Hispanics, Asian/Pacific Islanders, and Native Americans/American Indians.

fell below the median US household income in each year, the respondent was coded as low-income<sup>17</sup> (Census, 2013). The inclusion of income in the following model acts as an operationalization of the concept of *access*. Respondents with a higher income are likely to have greater and more readily-available access to Internet connections through at-home personal computers as well as hand-held “smart” devices. The following analysis will test the hypothesis:

*H<sub>8</sub>: Individuals with high-income are more likely to email government officials than individuals with low-income.*

### ***Education***

Additionally, the literature notes the importance of educational level in how likely a respondent is to send an email to a government official. Existing studies include the respondent’s level of education in order to act as a proxy for *skill*. When interpreted by different individuals, the threshold for skill might be placed on a wide spectrum of proficiency. For the purposes of this thesis, the abstract concept of skill represents the ability to perform the action that a constituent desires to perform using a digital structure. While the existing variables do not directly query this definition of skill, there is a positive relationship between education and the ability to use digital interfaces. Presumably, individuals with higher levels of education have been taught the techniques necessary for effectively using Internet technology (Bucy, 2000).

Additionally, education is a common proxy for skill because individuals interact with digital interfaces increasingly in high school and college classrooms. If individuals have attained at least a high school degree, it is likely that they interacted with Internet technology in a learning environment. Increasingly, classroom settings at both the high school and college level encourage students to utilize iPads, tablet computers, and desktop computers to complete classroom work. This familiarity with digital technology affects an individuals’ ability to interact

---

<sup>17</sup> Unfortunately, as the surveys did not inquire as to how many members each household contained, the following analysis is slightly limited in its understanding of “household income”.

with that technology in every-day life. The inclusion of education in the model suggests the following hypothesis:

*H<sub>9</sub>: Individuals with higher levels of education are more likely to email government officials than individuals with lower levels of education.*

For the purposes of this analysis, high-education is coded as respondents who have attained at least a high school degree. For the following model, “at least a high school degree” may include high school graduates, trade school graduates, respondents with some college, bachelors degrees, masters degrees, or post graduate degrees. The analysis categorizes high-education with at least a high school degree in order to incorporate individuals who may not have pursued traditional 4-year college degrees. Additionally, the dichotomous cut-off between high school degree and no-high school degree represents the growing presence of digital technology in higher education classrooms.

*Table 5. 1 Sample Sizes for Demographic Groups*

<b>Sample Sizes for Demographic Groups</b>		
	<i>e-Government 2003</i>	<i>Government Online 2009</i>
<b>Explanatory Variable</b>	<b>N</b>	<b>N</b>
Youngest	529	1520
Middle	1792	2336
Oldest	2527	2975
Education at least HS	4196	5976
Education not at least HS	713	912
> Median Household Income	1546	2345
< Median Household Income	2463	3534
Hispanic	495	936
Asian	96	167
African American	552	993
Native American	87	124

Source: PEW Internet and American Life Project e-Governance 2003; Government Online 2009

Table 5.1 displays the sample size for each of the demographic groups contained in the following analysis. These demographic groups are split by year.

### **Logistic Regression Model**

In the previous chapters, I have noted that three important variables in determining digital political communicative behavior are race/ethnicity, income, and education. Analysis in the previous chapter was incapable of simultaneously controlling for those variables. In the following multivariate analysis, I will control for race/ethnicity, education and income in determining how age impacts political email behavior.

For the purposes of this thesis, I recoded many of the explanatory variables into dichotomous distinctions based on whether or not the respondent reported belonging to each respective demographic group<sup>18</sup>. Due to the fact that the dependent variable observed (emailed or did not email) is dichotomous, the most appropriate multivariate analysis is logistic regression (Liao, 1994, p. 1). For the purposes of the following models, the dependent variable is whether the respondent has ever sent an email to a government official. Each variable contained in the model (birth cohort in terciles, race/ethnicity, income, and education) reflects a dichotomous split where a response of belonging to a category is coded as “1” and a response of not belonging to a category is coded as “0”<sup>19</sup>.

For the following analysis, I include the previously discussed age terciles in the models. In creating the models, the middle age group is the omitted variable. While this is not common in existing literature, this study focuses specifically on differences between the oldest and youngest

---

<sup>18</sup> In an ideal situation, I would split the dichotomous distinction into more specific categories in order to ensure statistical significance and retain all information from the original variable. However, for the purposes of this analysis, income and education are dichotomized in order to more closely operationalize having access vs. not having access (income) and having necessary skill vs. not having necessary skill (education).

<sup>19</sup> See Appendix C for complete model output.

terciles. Therefore, omitting the middle age group creates an easier and more explicit visual interpretation of the direct impact of belonging to the oldest and youngest generations on emailing government officials.

### ***Marginal Effects***

In order to interpret the model, I examine the change in log odds based on the exponentiated odds. This is the easiest and most useful process for interpreting a logit model (Liao, 1994, p. 13). Upon examination of the change in log odds produced through the logistic regression model for 2003 survey data, Table 5.2 displays the impact of each variable on the log odds of emailing a government official.

Table 5.2 lists the coefficient, significance and standard error of each term in each model. Additionally, Table 5.2 presents the marginal impact of including each variable on the log odds of emailing a government official. For example, Table 5.2 shows that respondents in the youngest birth cohort (after 1980) that are Hispanic, Asian, and African American have decreased odds of sending an email to a government official in 2003. Additionally, *Model 1* shows that the dummy variables for Hispanic and Asian are not statistically significant in the model. Regardless of this lack of significance, it is substantively important to include Hispanic and Asian in the model, as these distinctions represent a portion of respondents in the PEW surveys (Hispanic n=48; Asian n=15).

Table 5. 2 Change in Log Odds of Emailing a Gov Official by Demographic Inclusion in the Model

Variable	Model 1 (2003)			Model 2		
	Exp (B)	Marginal Effect (%)	SE	Exp (B)	Marginal Effect (%)	SE
Age	.903***	-59.5	0.208	-3.47**	-	-
Education	.470***	59.9	0.097	.252***	-	-
Hispanic	.709**	103.2	0.28	1.667***	4	-
Income	.495***	64	0.096	.536***	-	-
Male	-0.169	-15.5	0.123	-.362**	-	-
White	-0.049	-4.8	0.313	.268	-	-
Black	-0.522***	-40.7	0.188	-.391***	-	-
Other	.621**	86.1	0.282	-1.151**	-	-
Constant	-1.924***	85.4	0.283	-2.784***	-	-

; Significance with 99% confidence, \*\* Signifies significance with 95% confidence, \* Signifies significance with 90% confidence. The above marginal effects were calculated by subtracting 1 from the logged odds ; 100. The marginal effect can be interpreted as: the odds of an individual with [variable x] are estimated to [increase/decrease] by [marginal effect]% as opposed to not having [variable x]. In the 2003 model, the omitted categories are: Middle (age); Less than High School (Education); White (race/ethnicity).

net and American Life Project e-Governance 2003; 2009 Government Online Survey

Similar to 2003, in 2009 I calculated the marginal effect of each variable based on the logistic regression model with the dependent variable: emailing a government official. Model 2 contains the marginal effect based on the change in log odds of each variable in the model, all other things being equal. Again, in 2009 the variable for Asian is not significant in the model<sup>20</sup>.

<sup>20</sup> This trend in both years could be due in part to the small sample of Asians collected by the PEW surveys.

The marginal effects in 2003 *Model 1* suggest preliminary evidence supporting H<sub>7</sub>, H<sub>8</sub>, and H<sub>9</sub> that individuals with high-income, high-education and White race/ethnicity are have increased odds of emailing a representative. The increase in odds for the oldest generation (+59.9%) and decrease in odds for the youngest generation (-59.5%) appears consistent with the findings in chapter 4. These findings suggest that young people have significantly lower odds of emailing a representative in 2003, given that the rest of the variables are included.

The marginal effects in 2009 *Model 2* suggest similar evidence supporting H<sub>7</sub>, H<sub>8</sub>, and H<sub>9</sub> that individuals with high-income, high-education and White race/ethnicity have increased odds of emailing a representative. The increase in log odds for the oldest generation (+28.6%) and decrease in odds for the youngest generation (-29.3%) appears consistent with the findings in chapter 4. These findings suggest that young people have significantly lower odds of emailing a representative in 2009, given that the rest of the variables are included in the model. This relationship is consistent over time between 2003 and 2009.

As Tables 5.2 demonstrates, there is a positive relationship between age and the odds of emailing a government official in both 2003 and 2009. The positive relationship appears slightly weaker in 2009 than in 2003. Additionally, in 2003, the marginal effects of each race/ethnicity were much more diverse. In 2009, the gap between the marginal effects of each race/ethnicity seems to decrease. Finally, between 2003 and 2009, the impact of the Asian race/ethnicity component changed signs. This might be an indication of actual behavioral reversal for Asians in the United States, however it is more likely that this flip in direction is due to the lack of statistical significance of the Asian component in the model.

### ***Predicted Probabilities (2003/2009)***

In the previous section I developed models that incorporate important demographic characteristics in determining constituents' digital political communicative behavior. In this

section I will use those models to calculate predicted probabilities of emailing a government official based on various scenarios of demographic characteristics (Liao, 1994, p. 16). These scenarios include: each combination of race/ethnicity and birth cohort at both high-income/high-education and low-income/low-education levels. I report only the scenarios in which individuals have high-income/high-education and low-income/low-education in order to simplify the analysis and the number of controls for generational effect <sup>21</sup>.

The calculated predicted probabilities demonstrate how probable it is that individuals with various demographic combinations will send email to a government official<sup>22</sup>. I used the following formula to calculate the predicted probabilities for each of the various scenarios:

$$(1) \text{ Pred. Prob } (y = 1) = \frac{e^{\sum_{k=1}^k b_k x_k}}{1 + e^{\sum_{k=1}^k b_k x_k}} \text{ (Brians, 1997, p. 145)}$$

where b equals each of the coefficients contained in Table 5.2, respective to the year of the survey and variable.

*Table 5. 3 Frequencies and Beta Coefficients used to Calculate Predicted Probabilities (2003 & 2009)*

---

<sup>21</sup> In this analysis, I do not consider the scenario of high-income/low-education or low-income/high-education as these are less likely and therefore less useful indicators of access and skill. The norm for the scenarios would be individuals who have high-income/high-education (n=1493 [2003] and n=2269 [2009]) or low-income/low-education (n=476 [2003] and n=638 [2009]).

<sup>22</sup> A list of relevant predicted probability scenarios can be found in Appendix D.

