THE QUALITY OF INTERNET ACCESS AND POLITICAL ENGAGEMENT

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This is dedicated to those whose lives were adversely affected by COVID-19 and their families.

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ABSTRACT

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The Internet is a technology that has been one that has been transformed American society. The role of the Internet had become apparent in the COVID-19 pandemic of 2020 in light of shutdowns and quarantines by the government. As a result, the technologies surrounding the Internet have created a space where there are inequalities in which the Internet is accessed. As a result, these inequalities affect not only socioeconomic factors, but political behaviors as well. This dissertation also seeks to explain the political behaviors that are enabled by Internet access quality. I argue that a person's level of Internet access can affect their ideological and partisan identity, as well as political engagement, especially in behaviors such as political giving. By using a measure I develop called the Quality of Internet Access (QoIA), I find evidence that Internet access has affects on ideological and partisan identity. I also find that QoIA affects political engagement positively, specifically in how donations are given to, and solicited by political campaigns. I conclude that the QoIA measurement should be flexibly used and research in taking account for Internet access quality should continue as the inequalities of the digital divide still exist.

1. INTRODUCTION

Communication technology has long had an effect on American political life. From the radio broadcasts of "fireside chats" of the 1930s by President Franklin D. Roosevelt to the televised 1960 Kennedy– Nixon Presidential Debate, seeing and hearing politicians changed how Americans understand politics. Today, in the 21st century, it would be an understatement to say that the Internet has had an impact on daily life. With respect to business, entertainment, and even to personal finance, the Internet has a role in many aspects of daily American life. From its beginnings as a government project, the Internet has shaped American culture. Before the 1990s, the Internet was mostly an endeavor taken on by technologically literate and able individuals (Rheingold, 1992; Castells, 2001). In the past 20–30 years, access to the Internet has become a virtual necessity, as it has been widely adopted by both the public and private sectors. It is difficult to find employment (Llorens, 2011), complete an education (Lohr, 2018), and satisfy other everyday obligations such as paying bills or finding information without it. Additionally, many of the government services that Americans use are also moving to this medium. As the Internet has become such a necessity, the scholarly literature has documented phenomena that have resulted from its use (Boulianne, 2018) as well as benefits to having access for a variety of reasons including information gathering (Prior, 2007), and political activity (Ikeda, Richey & Teresi, 2013).

In this literature, Internet access is commonly discussed as a binary variable of access to the Internet from home: one has it or doesn't. The measurement of access to the Internet has not changed much since the 1990s when it was proposed as a dichotomous measure (Boulianne, 2009; Morris & Morris, 2013). Since then, Americans access the Internet through many different means and in many different locations. Therefore, this dichotomous measure may be limiting in regards to the

changes of the medium and the usage that has changed with it. As the methods and availability of Internet access has changed over time, so too must the measurement. We need a more dynamic measure of Internet access. Scholars such as Morris and Morris (2013) suggest combining variables that include social media access to measure digital inequality. The scholarship has analyzed, theorized and found that having access to the Internet is useful for citizenship. It is also useful and important for political engagement and political behavior generally (Boulianne, 2009; Whitacre, 2017).

The major intervention of this dissertation is the proposal of a measure called Quality of Internet Access (QoIA) designed to address these concerns. The problem has been that the Internet has not been analyzed in a manner that takes into account the different methods of and quality of Internet access in a way that allows for consistent measurement between urban and rural areas. I suggest using this measure to evaluate device usage in addition to questions of home or work Internet access, which is more encompassing of the quality of Internet access. This measure may be more inclusive as there is also a suggestion that home Internet access may inherently exclude groups such as minorities and those with lower levels of socioeconomic status, who are more likely to have mobile Internet access rather than home Internet access (Mossberger, Tolbert & Franko, 2013). With an expanded measurement of Internet access, further questions surrounding offline political participation and inequality can be better articulated and measured.

This dissertation also seeks to explain the political behaviors that are enabled by Internet access. I argue that a person's level of Internet access can affect their ideological and partisan identity, as well as political engagement, especially in behaviors such as political giving. For the sake of this dissertation, I will define Internet access as physical access to the World Wide Web, including many important ideas that are at the core of physical access, or the physical information and computer technologies (ICTs), the technologies needed to connect to the Internet. While there is extensive research about the psychological aspects of access and what that entails, there is not

as much in the past 10 years about physical access due to an inaccurate prevailing notion that everyone has the same level of physical access (Brownstein, 2013; Strover, 2014). This distinction is important, as most research at the time of writing is focused on social media and other facets of technologically mediated communications, and less so about technological access. While social media is important, it's not a determining factor between whether someone has access to technology or not, or of what kind of access they have (Strover, 2019; Whitacre, 2017). This dissertation is not seeking to argue what individuals are using the Internet for, but rather whether having high-quality physical access is crucial. After all, without Internet access it is not possible to have social media as it is popularly understood under interactions observed on websites such as Facebook or Twitter. With a better measurement of the quality or level of access one has, we can more accurately state the effects it may have on their political behavior.

1.1 Why Internet Access?

1.1.1 COVID-19, Digital Inequality, and Political Engagement

The importance of an accurate and precise measure of Internet access has recently gained new urgency and resonance. In early 2020, the world came to grips with a viral pandemic caused by a novel Coronavirus. Because little was initially known about the virus and the disease it caused, COVID-19, country after country was forced to enact measures to curb its spread, most notably social distancing or "stay at home" orders (Nossiter, Minder & Peltier, 2020). In the United States, one of the earliest significant closures was the suspension of the 2019–2020 NBA season on March 11, prompted by news that an NBA player had contracted the disease (Cacciola & Deb, 2020). Shortly after, not only did the NHL, MLB, and other sports leagues follow suit, but many other cultural events did as well: Chicago did not hold their annual St. Patrick's Day parade, the Kentucky Derby was postponed, and a myriad of other events were cancelled. Primary elections were postponed or, in the case of Wisconsin,

held anyway with limited polling places (Epstein, 2020). Workplaces and schools announced closures and a move to working or learning through the Internet; those for whom teleworking was not possible found themselves laid off or furloughed. By early April nearly 17 million Americans had lost their jobs and filed for unemployment, which is the largest unemployment spike in the nation's history (Long, 2020).

The social distancing measures intended to "flatten the curve" and reduce demand on healthcare providers due to COVID-19 has also increased demand for Internet access. This sudden shift to a reliance on high-speed Internet meant that American institutions were forced to rapidly confront disparity in quality of home Internet access caused by geography and socioeconomic status. The requirement to complete work and hold meetings online may be difficult for those who live in areas of the country that are under-served by Internet Service Providers (ISPs). Families with children who are not in school during this time may be required to be in school via the Internet, and home access is not universal (Goldstein, Popescu & Hannah-Jones, 2020). At the time of completion of this dissertation, the timeline for resuming large gatherings and traditional work and schooling arrangements is uncertain and the conversation about quality Internet access is only beginning. A measure that goes beyond a dichotomous view of Internet access and takes into account the complexity of methods and usage in the 21st century is more important than ever.

It is important to understand the evolution of the Internet as a technology in the context of the current U.S. Media landscape. As the Internet has taken hold as a major media source, newspapers have moved to this medium; due to a reduced subscription base and changes in advertising, over the past decade local newspapers and news stations have declined, with some closing their doors or merging with larger media conglomerates (Nie et al., 2010). While there is concern over the slow decay of local media, the U.S. government has historically taken a hands-off approach with respect to technology regulation in general (Atkin, Lau & Lin, 2006; Powell, Byrne & Dailey, 2011; Tapia, Powell & Ortiz, 2009). Unlike other countries, the U.S. has a mostly privatized Internet sector, which brings with it barriers to access that may be

higher than in other countries (Frieden, 2005). Some of this issue is due to capitalistic and monopolistic tendencies of ISPs (Brownstein, 2013; Frieden, 2013), some of this is due to the fact that the U.S. is geographically diverse and supplying Internet access to the entire country has physical limitations (Frieden, 2013, 2005).

1.1.2   Digital Inequality and Political Engagement

The digital divide and its further inequalities make the definition of home Internet access an important variable, but it is also a particularly tricky one to interpret. On one hand, Internet access at home is often a broadband subscription that is coupled with phone and cable TV (Brownstein, 2013). Conversely, Internet access at home could also be through unsecured Wi–Fi connections that are not owned by those living in the home. Access to broadband connections can be thought of as a function of socioeconomic factors, such as age and income (Lelkes, Sood & Iyengar, 2015). Despite ongoing improvements to Information and Communication Technologies (ICTs), socioeconomic and sociopolitical inequalities in the greater society are reflected within these technologies, creating the digital divide—a gap between those with high levels of Internet access and those with little or no access (Ferro, Helbig & Gil-Garcia, 2011; Lee, Park & Hwang, 2015; Norris, 2001; van Dijk, 2006). In addition to physical access, there are also often differences in technical skills, which are often related to elements contributing to the digital divide (Hargittai & Hinnant, 2008; van Dijk, 2006). It is also important to note that in a time where there is constant technological change, the diffusion of technology for each change occurs at different rates (Hilbert, 2016). When all of these problems are coupled together, the problem of digital inequality can be difficult to pinpoint to a particular cause (Hilbert, 2016; Scheerder, van Deursen & van Dijk, 2017; van Deursen, Helsper & Eynon, 2016). The digital divide and its subsequent inequalities are a driving force behind the arguments and hypotheses of this dissertation. Without understanding there is an inherent in-

equality and socioeconomic divide between different levels of access to the Internet, arguments about political engagement are not compelling.

With a higher quality of Internet access, this engagement might take on a more personal aspect. For example, individuals subject to more interactivity with their peers, are more likely to participate in politics (Tedesco, 2007). If interactivity is a factor in political participation, the Internet and social media offer avenues in which people are constantly interacting and gathering information and could therefore influence political participation (Beck et al., 2002; Nickerson, 2008). Overall the analysis of the Internet's effect on political participation finds it to be positive (Boulianne, 2009, 2018). This positive effect would indicate that as the level of Internet access increases, the level of political participation increases. There is some scholarly consensus when it comes to inequality and political participation with respect to the Internet (Anduiza, Cantijoch & Gallego, 2009). It has also been found that the Internet has the capability to spur interest in both civic mindedness and politics (Boulianne, 2016; Farrell, 2012; Wojcieszak & Mutz, 2009). There has been well documented evidence of inequality with respect to Internet access, and this is not limited to economic inequalities (Litt & Hargittai, 2014). There could be several confounding factors that should not be overlooked in an analysis of the effect of Internet access on political participation, such as age and socioeconomic status (Lelkes, Sood & Iyengar, 2015).

Information gathering is a crucial part of political participation, particularly with respect to voting (Downs, 1957; Converse, 2006; Zukin et al., 2006). While voting is one of the cheapest forms of political participation, it is coupled with the costly venture of information gathering (Riker & Ordeshook, 1968). The costs associated with Internet access have to do with three major factors: (1) the cost of the devices to access to the Internet; (2) the cost of a home Internet subscription; and finally, (3) the cost of transportation to arrive somewhere there is access to the Internet. As a result of these constraints, having Internet access can be considered a costly venture, as far as start-up costs. However, with the increased emphasis of the government and its movement of government programs to this medium, having the Internet has

become even more important. The costs of the technology are often prohibitive, even if the technology is becoming less expensive overall (van Dijk, 2006). In addition to information gathering, political participation and engagement is often predicated on the idea of citizenship and civic duty[1] (Downs, 1957; Riker & Ordeshook, 1968).

1.2   Access to the Internet

Access to the Internet differs when thinking about broadband or mobile Internet, and that difference is an important distinction for what can and can't be done with the technologies (Whitacre, 2017). Device usage is also important in understanding Internet access. Cell phones are important in considerations for Internet access since they are often cheaper than computers, and have the added benefit of being easy to carry around (Mossberger, Tolbert & Franko, 2013). Cell phones have had Internet access for some time, but their capabilities for web browsing were initially limited. Newer cell phones, colloquially known as "smart phones," have computing power that can rival lower end computers and laptops (Whitacre, 2017). These phones also have different associated costs, as older phones may be cheaper by subscription and not access data and information (Campbell & Kwak, 2010).

In addition to cell phones, there are tablet devices that also allow individuals to access the Internet[2]. Tablet devices are ones that are sometimes structured like the smart phone technologies. They are often used for book reading and note taking, but can at times be compared to a computer in their use. The reason scholars need to account for tablet technologies is due to their popularity in the same way smart phones have made individuals more mobile (Whitacre, 2017). In some cases, individuals are replacing laptop and desktop computers with tablet usage. For example, individuals with lower levels of socioeconomic status tend to use mobile technologies because of the cost, which means there are barriers to economic opportunities (Goldfarb &

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[1]Riker and Ordeshook (1968) define this as "feelings towards democracy".
[2]Some tablets have a capability to have access to the Internet without Wi–Fi, but these require a subscription to an ISP or other type of phone provider.

Prince, 2008; Mossberger, Tolbert & Franko, 2013). Due to the high monthly cost of Internet subscriptions, those without home Internet access and ICTs must seek out reliable Wi-Fi and other mobile Internet access points[3]. Mobile device use must be considered when developing a quality of Internet Access (QoIA) measure, in addition to home and work access that is often used in analyses that surround political behavior and Internet access.

As mobile devices become more ubiquitous, there is a developing trend for individuals to own more than one; whether this is a smartphone or a tablet, there has been an explosion in usage (Hoffman & Schecter, 2016; de Zúñiga, Garcia-Perdomo & McGregor, 2015). This is in some cases a movement towards mobile away from traditional computing[4] (WhiteHouse, 2015), making Internet usage and access a more difficult measure to obtain in some respects. One reason for multiple devices is that there could be technological limits for the tasks one device can accomplish. For example, word processing is more difficult on a mobile device for reasons of text size and the capability of the user to type long-form messages[5].

1.3 Measurement of Internet Access

The way the Internet is measured is generally done in a dichotomous manner, which can leave the phenomenon under–analyzed (Morris & Morris, 2013). Dichotomous measures tend to indicate whether an individual has Internet access or not. The questions in which respondents are asked might be limited to home access and usage[6] (ANES, 2014). In an environment where Internet access has become more mobile, it is important to ask questions about device usage and other places in which individ-

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[3]This includes libraries and other public places. However, some private firms such as McDonald's and Starbucks have sought to have free wireless Internet access in nearly all of their locations.
[4]A White House study found that cities such as San Antonio and Philadelphia have neighborhoods that are historically lower income that have differing levels of Internet access.
[5]While a long–form email can be crafted on a mobile device, not all demographics would prefer this avenue. For example, older individuals may have a hard time with the size of the physical device or even the size of the text on said device.
[6]The 2012 American National Election Survey asks individuals about whether they have Internet access at home, and then how many days a week they spend on the Internet.

uals have access. In my analysis, I'm going to assume that Internet access at home is a statement of priority for having access to the Internet, but is not necessarily the only mode of access. It indicates that the respondent has more than a cell phone for access, but also likely has multiple devices. Having multiple devices means that there is a likelihood that Internet access is likely and available at any time. Having Internet access at home suggests that the individual has invested in the technologies and is driven to ensure that they have access to it. Internet access has grown over time in both availability and technologies needed to access it and in order to understand what access to the Internet means, we must have a better measurement of what access and availability looks like.