**Frequencies and Beta coefficients used to calculate predicted probabilities (2003 & 2009)**

<b>Eplanatory Variable</b>	<b>Model 1 (2003)</b>		<b>Model 3 (2009)</b>	
	<b>B</b>	<b>Frequency</b>	<b>B</b>	<b>Frequency</b>
Youngest	-0.903	40	-0.347	222
Oldest	0.407	427	0.252	603
Education at least HS	0.709	803	1.667	1366
> Median Household income	0.495	441	0.536	771
Hispanic	-0.169	48	-0.362	84
Asian	-0.049	15	0.268	45
African American	-0.522	49	-3.91	113
Native American	0.621	23	-1.151	7
Constant	-1.924		-2.784	

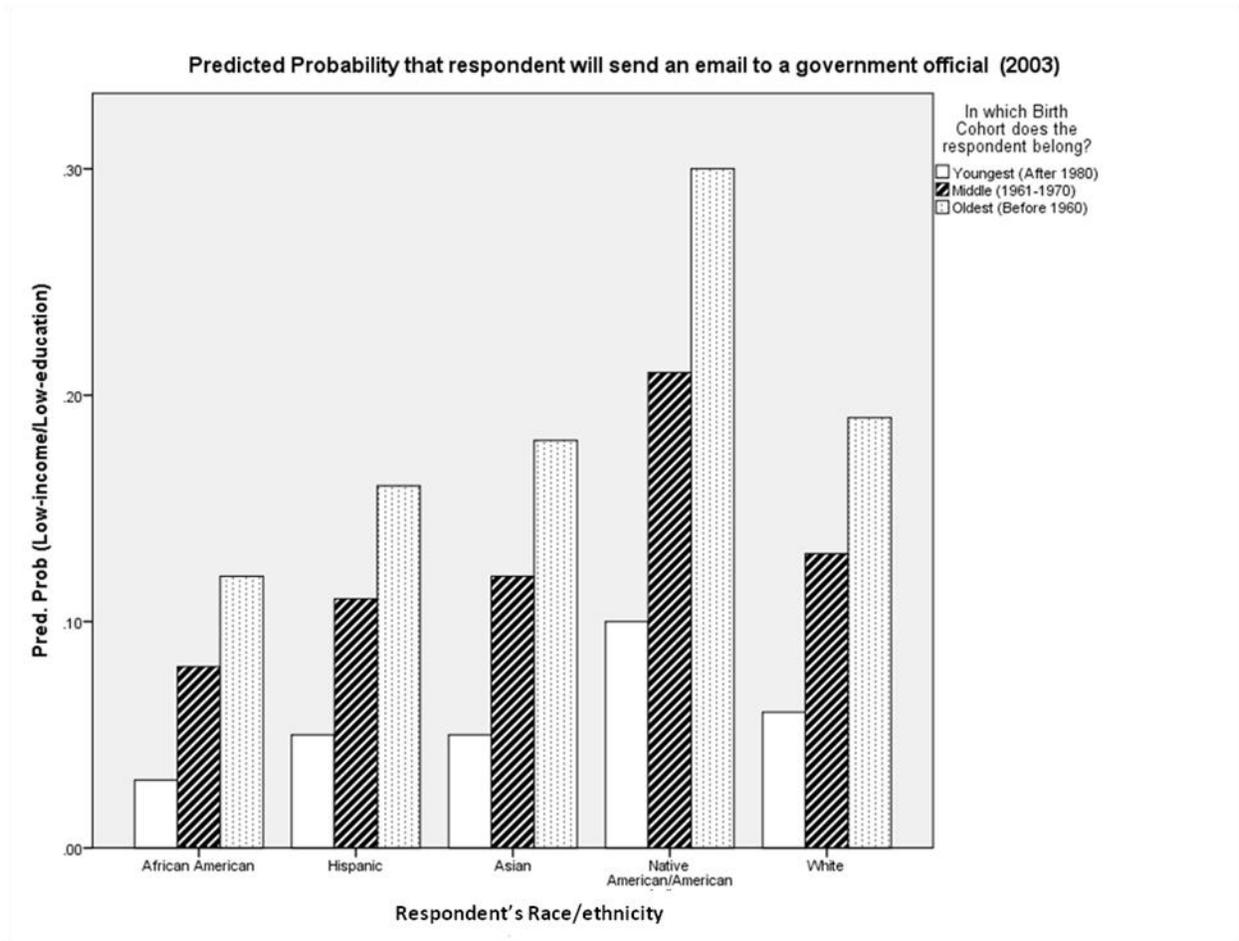
Note: The above Beta coefficients reflect the values from chosen Models 1 & 3. These values, while not all statistically significant (as seen in Table 5.1) are all substantively significant in calculating predicted probability scenarios.

Source: PEW Internet and American Life Project 2003 e-Government Survey & 2009 Government Online Survey

In addition to Beta coefficients, Table 5.3 presents the frequencies of each demographic group once the variable is included in the model. It is clear that the frequencies for certain racial/ethnic group frequencies that are included in the model are quite small. Particularly, there are no more than seven Native Americans included in the 2009 survey. Therefore, we would be cautious to derive results from any apparent anomalies that may arise within the Native American group.

The following figures depict the predicted probabilities of each scenario between the years 2003 and 2009. Each analysis includes all possible race/ethnicity responses (African American, Hispanic, Asian, Native American/American Indian, and White) for comparison across groups. Additionally, each race/ethnicity cluster is broken further into age cohorts by birth year. These birth years are uniquely calculated individually for 2003 and 2009 to ensure that the same groups of individuals are tested in both years.

Figure 5. 1 Predicted Probability that Respondent will send an email to a Gov Official - Low-Income/Low-Education (2003)

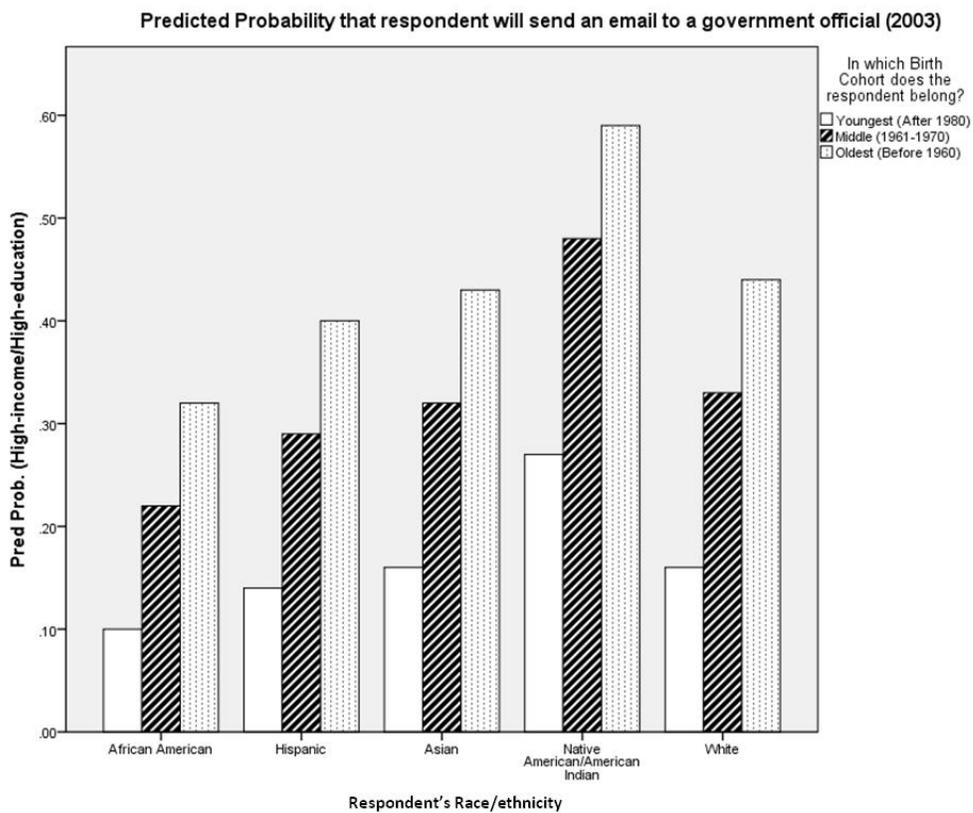


Above, we see that age plays an important role across all race/ethnicities at the low-income, low-education level. The pattern that emerges signifies that no matter what the race/ethnicity of the respondent, the oldest generation of individuals has the highest probability of emailing, while the youngest generation of individuals has the smallest probability of emailing government officials.

Figure 5.1 above represents the predicted probabilities for each race/ethnicity, broken down by birth year cohort with low education and low income held constant. There appears to be a consistent age pattern for every racial group, showing that the oldest birth cohort individuals are much more likely to send email to a representative than the youngest birth cohort individuals.

Additionally, the difference in predicted probability within each race/ethnicity between the oldest and youngest individuals remains roughly constant. With the exception of Native American/American Indians, Hispanics, Asians, and Whites appear roughly similar in actual predicted probabilities as well as the hierarchy of age within each of these groups. For this reason, it is clear that age is a consistently influential factor across all race/ethnicity categories for low-income, low-education individuals.

Figure 5. 2 Predicted Probability that Respondent will send an email to a Gov Official - High-Income/High-Education (2003)



Next, investigating 2003 survey respondents with high-income and high-education, a similar pattern emerges. While the gaps between the oldest and youngest cohorts appear to narrow slightly for the higher socioeconomic individuals, the same hierarchy exists. The oldest birth year cohort universally presents a higher probability of sending an email to a representative

than either the middle or youngest birth cohorts across all race/ethnicities. Additionally for the higher socioeconomic status individuals, Hispanics, Asians and Whites present with very similar predicted probabilities for each of the age cohorts. Finally, African Americans fall slightly lower in predicted probability across all age groups.

It is interesting to note that in both income/education scenarios in 2003, Native Americans/American Indians present with shockingly high predicted probabilities for sending email to a government official. This pattern seems to be contrary to the pattern that emerges in 2009 (which will be addressed momentarily). One possible explanation for this anomaly is that the Jack Abramoff Scandal occurred largely between the years 1999 and 2003 in which funds were illegally given to anti-casino efforts and campaigns (Geov, 2005). During this time, Native Americans/American Indians with a high investment in casino growth may have been more inclined to reach out to congressional or executive government officials.

*Figure 5. 3 Predicted Probability that Respondent will send an email to a Gov Official - Low-Income/Low-Education (2009)*

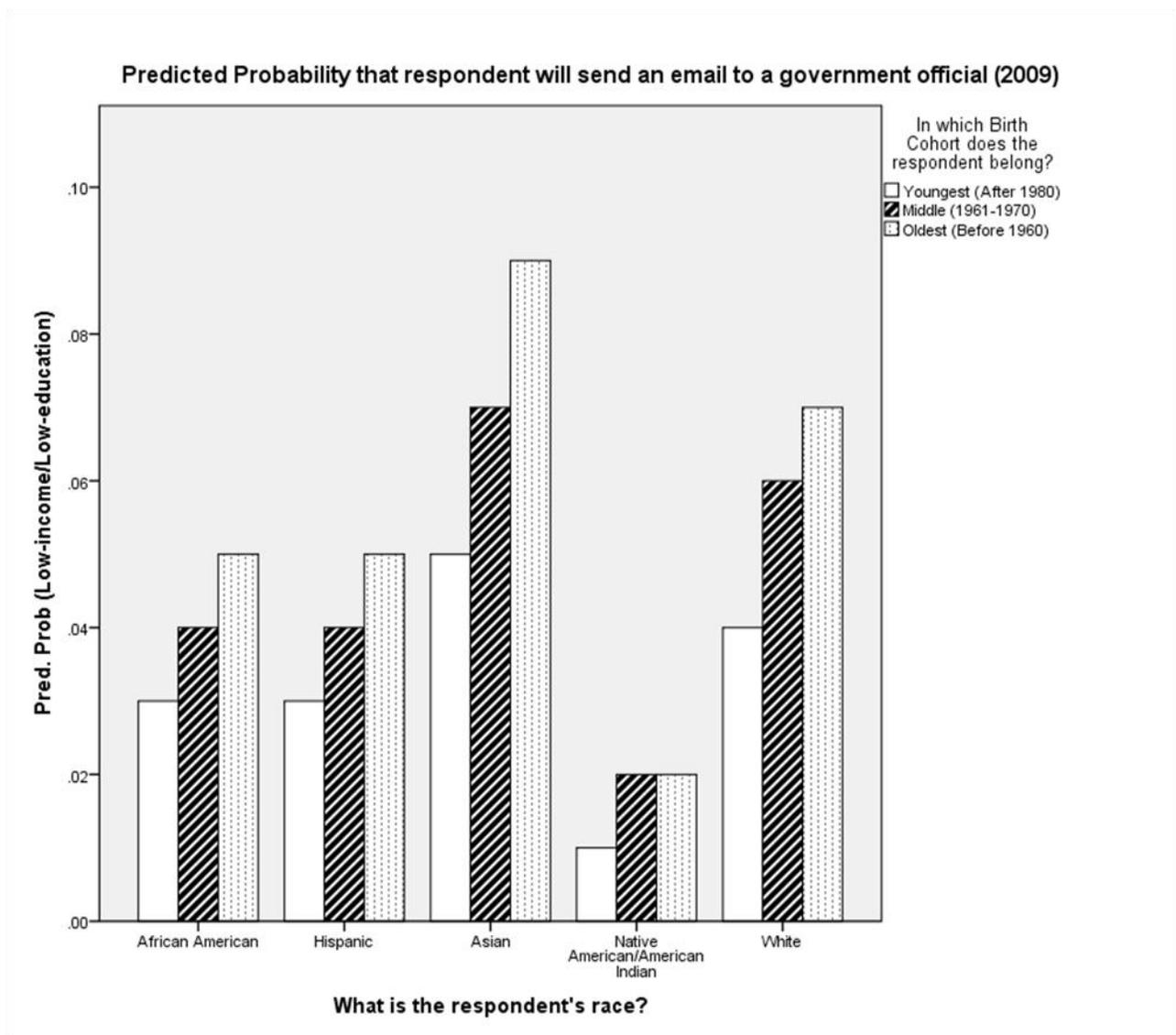
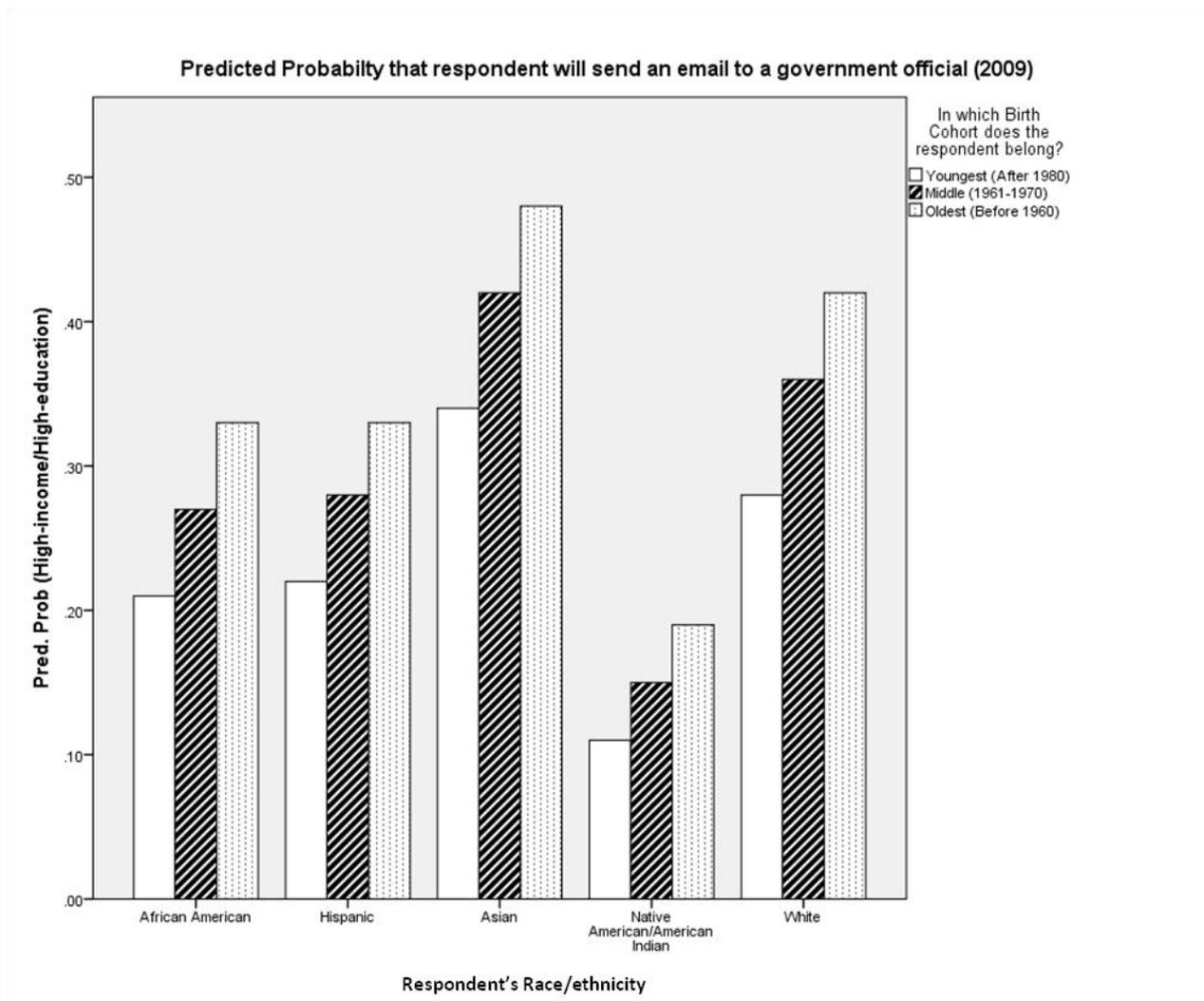


Figure 5.3 shows the same analysis of predicted probability based on race/ethnicity and birth cohort for individuals with low-income/low-education in 2009. In 2009 a slightly different pattern emerges. While there is still a consistent pattern within birth cohorts (older individuals have the highest probability of emailing a government official with decreasing probability as age decreases), the race/ethnicity factor influences predicted probability differently than it did in 2003. In 2003 there were roughly equal predicted probabilities across African Americans, Hispanics, Asians and Whites, with Native American/American Indians presenting much higher probabilities for emailing. In 2009, however, Native American/American Indians present the

lowest predicted probabilities, African Americans and Hispanics are equal and Asians present the highest predicted probability for sending an email. Based on this pattern, it appears that race/ethnicity has become an increasingly influential factor throughout the decade in determining constituent email behavior.

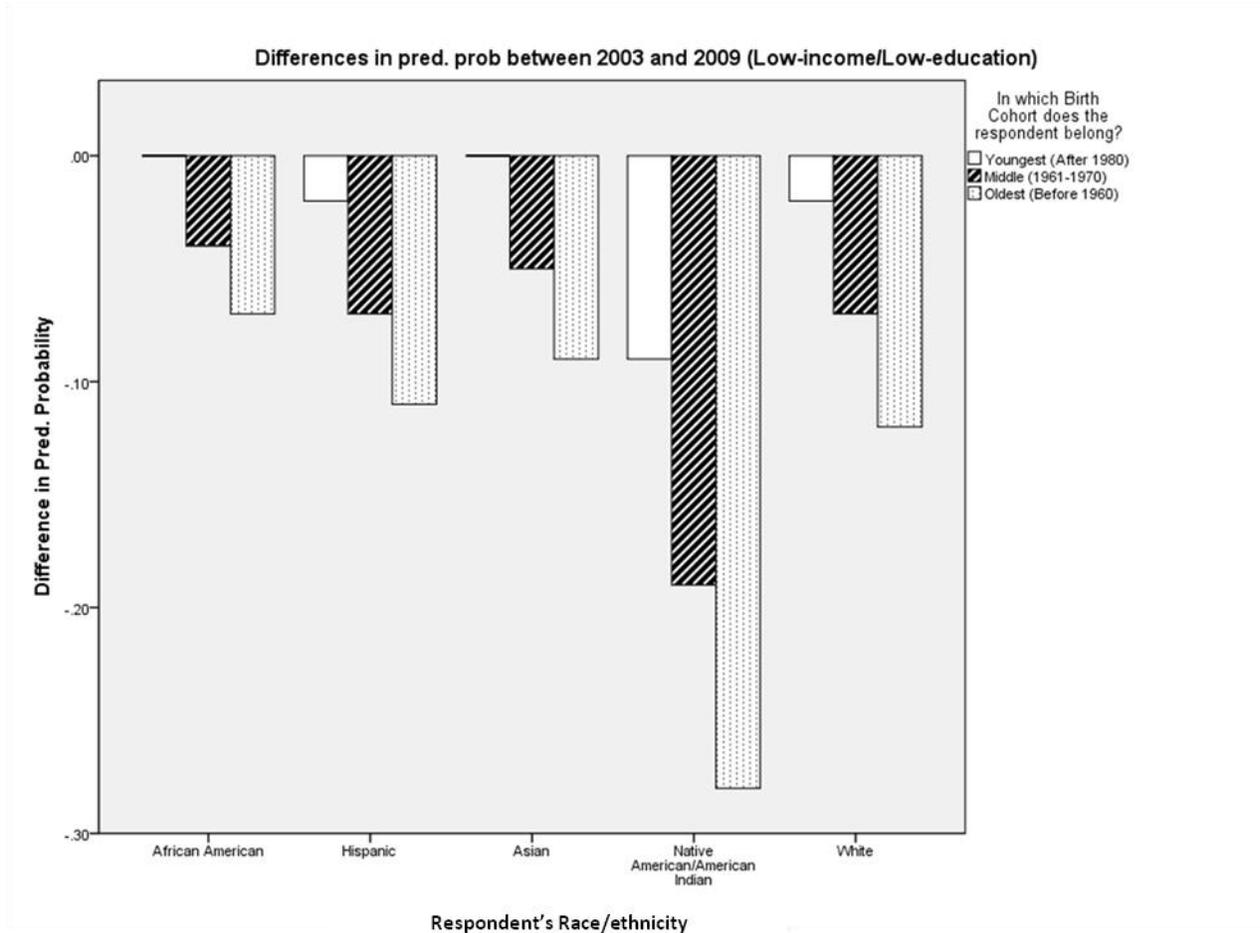
Figure 5. 4 Predicted Probability that Respondent will send an email to a Gov Official - High-Income/High-Education (2009)



Consistent with the pattern in that emerged in 2003, Figure 5.4 shows that individuals reporting high-income/high-education universally exhibit higher probabilities of sending email across all race/ethnicities and age cohorts. This is consistent with the hypotheses that individuals

with more access to technology as well as the skill to utilize the technology (i.e. high income, high education) are more likely to communicate digitally with government officials.