Scholars should employ measures of Internet access that are more encompassing of the quality in which access to the Internet occurs, and because of this project, scholars should have a better sense of how the Internet can be treated as a dynamic variable. With a better understanding of quality of Internet access, scholars might be able to understand other inequalities and their effects on the political process. Understanding that the Internet is dynamic and can be evaluated as such is an important concept for understanding other types of online and offline political behavior. This dissertation can hopefully shed light on why analysis of political behavior and information gathering with respect to Internet access is a crucial area that needs more research. There is interest in this area by scholars, but it often seems ignored or overlooked. This dissertation in sum looks to argue that there is a need to continue evaluating this phenomenon, and that the discipline ignores this analysis at its own peril. The time to understand this phenomenon clearly may become more difficult as technologies become increasingly difficult to differentiate and separate from behavior.

All of these factors lead me to introduce a measurement of the quality of Internet Access (QoIA) in this dissertation, which I will do in Chapter 3. This measurement of Internet access assesses the ability of an individual to access the Internet. This access will be defined as a 5–point scale where Internet access and speed are available in the home and work. Both access at work and at home are defined by broadband and

dial–up Internet which are labeled as 2, and 1, respectively. The reason broadband Internet is rated higher is due to the superiority of the technology. The faster speeds allow for capabilities and access that dial–up does not allow for in a timely, predictable manner. Additionally, cell phone access is added on to the measure. Cell phone access is meant to also capture the emerging smartphone technologies that are emerging in the 2010–2016 time–frame. The proposed measure itself is one that I hypothesize can more accurately capture Internet access that is more nuanced than the measurement that is often used in studies about Internet access and political engagement.

1.4   Research Questions and Dissertation Plan

In this dissertation I evaluate questions about Internet access and the quality of access, arguing that access to the Internet needs not only better measurement, but also has a profound effect on political engagement broadly. Although the culture and literature itself seems to have moved on from questions of access to the Internet, there are still problems that remain. This includes nearly 20 percent of the U.S. not having access to high speed Internet (NTIA, 2014; , F.C.C.). While social media is a hot topic of research and understanding, it does not have any effects if there is no Internet access to allow for the platform. The overarching research question: Does the quality of Internet access for an individual affect the manner in which they participate in politics? The argument being made in this dissertation is that, in fact, there is an effect on political engagement with respect to Internet access. In order to answer this question, there will be a discussion of Internet access with respect to political engagement and political ideology.

In order to understand how the Internet has an effect on political engagement, I will be using the Cooperative Congressional Election Survey (CCES). This dataset is a non–panel dataset that will be looking at election years in particular between 2010–2016 inclusive. The reason these years are selected is due to the increased presence and relevance of the Internet in this time period, as evidenced by Barack Obama's

campaign in 2008 (Hindman, 2009), the Tea Party movement in 2009 (Williamson, Skocpol & Coggin, 2011), and the 2016 Presidential Election campaign. The Internet had an effect in each of these elections, and a necessity to have reliable Internet access grew in this time frame due to its pervasiveness. Additionally, in this time frame the Internet is not a novel concept, and has been an established, mainstream technology for some time, as it has been publicly available since 1990 (Berners-Lee, 1999; Castells, 2001).

I will begin this analysis with a literature review in Chapter 2. In this literature review I will discuss the nuances of the Internet itself as an entity that is both a necessity and luxury, and the puzzles that surround the multi–faceted nature of the Internet. This literature review will evaluate a literature that intersects traditional political behavior work with other relevant literature with respect to the Internet and inequalities. In chapter 3, I will develop a measurement that will be used to measure Internet access which I call the QoIA index. The QoIA index measures the quality of connection of an individual and the availability of the Internet for a given individual. This physical access measurement strays from the traditional dichotomous measure that is limited and does not take in account for many changes in technology. Instead of measuring whether an individual has Internet access, it can be better understood if that Internet access would allow that individual to do activities that might require more bandwidth, and stronger levels of access. For example, if an individual wants to watch a political speech, dial-up Internet speeds are not high enough to facilitate the video to be played clearly, and the download of the video may take a considerable amount of time.

In Chapter 4, I analyze whether Internet access quality affects an individual's level of ideological and partisan identity. There is an established literature that suggests that the Internet allows for the hardening of attitudes, and some ways push into extremism or stronger partisan or ideological attitudes. One reason that we may see increased partisan news reading activity is due to increased polarization (Lelkes, Sood & Iyengar, 2015). Lelkes, Sood, and Iyengar (2015) found that broadband access leads

to partisan information, and has further effects on polarization. When individuals look for information online, they may look for information that conforms to their held biases (Hindman, 2009). The question in this chapter is whether this extends to whether this affects individuals' access to the Internet. This chapter will analyze this phenomenon with respect to ideological and partisan strength, as well as specific identities respectively.

In Chapter 5, I evaluate political engagement and voting behaviors broadly, which builds on the analysis of ideology, as well as partisanship. The relationship between the quality of Internet Access and political engagement is the focus of the analysis of this chapter where political engagement and voting behaviors will be separated for the purpose of showing that the two types of behaviors are different. The literature review in chapter 5 will evaluate the role of the Internet in political participation and explain why Internet access is important for different areas of political behavior. I will evaluate QoIA in the context of voting behaviors and political engagement. I will find that Internet access does affect voting behaviors, but more strongly affects political engagement, possibly due to the impact of SES. In this disseration, political engagement will refer to an action in which a citizen engages in a participatory or civic behavior (Zukin et al., 2006).

In Chapter 6, I will build on the relationship of evaluating Internet access on political engagement with a case study into political giving. Because the QoIA seems to have more of an effect on political engagement broadly, I will evaluate whether there is an effect on something that the Internet has made more accessible: political donation. This is a case study evaluating a specific form of political engagement that has been enhanced with the advent of Internet access. Candidates can solicit donations online in a manner in which donations were not solicited in the past (Hindman, 2005). Although individuals still donate using checks and other traditional methods, online donations have spurred new channels for political giving that may have opened the process to those who may have not had access before (Bouton, Castanheira & Drazen, 2018; Culberson, McDonald & Robbins, 2019). In addition there is plausible

evidence to show that the Internet allows for more political operatives and campaigns to establish new connections and donors using this medium.

Chapter 7 will conclude this study, summarize the findings, and discuss the implications of the research. It is likely that political participation and information gathering is affected by this hypothesized democratization of devices. Here I will discuss to what extent QoIA affects the overall political participation and information gathering habits of individuals. This chapter will also discuss future directions in which research should use a broader definition of Internet access to bring more nuance to arguments regarding the role of the Internet in political behavior and information gathering.

2. LITERATURE REVIEW

This literature review will incorporate several disparate areas of study that span multiple social science disciplines. I will begin by conceptualizing and defining "the Internet" and Internet access, including access to technology. This will include a brief history of the Internet and access technologies as well as how the concept of access will be defined in this dissertation. I will then expand on inequalities of access and why access matters in the context of politics, within the digital divide and political engagement literature. Next I will address political engagement as it will be analyzed in this dissertation. I then continue with a review of the literature surrounding the media effects and the Internet in general. The plan of this chapter sets up the theoretical framework to allow for a measurement of Internet access that can appropriately articulate the nuances which that implies, but that also understands the effect access to the Internet has on political engagement, with the conceptualization of the variable of interest in Quality of Internet Access (QoIA).

2.1 Internet Access

In a lexicographical sense, "The Internet" is a vague term that often conflates many concepts of what is meant by access to a large network of digital information. Often this conglomeration refers to the network known as the "World Wide Web" (Berners-Lee, 1999; Castells, 2001; Farrell, 2012). In order to better analyze this concept, a more precise definition is needed, as well as a distinction between "the Internet" as a destination and "Internet access" as a means of using it. In this section I will describe the Internet and the general scholarly outlook about this technology.

The history surrounding this technology is a current burgeoning field of study (Storsul, 2019). The Internet we know today was formed via the Department of De-

fense and the Department of Advanced Research Projects Agency (DARPA). Through this organization a Wide Area Network (WAN) was formed which allowed for multiple computers to access the network called ARPANET, which begins the structural backbone of what we now refer to as the World Wide Web (Berners-Lee, 1999; Castells, 2001; Paloque-Bergés & Schafer, 2019). The legacy of ARPANET is defined by the insistence of openness that comes with debates on keeping the Internet open and accessible. This legacy can be reflected in both the regulatory attitudes and policy debates that are surrounding this technology (Paloque-Bergés & Schafer, 2019). When exactly the World Wide Web started is not an easy question to answer, but its modern birth is likely in the 1980s (Brugger, 2016). CERN scientist, Tim Berners-Lee came up with an idea of data management via networked computing, and presented the idea internally in 1990 (Berners-Lee, 1999). This idea would later be adopted as the World Wide Web and proliferate in the 1990s (Berners-Lee, 1999; Castells, 2001). In the 2000s the Internet would become more interactive entering the Web 2.0 paradigm. This paradigm was one that focused on having platforms where the individuals curate the content on respective websites for one another (O'Reilly, 2005). More recently, the prevailing paradigm of web use is one that defines itself as "the Internet of Things", which is the idea that the world wide web can be accessed from anywhere and with any device (Greengard, 2015).

Cell phones are important in considerations for Internet access. Initially, their capabilities for web browsing were limited. Newer cell phones, colloquially known "smart phones," have computing power that can rival lower end computers and laptops (Mossberger, Tolbert & Franko, 2013; Zillen & Hargittai, 2009). Cell phones are often cheaper than computers, and have the added benefit of being easy to carry around. In some regards, lower income individuals are substituting the cell phone technologies in place of laptops and personal computers (PCs) because of these reasons (Mossberger, Tolbert & Franko, 2013). Despite the perceived savings, these

technologies can be as expensive as a computer, as phones require a subscription service, which can become costly[1].

While it is easy for scholars to look at this question by looking solely at cell phone ownership, it may be treading a muddy line with respect to question wording (Prior, 2013a). When thinking about a cell phone, individuals may refer to a top-of-the-line Samsung or Apple product, but might also associate an older phone with limited web capabilities as the same type of phone due to this question wording[2]. Although cell phones have the added benefit of being mobile, they are not sufficient for many common digital tasks. For example, some employment applications require an amount of typing that cannot be easily accomplished on a mobile device (Lee, Park & Hwang, 2015; Sourbati, 2009; Strover, 2014).

2.1.1 The Digital Divide

Beginning in the late 1990s, there was growing sociopolitical concern surrounding the inequalities created and perpetuated by the spread of new technological developments (Strover, 2013). As such concern has grown, so has the body of academic literature examining this divide. Much of the literature stems from the National Telecommunications and Information Administration's (NTIA) 1995 "Falling through the Net" report (NTIA, 1995). The report detailed the status of digital inequalities in the U.S., identifying that those with Internet access and without are different from their connected peers (Epstein, Nisbet & Gillespie, 2011; Norris, 2001; NTIA, 1995). The concerns highlighted in the NTIA's report, have come to be known as the digital divide and continues to be well-documented by scholarly research. The digital divide is defined as the inequalities which arise from unequal access to the Internet and computer–based technology with respect to dimensions of class, race, gender, age, ethnicity, and geography (Epstein, Nisbet & Gillespie, 2011; Mesch & Talmud,

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[1]Cell phone subscriptions come with data usage charges, as well as standard phone service. Depending on the plan, they can be more expensive per month.
[2]Because there are different cell phones with different capabilities, it is important to make a distinction.

2011; Mossberger, Tolbert & Stansbury, 2003; Norris, 2001; van Dijk, 2006). Scholars have documented the digital divide, as well as the attempts to close this gap, in the U.S. and internationally (Kvasny & Keil, 2006; Mossberger, Tolbert & Franko, 2013; Mossberger, Tolbert & Stansbury, 2003; Norris, 2001; van Deursen & van Dijk, 2014).

Though the problem is a global one, it is starkly manifested in the U.S. context. In the U.S. only 80–85 percent of households have Internet access (, F.C.C.; NTIA, 2014). Those who do not have Internet access often cite high costs as the reason for why they do not have these services (NTIA, 2010, 2014). Therefore, some scholars might suggest that having home Internet access is a luxury (Strover, 2014). The reasons for having higher prices can range from the coupling of Internet with cable TV and telephone services (Brownstein, 2013; Strover, 2014), to complex monopolistic behaviors of the Intenet Service Providers (ISPs) themselves, in addition to the physical constraints (Brownstein, 2013; Frieden, 2013; Fuchs, 2009). These constraints therefore result in an incongruent access to the Internet across the board, that looks more like a patchwork quilt, than a uniform distribution (Greengard, 2015).

This digital divide is more than just about Internet access (Morozov, 2011; Norris, 2001; van Dijk, 2006). In addition to having access, individuals need to know how to use the Information and Computer Technologies (ICTs) (Hsieh, Rai & Keil, 2011; Norris, 2001; van Dijk, 2006; van Dijk & Hacker, 2003). Some scholars believe that this divide will correct itself over time, and will not require government policy to address the problem. In much of the literature there is a strong assumption that young people use ICTs more. It is assumed that over time the younger generations will be more knowledgeable of the technologies as they grow older because they will have more exposure to the technology (Bimber, 2003; van Dijk, 2006). This would imply that a gap in technological skill, as well as use, will lessen over time. While it is true that the younger generation is much more comfortable with the technology (Meneses & Mominó, 2010), older individuals do use the Internet (Sourbati, 2009). Additionally, those who have at least some university–level education are more likely to have home Internet access (Bimber, 2003; Hindman, 2009; Norris, 2001; van Dijk,

2006). As a result of this research, scholars have theorized the digital divide to be a reflection of social and economic inequalities in the societies where the phenomenon exists (Norris, 2001; van Dijk, 2006).

Despite the increasing availability of Internet access, there are divides that are perpetuated by an inequality in physical access and technical skills (Hargittai & Hinnant, 2008; van Deursen & Mossberger, 2018). One example of differences in use and access can be seen in gender divides. In the 1990s it was found that women used the Internet less than men (Ono & Zavodny, 2003). With respect to Internet skills, there has been evidence to show that women do rate their technical skills differently from men (Bimber, 2000a). Additionally women are underrepresented in the Information Technology sector of the economy, which has its own consequences (Fountain, 2000). Additionally, with respect to skills and Internet use, there tends to be a trend that women may under–report their skill sets and as a result may be less likely to use the Internet (Bimber, 2000a; van Dijk, 2006). These skill gaps are well–documented and are perceived to be closing over time, but still pose concerns as technology evolves and shifts. For the purposes of this dissertation, access is being evaluated in terms of physical access.

There is also a socioeconomic dimension to the persistence of the digital divide. The decision to have home Internet access can be problematic in measurement for isolation. Individuals with lower levels of socioeconomic status (SES) may favor a phone over a home Internet subscription due to its perceived economic savings (Mossberger, Tolbert & Franko, 2013; Zillen & Hargittai, 2009). This difference in device usage can also drive inequalities (Zillen & Hargittai, 2009). This is in some ways misguided, because the phones often bring subscription charges as well that can be similar in cost to a home subscriptions, particularly if on a data plan[3]. Because of this misunderstanding there are needs to understand the digital divide and inequalities in other ways that are shifting with societal demands (Robinson et al., 2015; van Deursen & van Dijk, 2019).

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[3]In some cases these subscriptions can even end up being more expensive.