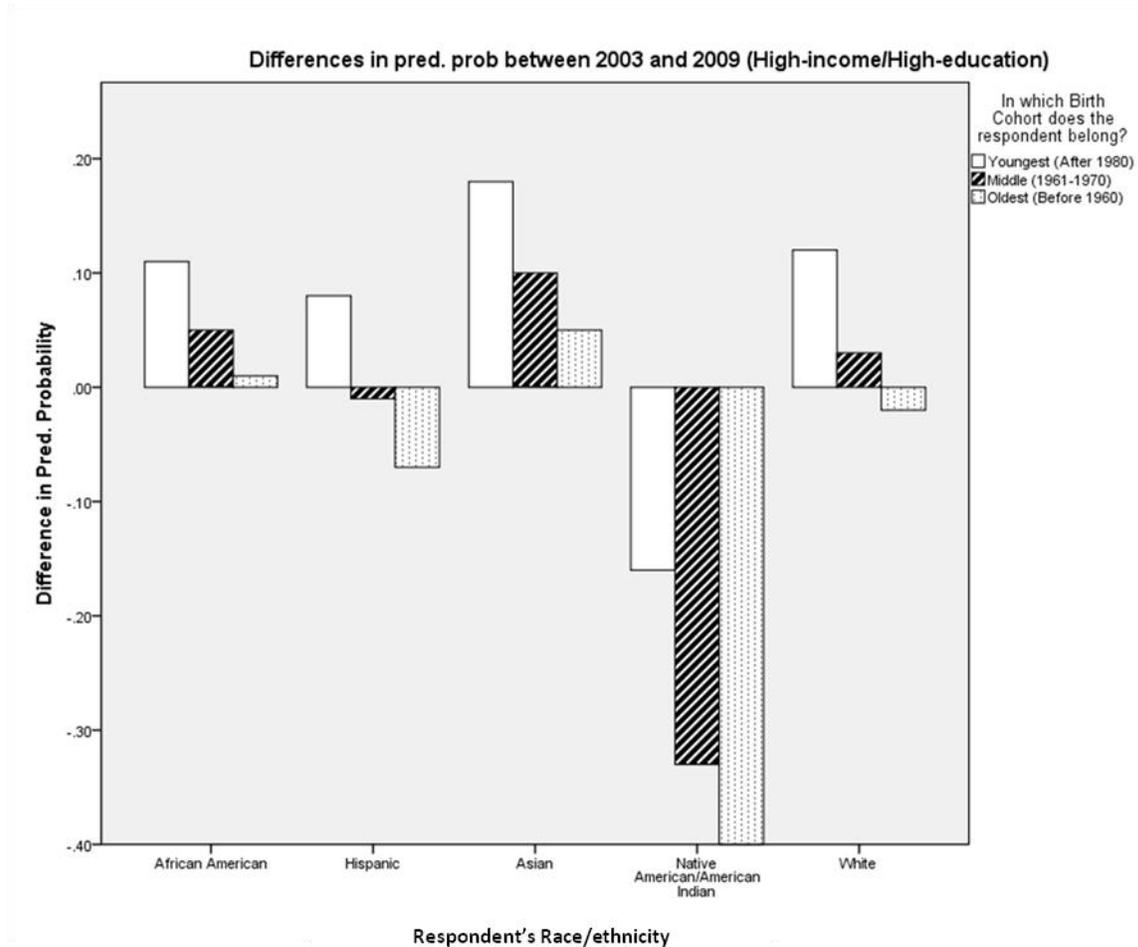
Figure 5. 5 Differences in Predicted Probability Between 2003 and 2009 - Low-Income/Low-Education



In order to get an overview of the change in predicted probabilities over time, Figure 5.5 represents the changes in probabilities between 2003 and 2009 for each race/ethnicity and age group in the low-income/low-education bracket. Interestingly, the pattern in Figure 5.5 shows that for low-income/low-education individuals, predicted probability of sending an email to a government official either decreases or stays the same across all groups. The largest decrease is seen for Native American/American Indians which is consistent with the timing of the Abramoff Scandal. Aside from Native American/American Indians, the other race/ethnicity categories

exhibit roughly similar decreases across all age groups. In each race/ethnicity category, the oldest age cohort experienced the largest decrease in predicted probability between 2003 and 2009.

Figure 5. 6 Differences in Predicted Probability Between 2003 and 2009 - High-Income/High-Education



Similar to Figure 5.5, Figure 5.6 above represents the change in predicted probability between 2003 and 2009 for high-income/high-education individuals. For these higher access, higher skill individuals, there is a slight increase in predicted probability of sending an email across all race/ethnicities with the exception of Native American/American Indians as well as the older age cohorts of both Hispanic and White individuals. Both Figure 5.5 and Figure 5.6 suggest

that there is perhaps a growing gap in digital communication with government officials between individuals with high skill and high access rather than simply within age cohorts.

In conclusion, it seems that between 2003 and 2009, age remains a consistent factor in determining email behavior of constituents across all race/ethnicities and income/education levels. Additionally, it appears that having low-income/low-education is a more powerful indicator of NOT sending an email in 2009 than it was in 2003.

The analyses in this chapter find substantial support for the hypotheses that: 1) Whites are more likely than racial/ethnic minorities to communicate digitally with government officials; 2) Individuals with high-income are more likely to communicate digitally with government officials; and 3) Individuals with high-education are more likely to communicate digitally with government officials. Regardless, between 2003 and 2009, the effect of age on digital political contact remained constant: Younger citizens remained less likely to reach out to government officials across all forms of digital and non-digital media.

## Chapter 6: Conclusions and Implications

From reading the popular or scholarly commentary on Millennials' political communication, one might expect that the so-called "digital natives" are much more likely to use digital communication sources in all aspects of their lives and are much better at it than older generations. This thesis demonstrates that in terms of politics, young people prefer digital media for political communication, but young people fail to utilize those media more than older people.

An original analysis of nationally representative survey data collected by Pew Internet & American Life Project depicts the following three critical findings: 1) Young people are more likely than older people to prefer digital media in communicating with government officials; 2) Young people are less likely to *actually* communicate with government officials through ALL forms of media; 3). This relationship holds true for all racial/ethnic groups, education levels, and income levels.

This thesis began with an analysis of preference for and efficacy resulting from digital media use in communicating with government officials. Analysis of PEW Internet & American Life Project data found that young people do in fact prefer to utilize digital media to communicate. Additionally, young people are more likely to feel that digital communication improves their interactions with government officials. Due to the increasing preference across the years studied here, it would not be surprising if young people in the 2016 election prefer digital media on an even higher scale.

Additionally, future studies that include data from the 2016 election may show an even wider gap between the preferences of young people and older generations for digital media in communicating with government officials. Similar to young people's growing preference for digital media, belief in the impact of digital media may continue to grow more rapidly for the millennial generation than for the oldest generation of individuals. Consequently, it will be

critical for both candidates and office-holders to focus on this widening gap in preference. A greater focus on this gap will allow campaigns and offices to tailor outreach to the upcoming generations in order to maintain a solid base of supporters through digital means.

The most critical finding in this thesis, however, lies in the contradiction that regardless of a greater preference for digital media, young people do not utilize that media more than older generations. Universally, this thesis finds that older generations email, call, snail mail, visit in-person<sup>23</sup>, and sign up to receive text messages from government officials more than young people. Additionally, this thesis breaks down constituents by race/ethnicity, income, and education and finds that regardless of these additional demographics the age pattern persists. This shows that age is an incredibly robust factor in determining whether an individual will communicate digitally with a government official.

Clearly there is a lack of evidence supporting the claim that young people utilize digital media more than older people in all aspects of life. I speculate that this lack of evidence may result from the increasing popularity of forum and game-based technology. Younger individuals tend to gravitate toward social networking sites and massively multiplayer online role-playing game environments<sup>24</sup>. Further research would likely confirm the suspicion that young people engage in politics more through interaction-based, forum-like digital media than simply through email.

---

<sup>23</sup> Recalling Figure 4.2, the middle-aged generation visits government officials in person the most. This may be due to the limited mobility of the oldest generation. However, this does not discount the consistency of the pattern of higher use by the oldest generation than use by the youngest generation.

<sup>24</sup> I myself have attended online “lectures” at the Virginia Tech Graduate School’s virtual lounge, hosted entirely by avatar interaction. This is just one more example of the integration of virtual fellowship into the lives of the millennial generation.

Additionally, we may expect this behavior/preference disconnect due to the argument of political disinterest (Prior, 2007). Often, access and skill alone are not enough. Individuals must be *interested* in politics in order to utilize available digital media to engage in political communication. Studies show that political interest is not the only indicator of political communication (access, skill, age, and race are important factors as well), however it is a stable predictor that does impact political behavior (Prior, 2010).

Young people born after 1980 may lack the political motivation and interest that tends to drive older generations to communicate with government officials. If young people choose to allocate their time and energy to a more short-term gratification (like entertainment), it would follow that they would fall behind older generations in actual political communication (whether it be digital or non-digital). Due to the stability of political interest over past decades, young people's lack of political interest is unlikely to change in the absence of a strong catalyst (Prior, 2010).

Finally, it is possible that the increased use of email in older generations is due to a maturation effect, rather than a true generational effect. The oldest individuals falling into the millennial generation are currently no older than 33. Consequently, it is difficult to study whether a possible maturation effect will develop for this generation. Future research should analyze the millennial generation at points in time that are capable of highlighting either a generational or maturation effect. However, it is uncertain at this time whether the stability of political disinterest of young people today will remain constant, making it challenging to change the communicative habits of the millennial generation as they mature.

### ***Limitations***

This thesis faces a few challenges that are outside of my control. As a graduate student with limited time and limited funding, I rely solely on secondary analysis of pre-existing data. In

doing so, I find that the scope and format of the data are not ideal. Firstly, the survey questions were not consistent across years, limiting the number of years that I could include in analysis. Secondly, the survey questions did not always specify which form of digital communication was used (i.e. using words like “Web” and “Internet” rather than specifying “email”). Similarly, the surveys included did not specify the level of government for each communication. All questions simply stated “local, state, or federal government” without distinguishing between each<sup>25</sup>.

In addition to the format of the surveys themselves, I was also limited by the *content* of the surveys. In an ideal world, digital political communication would include sending text messages to government officials. However, the surveys included in this analysis only contained questions asking whether the respondent had ever *signed up* to receive text alerts from government officials. This decreases the validity of this thesis slightly by restricting the operationalization scope of digital communication.

Finally, in this thesis the generational impact of digital communication was limited by the age of the millennial generation. Individuals in the millennial generation were only born after 1980 and would only be eligible to participate in survey questionnaires after 1998. This limits the sample and the ability to make conclusions across larger periods of time. Additionally, the young age of millennial generation included in this analysis does not provide evidence for or against a lifecycle/maturation effect. This type of effect will only be possible as the millennial generation ages.

### ***Future Research***

This thesis could be stronger through continued analysis over more decades. A more in-depth answer to the “why” question may be found through observation of millennial individuals over time. Specific generational, lifecycle, and period effects may emerge over time as the

---

<sup>25</sup> In the case of Native Americans, local government may include tribal government.

millennial generation ages. In order to conduct such research, it would be ideal to create a consistent survey instrument that gauges constituent communicative behavior every 5 years. Such an instrument would need to be updated every few years to include new and emerging technology while retaining old technology for comparison.

Additionally, in future studies, more fine-grained divisions in independent variables might bring out more texture in the analysis. Due to limitations in the datasets themselves, this thesis incorporated only dichotomous categorizations of income, age, education, and racial/ethnic identification. Particularly, I set the pivot point for both income and education at median levels. In future, it would be interesting to observe the impact of terciles or quartiles in education and income rather than simply “above” and “below” categories.

Finally, future research might produce more robust results with the inclusion of larger sample sizes. Particularly, tables involving race and ethnicity displayed perplexing results for the Native American/American Indian category. These perplexing results may be a function of the small sample size or of an underlying factor that I have not explored. Future research should focus on teasing out this anomaly.

In conclusion, the findings herein suggest that although young people prefer digital communication in politics, the millennial generation continues to lag behind older generations in *actual* digital political communication behavior. Future research may contribute to teasing out exactly why this discrepancy arises and may suggest possibilities for increasing political communication among younger generations.

## Appendix

### A. List of Relevant Survey Questions

#### PEW: Government Online 2009

- WEB A: Do you ever use the internet to look for information from a local, state or federal government?"
- WEB B: Re-coded WEB A
- Q21: In the past 12 months have you (signed up to receive email alerts from a government agency or official, signed up to receive text messages from a government agency or official)?
- Q16: In general, how important do you feel it is today for a government agency to (provide general information to the public on its website, allow people to contact agency officials through the website, allow people to complete tasks on the website)?
- Q26: Having a way to follow and communicate online with the government makes government agencies and officials more accessible (Agree, disagree)?
- Act61g: act61g: Send email to your local, state or federal government ...WEB-G. Next, please tell me if you ever do any of the following when you go online. When you go online, do you ever... [IF YES, FOLLOW-UP WITH:] Have you done this in the past year, or not?

#### PEW: Civic Engagement 2008

- Q11: In the past 12 months, have you (contacted a national, state or local government official in person, by phone, or by letter; sent an email to a national, state or local government official; signed a paper petition; signed a petition online)?

#### PEW: e-Government 2003

- gov6a: Calling a government office or agency on the phone ...In the past year, have you contacted your local, state or federal government by...
- gov6b: Visiting a government office or agency in person ...In the past year, have you contacted your local, state or federal government by... (INSERT IN ORDER).
- gov6c: Writing a letter to a government office or agency ...In the past year, have you contacted your local, state or federal government by... (INSERT IN ORDER).
- act61g: Send email to your local, state or federal government ...WEB-G. Next, please tell me if you ever do any of the following when you go online. When you go online, do you ever... [IF YES, FOLLOW-UP WITH:] Have you done this in the past year, or not?

## B. Statistical Output

### Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
In the past 12 months, have you contacted your local, state or federal government by calling? * Year Born in Terciles	6791	98.0%	139.563	2.0%	6930.563	100.0%

### In the past 12 months, have you contacted your local, state or federal government by calling? \* Year Born in Terciles Crosstabulation

			Year Born in Terciles			Total
			1.00	2.00	3.00	
In the past 12 months, have you contacted your local, state or federal government by calling?	.00	Count	1184	1634	1969	4787
		% within Year Born in Terciles	78.0%	70.1%	66.9%	70.5%
	1.00	Count	333	698	973	2004
		% within Year Born in Terciles	22.0%	29.9%	33.1%	29.5%
Total		Count	1517	2332	2942	6791
		% within Year Born in Terciles	100.0%	100.0%	100.0%	100.0%

### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	59.819 <sup>a</sup>	2	.000
Likelihood Ratio	61.900	2	.000
Linear-by-Linear Association	55.664	1	.000
N of Valid Cases	6791		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 447.66.

### Directional Measures

			Value	Asymp. Std. Error <sup>a</sup>	Approx. T	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.000	.000	<sup>b</sup>	<sup>b</sup>
		In the past 12 months, have you contacted your local, state or federal government by calling? Dependent	.000	.000	<sup>b</sup>	<sup>b</sup>
		Year Born in Terciles Dependent	.000	.000	<sup>b</sup>	<sup>b</sup>
	Goodman and Kruskal tau	In the past 12 months, have you contacted your local, state or federal government by calling? Dependent	.009	.002		.000 <sup>c</sup>
		Year Born in Terciles Dependent	.004	.001		.000 <sup>c</sup>

a. Not assuming the null hypothesis.

b. Cannot be computed because the asymptotic standard error equals zero.

c. Based on chi-square approximation

**Case Processing Summary**

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
In the past 12 months, have you contacted your local, state or federal government by visiting in person? * Year Born in Terciles	6813	98.3%	117.563	1.7%	6930.563	100.0%

**In the past 12 months, have you contacted your local, state or federal government by visiting in person? ^  
Year Born in Terciles Crosstabulation**

			Year Born in Terciles			Total
			1.00	2.00	3.00	
In the past 12 months, have you contacted your local, state or federal government by visiting in person?	.00	Count	1189	1714	2262	5165
		% within Year Born in Terciles	78.5%	73.6%	76.2%	75.8%
	1.00	Count	326	616	706	1648
		% within Year Born in Terciles	21.5%	26.4%	23.8%	24.2%
Total		Count	1515	2330	2968	6813
		% within Year Born in Terciles	100.0%	100.0%	100.0%	100.0%

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.580 <sup>a</sup>	2	.002
Likelihood Ratio	12.610	2	.002
Linear-by-Linear Association	1.064	1	.302
N of Valid Cases	6813		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 366.46.

**Directional Measures**

			Value	Asymp. Std. Error <sup>a</sup>	Approx. T	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.000	.000		<sup>b</sup>
		In the past 12 months, have you contacted your local, state or federal government by visiting in person? Dependent	.000	.000		<sup>b</sup>
		Year Born in Terciles Dependent	.000	.000		<sup>b</sup>
	Goodman and Kruskal tau	In the past 12 months, have you contacted your local, state or federal government by visiting in person? Dependent	.002	.001		.002 <sup>c</sup>
		Year Born in Terciles Dependent	.001	.000		.004 <sup>c</sup>

a. Not assuming the null hypothesis.

b. Cannot be computed because the asymptotic standard error equals zero.

c. Based on chi-square approximation

**Case Processing Summary**

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
In the past 12 months, have you contacted your local, state or federal government by writing a letter? * Year Born in Terciles	6824	98.5%	106.563	1.5%	6930.563	100.0%

**In the past 12 months, have you contacted your local, state or federal government by writing a letter? \* Year Born in Terciles Crosstabulation**

			Year Born in Terciles			Total
			1.00	2.00	3.00	
In the past 12 months, have you contacted your local, state or federal government by writing a letter?	.00	Count	1301	1933	2408	5642
		% within Year Born in Terciles	85.6%	82.9%	81.0%	82.7%
	1.00	Count	219	398	565	1182
		% within Year Born in Terciles	14.4%	17.1%	19.0%	17.3%
Total		Count	1520	2331	2973	6824
		% within Year Born in Terciles	100.0%	100.0%	100.0%	100.0%

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.989 <sup>a</sup>	2	.001
Likelihood Ratio	15.285	2	.000
Linear-by-Linear Association	14.847	1	.000
N of Valid Cases	6824		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 263.28.

**Directional Measures**

			Value	Asymp. Std. Error <sup>a</sup>	Approx. T	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.000	.000	. <sup>b</sup>	. <sup>b</sup>
		In the past 12 months, have you contacted your local, state or federal government by writing a letter? Dependent	.000	.000	. <sup>b</sup>	. <sup>b</sup>
		Year Born in Terciles Dependent	.000	.000	. <sup>b</sup>	. <sup>b</sup>
Goodman and Kruskal tau		In the past 12 months, have you contacted your local, state or federal government by writing a letter? Dependent	.002	.001		.001 <sup>c</sup>
		Year Born in Terciles Dependent	.001	.001		.001 <sup>c</sup>

a. Not assuming the null hypothesis.

b. Cannot be computed because the asymptotic standard error equals zero.

c. Based on chi-square approximation

**Case Processing Summary**

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Do you prefer to contact elected officials through digital or non-digital media? * Year Born in Terciles	6418	92.6%	512.563	7.4%	6930.563	100.0%

**Do you prefer to contact elected officials through digital or non-digital media? ^ Year Born in Terciles  
Crosstabulation**

			Year Born in Terciles			Total
			1.00	2.00	3.00	
Do you prefer to contact elected officials through digital or non-digital media?	Non-Digital	Count	852	1420	2220	4492
		% within Year Born in Terciles	58.7%	64.2%	80.6%	70.0%
	Digital	Count	599	791	536	1926
		% within Year Born in Terciles	41.3%	35.8%	19.4%	30.0%
Total		Count	1451	2211	2756	6418
		% within Year Born in Terciles	100.0%	100.0%	100.0%	100.0%

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	269.132 <sup>a</sup>	2	.000
Likelihood Ratio	275.691	2	.000
Linear-by-Linear Association	249.608	1	.000
N of Valid Cases	6418		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 435.44.

**Directional Measures**

			Value	Asymp. Std. Error <sup>a</sup>	Approx. T <sup>b</sup>	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.046	.006	7.027	.000
		Do you prefer to contact elected officials through digital or non-digital media? Dependent	.000	.000	<sup>c</sup>	<sup>c</sup>
		Year Born in Terciles Dependent	.070	.010	7.027	.000
	Goodman and Kruskal tau	Do you prefer to contact elected officials through digital or non-digital media? Dependent	.042	.005		.000 <sup>d</sup>
		Year Born in Terciles Dependent	.023	.003		.000 <sup>d</sup>

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Cannot be computed because the asymptotic standard error equals zero.

d. Based on chi-square approximation

**Case Processing Summary**

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Does the respondent prefer to communicate with elected officials through non-digital or digital means? * Year Born in Terciles	4555	92.3%	377.519	7.7%	4932.519	100.0%

**Does the respondent prefer to communicate with elected officials through non-digital or digital means? \* Year Born in Terciles Crosstabulation**

			Year Born in Terciles			Total
			After 1980	1961-1979	Before 1960	
Does the respondent prefer to communicate with elected officials through non-digital or digital means?	Non-Digital	Count	315	1106	1867	3288
		% within Year Born in Terciles	61.3%	64.4%	80.4%	72.2%
	Digital	Count	199	612	456	1267
		% within Year Born in Terciles	38.7%	35.6%	19.6%	27.8%
Total		Count	514	1718	2323	4555
		% within Year Born in Terciles	100.0%	100.0%	100.0%	100.0%

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	160.095 <sup>a</sup>	2	.000
Likelihood Ratio	161.304	2	.000
Linear-by-Linear Association	142.446	1	.000
N of Valid Cases	4555		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 142.97.

**Directional Measures**

			Value	Asymp. Std. Error <sup>a</sup>	Approx. T <sup>b</sup>	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.045	.009	4.786	.000
		Does the respondent prefer to communicate with elected officials through non-digital or digital means? Dependent	.000	.000	<sup>c</sup>	<sup>c</sup>
		Year Born in Terciles Dependent	.070	.014	4.786	.000
	Goodman and Kruskal tau	Does the respondent prefer to communicate with elected officials through non-digital or digital means? Dependent	.035	.005		.000 <sup>d</sup>
		Year Born in Terciles Dependent	.024	.004		.000 <sup>d</sup>

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Cannot be computed because the asymptotic standard error equals zero.

d. Based on chi-square approximation

**Case Processing Summary**

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
In past 12 months, have you signed up to receive email alerts from government official? * Year Born in Terciles	4828	69.7%	2102.563	30.3%	6930.563	100.0%

**In past 12 months, have you signed up to receive email alerts from government official? \* Year Born in Terciles Crosstabulation**

			Year Born in Terciles			Total
			1.00	2.00	3.00	
In past 12 months, have you signed up to receive email alerts from government official?	.00	Count	1199	1501	1417	4117
		% within Year Born in Terciles	88.4%	83.4%	84.7%	85.3%
	1.00	Count	158	298	255	711
		% within Year Born in Terciles	11.6%	16.6%	15.3%	14.7%
Total		Count	1357	1799	1672	4828
		% within Year Born in Terciles	100.0%	100.0%	100.0%	100.0%

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.480 <sup>a</sup>	2	.000
Likelihood Ratio	15.986	2	.000
Linear-by-Linear Association	6.779	1	.009
N of Valid Cases	4828		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 199.84.