In societies with higher levels of technological diffusion, there is a movement of information to ICTs based on the assumption that everyone has access to the Internet (Shah, 2012). This is evidenced by social services and other government operations have been moved to an electronic platform (Hargittai & Hinnant, 2008; Sourbati, 2009; van Dijk, 2006). This includes paying bills, applying for employment, personal banking, and other daily activities that are increasingly being digitized. It is becoming increasingly difficult to get through a day without the technologies, while the prices of the mobile technologies and other devices remain relatively expensive or out of reach of low income families (Napoli & Obar, 2014; Strover, 2014; Waterman & Choi, 2011). This can be problematic where deep digital and socioeconomic divides exist, since not all those who could take advantage of these services would be readily able to access them (Shah, 2012; van Dijk, 2006). For example, delivery of welfare services to the elderly and poor can become difficult when they do not have the appropriate ICTs. In a fully wired society, offering welfare services online would not be a problem because the diffusion of the appropriate technologies will be obtainable by all those seeking them (Hindman, 2009). While the measures to put welfare services online are cost-saving mechanism, this still does not mean that all parties can ideally access the appropriate services (Shah, 2012; van Dijk, 2006). This in turn leaves individuals out of the process who would benefit most from government services. This is not to suggest that the solution is to give everyone Internet at home, but at least sustain a level where the appropriate ICTs and support are available at low cost. Despite this assumption of the Internet being a luxury, it can be argued that the government and larger American culture, as a necessity (Brownstein, 2013). Government officials might point to stronger coverage of mobile technologies as progress. While this is an important technological advancement, it does not always translate into better and more equal Internet access (Rice & Katz, 2003), but rather better cell phone reception.

2.1.2 How does the Digital Divide Affect Political Engagement?

In the 2000s the literature surrounding political participation sought to understand the effects of the Internet on general political behavior (Bimber, 2001; Boulianne, 2009; Farrell, 2012). Scholarship in this area has also found that there are general positive effects of the Internet on political behavior (Boulianne, 2009). It became increasingly difficult to just refer to phenomena related to information technology as a product of "the Internet" due to the complicated nature of the technology (Bimber, 2000b; Farrell, 2012). There is also evidence to show that the relationship is strengthening, but that relationship's change over time is unclear (Boulianne, 2015, 2018). There is evidence to show that the Internet provides new avenues for participation[4] (Hargittai & Shaw, 2015).

In theory it would seem that political engagement may be affected by the digital divide and other inequalities (van Dijk, 2006). As civic engagement has moved to a digital platform there has been a need for Internet access, in some ways, to engage the political process (Brownstein, 2013). Additionally there is evidence to show that there is a skill gap that includes digital citizenship and participation (Vaccari & Valerani, 2018). The literature surrounding the digital divide focuses more on the inequalities than the outcomes of political behavior (Scheerder, van Deursen & van Dijk, 2017; van der Zeeuw, van Deursen & Jansen, 2019). Therefore the literature more focuses on the availability of information and services, but not on behaviors such as voting, or other forms of political engagement (Strover, 2014). This makes this information somewhat of an unknown, and this dissertation will shed some light on this phenomenon.

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[4]Hargittai and Shaw (2015) are specifically referring to the 2008 election.

2.2   U.S. Media Environment

2.2.1   The Current U.S. Media Environment

Previous research on the effects of Media and political engagement shows reduction in trust in government with increased media exposure (Robinson, 1976). Political Science as a discipline has remarked that there is a malaise that comes with this saturated media environment (Newton, 1999). Because of the high levels of media exposure, there is an unconscious effort by the audience of the media to not take the content seriously as news and entertainment are blurred together (Postman, 2006). Media malaise has been a prevailing paradigm in political science that has stalled much of the research surrounding media effects (Farrell, 2012; Prior, 2007), which has limited the literature about political uses of media, particularly new media and Internet access (Strover, 2014).

The U.S. media environment is unique that most, if not all, of the media is in the private sector (Baek, 2009; Frieden, 2005; Howard, Busch & Sheets, 2011). The distribution of the Internet and ICTs are largely determined by institutions and subsequent structure of a given government (Milner, 2006; Norris, 2001; van Dijk, 2006). Government moves at neither the speed of business, nor the speed of the Internet, which often creates conflicts where regulations do not allow ICTs and other important technologies to be appropriately distributed. This could be an institutional problem that is highly contested with respect to the F.C.C. and its relationship to Congressional politics, due to considerations of the "iron triangle." This relationship between Congress and the F.C.C. affects the regulation of the Internet, which in turn affects the manner in which the technology is distributed. The partisan divide on this issue is often one that considers how the relationship between ISPs and the market should be, and how the relationship should be managed. The U.S. government has taken a hands-off approach with respect to technology regulation in general, which has caused the media environment to become more fragmented over time (Atkin, Lau & Lin, 2006; Howard, Busch & Sheets, 2011; Powell, Byrne & Dailey, 2011; Prior, 2007;

Tapia, Powell & Ortiz, 2009). Telephone and television markets, for example, allowed AT&T and Bell to create telephone monopolies, which the FCC allowed to operate (Downes & Greenstein, 2007; Frieden, 2013). Although the FCC has broken telephone monopolies twice through the courts, it continues to allow monopolies to form in the broadband Internet market (Atkin, Lau & Lin, 2006; Downes & Greenstein, 2007; Frieden, 2005). Monopolies have made Internet access and home subscriptions prohibitively expensive, and with a lack of competition in the market there are few incentives to bring costs down (Brownstein, 2013). ICTs and PCs on the other hand, have decreased in price and it has become less expensive to purchase these technologies in comparison to Internet subscriptions (Waterman & Choi, 2011; Whitacre, Strover & Gallardo, 2015). As a result, there has been a trend towards individuals with lower SES to adopt the ICTs and not take on the traditional subscriptions to Internet access.

Because the media landscape is so fragmented, there has been an increase in partisan media and consumption (Morris, 2005; Prior, 2007). This would mean that individuals are self-selecting their news sources, and as a result, the information they consume is reinforcing their ideological beliefs in an echo chamber (Arceneaux & Johnson, 2013; Mutz, 2006; Prior, 2013b). The personalization of news is one that has become a topic of discussion in the 2016 election due to the quality of information that may be circulated, often with political undertones (Copeland & Feezell, 2018; Wojcieszak & Mutz, 2009). Because of these reinforced ideological beliefs, individuals may be experiencing media in different ways and learning about politics from soft news, and other news outlets (Baum, 2003, 2012). For example, this ideological narrow–casting may be leading to individualized networks (Wojcieszak & Mutz, 2009), which further lead to news reading habits and other behavior that reinforces political ideologies instead of exposing individuals to new information, especially within the context of social network sites[5] (Bond & Messing, 2015). The Internet makes the dissemination of information easier for consumption because of its speedy delivery,

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[5]Bond and Messing (2015) focus on Facebook specifically

forcing traditional media and other publishers to react accordingly (Nie et al., 2010; Prior, 2007).

A consequence of the current U.S. Media landscape is that the media can be experienced differently by different people (Prior, 2007). This also extends to Internet media consumption where media that is consumed by Internet users differs among individuals (Feezell, Conroy & Guerrero, 2016). There is a perceived tendency for individuals to create echo chambers and effectively wall themselves off from criticisms of personal ideological preferences (Prior, 2007; Wojcieszak & Mutz, 2009). A citizen who feels that the mainstream media is biased can effectively avoid those sources due to the fragmentation that is present on the Internet (Prior, 2007). The use of partisan media or other choices of media are important, because the quality of information from those sources may create differently informed individuals as well as cater to a personal partisan identity (Green, Palmquist & Schickler, 2002; Morris, 2005). Therefore, it is important to understand not only access to the Internet, but what citizens are doing with this information, especially if these individuals are online more often and further active participants in civic affairs.

2.3 Political Engagement

2.3.1 Definitions of Political Participation and Engagement

Political participation has been broadly understood by scholars to be the underpinning of democratic societies (Schlozman, Verba & Brady, 2012; Verba, Schlozman & Brady, 1995). Popular sovereignty and voting behaviors are ones that allow citizens to take ownership of their governance and the decision-making as a consequence (Norris, 2001). This encouragement of participation is a hallmark of American democracy, and one which is one that has been expanded to include citizens outside of landed gentry (Almond & Verba, 1963; Verba, Schlozman & Brady, 1995). Political participation is often seen as an expression of political culture and citizenship that is shifting over time (Dalton, 2008). There have been debates in the political science literature

over what behaviors constitute political participation, and the language scholars use to describe these behaviors (Verba & Nie, 1972; Zukin et al., 2006). Over time, scholars have found that the behaviors being described with political participation needed a typology in order to explain the differences between more involved behaviors and more common ones (Dalton, 2008; Zukin et al., 2006). For example, running for office is an entirely different behavior than registering and voting for candidates in elections (Verba & Nie, 1972; Zukin et al., 2006). To accommodate these noticeable differences the term "political engagement" has made more of an appearance in the literature.

Political engagement can take on many forms that range from attending a city council meeting to protesting a local political issue (Verba & Nie, 1972; Zukin et al., 2006). Verba and Nie (1972) found that there are key dimensions to participation and its measurement, and were able to create a typology for the modes of participation into four distinct categories: campaign activity, communal activity, voting, and particularized contact (Verba & Nie, 1972). Voting is the participatory activity that deals with political acts of voting and registration and remains one of the avenues of political participation that is most important for citizen participation (Zukin et al., 2006, 4). It is often not included in the category of political engagement, because the commitment and time needed; voting is an activity that is performed infrequently, where the other forms of engagement require a commitment to political activity (Zukin et al., 2006). Citizen engagement refers to the activities that citizens tend to influence or affect governance or the choices of elected officials (Zukin et al., 2006) and splits voting off from other forms of political participation that are considered to be more "costly"[6]. While this is the case, it may be expected that an analysis that evaluates political engagement and behavior may be strongly correlated with those with higher SES levels (Zukin et al., 2006). Scholars generally agree that political participation is driven by socioeconomic variables, interest in politics, and engagement by political campaigns (Schlozman, Verba & Brady, 2010, 2012; Zukin et al., 2006). With increased ICT presence, there are considerations for political participation.

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[6]In terms of time, money, commitment, etc.

2.3.2 Variables

Now that we have a definition of political engagement, it is important to understand who is engaging in the political process. Some of the notion of why people participate in politics is from a notion of civic norms and citizenship (Dalton, 2008). These notions of citizenship come from a "shared set of expectations about the citizen's role in politics" (Dalton, 2008, 78). As such, in the U.S. political participation and engagement is often predicated on the idea of citizenship and civic duty[7] (Miller & Shanks, 1996; Riker & Ordeshook, 1968).

Gender

There has been evidence in the literature to show that there are differences among genders when it comes to political engagement. Women are less likely to be interested in politics, however there is evidence to show that women are slightly more likely to vote, if not at the same rate as men (Carreras, 2018). Differences in political engagement and participation could also stem from inherent differences between men and women when it comes to political efficacy and knowledge, among other facets of political participation (Verba, Burns & Schlozman, 1997). One difference, for example, is that women tend to hold themselves to a higher standard before engaging in political activities that are more time–intensive, such as running for office (Ondercin & Jones-White, 2011). There have been generational changes in the gender gap that would indicate that women have become more Democratic over time (Harsgor, 2018). Women are more likely to favor Democratic candidates (Schlozman, Verba & Brady, 2012), and are more likely to turn out to vote in more recent years (Carreras, 2018). Much of the reason for this uptick, may have more to do with women having higher levels of civic duty (Carreras, 2018).

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[7]Riker and Ordeshook (1968) define this as "feelings towards democracy."

Ideology and Partisanship

Ideology is often cited as one of the largest predictors of political engagement and voting behaviors (Miller & Shanks, 1996; Schlozman, Verba & Brady, 2012). Party identification, in particular, has long been said to be one of the most important predictors for voting behavior, and is one that must be included in any voting model (Miller & Shanks, 1996; Page & Shapiro, 1992). Individuals seem to form partisan identities for a variety of reasons. One of these reasons is for simplicity of digesting and recalling political information (Popkin, 1991; Zaller, 1992). Sorting allows individuals an ability to be able to simplify news–gathering behaviors (Nie et al., 2010). The question of whether Americans can hold sophisticated political opinions is a decades–long debate (Converse, 2000). While this debate rages on, the consequences of whether citizens can hold positions that are sophisticated may conflict with how citizens view democratic practices. If the citizenry cannot hold more sophisticated positions, then democratic practices could be corrupted (Dahl, 2006; Zaller, 1992). Partisan identification has been seen as a stable measurement over time (Campbell et al., 1980). There is evidence to show that voting has become more tied to partisanship over time (Bafumi & Shapiro, 2009). Part of this tie to voting and behavior is the observation that there is partisan sorting occurring (Fiorina, Abrams & Pope, 2011). This partisan sorting has brought its own trends in how partisans engage the political system and views on citizenship have changed along with it (Dalton, 2008). One way in which partisans are insulating themselves is through the selective attention of media, and not engaging conversations with others, in which they may not inherently agree (Mutz, 2006; Prior, 2007).

Age

There are historical trends that those engaging in politics would be older and have higher levels of political identity (Achen & Bartels, 2017; Miller & Shanks, 1996; Page & Shapiro, 1992). Historically, older individuals have been more participatory

(Miller & Shanks, 1996; Page & Shapiro, 1992; Wray-Lake, Arruda & Hopkins, 2019). With respect to political engagement, younger individuals are not necessarily seeing significantly increased turnout (Brownstein & Kaufman, 2017). Additionally, younger individuals learn about politics and inherit their political ideologies from their parents (Niemi & Jennings, 1991). In addition to the stability of partisanship, there seems to be some generational shifts in loyalty. Younger generations are less loyal partisan than their parents, and this trend has been cited for over 40 years (Abramson, 1979; Page & Shapiro, 1992; Miller & Shanks, 1996). For this analysis, age is measured the same as it has been in previous chapters. There are also trends that show that individuals become more conservative and Republican as they age (Page & Shapiro, 1992; Schlozman, Verba & Brady, 2012).

SES

Political engagement is a costly venture, where time and resources are often a requisite. This is directly related to the fact that those who are participating and engaging the political process (Verba, Schlozman & Brady, 1995). Political participation requires costs that are both monetary and those that take time (Downs, 1957; Riker & Ordeshook, 1968; Zukin et al., 2006). Because voting is seen as a cheapest vehicle for political engagement, it is the most popular (Zukin et al., 2006). Most other forms of political engagement and participation are costly in ways that the average citizen may not have neither the interest nor resources to take part in (Converse, 2006; Verba & Nie, 1972). This creates problems for representation as those with more resources are more involved in the political process (Bartels, 2008). The inequalities in SES may be enough to drive inequalities in political engagement and subsequently governance (Bartels, 2008; Schlozman, Verba & Brady, 2012; Verba, Schlozman & Brady, 1995).

2.4 Internet Access and Political Engagement

Regardless of the settings in which an individual is living in, the Internet has a perceived effect to increase political engagement, via exposure that is both intentional (Lawrence, Sides & Farrell, 2010) and unintentional (Morris & Morris, 2013; Wojcieszak & Mutz, 2009). It has also been found that the Internet has the capability to spur interest in civic mindedness and politics (Boulianne, 2016; Farrell, 2012; Wojcieszak & Mutz, 2009). There is evidence of volunteerism that has been found with respect to Internet access (Jennings & Zeitner, 2003). In an Internet environment, citizenship can take on many forms that include content creation, and encouraging citizens to participate through organizing efforts online to be involved in offline political happenings (Baldwin-Philippi, 2015). These behaviors could be successful in bringing new people into the political process. The Internet has been credited for the success of the Obama 2008 and 2012 political campaigns, and political protest movements such as the Tea Party (Williamson, Skocpol & Coggin, 2011), Occupy Wall Street, and the Arab Spring in Egypt (Lynch, 2011; Morozov, 2011).

Younger individuals are exposed to more information online, but this does not always translate to higher participation rates (Brownstein & Kaufman, 2018). While there is some disagreement among scholars of how much of an effect Internet access has on political engagement and voting behaviors, there is an overall positive effect (Boulianne, 2009). There is also a life–cycle effect in which younger individuals become more politically participatory over their lifetimes (Jennings & Zeitner, 2003; Schlozman, Verba & Brady, 2012). With respect to older generations, adoption is occurring despite the notion that the older generation is left behind, which is overstated as older generations are more online than they were in the past (Silva, Badasyan & Busby, 2018; Sourbati, 2009). The common assertion is that younger individuals have Internet access, however, as described in earlier chapters, Internet access has grown out of this assertion. Younger individuals also have different technological skills than

those who are older, mostly because the technologies that were necessary or popular have shifted rapidly (Sourbati, 2009).

2.4.1 Heuristics

One hallmark of democratic practice is that political participants are informed and involved in their communities (Campbell & Kwak, 2010; Milner, 2006). The Internet is necessary for information gathering and dissemination in the 21st century (Couldry et al., 2014; Farrell, 2012). The Internet is far different form of media than in the past because it is invasive and allows speedy delivery and consumption of basic and necessary services (Prior, 2007). This information and behavior would suggest that citizens are potentially learning and gathering more information about politics from friends and other online connections, which has been shown to be occurring on social media (Bond & Messing, 2015). As a result of partisan identity, users select themselves into blogs and other news sources that are conforming to these identities (Lawrence, Sides & Farrell, 2010; Morris, 2005). As such, it is also imperative to understand that despite the Internet's ability to help individuals stay more informed, it is also highly fragmented, which may have consequences on the quality of information. In the Web 2.0 paradigm the online environments foster user–generated content and lower the cost for the individual in terms of seeking out information (Dylko & McCluskey, 2012). This is not only an online phenomenon, but also one that scholars evaluate in neighborhood settings, where neighbors tend to share similar political attitudes (Huckfeldt et al., 1995).

The mass public has been able to develop consistent issue positions through the use of heuristics (Delli-Carpini & Keeter, 1996; Page & Shapiro, 1992). These heuristics offer shortcuts for voters to be able to make seemingly informed decisions without putting forth a new sizable effort. Heuristics are necessary for the gathering of political information which is a crucial, yet costly, element for an individual's decision to vote (Beck et al., 2002; Downs, 1957; Miller & Shanks, 1996; Riker & Ordeshook,

1968). As a result, of these heuristics, echo chambers of like–ideological individuals hear mostly information with which they agree (Arceneaux & Johnson, 2013; Beck et al., 2002).

In an Internet environment heuristics are important because the amount of available information is immense, and having heuristics allows individuals to reduce the costs (in time, effort, etc.) of sifting through large volumes of information (Mutz, 2006; Putnam, 2000; Rheingold, 1992; van Dijk, 2006). As such, it may be theorized that it is important that Internet users having stronger ideology or partisan identity as part of an ability to make sense of large amounts of information. Partisanship is a heuristic that can be used to better understand complex ideas into digestible terms (Campbell et al., 1980). Ideology can be seen as expressive (Huddy, Mason & Aarøe, 2015), and the Internet can allow a platform for expressive ideology as evidenced through interactions online, such as blog readership (Lawrence, Sides & Farrell, 2010). For individuals who have stronger Internet access it may be expected that these same individuals may possess the socioeconomic advantages that political and economic elites enjoy (van Deursen & van Dijk, 2014). As such, this is likely a reason why partisan divides on online platforms may be more polarized or cause more disagreement, is due to the individuals who have the technologies in the first place (Best & Kreuger, 2005). This socioeconomic divide is one that is important to consider as the public is not entirely online, contrary to popular notions that the Internet is diverse in its demographic makeup.

There are many other heuristics outside of ideology, but four will be addressed in this dissertation: party identification, issue voting, pocketbook voting, and foreign policy. With the Internet environment, an additional set of heuristics is needed to navigate this space (van Deursen, Helsper & Eynon, 2016). Both sets of heuristics have qualities about them that overlap and as a result, are an interesting phenomenon to evaluate. Even though this dissertation does not evaluate this phenomenon directly, it can be a reason to evaluate access, and open better understanding of the Internet's effect on political engagement.

2.5   Scholarly Outlook on the Internet

2.5.1   Political Effects of the Internet on Politics

Initially, scholars suggested that the expansion of the Internet would have positive effects on democratic practices. It also would allow for a more robust electorate that was more informed, as access to information is now at fingertips and to-the-second in contrast to the older paradigm of a daily newspaper or nightly news (Farrell, 2012; Kreuger, 2002; Nie et al., 2010; Prior, 2007). For example, primaries and elections from Indiana can be of interest to individuals living in California (Kreuger, 2002). In addition to this democratic upside, increased internet access allowed for voices that are often unheard to be able to be heard (Norris, 2001). Additionally, there was also the promise of having groups who were physically isolated be able to find solace and community online (Rheingold, 1992). This type of engagement may help bring together communities that otherwise would not exist, or were isolated for other reasons (Katz, Rice & Aspden, 2001). In contrast to such a rosy view of the Internet, there are scholars who suggested that the Internet would be an isolating medium, that would drive communities apart and result in decreasing levels of civic engagement (Putnam, 1996). This isolation was then theorized to be a decline in social capital, and would have negative effects that would see a severe decrease in civic engagement and community at large, resulting in an increase of cynicism (Postman, 2006; Putnam, 2000). These scholars see technological innovation as a "cyber apartheid" (Putnam, 2000, 185) due to the isolating effect in which these technologies may prevent individuals from gathering physically as a community, and therefore reducing interpersonal relationships and communication (Nie, 2001; Nie & Hillygus, 2002). This is otherwise known as the displacement theory, which sees the use of the Internet as an asocial use of time (Kraut et al., 1998; Nie & Hillygus, 2002). In addition to being asocial, the Internet was hypothesized to increase incidence of loneliness and depression in addition to decline of communication with other family members (Kraut et al., 1998).

The future outlook could look bleak as the status quo seems to be maintained through electoral processes (Achen & Bartels, 2017; Verba, 1996).

2.5.2 Is There Current Consensus

There does seem to be a general consensus in the literature that seems to fall between these two original schools of thought. On one hand, citizens are plausibly engaging the process more, and using the online platform to organize and be involved in politics (Schlozman, Verba & Brady, 2010; Bimber, Flanagin & Stohl, 2012). Individuals who are online more are more likely to be isolated if they are truly introverts. For example, the Internet allows for communities that are not proximal geographically to be better connected (Rheingold, 1992). However, if individuals do not have communities they are a part of, they might experience an isolation and inaccessibility (Kraut et al., 2002; Nie & Hillygus, 2002; Putnam, 2000). Additionally, access to the Internet could be seen to increase the information available (Putnam, 2000) as well as the ability to participate given the organization occurring on the platform (Bimber, Flanagin & Stohl, 2012). On the other hand, isolation is occurring and perhaps stoking fears that the online environment is exacerbating non–democratic fervor and attitudes that are seeping into everyday political conversation (Morozov, 2011). Overall the results of having wider Internet access has been comparatively shown to increase engagement and interest in politics (Baek, 2009; Boulianne, 2009, 2018).

2.5.3 Geography and Digital Access

The geography of the United States is very important to consider when developing a theory of Internet access and political engagement due to the question of Internet access, specifically physical access. While access to the Internet has become more available everywhere, rural areas are often the areas with less infrastructure available (Mossberger, Tolbert & Franko, 2013). The geography of the United States is vast, and the technology needed to wire access to web is expensive, which creates

an interesting puzzle: how does the U.S. connect rural individuals to the web, when there may be no economic incentive to do so (Brownstein, 2013; Strover, 2001, 2014). The calculus of whether an Internet Service Provider (ISP) wants to provide service to an area will rely on the question of whether enough subscriptions can be sold to make up the costs of the infrastructure and generate profit. In addition to infrastructure, there is an incentive by the ISPs themselves to monopolize Internet access in rural areas (Frieden, 2013). This monopolization is one that can keep the cost of Internet access prohibitively high due to the lack of competition and can be particularly damaging in rural areas in the U.S. because there is not a large population density (Brownstein, 2013). In turn, this monopolization of access provisions makes the incentive to expand infrastructure into smaller markets or less dense populations not a profitable action (Brownstein, 2013; Frieden, 2013; Strover, 2014). Unlike other countries where a public-private relationship exists, the U.S. has historically been, and remains, a mostly privatized Internet sector (Baek, 2009; Brownstein, 2013; Frieden, 2005, 2013). Historically, the Internet and older media has been slow to reach the rural U.S. (, F.C.C.; LaRose et al., 2007; Strover, 2001). As this is the case, the Internet is no different. In the 1990s and 2000s the Bush and Clinton Administrations were insistent on the expansion of Internet infrastructure (, F.C.C.; NTIA, 2010, 2014). This expansion has occurred, but has not resulted in complete coverage, as rural areas are sometimes not as covered as their urban peers (WhiteHouse, 2015). Not all rural areas are privy to this type of exclusion as some have been able to adapt better than others, but those areas are likely able to do so as a function of higher SES or access to resources.

2.6   Data

The data to evaluate these hypotheses comes from the Cooperative Congressional Election Survey (CCES). Data that is used in this analysis is from each election year

from 2010 to 2016 inclusive[8]. (Ansolabehere & Schaffner, 2017). Rural and urban data additionally comes from the 2010 U.S. Decennial Census, for the respondents' zip code of residence reported in the CCES survey (U.S.Census, 2010). The data was merged using the FIPS coding that is available in the CCES dataset which can be attached to zip code level, where the analysis in this chapter will account for geographical considerations. The data are not panel data and analyzed separately by year. The reason that this data cannot be considered panel data is due to the issues of continuity, and the replacement method that is used year to year (Kuriwaki, 2018). This analysis is considered to be a repeated survey design due to the nature of the survey methodology changing over time. The CCES survey has combined with YouGov and other polling firms to maintain a healthy, large survey pool. As the methodology of the survey has changed, there are questions about the validity and randomness of the respondent pool, and this can be confirmed as a result of the fact that the respondents are more participatory than the general public. Despite this fact, the data was chosen for its availability of variables that are key to this survey. The ANES does not provide granular variables about technology, and as such, a metric such as QoIA would be difficult to test.

In addition to the CCES data, the data is also combined with data from the 2010 Decennial U.S. Census that will indicate whether an individual is in an urban or rural area at the zip code level. This addition of urban and rural designation is one that can help us understand that there are geographical differences in the respondents and their Internet access. There are known divides that have been identified and well–documented by scholars in multiple disciplines. Additionally, the FCC (, F.C.C.) and NTIA (NTIA, 2010, 2014) have released reports detailing the digital divide and difficulties of Internet access in non–urban areas. The rationale for picking these years was purposeful for several reasons. Firstly, between 2010 and 2016 Internet access is increasing under programs spearheaded by the F.C.C. (2015) to connect more

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[8]This would mean that 2010, 2012, 2014, and 2016 elections are represented in this analysis.

of the U.S. to the Internet[9]. These programs are designed to bring more high-speed Internet connections to communities that do not have them with the intent to expand Internet access across the country. By using this data, small changes might be able to be observed, and other trends in technological change. Secondly, the smart phone is becoming much more ubiquitous in this time, and more individuals are purchasing and using cell phones. As a result, what may constitute Internet access is possibly changing in this time, and I feel my models can catch these changes by asking a battery of questions. Thirdly, the CCES has healthy sample sizes and these should be able to pick up effects that may be considered rather small by the casual observer. With potential small effects possible in the questions at hand, it is important to use to a large data set to sort out effects that might be more visible when assessing small effects. Finally, the granularity allows me to look at urban and rural considerations at a local level that may not be as possible with other data sets.

2.7   Conclusion and Expectations for Analysis

QoIA as a measure may be used to more specifically understand the impact of internet access on political participation, particularly among different demographic variables. Measuring QoIA as dichotomous is not capturing the nuances that come with Internet access in general. The Internet itself is a changing technology that must be measured carefully so that its measurement can be replicated in future research.

Now that the literature has been defined, it can be seen that there is a healthy discourse around Internet Access and political engagement. With the literature surrounding the digital divide it can be better understood that there is a clear area of concern that is being discussed where scholars identify that the lack of Internet access is a problem for democratic practices. These two facets of the discipline's discourse show an intersection that is often not seen in major journals and is not mentioned explicitly. My expectations of this analysis are that I will find that there are several

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[9]These programs have been ongoing since the 2000s, but under the Obama Administration there was a bigger push to continue and strengthen these programs in particular.

phenomena occurring. Firstly, I expect that there will likely be small increases that could be expected from political engagement due to the fact that the Internet is often a top priority for those who have higher SES. I also expect that geography will play a considerable role where Internet access is available, and that would be a factor for availability which would likely have an ability to amplify inequalities that are seen between urban and rural areas. I'd expect that rural areas will have lower levels of QoIA overall, than their urban peers. As for political ideology, I expect there to be an ideological hardening effect to occur, as cited in the literature. There is a tendency for individuals online to read only information that conforms to their own political attitudes and ideological leanings. As such, I would expect that individuals with higher levels of QoIA to have more ideologically dug–in political ideological bends (van Dijk, 2006). This is due to the fact that individuals who are using the Web are have to sift through large amounts of information, and as a cognitive shortcut, I'd expect that not reading conflicting information is a way for this to occur. I'd expect that with respect to political engagement and voting to see generally positive, yet small gains. I'd expect to see larger gains in political engagement activities because there is a level of investment that is larger when it comes to partaking in engagement activities. For example, voting is not as costly as working for a campaign (Zukin et al., 2006), and as such I would expect that with a trend towards higher SES and having Internet access that there would be a positive relationship between these two variables.

Digging deeper into political engagement, and evaluating the political donation activities of individuals with respect to Internet access, I'd expect that there would be a positive effect. I'd also expect that there would be an emphasis by political campaigns to target potential donors through the Internet. As for the results, I'd expect, similarly with general political engagement that there would be an increase in political donations. As for the donor amounts, I would also expect there to be an increase as the medium creates a channel of political giving that is more accessible than previously available. On this same note, I do expect that political campaigns

are getting more donors through Internet contact, because of the shifting nature of communication through electronic medium over the past 20–30 years.

In Chapter 3, I will build on this literature review with building an index of Quality of Internet Access (QoIA) to better understand Internet access as a whole. Now that there is a conceptualization of what is being referred to for Internet access, and an expectation of the effects, it may allow for the creation of a variable for Internet access that is more comprehensive than a dichotomous measure. While it is a difficult concept to measure with the continually changing nature of the technology, my goal is to create a measure that can be consistently understood over time.

3. QUALITY OF INTERNET ACCESS (QOIA)

The Internet, as a technological space, is an evolving medium. Research has evaluated the political impacts of the technology that has resulted in increases of political participation and interest (Boulianne, 2009, 2018). Despite these positive impacts, the measurement of Internet access and the consequences therein, have often used Internet access at home as a proxy, when the technology for access has become broader (Strover, 2014; Lelkes, Sood & Iyengar, 2015). With this broadening, there is a need to re-define the measurement of Internet access (Morris & Morris, 2013). Now that I have shown there is a comprehensive literature of political engagement, media, as well as Internet access, I will now build an index to measure Internet access. The plan of this chapter is to build a strong foundation for an index that measures a more complete picture of Internet access. With this index I create, I can better assess the quality or level of the Internet access beyond a dichotomous measure.