**Directional Measures**

			Value	Asymp. Std. Error <sup>a</sup>	Approx. T	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.000	.000	<sup>b</sup>	<sup>b</sup>
		In past 12 months, have you signed up to receive email alerts from government official? Dependent	.000	.000	<sup>b</sup>	<sup>b</sup>
		Year Born in Terciles Dependent	.000	.000	<sup>b</sup>	<sup>b</sup>
	Goodman and Kruskal tau	In past 12 months, have you signed up to receive email alerts from government official? Dependent	.003	.002		.000 <sup>c</sup>
		Year Born in Terciles Dependent	.002	.001		.001 <sup>c</sup>

a. Not assuming the null hypothesis.

b. Cannot be computed because the asymptotic standard error equals zero.

c. Based on chi-square approximation

**Case Processing Summary**

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
In past 12 months, have you signed up to receive text message alerts from government official? * Year Born in Terciles	3842	55.4%	3088.563	44.6%	6930.563	100.0%

**In past 12 months, have you signed up to receive text message alerts from government official? \* Year Born in Terciles Crosstabulation**

			Year Born in Terciles			Total
			1.00	2.00	3.00	
In past 12 months, have you signed up to receive text message alerts from government official?	.00	Count	1279	1535	878	3692
		% within Year Born in Terciles	97.9%	95.8%	94.1%	96.1%
	1.00	Count	28	67	55	150
		% within Year Born in Terciles	2.1%	4.2%	5.9%	3.9%
Total		Count	1307	1602	933	3842
		% within Year Born in Terciles	100.0%	100.0%	100.0%	100.0%

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	21.000 <sup>a</sup>	2	.000
Likelihood Ratio	21.754	2	.000
Linear-by-Linear Association	20.929	1	.000
N of Valid Cases	3842		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 36.43.

**Directional Measures**

			Value	Asymp. Std. Error <sup>a</sup>	Approx. T	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.000	.000	<sup>b</sup>	<sup>b</sup>
		In past 12 months, have you signed up to receive text message alerts from government official? Dependent	.000	.000	<sup>b</sup>	<sup>b</sup>
		Year Born in Terciles Dependent	.000	.000	<sup>b</sup>	<sup>b</sup>
	Goodman and Kruskal tau	In past 12 months, have you signed up to receive text message alerts from government official? Dependent	.005	.002		.000 <sup>c</sup>
		Year Born in Terciles Dependent	.002	.001		.000 <sup>c</sup>

a. Not assuming the null hypothesis.

b. Cannot be computed because the asymptotic standard error equals zero.

c. Based on chi-square approximation

**Case Processing Summary**

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Does digital communication improve the way you interact with government officials? * Year Born in Terciles	2862	58.0%	2070.519	42.0%	4932.519	100.0%

**Does digital communication improve the way you interact with government officials? \* Year Born in Terciles  
Crosstabulation**

			Year Born in Terciles			Total
			After 1980	1961-1979	Before 1960	
Does digital communication improve the way you interact with government officials?	No	Count	122	333	367	822
		% within Year Born in Terciles	30.3%	25.6%	31.6%	28.7%
	Yes	Count	281	966	793	2040
		% within Year Born in Terciles	69.7%	74.4%	68.4%	71.3%
Total		Count	403	1299	1160	2862
		% within Year Born in Terciles	100.0%	100.0%	100.0%	100.0%

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.338 <sup>a</sup>	2	.003
Likelihood Ratio	11.380	2	.003
Linear-by-Linear Association	2.726	1	.099
N of Valid Cases	2862		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 115.75.

**Directional Measures**

			Value	Asymp. Std. Error <sup>a</sup>	Approx. T <sup>b</sup>	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.014	.011	1.285	.199
		Does digital communication improve the way you interact with government officials? Dependent	.000	.000	. <sup>c</sup>	. <sup>c</sup>
		Year Born in Terciles Dependent	.022	.017	1.285	.199
	Goodman and Kruskal tau	Does digital communication improve the way you interact with government officials? Dependent	.004	.002		.003 <sup>d</sup>
		Year Born in Terciles Dependent	.003	.002		.000 <sup>d</sup>

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Cannot be computed because the asymptotic standard error equals zero.

d. Based on chi-square approximation

**Case Processing Summary**

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Does digital communication improve the way that you interact with government officials? * Year Born in Terciles	6432	92.8%	498.563	7.2%	6930.563	100.0%

**Does digital communication improve the way that you interact with government officials? ^ Year Born in Terciles Crosstabulation**

			Year Born in Terciles			Total
			1.00	2.00	3.00	
Does digital communication improve the way that you interact with government officials?	0	Count	240	396	716	1352
		% within Year Born in Terciles	16.0%	17.5%	26.9%	21.0%
Yes	Count	1259	1872	1949	5080	
	% within Year Born in Terciles	84.0%	82.5%	73.1%	79.0%	
Total	Count	1499	2268	2665	6432	
	% within Year Born in Terciles	100.0%	100.0%	100.0%	100.0%	

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	94.845 <sup>a</sup>	2	.000
Likelihood Ratio	93.915	2	.000
Linear-by-Linear Association	81.241	1	.000
N of Valid Cases	6432		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 315.09.

**Directional Measures**

			Value	Asymp. Std. Error <sup>a</sup>	Approx. T	Approx. Sig.
Nominal by Nominal	Lambda	Symmetric	.000	.000	b	b
		Does digital communication improve the way that you interact with government officials? Dependent	.000	.000	b	b
		Year Born in Terciles Dependent	.000	.000	b	b
Goodman and Kruskal tau		Does digital communication improve the way that you interact with government officials? Dependent	.015	.003		.000 <sup>c</sup>
		Year Born in Terciles Dependent	.008	.002		.000 <sup>c</sup>

a. Not assuming the null hypothesis.

b. Cannot be computed because the asymptotic standard error equals zero.

c. Based on chi-square approximation

## Logistic Regression Model and Predicted Probabilities

### Case Processing Summary

Unweighted Cases <sup>a</sup>		N	Percent
Selected Cases	Included in Analysis	1445	49.4
	Missing Cases	1480	50.6
	Total	2925	100.0
Unselected Cases		0	.0
Total		2925	100.0

a. If weight is in effect, see classification table for the total number of cases.

### Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

### Iteration History<sup>a,b,c</sup>

Iteration		-2 Log likelihood	Coefficients
			Constant
Step 0	1	2859.909	-.830
	2	2858.510	-.883
	3	2858.510	-.883

- a. Constant is included in the model.  
 b. Initial -2 Log Likelihood: 2858.510  
 c. Estimation terminated at iteration number 3 because parameter estimates changed by less than .001.

### Classification Table<sup>a,b</sup>

Observed			Predicted		
			Do you ever send email to your local, state, or federal government officials?		Percentage Correct
			No	Yes	
Step 0	Do you ever send email to your local, state, or federal government officials?	No	1673	0	100.0
		Yes	692	0	.0
Overall Percentage					70.7

- a. Constant is included in the model.  
 b. The cut value is .500

### Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 0 Constant	-.883	.045	381.748	1	.000	.413

**Variables not in the Equation**

	Score	df	Sig.
Step 0 Variables Oldest03	52.047	1	.000
Youngest03	47.351	1	.000
educ_HS03	15.920	1	.000
Med_inc03	48.258	1	.000
hisp	5.013	1	.025
Race_Asn03	.991	1	.320
Race_Bl03	14.274	1	.000
Race_NAI03	1.852	1	.174
Overall Statistics	128.418	8	.000

**Iteration History<sup>a,b,c,d</sup>**

Iteration	-2 Log likelihood	Coefficients								
		Constant	Oldest03	Youngest03	educ_HS03	Med_inc03	hisp	Race_Asn03	Race_Bl03	Race_NAI03
Step 1 1	2733.439	-1.483	.400	-.489	.394	.396	-.110	-.035	-.336	.493
2	2718.099	-1.855	.467	-.815	.644	.489	-.159	-.048	-.497	.610
3	2717.740	-1.922	.469	-.900	.707	.495	-.169	-.049	-.522	.621
4	2717.740	-1.924	.470	-.903	.709	.495	-.169	-.049	-.522	.621
5	2717.740	-1.924	.470	-.903	.709	.495	-.169	-.049	-.522	.621

- a. Method: Enter
- b. Constant is included in the model.
- c. Initial -2 Log Likelihood: 2858.510
- d. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

**Omnibus Tests of Model Coefficients**

	Chi-square	df	Sig.
Step 1 Step	140.770	8	.000
Block	140.770	8	.000
Model	140.770	8	.000

**Model Summary**

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	2717.740 <sup>a</sup>	.058	.082

- a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

**Classification Table<sup>a</sup>**

		Predicted		
		Do you ever send email to your local, state, or federal government officials?		Percentage Correct
Observed	No	Yes		
Step 1 Do you ever send email to your local, state, or federal government officials?	No	1670	3	99.8
	Yes	690	1	.2
Overall Percentage				70.7

- a. The cut value is .500

**Variables in the Equation**

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 <sup>a</sup> Oldest03	.470	.097	23.621	1	.000	1.599
Youngest03	-.903	.208	18.840	1	.000	.405
educ_HS03	.709	.280	6.408	1	.011	2.032
Med_inc03	.495	.096	26.582	1	.000	1.640
hisp	-.169	.123	1.884	1	.170	.845
Race_Asn03	-.049	.313	.024	1	.876	.952
Race_Bl03	-.522	.188	7.697	1	.006	.593
Race_NAI03	.621	.282	4.862	1	.027	1.861
Constant	-1.924	.283	46.332	1	.000	.146

- a. Variable(s) entered on step 1: Oldest03, Youngest03, educ\_HS03, Med\_inc03, hisp, Race\_Asn03, Race\_Bl03, Race\_NAI03.

### Case Processing Summary

Unweighted Cases <sup>a</sup>		N	Percent
Selected Cases	Included in Analysis	1445	49.4
	Missing Cases	1480	50.6
	Total	2925	100.0
Unselected Cases		0	.0
Total		2925	100.0

a. If weight is in effect, see classification table for the total number of cases.

### Dependent Variable Encoding

Original Value	Internal Value
No	0
Yes	1

### Iteration History<sup>a,b,c</sup>

Iteration	-2 Log likelihood	Coefficients	
		Constant	
Step 0	1	2859.909	-.830
	2	2858.510	-.883
	3	2858.510	-.883

a. Constant is included in the model.

b. Initial -2 Log Likelihood: 2858.510

c. Estimation terminated at iteration number 3 because parameter estimates changed by less than .001.