The plan of this chapter is simple, and lays the foundation for the analysis of the argument being made in this dissertation about the quality of Internet access and its impacts on political engagement. The goal of this chapter is to show that a new index for Internet access can better capture effects in models of political behavior. I will first discuss Internet access and how it is measured and used in the literature. I will next discuss the different components of my proposed index using data from the Cooperative Congressional Election Study (CCES) from 2010–2016, and conduct a short analysis constructing a quality of Internet access (QOIA) variable. In this analysis I will compare the index to other variables in the analysis.

3.1 How is the Internet Measured?

Pivoting away from definitions of digital inequality, there is a need to measure the access to the Internet. As mobile technologies become less expensive to the public it is important to note the types of access that are available. Internet access and the manner in which the Internet is used in the U.S. has changed dramatically in the past decade (Greengard, 2015; de Zúñiga, Garcia-Perdomo & McGregor, 2015). Cell phones and their capabilities have drastically improved from phones the size of a small suitcase where the technologies only held mere megabytes of data, to having computers that have near the capabilities of a mid–range computer that are the size of a wallet. Definitions of Internet access have been theorized in the literature to be a combination of physical skills, access, as well as literacy (van Dijk, 2006; van Deursen & van Dijk, 2014). For this dissertation the definition of Internet will be more of one that focuses more on physical access combined with resources, evaluating more of a digital inequality in the spirit of the direction of the literature[1]. The measure that follows is one in the vein of the physical technologies and devices being used for Internet access.

Internet access is generally measured in a dichotomous manner, which can leave the phenomenon under-analyzed (Morris & Morris, 2013). Dichotomous measures tend to indicate whether an individual has Internet access are not. The questions in which respondents are asked about the Internet might be limited to home access and usage of the technology (Barber, 2016). While being self-reported measures, there are additional issues with the question wording and consistency in the questions being asked about the Internet due to its nature as a constantly changing technology. As such, the changes in technologies to connect to the Internet have changed. The minimal technological requirements to connect to the Internet change often, which would make a dichotomous variable for Internet problematic. For example, the American National Election Survey (ANES) changed the wording of the question about Internet access, from it was first asked about in 1996. The question about Internet access

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[1]See Chapters 1 and 2 for full discussion on the definitions of Internet access

started with reference to the World-Wide-Web, and was asked this way until the 2008 iteration, when the question was then asked about not only Internet access, but also to anyone in the household[2] (ANES, 2018).

A dynamic measure of Internet would need to consider device usage, and imply an "always online" state. Thinking about the current paradigm of "the Internet of Things", it would be important to mention that there is an emphasis on device access as well as traditional computer access (Greengard, 2015). Having access to a smartphone or tablet device may be able to connect anywhere on an ISP network, or require Wi–Fi to get online. The differences between the availability of both of these is a modern dilemma as there is often costs associated with both (Tsetsi & Rains, 2017). Public spaces may have free or low cost Wi–Fi, which would allow for any mobile device to be connected. Urban centers tend to have more available Wi–Fi as there is often more infrastructure for web access (Mossberger, Tolbert & Franko, 2013; NTIA, 2014). Rural areas do not always have the infrastructure available, as mentioned in Chapter 2, due to ISP financial considerations for return on investment (Brownstein, 2013; Frieden, 2013). All of this is difficult to capture in a dichotomous measure, and that scholarship should focus on more comprehensive measurement.

Questions in the American National Election Survey (ANES) about Internet access are historically dichotomous (Table 3.1), and often only about one aspect of physical access (Morris & Morris, 2017; Whitacre, 2017). The ANES has asked about Internet access in their surveys since 1996 (ANES, 2018). The wording for these questions, has been vague. For example, in the 2012 ANES asks individuals about whether they have Internet access at home, and their access levels at home[3] (ANES, 2014). This type of measurement seems antiquated for the fact that Americans tend to spend a lot of time online everyday, where a question of this nature may be skewed towards all respondents answering that they use the Internet every day[4]. The number of days

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[2]See Appendix A for specific ANES wording. The ANES time-series codebook for 2016 listed all years the question is asked.

[3]Question Wording can be found in Appendix A.

[4]The ANES does ask a question about frequency of Internet use, but the measurement asks about the number of days a week someone uses the Internet.

a week of Internet use would not be useful for an analysis if all of the respondents are answering roughly the same value for a variable that has a 7-point scale. This measure also does not account for variations that are present between different areas of the country which have differing levels of Internet access.

Table 3.1.
Internet Access 1996–2008 (ANES)

	1996	1998	2000	2004	2008	Total
Yes (1)	404	547	973	764	1614	4302
	(26.47)	(42.70)	(62.61)	(71.67)	(69.57)	(55.53)
No (5)	1122	734	581	302	706	3445
	(73.53)	(57.30)	(37.39)	(28.33)	(30.43)	(44.47)
Total	1526	1281	1554	1066	2320	7747

Column Percentages in Parentheses

There are also other issues with the ANES data with respect to questions about Internet access. The ANES has not asked about Internet access consistently over time, and has changed its wording several times[5]. Additionally, this question about Internet access has not always been asked in subsequent surveys, which makes this survey instrument unreliable at times. This would be a difficult variable to evaluate with this data and therefore was not used in this dissertation to evaluate an index consistently over time. Technological capabilities are increasing quickly, and as such, it's important to keep the measurement as something that is not out of date. While the ANES is not the only survey that evaluates political behavior, few data sources have many survey items on technology and Internet access.

In an environment where Internet access has become more mobile, it is important to ask questions about device usage and other places in which individuals have access. Culturally, its assumed that everyone has access and everyone has devices, but as evidenced in Chapter 2, this is not the case. In my analysis, I'm going to assume that Internet access at home is a statement of priority for having access to the Internet. It indicates that the respondent has more than a cell phone for access, but also likely has

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[5]See Appendix A for wording over time.

multiple devices. Having Internet at home suggests that the individual has invested in the technologies and is driven to ensure that they have access to it. This is part of a newer paradigm of Internet access called "The Internet of Things" which emphasizes a more decentralized approach to computing where access to data and information can come from any number of devices including physical personal computers as well as cell phones (Greengard, 2015).

3.2   Why does Internet Access Need Stronger Definition?

As stated above, Internet access is a difficult concept to define, due to changes in technology that are rapid (Farrell, 2012; van Dijk, 2006). Just because the changes in technology are rapid, there have been several constants. For example, mobile and cell phones have become cheaper and more widespread (van Deursen & van Dijk, 2014). Over the past 20 years, it has become more common for the average American to have some form of cell phone. Where this gets fuzzy is the fact that processing power in cell phones has increased significantly over time (Strover, 2014). The issues with using a cell phone as a proxy is that the cell phones with high powered processing power are still generally expensive, despite decreases in prices (Brownstein, 2013). Even though cell phone use for computing has increased, there is a need to understand this type of access as something more complex than just having the technology. There are clear barriers that make Internet access difficult for the average person in the U.S. As defined in Chapter 2, I will be using a definition of Internet access as one that signifies the use of Internet and its technologies.

Cost of Internet

With respect to socioeconomic factors, the decision to have home Internet access can be problematic in measurement for isolation. Individuals with lower levels of socioeconomic status may favor a phone over a home Internet subscription due to its perceived economic savings (Mossberger, Tolbert & Franko, 2013). This is in

some ways misguided, because the phones often bring subscription charges as well that can be similar in cost to a home subscriptions, particularly if on a data plan[6]. Because of this misunderstanding there are needs to understand the digital divide and inequalities in other ways that are shifting with societal demands (Robinson et al., 2015; van Deursen & van Dijk, 2019).

The digital divide, and its further inequalities make the definition of home Internet access an important variable, but it is also a particularly tricky one to interpret. On one hand, Internet access at home is a broadband subscription that is often coupled with phone and cable TV (Brownstein, 2013). Conversely, Internet access at home can also indicate and could be as a result of Wi–Fi connections that are not owned by those living in the home. Broadband connections can be thought of as a function of socioeconomic factors, such as age and income (Lelkes, Sood & Iyengar, 2015). Despite ongoing improvements to ICTs, socioeconomic and sociopolitical inequalities in the greater society are reflected within these technologies, creating the digital divide—a gap between those with high levels of Internet access and those with little or no access (Ferro, Helbig & Gil-Garcia, 2011; Lee, Park & Hwang, 2015; Norris, 2001; van Dijk, 2006).

Geography and Internet Access

This Internet access inequality is often associated with geographical contexts, especially in the U.S. The U.S. is a developed nation that struggles with respect to geographical concerns, among other economic and political barriers (Frieden, 2005; Strover, 2001). This is contrary to countries such as Japan and South Korea, who are widely considered to have strong Internet coverage, who do not struggle with the same geographical constraints the U.S. does. For one these two nations are rather small, and their populations are rather dense. The U.S. has a more varied geography coupled with vast rural areas and areas of sparse populations in every state (Frieden,

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[6]In some cases these subscriptions can even end up being more expensive.

2005). These geographical differences often make Internet access physically difficult and costly for ISPs to provide to citizens (Brownstein, 2013). As a result, we see differing levels of Internet access in urban and rural areas, and inequalities that are even evident in those urban areas (WhiteHouse, 2015). As Internet has become more and more important in everyday life, and an increased interest in political differences across geography in the U.S., it is important to understand if Internet access is playing a role.

Historically, the Internet and older media has been slow to reach the rural U.S. (, F.C.C.; LaRose et al., 2007; Strover, 2001). As this is the case, the Internet is no different. In the 1990s and 2000s the Bush and Clinton Administrations were insistent on the expansion of Internet infrastructure (, F.C.C.; NTIA, 2010, 2014). This expansion has occurred, but has not resulted in complete coverage, as rural areas are sometimes not as covered as their urban peers (WhiteHouse, 2015). Much of this has to do with the costly nature of the infrastructure to be built in rural areas, but also the fact that profit motive may be a hindrance to expand to specific areas (Brownstein, 2013). Not all rural areas are privy to this type of exclusion as some have been able to adapt better than others, but those areas are likely able to do so as a function of higher SES or access to resources.

Even if rural areas are not able to always have resources, there are advantages to having Internet access. There is even an emphasis on Internet access that can be found in rural areas. For example, there is evidence that houses that are better connected to the Internet are worth more in rural areas (Deller & Whitacre, 2019). Not only are houses more valuable, but there is also evidence that civic engagement is highly affected by the adoption of broadband, as a step towards being more engaged. The reasoning for this emphasis on broadband adoption in rural areas is not only because there is a need to be connected to political and social information via the Internet, but also that this access may provide opportunities to the residents of these communities (Whitacre & Manlove, 2016; Whitacre, Strover & Gallardo, 2015). Because there is such evidence that Internet is highly valued and perhaps less available in rural areas,

it would be crucial to take into account for geographical differences in any analysis that looks at Internet access.

3.3 Measurement of QoIA

In addition to cell phones, there are tablet devices that also allow individuals access the Internet[7]. Tablet devices are ones that are sometimes structured like the smart phone technologies. They are often used for book reading and note taking, but can at times be compared to a computer in their use. The reason scholars need to account for mobile technologies is due to their popularity in the same way smart phones have made individuals more mobile (de Zúñiga, Garcia-Perdomo & McGregor, 2015). In some cases, individuals are replacing laptop and desktop computers with tablets, a more mobile technology. For example, individuals with lower levels of socioeconomic status tend to use mobile technologies because of the cost, which means there are barriers to economic and political opportunities (Goldfarb & Prince, 2008; Mossberger, Tolbert & Franko, 2013). Due to the high monthly cost of Internet subscriptions, those without home Internet access and ICTs must seek out reliable Wi-Fi, and other mobile Internet access points[8]. Mobile device use must be considered when developing a quality of Internet Access (QoIA) measure.

3.4 The QoIA Index

The measurement of QoIA is intended to give a better picture of Internet access in general. Current measurements are often limited to considerations of home access or cell phone use. This is a limiting measurement for two reasons: vague wording, and also as a consideration of where Internet access is often available. Internet availability can differ due to geographical and population criteria for ISPs. To measure access to

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[7]Some tablets have a capability to have access to the Internet without Wi–Fi, but these require a subscription to an ISP or other type of phone provider.

[8]This includes libraries and other public places. However, some private firms such as McDonald's and Starbucks have sought to have free wireless Internet access in nearly all of their locations.

the Internet, I create a scale called the Quality of Internet Access index (QoIA). This index combines three variables found in the CCES dataset: access to the Internet at home, access to the Internet at work, and whether the respondent has access to a cell phone. The idea of this index is to show an individual's connectedness to the Internet, and the availability to the Internet. To create this index I use the following variables: access to the Internet at home (Table 3.2), access to the Internet at work (Table 3.3), and cell phone ownership. These three variables are consistently asked in each year of the survey, and are coded the same way in each time point. This allows for a consistency between the time points, but does not constitute a panel analysis.

For both variables of Internet access at home and work (Table 3.4), there is a designation of dial up and broadband. Because of the speeds and desirability of broadband access, I coded broadband as a 2, dial-up as a 1, and 0 for no indication of Internet access. As expected, the number of respondents reporting having dial–up access at work or at home is decreasing, which would indicate that the infrastructure is improving.

Table 3.2.
Internet at Home? (CCES Data)

	2010	2012	2014	2016	Total
None (0)	1242	1523	2237	2653	7655
	(2.25)	(2.81)	(4.00)	(4.12)	(3.33)
Dial Up (1)	1671	912	788	968	4339
	(3.03)	(1.68)	(1.41)	(1.50)	(1.89)
Broadband (2)	52264	51784	52932	60782	217762
	(94.72)	(95.51)	(94.59)	(94.38)	(94.78)
Total	55177	54219	55957	64403	229756

Column Percentages in Parentheses

Cell phone ownership (Table 3.5) is determined by a question where respondents were asked about all phone ownership in their household. I used an imputation of cell-phones and designated a 0 for all respondents not indicating cell phone ownership. If the respondent indicated that there was a cell phone or both a landline and cell-

Table 3.3.
Internet at Work? (CCES Data)

	2010	2012	2014	2016	Total
None (0)	20323	21008	21505	23236	86072
	37.74	39.67	39.11	36.68	38.23
Dial Up (1)	543	454	474	800	2271
	1.01	0.86	0.86	1.26	1.01
Broadband (2)	32985	31497	33002	39317	136801
	61.25	59.47	60.02	62.06	60.76
Total	53851	52959	54981	63353	225144

Column Percentages in Parentheses

Table 3.4.
Cross–Tab of Access at Work and Home 2010–2016

	Work Internet			
Home Internet	None (0)	Dial–Up (1)	Broadband (2)	Total
None (0)	4268	162	3177	7607
	(4.97)	(7.18)	(2.33)	(3.39)
Dial–Up (1)	1967	978	1300	4245
	(2.29)	(43.33)	(0.95)	(1.89)
Broadband (2)	79609	1117	131904	212630
	(92.74)	(49.49)	(96.72)	(94.72)
Total	85844	2257	136381	224482

Column Percentages in Parentheses

phone, they were coded as a 1, else–wise a 0. Even though cellphone use can be confused with smartphones I will make the assumption that the two technologies are conflated. There are dangers in making this assumption, but I would argue that due to the nature of data that is available for this type of analysis, it is imperative to be flexible. The prefect dataset for analyzing political behavior and Internet access may be difficult, if not impossible, to find.

It should also be noted that the 2016 year has less respondents, and there is a reason for this that deals with the survey methodology. In 2016, CCES teamed up with YouGov, and as a result there were questions that were not asked as a result. This

Table 3.5.
Do you Own a Cell Phone? (CCES Data)

	2010	2012	2014	2016	Total
No	3923	3431	3127	1554	12035
	7.11	6.33	5.58	4.94	6.11
Yes	51290	50801	52890	29916	184897
	92.89	93.67	94.42	95.06	93.89
Total	55213	54232	56017	31470	196932

Column Percentages in Parentheses

was mostly because the respondents were recruited from other sample vendors[9]. While 2016, will have less respondents than the other years throughout this project, it is important to note that because of the size of the dataset in general, I still feel that this is large enough to still use this analysis as the sample size is rather large[10]. Each year has nearly 50 to 60,000 respondents, and only having 30,000 observations is still a large sample and robust regardless of this issue of the data.