### Classification Table<sup>a,b</sup>

Observed		Predicted			
		Do you ever send email to your local, state, or federal government officials?		Percentage Correct	
		No	Yes		
Step 0	Do you ever send email to your local, state, or federal government officials?	No	1673	0	100.0
		Yes	692	0	.0
Overall Percentage					70.7

a. Constant is included in the model.

b. The cut value is .500

### Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 0 Constant	-.883	.045	381.748	1	.000	.413

**Variables not in the Equation**

	Score	df	Sig.
Step 0 Variables Oldest03	52.047	1	.000
Youngest03	47.351	1	.000
educ_HS03	15.920	1	.000
Med_inc03	48.258	1	.000
Race_Bl03	14.274	1	.000
Race_NAI03	1.852	1	.174
Overall Statistics	126.444	6	.000

**Iteration History<sup>a,b,c,d</sup>**

Iteration	-2 Log likelihood	Coefficients						
		Constant	Oldest03	Youngest03	educ_HS03	Med_inc03	Race_Bl03	Race_NAI03
Step 1 1	2735.429	-1.496	.406	-.500	.389	.402	-.326	.495
2	2720.417	-1.871	.477	-.828	.634	.496	-.485	.611
3	2720.071	-1.938	.480	-.913	.696	.502	-.509	.623
4	2720.071	-1.941	.480	-.917	.698	.502	-.509	.623
5	2720.071	-1.941	.480	-.917	.698	.502	-.509	.623

a. Method: Enter

b. Constant is included in the model.

c. Initial -2 Log Likelihood: 2858.510

d. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

**Omnibus Tests of Model Coefficients**

	Chi-square	df	Sig.
Step 1 Step	138.440	6	.000
Block	138.440	6	.000
Model	138.440	6	.000

**Model Summary**

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	2720.071 <sup>a</sup>	.057	.081

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

**Classification Table<sup>a</sup>**

		Predicted			
		Do you ever send email to your local, state, or federal government officials?		Percentage Correct	
Observed		No	Yes		
Step 1	Do you ever send email to your local, state, or federal government officials?	No	1670	3	99.8
		Yes	690	1	.2
Overall Percentage					70.7

a. The cut value is .500

**Variables in the Equation**

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 <sup>a</sup> Oldest03	.480	.096	25.029	1	.000	1.616
Youngest03	-.917	.207	19.559	1	.000	.400
educ_HS03	.698	.280	6.228	1	.013	2.011
Med_inc03	.502	.096	27.488	1	.000	1.653
Race_Bl03	-.509	.188	7.340	1	.007	.601
Race_NAI03	.623	.281	4.905	1	.027	1.864
Constant	-1.941	.282	47.269	1	.000	.144

a. Variable(s) entered on step 1: Oldest03, Youngest03, educ\_HS03, Med\_inc03, Race\_Bl03, Race\_NAI03.

**Case Processing Summary**

Unweighted Cases <sup>a</sup>		N	Percent
Selected Cases	Included in Analysis	1385	61.3
	Missing Cases	873	38.7
	Total	2258	100.0
Unselected Cases		0	.0
Total		2258	100.0

a. If weight is in effect, see classification table for the total number of cases.

**Dependent Variable Encoding**

Original Value	Internal Value
No	0
Yes	1

**Iteration History<sup>a,b,c</sup>**

Iteration		-2 Log likelihood	Coefficients
			Constant
Step 0	1	5117.902	-.910
	2	5113.378	-.981
	3	5113.377	-.982
	4	5113.377	-.982

- a. Constant is included in the model.
- b. Initial -2 Log Likelihood: 5113.377
- c. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

**Classification Table<sup>a,b</sup>**

Observed			Predicted		
			Do you ever send email to your local, state or federal government officials?		Percentage Correct
			No	Yes	
Step 0	Do you ever send email to your local, state or federal government officials?	No	3175	0	100.0
		Yes	1190	0	.0
Overall Percentage					72.7

- a. Constant is included in the model.
- b. The cut value is .500

**Variables in the Equation**

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 0 Constant	-.982	.034	834.040	1	.000	.375

**Variables not in the Equation**

	Score	df	Sig.
Step 0 Variables Oldest	54.034	1	.000
Youngest	74.446	1	.000
educ_HS	82.925	1	.000
Med_Inc	135.753	1	.000
hisp	30.073	1	.000
Race_Asn09	2.660	1	.103
Race_Bl09	28.139	1	.000
Race_NAI09	13.020	1	.000
Overall Statistics	251.045	8	.000

**Iteration History<sup>a,b,c,d</sup>**

Iteration	-2 Log likelihood	Coefficients								
		Constant	Oldest	Youngest	educ_HS	Med_Inc	hisp	Race_Asn09	Race_Bl09	Race_NAI09
Step 1 1	4874.111	-1.661	.214	-.220	.644	.427	-.203	.209	-.253	-.582
2	4828.003	-2.364	.250	-.330	1.249	.529	-.330	.262	-.372	-.996
3	4824.667	-2.712	.252	-.347	1.595	.536	-.361	.268	-.391	-1.139
4	4824.591	-2.781	.252	-.347	1.665	.536	-.362	.268	-.391	-1.151
5	4824.591	-2.784	.252	-.347	1.667	.536	-.362	.268	-.391	-1.151
6	4824.591	-2.784	.252	-.347	1.667	.536	-.362	.268	-.391	-1.151

- a. Method: Enter
- b. Constant is included in the model.
- c. Initial -2 Log Likelihood: 5113.377
- d. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

**Omnibus Tests of Model Coefficients**

	Chi-square	df	Sig.
Step 1 Step	288.786	8	.000
Block	288.786	8	.000
Model	288.786	8	.000

**Model Summary**

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	4824.591 <sup>a</sup>	.064	.093

- a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

**Classification Table<sup>a</sup>**

Observed		Predicted			Percentage Correct
		Do you ever send email to your local, state or federal government officials?			
		No	Yes		
Step 1	Do you ever send email to your local, state or federal government officials?	No	3175	0	100.0
		Yes	1190	0	.0
Overall Percentage					72.7

- a. The cut value is .500

**Variables in the Equation**

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 <sup>a</sup> Oldest	.252	.080	9.927	1	.002	1.286
Youngest	-.347	.096	12.975	1	.000	.707
educ_HS	1.667	.271	37.797	1	.000	5.296
Med_Inc	.536	.074	52.543	1	.000	1.709
hisp	-.362	.126	8.248	1	.004	.696
Race_Asn09	.268	.197	1.849	1	.174	1.307
Race_Bl09	-.391	.117	11.266	1	.001	.676
Race_NAI09	-1.151	.407	7.994	1	.005	.316
Constant	-2.784	.276	102.084	1	.000	.062

- a. Variable(s) entered on step 1: Oldest, Youngest, educ\_HS, Med\_Inc, hisp, Race\_Asn09, Race\_Bl09, Race\_NAI09.

**Case Processing Summary**

Unweighted Cases <sup>a</sup>		N	Percent
Selected Cases	Included in Analysis	1385	61.3
	Missing Cases	873	38.7
	Total	2258	100.0
Unselected Cases		0	.0
Total		2258	100.0

a. If weight is in effect, see classification table for the total number of cases.

**Dependent Variable Encoding**

Original Value	Internal Value
No	0
Yes	1

**Iteration History<sup>a,b,c</sup>**

Iteration	-2 Log likelihood	Coefficients
		Constant
Step 0	1	5117.902
	2	5113.378
	3	5113.377
	4	5113.377

- a. Constant is included in the model.
- b. Initial -2 Log Likelihood: 5113.377
- c. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

**Classification Table<sup>a,b</sup>**

Observed		Predicted			
		Do you ever send email to your local, state or federal government officials?		Percentage Correct	
		No	Yes		
Step 0	Do you ever send email to your local, state or federal government officials?	No	3175	0	100.0
		Yes	1190	0	.0
Overall Percentage					72.7

- a. Constant is included in the model.
- b. The cut value is .500

**Variables in the Equation**

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 0 Constant	-.982	.034	834.040	1	.000	.375

**Variables not in the Equation**

	Score	df	Sig.
Step 0 Variables Oldest	54.034	1	.000
Youngest	74.446	1	.000
educ_HS	82.925	1	.000
Med_Inc	135.753	1	.000
hisp	30.073	1	.000
Race_Bl09	28.139	1	.000
Race_NAI09	13.020	1	.000
Overall Statistics	249.385	7	.000

**Iteration History<sup>a,b,c,d</sup>**

Iteration	-2 Log likelihood	Coefficients							
		Constant	Oldest	Youngest	educ_HS	Med_Inc	hisp	Race_Bl09	Race_NAI09
Step 1 1	4875.695	-1.655	.206	-.218	.646	.431	-.208	-.259	-.589
2	4829.794	-2.356	.240	-.325	1.251	.534	-.337	-.381	-1.004
3	4826.469	-2.703	.241	-.341	1.597	.541	-.367	-.400	-1.148
4	4826.393	-2.773	.241	-.341	1.666	.541	-.369	-.400	-1.159
5	4826.393	-2.775	.241	-.341	1.668	.541	-.369	-.400	-1.160
6	4826.393	-2.775	.241	-.341	1.668	.541	-.369	-.400	-1.160

- a. Method: Enter
- b. Constant is included in the model.
- c. Initial -2 Log Likelihood: 5113.377
- d. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

**Omnibus Tests of Model Coefficients**

	Chi-square	df	Sig.
Step 1 Step	286.984	7	.000
Block	286.984	7	.000
Model	286.984	7	.000

**Model Summary**

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	4826.393 <sup>a</sup>	.064	.092

- a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

**Classification Table<sup>a</sup>**

		Predicted		
		Do you ever send email to your local, state or federal government officials?		Percentage Correct
Observed	No	Yes		
Step 1 Do you ever send email to your local, state or federal government officials?	No	3175	0	100.0
	Yes	1190	0	.0
Overall Percentage				72.7

- a. The cut value is .500

**Variables in the Equation**

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 <sup>a</sup> Oldest	.241	.079	9.182	1	.002	1.272
Youngest	-.341	.096	12.589	1	.000	.711
educ_HS	1.668	.271	37.868	1	.000	5.304
Med_Inc	.541	.074	53.719	1	.000	1.718
hisp	-.369	.126	8.560	1	.003	.692
Race_Bl09	-.400	.116	11.852	1	.001	.670
Race_NAI09	-1.160	.407	8.116	1	.004	.314
Constant	-2.775	.275	101.472	1	.000	.062

- a. Variable(s) entered on step 1: Oldest, Youngest, educ\_HS, Med\_Inc, hisp, Race\_Bl09, Race\_NAI09.

### C. Predicted Probabilities Scenarios

#### African American

- Youngest cohort/High-income/High-education
- Middle cohort/High-income/High-education
- Oldest cohort/High-income/High-education
- Youngest Cohort/Low-income/Low-education
- Middle Cohort/Low-income/Low-education
- Oldest Cohort/Low-income/Low-education

#### Hispanic

- Youngest cohort/High-income/High-education
- Middle cohort/High-income/High-education
- Oldest cohort/High-income/High-education
- Youngest Cohort/Low-income/Low-education
- Middle Cohort/Low-income/Low-education
- Oldest Cohort/Low-income/Low-education

#### Asian

- Youngest cohort/High-income/High-education
- Middle cohort/High-income/High-education
- Oldest cohort/High-income/High-education

- Youngest Cohort/Low-income/Low-education
- Middle Cohort/Low-income/Low-education
- Oldest Cohort/Low-income/Low-education

#### Native American/American Indian

- Youngest cohort/High-income/High-education
- Middle cohort/High-income/High-education
- Oldest cohort/High-income/High-education
- Youngest Cohort/Low-income/Low-education
- Middle Cohort/Low-income/Low-education
- Oldest Cohort/Low-income/Low-education

#### White

- Youngest cohort/High-income/High-education
- Middle cohort/High-income/High-education
- Oldest cohort/High-income/High-education
- Youngest Cohort/Low-income/Low-education
- Middle Cohort/Low-income/Low-education
- Oldest Cohort/Low-income/Low-education

## Works Cited

- Bauerlein, Mark. (2008). *The dumbest generation: how the digital age stupefies young Americans and jeopardizes our future (or, don't trust anyone under 30)*. New York, NY: Jeremy P. Tarcher/Penguin.
- Berry, Heidi L. (1984). From Banners to Broadsides: America's Patriotic Passion for Political Paraphernalia, *The Washington Post (1974-Current file)*, p. 362.
- Bimber, Bruce. (2001). Information and Political Engagement in America: The Search for Effects of Information Technology at the Individual Level. *Political Research Quarterly*, 54(1), 53-67. doi: 10.1177/106591290105400103
- Blumler, J. G., & Kavanagh, D. (1999). The third age of political communication: Influences and features. *POLITICAL COMMUNICATION*, 16(3), 209-230. doi: 10.1080/105846099198596
- Brians, Craig Leonard. (1997). *Voter registration laws and turnout in America: The last two decades*. (Dissertation/Thesis), ProQuest, UMI Dissertations Publishing. Retrieved from
- Brown, C., & Czerniewicz, L. (2010). Debunking the 'digital native': beyond digital apartheid, towards digital democracy. *Journal of Computer Assisted Learning*, 26(5), 357-369. doi: 10.1111/j.1365-2729.2010.00369.x
- Bucy, Erik P. (2000). Social Access to the Internet. *Harvard International Journal of Press/Politics*, 5(1), 50-61.
- Burke, Edmund. (1774). *The Works of the Right Honourable Edmund Burke: Speech to the Electors of Bristol* (Vol. 6).
- Carty, Victoria. (2010). Bridging Contentious and Electoral Politics: MoveOn and the Digital Revolution. *Research in Social Movements, Conflicts and Change*, 30, 171-196.

- CBSLocal. (2012). Study: 10 Percent of Campaign Donations Sent via Text, Favors Dems. *CBS Local*. Retrieved February 5, 2013, 2013
- Census, US. (2013). USA QuickFacts. *State & Country QuickFacts*. Retrieved March 28, 2013, 2013
- Cook, Timothy E. (1998). *Governing with the news: the news media as a political institution*. Chicago: University of Chicago Press.
- Cullison, Courtney. (2009). *Communication and representation: The place of dialogue in the representational relationship*. (AAI3336856).
- della Porta, Donatella, & Mosca, Lorenzo. (2010). Build Locally, Link Globally: The Social Forum Process In Italy. *Journal of World-Systems Research*, 16(1), 63-81.
- Fenno, Richard F. (1977). U.S. House Members in their Constituencies. *American Political Science Review*(71), 883-916.
- Ferber, Paul, Foltz, Franz, & Pugliese, Rudy. (2008). Demographics and Political Characteristics Affecting State Legislature Websites: The Quality and Digital Divides. *Journal of Political Marketing*, 7(1), 48-68. doi: <http://dx.doi.org/10.1080/15377850802064114>
- Geov, Parrish. (2005). Making Sense of the Abramoff Scandal. *AlterNet*. Retrieved March 28, 2013, 2013
- Golden, Alen L, & Golden, James L. (1993). Thomas Jefferson's Perspectives on the Press as an Instrument of Political Communication: NOTES REFERENCES. *The American Behavioral Scientist (1986-1994)*, 37(2), 194.
- Guo, R. X., Dobson, T., & Petrina, S. (2008). DIGITAL NATIVES, DIGITAL IMMIGRANTS: AN ANALYSIS OF AGE AND ICT COMPETENCY IN TEACHER EDUCATION.

*JOURNAL OF EDUCATIONAL COMPUTING RESEARCH*, 38(3), 235-254. doi:  
10.2190/EC.38.3.a

Gurevitch, Michael, Coleman, Stephen, & Blumler, Jay G. (2009). Political Communication -- Old and New Media Relationships. *The Annals of the American Academy of Political and Social Science*, 625, 164-181.

Guzman, Monica P. (2007). MYSPACE, FACEBOOK ARE POLITICAL REALITIES: FINAL Edition, *Seattle Post - Intelligencer*, p. C.1. Retrieved from

Harris, Allen, Garramone, Gina, Pizante, Gary, & Komiya, Megumi. (1985). Computers in constituent communications. *Public Relations Review*, 11(3), 34-39. doi: 10.1016/S0363-8111(85)80080-1

Hendricks, John Allen, & Denton, Robert E., Jr. (2010). *Communicator-in-chief: how Barack Obama used new media technology to win the white house*. Lanham: Lexington Books.

Hill, Craig A. (2003). Navigating Public Opinion: Polls, Policy, and the Future of American Democracy (review) (Vol. 81, pp. 1510-1511). CHAPEL HILL: The University of North Carolina Press.

Hill, Kevin A., & Hughes, John E. (1998). *Cyberpolitics: citizen activism in the age of the Internet*. Lanham, Md: Rowman & Littlefield.

Howard, Philip N. (2005). Deep Democracy, Thin Citizenship: The Impact of Digital Media in Political Campaign Strategy. *The ANNALS of the American Academy of Political and Social Science*, 597(1), 153-170. doi: 10.1177/0002716204270139

IdeaLoop. (2011). Tweet Congress. Retrieved February 5, 2013, 2013

Kaid, Lynda Lee. (2003). *The millennium election: communication in the 2000 campaign*. Lanham, Md: Rowman & Littlefield.

- Kaid, Lynda Lee. (2004). *Handbook of political communication research*. Mahwah, N.J: Lawrence Erlbaum Associates.
- Keeter, Scott, Horowitz, Juliana, & Tyson, Alec. (2008). *Young Voters in the 2008 Election*. PEW Research Center for the People & the Press.
- Kerbel, Matthew Robert. (2009). *Netroots: online progressives and the transformation of American politics*. Boulder: Paradigm Publishers.
- Klotz, Nicholas Ryan. (2012). *Social networking sites and political participation: An examination into Facebook's impact on voting, donating, and volunteering*. (Dissertation/Thesis).
- Kolko, Jed. (2010). How broadband changes online and offline behaviors. *22(2)*, 144-152.
- Lariscy, Ruthann W., Tinkhan, Spencer F., & Sweetser, Kaye D. (2011). Kids These Days: Examining Differences in Political Uses and Gratifications, Internet Political Participation, Political Information Efficacy, and Cynicism on the Basis of Age. *American Behavioral Scientist*, *55(6)*, 749-764. doi: 10.1177/0002764211398091
- Liao, Tim F. (1994). *Interpreting Probability Models Vol. 11: Logit, Probit, and Other Generalized Linear Models*: SAGE Publications Inc.
- Loges, William E., & Jung, Joo-Young. (2001). Exploring the digital divide: internet connectedness and age. *Communication Research*, *28(4)*, 536-562. doi: 10.1177/009365001028004007
- Lupia, Arthur, & Philpot, Tasha S. (2005). Views from inside the Net: How Websites Affect Young Adults' Political Interest. *The Journal of Politics*, *67(4)*, 1122-1142. doi: 10.1111/j.1468-2508.2005.00353.x
- Lutz, Monte. (2009). The Social Pulpit. Retrieved February 5, 2013, 2013

- Mayhew, David R. (2005). *Congress: the electoral connection* (Vol. 26.). New Haven, Conn: Yale University Press.
- McGlynn, Angela Provitera. (2005). Teaching Millennials, Our Newest Cultural Cohort. *Education Digest: Essential Readings Condensed for Quick Review*, 71(4), 12-16.
- Miler, Kristina C. (2010). *Constituency representation in Congress: the view from Capitol Hill*. Cambridge: Cambridge University Press.
- Min, Seong-Jae. (2010). From the Digital Divide to the Democratic Divide: Internet Skills, Political Interest, and the Second-Level Digital Divide in Political Internet Use. *Journal of Information Technology & Politics*, 7(1), 22-35.
- Mitchell, Susan, & New Strategist Publications, Inc Staff. (2005). *American Generations: Who They Are, How They Live, What They Think*. Ithaca: New Strategist Publications, Incorporated.
- Mossberger, Karen, Tolbert, Caroline J., & Gilbert, Michele. (2006). Race, Place, and Information Technology. *Urban Affairs Review*, 41(5), 583-620.
- Nam, Taewoo. (2011). Whose e-Democracy? The Democratic Divide in American Electoral Campaigns. *Information Polity*, 16(2), 131-150.
- Norris, Pippa. (2004). Who Surfs? New Technology, Old Voters and Virtual Democracy in US Elections 1992-2000. In J. E. K. Elaine & J.Nye (Ed.), *Democracy.com? Governance in a Networked World* (pp. 71-94). Hollis, NH: Hollis Publishing.
- Patterson, C. (2005). *Generational Diversity: Implications for Consultation and Teamwork*. Paper presented at the Meeting of the Council of Directors of School Psychology Programs on Generational Differences, Deerfield Beach, FL.
- PEW. (2003). e-Government. *Internet and American Life*.

- PEW. (2008). Civic Engagement. *Internet and American Life*.
- PEW. (2009a). Government Online. *Internet and American Life*.
- PEW. (2009b). Tracking Survey. *Internet and American Life*.
- Prakash, Neha. (2012). Which Presidential Candidate is Ruling the Email Election? *Mashable*.
- Prensky, Marc. (2001a). Digital Natives, Digital Immigrants Part 1. *On the Horizon*, 9(5), 1-6.  
doi: 10.1108/10748120110424816
- Prensky, Marc. (2001b). Digital Natives, Digital Immigrants Part 2: Do They Really Think Differently? *On the Horizon*, 9(6), 1-6. doi: 10.1108/10748120110424843
- Prensky, Marc. (2006). Listen to the Natives. *Educational Leadership*, 63(4), 8.
- Prior, Markus. (2007). The Real Media Divide: FINAL Edition, *The Washington Post*, p. A.15.
- Prior, Markus. (2010). You've Either Got It or You Don't? The Stability of Political Interest over the Life Cycle. *The Journal of Politics*, 72(3), 747-766. doi:  
10.1017/S0022381610000149
- Richardson, Lilliard E., Jr., Daugherty, Linda M., & Freeman, Patricia K. (2001). E-mail Contact between Constituents and State Legislators. *State and Local Government Review*, 33(1), 23-31.
- Russell, Brian Edward. (2004). *The work and role orientations of personal staff in four state senates*. (Dissertation/Thesis).
- Stewart, Kenneth D., & Bernhardt, Paul C. (2010). Comparing millennials to pre-1987 students and with one another. *North American Journal of Psychology*, 12(3), 579.
- Thomas, Michael. (2011). *Deconstructing digital natives: young people, technology, and the new literacies*. New York: Routledge.

Trent, Judith S., Friedenber, Robert V., & Denton, Robert E., Jr. (2011). *Political campaign communication: principles and practices*. Lanham, Md: Rowman & Littlefield Publishers.

Twenge, Jean M., & Campbell, W. Keith. (2009). *The narcissism epidemic: living in the age of entitlement*. New York: Free Press.

Von Fuchs, Teresa. (2007). Obama Campaign Launches SMS Service. *Wireless Week*.

Retrieved March 28, 2013, 2013

Wattenberg, Martin P. (2004). The Changing Presidential Media Environment. *Presidential Studies Quarterly*, 34(3), 557-572. doi: 10.1111/j.1741-5705.2004.00212.x

Wattenberg, Martin P. (2012). *Is voting for young people*. Boston: Pearson.

Whitacre, Brian E. (2010). The Diffusion of Internet Technologies to Rural Communities: A Portrait of Broadband Supply and Demand. *American Behavioral Scientist*, 53(9), 1283-1303.

Williamson, Andy. (2009). Hansard society: the effect of digital media on MP's communication with constituents. *Parliamentary Affairs*, 62(3), 514.