To build an index it would be important to know about whether the QoIA index's factors load together. To do this, I did a factor analysis to test these variables together. As you can see in Table 3.7, that the factor analysis works with strong correlates. As a result it would be appropriate to combine the variables together[11]. Even though the factors do not specifically have strong correlations, all of the correlations can be said to be statistically significant at the 95 percent level.

The full QoIA index is a 0-5 scale designed to indicate the ability of a given individual to have access to the Internet[12]. If an individual scores a 0, that individual has no access at home or at work to the Internet, and subsequently no cell phone. If an individual scores a 5 on this index, this would indicate that the individual has both better Internet connections at work and at home, as well as a cell phone. This

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[9]Thank you to Brian Schnaffer's and Sam Luk's help for clarifying this.

[10]This will be an ongoing issue that will be present in the other analyses throughout this dissertation

[11]This test will be similarly used for when political engagement and voting behaviors are considered in Chapter 4.

[12]See Table 3.8 for QOIA overall by year

Table 3.6.

Correlations of QoIA parts

	Cell Phone	Home Access	Work Access
Cell Phone	1.000		
Home Access	.0985*	1.000	
Work Access	.0914*	.1254*	1.000

Weighting was used in accordance with CCES for analysis using multiple years

*-denotes $p < .05$

would indicate that the individual has access to the Internet at nearly any point in a given day.

Table 3.7.

Factor Analysis of QoIA variables

	Factor	Uniqueness
Home Internet	.5617605	.6844252
Work Internet	.6518344	.575112
Cell Phone	.6657791	.5567382
N	191276	
$\chi^2(df = 3)$	4751.9	

Chi Square values are significant at the $\alpha = 0.01$ level

Table 3.8 shows that there is a left skew towards stronger Internet access. This may be expected as socioeconomic variables and regional effects that will be further explored in this chapter. The left skew in the distribution would be expected as there has been improvements in access nationally, however, because there are still areas of the country that are not wired as comprehensively as others, it would be expected that there is a sizeable distribution that has some or no connection to the Internet. Another notable attribute to the data is that many of the respondents score either a 3 or 5 on this scale. This would indicate at least access at home and a cell phone on average. This could also mean there is access at work and home with differing speeds without a cellphone. The interpretation of a 3 on this index should be that the individual has a moderate level of access, and it probably is not available at any

given point in the day, but rather most of the day. A measure of 4 likely represents several scenarios: access at home and work with no cell phone, some access at home or work and a cell phone, or some combination of the three. A measure of 5 would represent access to the Internet is available at any point in the day.

Table 3.8.
QOIA by Year

	2010	2012	2014	2016	Total
0	127	133	268	62	590
	0.24	0.25	0.49	0.20	0.31
1	468	753	1180	651	3052
	0.87	1.44	2.15	2.13	1.60
2	2753	2258	2000	1061	8072
	5.15	4.30	3.65	3.48	4.22
3	18028	18636	19081	11514	67259
	33.70	35.52	34.83	37.71	35.16
4	1999	1593	1351	654	5597
	3.74	3.04	2.47	2.14	2.93
5	30115	29099	30903	16589	106706
	56.30	55.46	56.41	54.33	55.79
Total	53490	52472	54783	30531	191276

Column Percentages in Parentheses

In addition to the overall QoIA index it is important to consider rural and urban individuals as their access differs. At first glance, there may not be that much of a visible difference. The majority of individuals in both rural and urban locations score a 3 or 5 on the QoIA index[13]. To account for technological skill sets, these are operationalized as a part of education, as there is an assumption that more educated individuals are more likely to have Internet access, and are also more likely to emphasize having access to the technologies (Scheerder, van Deursen & van Dijk, 2017; van Dijk, 2006). To account for the different methods in which the Internet can be accessed, the QOIA measure uses a combination of home and work Internet access in addition to access that is facilitated by cell phones. Together this measurement can

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[13]See Table 3.9 and Table 3.10 for breakdowns of QOIA in urban and rural subjects, respectively

better predict how connected an individual is at any given time. There is statistical evidence to show that the QoIA is different between rural and urban[14].

Table 3.9.
QOIA by Year for Urban Respondents

	2010	2012	2014	2016	Total
0	111	126	240	56	533
	0.24	0.28	0.51	0.21	0.32
1	360	644	1010	537	2551
	0.78	1.42	2.13	2.05	1.55
2	2093	1770	1590	839	6292
	4.55	3.91	3.35	3.20	3.81
3	15061	15563	15944	9593	56161
	32.72	34.41	33.56	36.62	34.04
4	1601	1326	1152	546	4625
	3.48	2.93	2.42	2.08	2.80
5	26805	25799	27572	14624	94800
	58.23	57.04	58.04	55.83	57.47
Total	46031	45228	47508	26195	164962

Column Percentages in Parentheses

One of the expected criticisms of using a measure of QoIA or attempting a study of political engagement on Internet access is that the measure is too closely aligned with the dependent variables of analysis. This is true and as evidenced in the literature review above, there are variables that explain both QoIA and political engagement activities. To start to consider this variable, it should be illustrated that the correlations to political engagement are indeed separate. In Table 3.11 it can be seen that the correlation is small, if even present in all of the data to be used from the CCES between 2010–2016[15]. The correlations are small yet significant, however in the following chapters, particularly Chapter 4, there will be further discussions of the impacts of these variables on each other.

Similar trends are also found in the correlations between QOIA and the independent variables used in the following analyses. In Table 3.12, I find that there is

[14]See STATA for Chi-square or ANOVA information
[15]Weighting was used for using data of cumulative years in accordance with CCES documentation.

Table 3.10.
QOIA by Year for Rural Respondents

	2010	2012	2014	2016	Total
0	16	7	26	6	55
	0.23	0.10	0.36	0.14	0.21
1	103	108	165	108	484
	1.46	1.51	2.31	2.54	1.89
2	637	482	404	218	1741
	9.00	6.72	5.66	5.13	6.79
3	2842	3058	3099	1897	10896
	40.15	42.66	43.44	44.65	42.51
4	369	266	198	106	939
	5.21	3.71	2.78	2.49	3.66
5	3111	3248	3242	1914	11515
	43.95	45.31	45.44	45.05	44.93
Total	7078	7169	7134	4249	25630

Column Percentages in Parentheses

similar directions and significance in the correlation of these variables[16]. The correlations that are strongest and significant with QOIA are income, education, and age in the expected directions. The reason for this is that Internet users are seen to be younger (van Dijk, 2006), while those who are engaging in the political system generally are seen to be older (Miller & Shanks, 1996; Page & Shapiro, 1992). Thirdly, income as well as education, has a positive correlation which is strongest with Internet access, which is consistent with the literature on those who adopt Internet access having higher levels of income and education (Hindman, 2009; van Dijk, 2006). The other control variables are not strongly correlative with QOIA, but are generally important when considering voting models.

3.5 Conclusion

The media is highly fragmented politically as well as socioeconomically, and the Internet does seem to also trend to not be entirely consistent either. With ideological

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[16]Weighting was used for using data of cumulative years in accordance with CCES documentation.

and democratic concerns there are valid questions to as whether the Internet is a positive or negative force for democratic practice, given its connections to political information availability, as well as, political and social inequality, respectively. This is not what this dissertation seeks to answer, as other research is evaluating this phenomenon in the realm of social media research in Communications as well as Political Science disciplines. Instead, this dissertation seeks to show that the Internet is a driving force in predicting political engagement behaviors, which lies at the intersection of these two social science disciplines.

Data for analyzing a given person's Internet access is in fact limited from most available and popular datasets in the social sciences. Not only does it fall victim to the problem of self–reported data, macro–level data is not necessarily reliable either (Prior, 2013a). This does not mean however, that it is unimportant and not something to analyze. In fact, with a robust literature on the digital divide and digital inequalities, it seems that this type of data analysis is crucial. Given the constraints of the datasets available, this index is a step in the right direction. It is not perfect, but it is a better representation of Internet access than asking a respondent solely if they have access to the Internet at home. The Internet is not uniformly available, despite attempts to make it more available.

Although the variable is more robust, it does have flaws that are difficult to control for. Over this time period, the technology is inevitably changing. Due to these changes and changes in economics, the price of the technology for smart phones comes down in price and becomes more affordable and more Americans own them[17]. One issue with the question of cell phones is that smartphones have become synonymous with older phones that can be used just for telephone services. Since this is the case, and all of this information is self–reported, I will justify the use of this variable with this explanation: if the person has a cell phone, I'm going to assume its a smartphone, because of the prevailing cultural notions about phones in 2016 and beyond. While this is not in accordance with the literature, I'm left with no other choices, due to

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[17]This is not to say that every American has a smartphone, but they are more widespread in 2016 than in 2010.

the variables available. A cell phone is enough of a proxy to indicate a willingness to communicate via text and voice, which uses the Internet, so I will count it as accessibility. It is a known weakness of this area of research, and will continue to be regardless of what is found in the subsequent analyses.

This measurement will enable more to be said about Internet access, and its quality. The remainder of this dissertation puts this measure to work. Specifically, I use the QoIA to study the effect Internet access has on political engagement. By using QoIA I will show that the quality and accessibility in which someone can access the Internet affects other political behaviors. In Chapter 4, I will explore the question of whether this accessibility affects ideology, and further political engagement broadly in Chapter 5, and finally political donation in Chapter 6.

Table 3.11.

Table of Correlation for QoIA and Other Dependent Variables

	QOIA	Ideology	Partisan	Engagement	Voting	Donate
QOIA	1					
Ideological Strength	0.00949***	1				
Partisan Strength	0.00786***	0.286***	1			
Engagement	0.0810***	0.138***	0.120***	1		
Voting	-0.0178***	0.0905***	0.105***	0.219***	1	
Political Donation	0.0741***	0.121***	0.103***	0.688***	0.159***	1

Weighting was used in accordance with CCES documentation.

$* \ p < 0.10$, $** \ p < 0.05$, $*** \ p < 0.01$

Table 3.12.
Table of Correlation of Control Variables with QOIA

	QOIA	Gender	Race	income	educ	Geog	age	Union
QOIA	1							
Gender	-0.0650***	1						
Race	-0.0173***	-0.00146	1					
Income	0.333***	-0.110***	0.124***	1				
Education	0.282***	0.00592**	0.0944***	0.394***	1			
Geography	-0.0959***	0.0254***	0.128***	-0.0832***	-0.0914***	1		
Age	-0.240***	0.000705	0.179***	0.0776***	-0.0171***	0.0586***	1	
Union Membership	-0.0290***	-0.147***	0.0314***	0.0787***	0.0337***	-0.00698***	0.241***	1

$* p < 0.10, ** p < 0.05, *** p < 0.01$

4. QOIA, PARTISANSHIP, AND IDEOLOGY

In this chapter I will evaluate the role of Internet access with respect to ideological concerns. Ideological consideration is often an aspect of how an individual decides to participate, vote, or even donate to political causes and campaigns. There is evidence to show that there are trends of ideological and partisan preferences among internet users (Hindman, 2009; Lelkes, Sood & Iyengar, 2015). While most of the existing work relates primarily to what people do with their Internet connections, it does not consider whether the quality of the Internet connection plays a role. Does QoIA also play a role in ideological hardening? In this chapter I will start with a review of the literature on ideology and partisanship with respect to the Internet. I will then move into an analysis that looks directly at partisan and ideological strength as dependent variables. I will then discuss the implications of the findings and what this means about ideological and partisan strength.

4.1   Literature Review

The argument being made in this chapter is solely in regards to the role of partisan and ideological hardening. The argument is one that relates to the Internet being intertwined with political interest, which is a known relationship within the literature (Boulianne, 2009, 2018), but often is not explored cohesively. It would make sense that political elites are more likely to have Internet access due to their political and socioeconomic advantages and status (Strover, 2014). As such, we see large disconnects online as a result of ideology and partisanship. I will explain this in regards to ideology, partisanship, and Internet access.

4.1.1 Ideology and Heuristics

To understand ideology and its identification within the U.S. public, it is important to note that there has been a long-standing argument surrounding the ideological sophistication of American citizens (Converse, 2000). In order to determine whether the mass public can understand elite political discourse, it must be first understood whether the mass publics can even discern or hold consistent ideological issue opinions in the first place. The original theory posited by Philip E. Converse in 1964 suggested that Americans are not sophisticated enough to hold on to complex ideological positions (Converse, 2006). Ideology is defined as a group of assumptions that are determined and affect the major values and morals that a voter uses to judge political issues (Lane, 1962). In order to make these judgements, the mass public refers to heuristics and cues, and that comes from the consumption of media (Zaller, 1992). It has long been conceptualized in political science that the political discourse and discussion by elites is conducted on a traditional liberal-conservative ideological continuum; however, the mass publics cannot even define the terms liberal or conservative with respect to an ideological continuum without being prompted. The masses are aware of the terms used in an ideological setting, but are not always familiar with how to classify the issues in this manner (Converse, 2006; Delli-Carpini & Keeter, 1996; Zaller, 1992). Therefore, the traditional liberal-conservative continuum used commonly in politics and political inquiry is difficult for the mass publics due to their inability to think in these terms. Although this theory was initially laid out in 1964, it is still present in modern American politics (Kinder & Kalmoe, 2018). This ideological continuum is therefore more useful for the communication of elite conversation which is being conducted within this construct. It would be expected that individuals that have fixed political positions to coincide with political elites (Converse, 2006). While the modern literature has noted an ideological sorting is occurring, it is the elites that are polarized and not the public (Fiorina, Abrams & Pope, 2011).

The mass publics have been able to develop consistent issue positions through the use of heuristics (Delli-Carpini & Keeter, 1996; Page & Shapiro, 1992). Despite the differences on issues of ideologies and the mass public, there are other heuristics the public forms to be able to make decisions and to understand elite political discussions. It is important to note that staying informed to make political decisions is inherently costly, and therefore citizens develop heuristics as shortcuts to inform their political opinions (Downs, 1957; Delli-Carpini & Keeter, 1996; Page & Shapiro, 1992). These heuristics offer shortcuts for voters to be able to make seemingly informed decisions without putting forth a new sizable effort.

4.1.2 Partisanship and Party ID

There are many other heuristics outside of ideology, but the one that will be addressed here is party identification and partisanship. Partisanship is often described as affinity towards a party, and measured in analyses as party identification (Campbell et al., 1980). Some political scientists have suggested that partisanship may be more issue based, where individuals choose their partisan identity based on one or more issues (Ansolabehere, de Figueriedo & Jr., 2003; Bafumi & Shapiro, 2009). Historically, party ID has been recorded for over 60 years by public opinion polling. Respondents identify whether they are a Democrat, a Republican or Independent, which also theoretically coincides with a partisan group membership (Campbell et al., 1980)[p.121]. Earlier theory suggested that 60 percent of the American public is independent, while the other 40 percent even split into Democrat and Republican (Green, Palmquist & Schickler, 2002). More recently, it is suggested that the breakdown is more complex: about 25 percent refuse to identify themselves ideologically, about another 33 percent place themselves in the middle, and of the rest more Americans identify as conservative than liberal (Kinder & Kalmoe, 2018). While this is the case, Kinder and Kalmoe (2018) also suggest that there is more identification with Democrats than with Republicans. This measure has been shown to be the most consistent measures

in political science with very stable partisan attitudes over time (Campbell et al., 1980; Converse, 2006; Green, Palmquist & Schickler, 2002; Page & Shapiro, 1992).

Therefore, a partisan identity is useful to the mass publics who may not think on an ideological continuum (Green, Palmquist & Schickler, 2002). A partisan affiliation also suggests that there are social, political, and economical benefits to being a part of an organization (Putnam, 2000). Individuals with high levels of group membership tend to be informed, because groups supply a shortcut for information gathering[1] (Downs, 1957). This information may not necessarily be an ideology, but a party identification creates a generally consistent and stable manner in which voters can make decisions on important political issues without having to ideologically think about the issues. Since information is expensive in the calculus of voting, a group membership would help lower these costs (Putnam, 2000; Riker & Ordeshook, 1968), and ideally this would lead to higher levels of voter turnout due to a change in the individual calculus of voting.

4.1.3   Internet Access, Ideology, and Partisanship

In an Internet environment these heuristics are important because the amount of information is immense, and having heuristics allows individuals to parse through large troughs of data and information (Prior, 2007). As such, it may be theorized that it is important that Internet users have stronger ideology or partisan identity as part of an ability to make sense of large amounts of information. This perhaps prompts internet users to sort themselves into blog and newspaper readerships that match their ideological and partisan identities (Lawrence, Sides & Farrell, 2010; Nie et al., 2010). This is in line with strength of partisan identity, where a stronger partisan may fall in line with social and group affiliation (Beck et al., 2002; Green, Palmquist & Schickler, 2002).

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[1]Downs (1957) hypothesized that ideology was a more effective shortcut than party identification.

Some scholars suggest that the polarization that Americans are facing is driven by social and political elites, who tend to be more polarized than the public in general (Fiorina, Abrams & Pope, 2011). Therefore the problem may not be as evident in the general public, but rather among the elites. If this is the case, it might be expected that the strength of ideological attitudes and identity may be stronger among those with higher levels of Internet access. Partisan sorting may also be inadvertent (Gimpel & Hui, 2017), and in some ways may be the only way politics are understood by individuals (Mason, 2018).

The Internet has an ability to bolster ideological and partisan identity and messaging. While this literature is vast, there are three overarching reasons for Internet access to affect ideology and partisanship: (1) communication goes to extremes and requires heuristic use; (2) the Internet can lower information costs that are important in making political decisions; and (3) the Internet's ability as a platform to maintain group affiliation with like minded individuals.

Heuristics and the Internet

Although most Americans are receiving information about politics through their friends and cable TV more than other sources, the Internet has become very intertwined in political behavior (Prior, 2007; Strover, 2014). There is a tendency to consume media that agrees with ideology (Iyengar & Hahn, 2009), and avoidance of information that disagrees with the individuals' held ideologies (Arceneaux & Johnson, 2013), which can also be a draw to Internet access. There is an effect occurring where partisans are selecting their sources based on their attitudes (Arceneaux & Johnson, 2013). This narrowcasting of political media allows the public to form heuristics and decisions to navigate a decentralized media (Prior, 2007).

Media use and political interest with technology come at the expense of trust in both the media itself, as well as trust in government (Lawrence, Sides & Farrell, 2010; Mutz & Reeves, 2005; Nie et al., 2010; Prior, 2007). The media becomes more trusted

at times than the government, and with a narrowcasted Internet environment, there is not a lot of room to see disagreeing perspectives. Partisans are more likely to be confrontational with those they disagree, rather than have cooperation, which can be fueled by interest in politics on the Internet (Davis & Dunaway, 2016; Iyengar & Westwood, 2015).

Information Gathering and the Internet

With respect to information gathering, the Internet's ability to make this activity less costly has large benefits. Group membership would help lower the costs of information gathering (Putnam, 2000; Riker & Ordeshook, 1968), and ideally this would lead to higher levels of voter turnout due to a change in the individual calculus of voting. With respect to lowering barriers to information there is evidence that information availability could result in higher turnout (Baek, 2009). However, Hindman (2009) suggests this is plausible in the U.S. case only if there is more interest in politics, because political websites are only sought after with less than 5 percent of all Internet traffic (Hindman, 2009). In other words, the infrastructure is present for this to occur, but it is likely the politically interested who are seeking this information. As such, it is also imperative to understand that despite the Internet's ability to help individuals stay more informed, it is also highly fragmented, which may have consequences on the quality of information. In the Web 2.0 paradigm the online environments foster user–generated content and lower the cost for the individual in terms of seeking out information (Dylko & McCluskey, 2012). This is not only an online phenomenon, but also one that scholars evaluate in neighborhood settings, where neighbors tend to share similar political attitudes (Huckfeldt et al., 1995). This behavior can similarly be seen in the groups formed on the Internet, where there is a similar choice in which the public associates and interacts (Lawrence, Sides & Farrell, 2010; Wojcieszak & Mutz, 2009).

A notion of civic duty has the potential to be able to help individuals consume information more accurately without a partisan bend (Mullinix, 2018). A call to civic duty is not a new idea and it has been shown to be a factor in whether an individual decides to vote (Downs, 1957; Riker & Ordeshook, 1968). This is one of the more idealized aspects of Internet access that was initially perceived by scholars in the 1990s (Norris, 1995; Putnam, 1996). By drawing on a strong sense of civic duty, the Internet would plausibly be a way to cut through partisan cleavages in American public opinion. In fact, if information is a moderating force for political interest (Mullinix, 2016, 2018), then it would make sense that the Internet can enhance civic mindedness (Boulianne, 2009, 2018). For individuals who have stronger Internet access it may be expected that these same individuals may possess the socioeconomic advantages that political and economic elites enjoy (van Deursen & van Dijk, 2014). Since Internet access is expensive in the U.S., there is an information advantage that is present, where lower socioeconomic individuals may not have the same level of access as political elites (Brownstein, 2013; Strover, 2014). As such, partisan divides on online platforms may be more polarized or cause more disagreement due to the individuals who have the technologies in the first place (Best & Kreuger, 2005). This socioeconomic divide is one that is important to consider as the public is not entirely online, contrary to popular notions that the Internet is diverse in its demographic makeup.

Internet and Group Identity

Increased internet access allowed for voices that are often unheard to be able to be heard (Norris, 2001). Additionally, there was also the promise of having groups who were physically isolated be able to find solace and community online (Rheingold, 1992). This type of engagement may help bring together communities that otherwise would not exist, or were isolated for other reasons (Katz, Rice & Aspden, 2001). The Internet creates an environment where individuals can form groups and sustain their

partisan identities. This similarly occurs offline in the case of proximity (Nickerson, 2008), and neighborhood contexts (Beck et al., 2002; Huckfeldt et al., 1995). In this literature it is suggested that individuals pick their neighbors, and not only this, but that their friends are influencing their political decisions. This places this literature in an interesting place: there are likely political elites engaging in political discourse online, and then there are likely those who are participating, but are not identifying it in the same way as the elites. This disconnect has been documented in how there is ideological hardening that occurs online, but there does not seem to be an emphasis on the quality of the individuals' access to the Internet.

4.2   Hypotheses

As a result of this literature review, the question to be answered is: Are ideology and partisanship affected by the quality of Internet Access (QOIA)? There is evidence to show that Internet users tend to lean liberal when it comes to social policy, and conservative on economic policy (Best & Kreuger, 2005). To address these questions, I will test two sets of hypotheses. The first set of hypotheses will deal with QOIA with respect to partisan and ideological considerations:

H1: As the level of QOIA access increases, the level of ideological strength also increases.

H2: As QOIA Internet access increases, the strength of party identification also increases.

There is substantial literature that has established that engaged individuals online may be stronger partisans and has a hypothesized "ideological hardening" effect; that is, individuals become stronger partisans and ideologues by virtue of being engaged in online forums. These hypotheses will help to test if there is evidence to this claim in the literature. In addition to changes in ideology, I will also evaluate if these effects are also geographically based. Just as there are geographical tendencies to affect Internet access, there is also evidence to show that there are potentially

geographical tendencies for ideology and partisanship (Kaufman, 2019). As such, I posit the following hypotheses:

H3: As QOIA increases for individuals in urban areas, the more likely the individual will identify as liberal.

H4: As QOIA increases for individuals in rural areas, the more likely the individual will identify as conservative.

Based on prior research, I'm expecting that there will be ideological hardening in rural and urban areas that go in opposite directions: urban areas will likely have stronger preferences to Democrats and liberal ideology, while their rural peers will tend toward Republicans and conservative ideologies.

4.3   Data

The data to evaluate these hypotheses comes from the Cooperative Congressional Election Survey (CCES). Data that is used in this analysis is from each election year from 2010 to 2016 inclusive[2] (Ansolabehere & Schaffner, 2017). Rural and urban data additionally comes from the 2010 U.S. Decennial Census, for the respondents' zip code of residence reported in the CCES survey (U.S.Census, 2010). This inclusion of urban and rural designation is intended to demonstrate geographical differences in the respondents and their Internet access. There are known divides that have been identified and well–documented by scholars in multiple disciplines. Additionally, the FCC (, F.C.C.) and NTIA (NTIA, 2010, 2014) have released reports detailing the digital divide and difficulties of Internet access in non–urban areas. This data was merged using the FIPS coding that is available in the CCES dataset which can be attached to zip code level, where the analysis in this chapter will account for geographical considerations. The data is not panel data and is analyzed separately by year. The reason that this data cannot be considered panel data is due to the issues of continuity, and the replacement method that is used year to year (Kuriwaki, 2018).

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[2]This would mean that 2010, 2012, 2014, and 2016 elections are represented in this analysis.

This analysis is considered to be a repeated survey design due to the nature of the survey methodology changing over time. The CCES survey has combined with YouGov and other polling firms to maintain a healthy, large survey pool. As the methodology of the survey has changed, there are questions about the validity and randomness of the respondent pool, and this can be confirmed as a result of the fact that the respondents are more participatory than the general public. Despite this fact, the data was chosen for its availability of variables that are key to this survey. The ANES does not provide granular variables about technology, and as such, a metric such as QOIA would be difficult to test.

The rationale for picking these years was purposeful for several reasons. Firstly, between 2010 and 2016 Internet access is increasing under programs spearheaded by the F.C.C. (2015) to connect more of the U.S. to the Internet[3]. These programs are designed to bring more high-speed Internet connections to communities that do not have them with the intent to expand Internet access across the country. By using this data, small changes might be able to be observed, and other trends in technological change. Secondly, the smart phone is becoming much more ubiquitous in this time, and more individuals are purchasing and using cell phones. As a result, what may constitute Internet access is changing in this time period, and I assert my models can catch these changes by asking a battery of questions about where the individual has access. The Internet itself is always undergoing rapid technological shifting that affects the manner in which access occurs. Thirdly, the CCES has healthy sample sizes and these should be able to pick up effects that may be considered rather small by the casual observer. With potential small effects possible in the questions at hand, it is important to use to a large dataset to sort out effects that might be more visible when assessing small effects. Finally, the granularity allows me to look at urban and rural considerations at a local level that may not be as possible with other datasets.

Additionally, it might be noted that this designation of urban and rural may be flawed as there are suburban areas that may have aspects of both urban and

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[3]These programs have been ongoing since the 2000s, but under the Obama Administration there was a bigger push to continue and strengthen these programs in particular.

rural geographies. My response to this is that there have been areas in urban and suburban areas that have been found to additionally have disparities in Internet access (WhiteHouse, 2015). Although these disparities exist, it is important to mention that there are trends that urban areas are more likely to have higher levels of Internet access in general (Mossberger, Tolbert & Franko, 2013; Whitacre, 2017; Whitacre & Rhinesmith, 2015).

4.4   Methods

I will use a regression analysis method with limited dependent variables to answer the questions posed in this chapter. There are four sets of models that are directly related to ideological and partisan variables in the CCES data. There are 5 models for each dependent variable by election year between 2010–2016, in addition to a cumulative model over the time period. The first dependent variables to be tested are ideological and partisan strength, in addition to partisan and ideological identity. To test the two strength variables, an ordinal logistical regression model is used, as the strength is perceived as ordinal. For partisan and ideological identity, a multinomial logistical regression is used[4]. For the multinomial logit models the base value will be 4, which will be the equivalent of identifying as an independent. From these models, first differences are recorded in accordance with changes in the QOIA and geographical variables.

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[4]A Brant test run on the partisan and ideological identity models both yielded results that violated the parallel regression assumption.

4.5   Variables

4.5.1   Dependent Variables

Strength of Ideology and Partisanship

The measurement of ideology and partisan identity are both something that has been debated in political science for over 60 years, with varying degrees of controversy about the salience of these ideological identities (Converse, 2000; Zaller, 1992). Partisan identification and ideological identification are different from one another, and in such a way that the two should be separate (Green, Palmquist & Schickler, 2002), because they measure two different aspects of political identity. In this chapter ideological strength is operationalized using a self–identified ideological identification variable in the CCES dataset[5] (Table 4.1). Ideology is measured by CCES on a 5–point scale from "very liberal" to "very conservative"[6] (Ansolabehere & Schaffner, 2017). The distribution of liberal, moderate, and conservative individuals are roughly one-third each, following what would be expected for the general public for the U.S. when collapsed to the liberal–moderate–conservative typology (Green, Palmquist & Schickler, 2002).

The ideological strength variable is measured from 0 to 2. Strong conservatives and strong liberals are grouped together and re-coded as 2, leaning ideologues re-coded as a 1, and independents re-coded as a 0 (Table 4.2). The average individual over the time period is .8835, and 1 as the median. This would indicate that the average individual in this data is likely to have some form of ideological identity, but not an inherently stronger ideological identity, with nearly 45 percent of the respondents being in the leaning ideological category.

For partisan identity, I use the 7–point party identification scale that is provided by the CCES[7]. In the literature, macro–partisanship refers to the idea that the popula-

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[5]Question Wording for the "ideo" variable is in Appendix A.
[6]See Appendix A for the CCES Question wording.
[7]See Appendix A for question wording.

Table 4.1.
Ideological Identity by Year: 2010–2016

	2010	2012	2014	2016	2010–2016
Very Liberal	4338	4570	4864	5827	19649
	(8.36)	(9.04)	(9.53)	(9.74)	(9.19)
Liberal	9378	9587	9982	12555	41502
	(17.87)	(18.96)	(19.56)	(20.99)	(19.40)
Moderate	15202	16365	17819	22040	71426
	(28.97)	(32.36)	(34.92)	(36.85)	(33.40)
Conservative	14287	13113	12676	14351	54427
	(27.23)	(25.93)	(24.84)	(23.99)	(25.45)
Very Conservative	9222	6929	5681	5042	26874
	(17.57)	(13.70)	(11.13)	(8.43)	(12.57)
Total	52477	50564	51022	59815	213878

Column Percentages in Parentheses

Table 4.2.
Ideological Strength by Year

	2010	2012	2014	2016	2010–2016
0	15202	16365	17819	22040	71426
	(28.97)	(32.36)	(34.92)	(36.85)	(33.40)
1	23665	22700	22658	26906	95929
	(45.10)	(44.89)	(44.41)	(44.98)	(44.85)
2	13610	11499	10545	10869	46523
	(25.94)	(22.74)	(20.67)	(18.17)	(21.75)
Total	52477	50564	51022	59815	213878

Column Percentages in parentheses

tion identifies with one of the major parties. This split is generally in near–equivalent thirds of the population, in accordance with a macro–partisanship theory of partisan distribution (Green, Palmquist & Schickler, 2002). The breakdown of the data generally follows this format and is consistent year to year as seen in Table 4.3. This would indicate that the partisan identity of the respondents in the dataset are roughly similar to the general public with respect to this variable based on the macro–partisan ideal of roughly even groups, respectively of one–third Democrats, Republicans, and Independents.

Table 4.3.
Party ID by Year

	2010	2012	2014	2016	2010–2016
Strong Democrat	13437	13723	13139	16251	56550
	(24.89)	(26.36)	(24.58)	(26.01)	(25.48)
Not Very Strong Democrat	5895	6166	7251	8618	27930
	(10.92)	(11.85)	(13.56)	(13.79)	(12.58)
Lean Democrat	5097	5406	5347	6270	22120
	(9.44)	(10.39)	(10.00)	(10.04)	(9.97)
Independent	6023	6205	8683	10493	31404
	(11.16)	(11.92)	(16.24)	(16.79)	(14.15)
Lean Republican	7805	6329	5826	5554	25514
	(14.46)	(12.16)	(10.90)	(8.89)	(11.49)
Not Very Strong Republican	4791	4583	5138	6814	21326
	(8.88)	(8.80)	(9.61)	(10.91)	(9.61)
Strong Republican	10930	9640	8075	8479	37124
	(20.25)	(18.52)	(15.11)	(13.57)	(16.72)
Total	53978	52052	53459	62479	221968

For strength of partisan identity, I collapse the partisan identity variable into the strength of partisan leaning (Table 4.4). Stronger partisans are placed at 3, and independents are set to 0. The average partisan in the time period is 1.924, and 2 is the median. This would indicate that the individuals in this data are more likely to have stronger partisan identity. Because of the strength of partisan identities, this would imply that there may be interest in politics that is stronger than average.

4.5.2 Independent Variables

Internet Access

There are trends in civic behavior and Internet access (Jennings & Zeitner, 2003). There is also some evidence that attitudes can be affected by the quality of Internet

Table 4.4.
Party ID Strength by Year

	2010	2012	2014	2016	2010–2016
Independent (0)	6023	6205	8683	10493	31404
	(11.16)	(11.92)	(16.24)	(16.79)	(14.15)
Lean (1)	12902	11735	11173	11824	47634
	(23.90)	(22.54)	(20.90)	(18.92)	(21.46)
Not Very Strong (2)	10686	10749	12389	15432	49256
	(19.80)	(20.65)	(23.17)	(24.70)	(22.19)
Strong (3)	24367	23363	21214	24730	93674
	(45.14)	(44.88)	(39.68)	(39.58)	(42.20)
Total	53978	52052	53459	62479	221968

Column Percentages in parentheses

access in your area[8] (Lelkes, Sood & Iyengar, 2015), in addition to extreme ideological and partisan attitudes. In this analysis Quality of Internet Access (QOIA) is defined as the connected nature of an individual to the Internet. It is an index combining home and work Internet in addition to the ownership of a cellphone. This index ranges from 0 to 5, with a 0 designating no access and a 5 indicating nearly always available Internet access[9]. The average respondent has a QOIA of 4.06, and a median value of 5. This would be expected to be skewed towards the highest values because the distribution of the Internet has improved, however, it is important to note that around 40 percent or more respondents have less than a 3 in QOIA which would indicate that the distribution is not necessarily normal, nor is there a uniform distribution of Internet access.

Interest in Politics

Most research that refers to Internet access and political behavior includes interest in politics (Boulianne, 2018). The reasoning for this is that the behavior and political

[8]There are some problems with this measurement using the F.C.C.'s Form 477 data, with their being a bias towards large ISPs to try to boost their numbers to look better. I will discuss this more in the Conclusion.
[9]See Chapter 3 for the details in building this variable.

intent needs to be accounted for, as Internet access is not only motivated, but also used in context (Bennett, 2012; Hindman, 2009; Copeland, 2014). It should also be noted that individuals with higher SES are more likely to have higher levels of political interest (Page & Shapiro, 1992; Schlozman, Verba & Brady, 2012). In this analysis, political interest (Table 4.5) is based on a question in the CCES dataset based on an interest in public affairs[10]. It is measured as an ordinal 4–point variable ranging from "hardly" to "most" interest in politics. Those who did not indicate an answer were dropped. The average respondent is interested in politics between "some" and "most" of the time, while the median respondent is interested in politics "most" of the time. In the data the respondents are more interested in politics than average, as the literature suggests that Americans likely do not have strong interest in politics (Page & Shapiro, 1992; Schlozman, Verba & Brady, 2012). In this dataset, the overall average interest in politics between 2010—2016 is a 3.29, and a median of 4, which would indicate that respondents in this survey are likely more interested in politics than the average American.

Table 4.5.
Interest in Politics by Year

	2010	2012	2014	2016	Total
Hardly (1)	2102	3168	4476	4412	14158
	(3.87)	(5.94)	(8.25)	(7.03)	(6.30)
Only Now and Then (2)	4738	6580	8464	9158	28940
	(8.72)	(12.34)	(15.61)	(14.59)	(12.88)
Some (3)	10707	13651	15422	18858	58638
	(19.70)	(25.61)	(28.43)	(30.05)	(26.10)
Most (4)	36791	29909	25877	30328	122905
	(67.71)	(56.11)	(47.71)	(48.33)	(54.71)
Total	54338	53308	54239	62756	224641
Mean (sd)	3.512 (.81)	3.318 (.90)	3.155 (.96)	3.196(.93)	3.292(.91)
Median	4	4	4	4	4

Column Percentages in parentheses

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[10]See Appendix A for question wording.

Age

The common assertion is that younger individuals have Internet access; however, as described in early chapters, Internet access has grown in other segments of the population (Sourbati, 2009). Additionally, younger individuals learn about politics and inherit their political ideologies from their parents (Niemi & Jennings, 1991). Younger individuals also have different technological skills than those who are older, mostly because the technologies that were necessary or popular have shifted rapidly (Sourbati, 2009). In addition to the stability of partisanship, there seems to be some generational shifts in loyalty. Younger generations are less loyal partisans than their parents, and this trend has been cited for over 40 years (Abramson, 1979; Miller & Shanks, 1996; Page & Shapiro, 1992). For this analysis, age is measured the same as it has been in previous chapters. There are also trends that show that individuals become more conservative and Republican as they age (Page & Shapiro, 1992; Schlozman, Verba & Brady, 2012).

In this analysis, age is taken from the CCES profile questions. The ages of respondents range from 18 to 99 years of age. The age of respondents overall averages 50.57 years of age, and has a median of 53 years of age. Age is important in both considerations of ideology and technology as there are clear trends. Younger individuals are more likely to have Internet access and are less likely to vote (Schlozman, Verba & Brady, 2012). Conversely, older individuals are more likely to vote, and less likely to use the Internet, however older individuals are adopting the technologies more over time (Schlozman, Verba & Brady, 2012; Sourbati, 2009).

Geography

Geography matters for Internet access as urban areas are generally better wired than rural areas[11]. This difference in Internet access could be for a variety of rea-

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[11]While this is the case, the White House study found that certain neighborhoods within cities also experience different levels of access.

sons, including cost considerations on behalf of the Internet Service Providers (ISPs) (Brownstein, 2013; Frieden, 2013), a lack of population density for infrastructure (Strover, 2001), among other geographical considerations. While urban areas conversely, are more connected, there may be further differences between neighborhoods in regards to access, which can perhaps be seen on socioeconomic lines (LaRose et al., 2007; Strover, 2001; WhiteHouse, 2015).

In addition to differences in access, it has been found that there are differences in policy outcomes with respect to Internet access and considerations of urban and rural settings (Dinterman & Renkow, 2017). For example, urban areas have been found to have more successful implementation of healthcare systems, because of having better access to the Internet (Douthit et al., 2015). In this analysis I measure urban and rural residence based on the zip code of the respondent based on the 2010 Decennial Census. If a county is less than 50 percent rural, the respondent is coded to be residing in an urban zip code[12]. Additionally, if the county is over 50 percent rural, it was designated as residing in a rural zip code[13]. In this dataset, there are more urban respondents surveyed than rural respondents, although that number increased over time.

Geography to this point has been measured as an urban and rural identifier via U.S. Census data from the 2010 Decennial census. Research into urban and rural attitudes have also explored ideological and partisan attitudes. In this data there has been a difference found between partisan strength, ideological strength, and the combined index[14]. The literature shows there are patterns that show that urban and rural attitudes on politics do differ with individuals in rural areas more identified with the Republican party, and urban areas favoring Democratic Party identity (Kaufman, 2016).

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[12]Coded as 0

[13]Coded as 1

[14]$t = 16.312$ for partisan strength, $t = -12.514$ for ideology, and $t = 4.507$ for the combined variable. All of these t-values are significant at the $\alpha = 0.01$ level.

In this study, the geography variable will be broken into an urban and rural dichotomous identifier. A rural area is coded as a 1 and an urban area is coded as a 0. Because of the nature of the quality of Internet access to be tied to geographical considerations, it's important to account for this variable. The CCES dataset does have a healthy sample from rural areas as indicated in Table 4.6 where near 13 percent of respondents are from rural areas in any given year. This may mean there is an over–representation of urban individuals in this dataset, as the breakdown of urban and rural individuals in not necessarily as exact as the true population proportion.

Table 4.6.
Urban and Rural Respondents by Year

	2010	2012	2014	2016	Total
Urban	47625	46979	48729	56135	199468
	(86.58)	(86.27)	(86.93)	(87.15)	(86.75)
Rural	7382	7479	7327	8278	30466
	(13.42)	(13.73)	(13.07)	(12.85)	(13.25)
Total	55007	54458	56056	64413	229934

Column Percentages in parentheses

Gender

There have been generational changes in the gender gap that would indicate that women have become more Democratic over time (Harsgor, 2018). Women are more likely to favor Democratic candidates (Schlozman, Verba & Brady, 2012), and are more likely to turn out to vote in more recent years (Carreras, 2018). Much of the reason for this uptick, may have more to do with women having higher levels of civic duty (Carreras, 2018). Additionally, with respect to skills and Internet use, there tends to be a trend that women may under–report their skill sets and as a result may be less likely to use the Internet (Bimber, 2000a; van Dijk, 2006).

In this analysis gender is coded as a dichotomous variable where male respondents are coded as a 0 and female respondents are coded as a 1. The breakdown of gender is

a majority female in each year (Table 4.7). This variable's inclusion is important for both the technical and political ramifications that arise. For example the literature suggests that men are more likely to vote and overstate their technical abilities, while women are less likely to vote and understate their technical abilities.

Table 4.7.
Gender by Year

	2010	2012	2014	2016	Total
Male	26723	25590	26283	29531	108127
	(48.24)	(46.92)	(46.77)	(45.71)	(46.86)
Female	28677	28945	29917	35069	122608
	(51.76)	(53.08)	(53.23)	(54.29)	(53.14)
Total	55400	54535	56200	64600	230735

Column Percentages in parentheses

Race

Unlike gender, the coalitions of the parties have changed over time with respect to race (Page & Shapiro, 1992). In the time period being analyzed, the coalitions of the parties seem to not be changing much. Racially, the Democratic party is becoming more diverse while the Republican Party is becoming more homogeneous (Prior & Bougher, 2018). Racial components may also have impacts on political attitudes in this time period as well, due to the impacts of the first African American President and the election of Donald Trump which both have racially charged elements to them. Additionally there have been noted trends that communities with higher levels of minority populations have less access to the Internet in general (Mossey, Bromberg & Manoharan, 2019; Napoli & Obar, 2017). Race does play a role in digital inequality and the digital divide. From the perspective of race, different populations use technologies differently, and are not always subject to solely knowledge gaps (Eastin, Cicchirillo & Marby, 2015). In this analysis, race is measured as a dichotomous variable, with a 1 coded as individuals identifying as white, and a 0 coded as non–white

individuals. In the dataset about three– quarters of the respondents are white (Table 4.8). The reason to measure race this way is because of the way the data designates race. While this is problematic, it is a limitation of the data I have. It does not get granular with racial identity, and as such the measurement I chose is one that asks if the respondents are white[15].

Table 4.8.
Race Frequency Table of CCES data

	2010	2012	2014	2016	Total
Non–White	14012	14200	14781	18311	61304
	(25.29)	(26.04)	(26.30)	(28.35)	(26.57)
White	41388	40335	41419	46289	169431
	(74.71)	(73.96)	(73.70)	(71.65)	(73.43)
Total	55400	54535	56200	64600	230735

Column Percentages in parentheses

Income

There are historical trends for party and ideological identification with respect to income (Campbell et al., 1980; Page & Shapiro, 1992). For example, stronger Democrats tend to make less money than their Republican peers (Bartels, 2008; Page & Shapiro, 1992). In addition Internet access is correlated with income, as has been previously pointed out. Income is important in the models in this research because income is a historic indicator for political behavior (Page & Shapiro, 1992; Schlozman, Verba & Brady, 2012). Additionally, income is also an indicator of technological adoption, as individuals who are able to afford technologies are able to adopt them. While this is the case, Internet access in the U.S. is still expensive for some (Napoli & Obar, 2017).

In this analysis, income is measured using the family income variable done by the CCES survey[16]. The income is measured in 12 ordinal variables that indicate increasing income levels (Table 4.9). The median income in the data falls between

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[15]See the question wording in Appendix A.

[16]See Appendix A for wording.

$50,000 and $60,000 per year, while the average is between $50,000 and $70,000 per year. Those who refused to answer were dropped from the analysis. These descriptive statistics would indicate that the respondents in this data are likely better off financially than average.

Table 4.9.
Income of Respondents

	2010	2012	2014	2016	2010–2016
Less Than 10k (1)	1642	2301	2536	2835	9314
	(3.38)	(4.80)	(5.10)	(4.88)	(4.56)
10–20k (2)	3526	4260	4244	4542	16572
	(7.25)	(8.89)	(8.53)	(7.82)	(8.11)
20–30k (3)	5108	5724	5793	6459	23084
	(10.51)	(11.95)	(11.64)	(11.12)	(11.29)
30–40k (4)	5108	5730	6043	6609	23490
	(10.51)	(11.96)	(12.14)	(11.38)	(11.49)
40–50k (5)	4953	5120	5164	5760	20997
	(10.19)	(10.68)	(10.38)	(9.92)	(10.27)
50–60k (6)	5019	5024	5080	5764	20887
	(10.32)	(10.48)	(10.21)	(9.92)	(10.22)
60–70k (7)	3939	3541	3787	4490	15757
	(8.10)	(7.39)	(7.61)	(7.73)	(7.71)
70–80k (8)	4248	3724	3917	4688	16577
	(8.74)	(7.77)	(7.87)	(8.07)	(8.11)
80–100k (9)	5038	4264	4426	5661	19389
	(10.36)	(8.90)	(8.89)	(9.75)	(9.49)
100–120k (10)	3838	2984	3109	4056	13987
	(7.90)	(6.23)	(6.25)	(6.98)	(6.84)
120–150k (11)	2856	2463	2686	3572	11577
	(5.88)	(5.14)	(5.40)	(6.15)	(5.66)
More Than 150k (12)	3337	2783	2980	3643	12743
	(6.86)	(5.81)	(5.99)	(6.27)	(6.24)
Total	48612	47918	49765	58079	204374

Column Percentages in parentheses

Education

Education plays a role in the formation of ideology and partisanship (Schlozman, Verba & Brady, 2012). There are clear trends that point to ideology and partisanship with respect to educational attainment (Miller & Shanks, 1996). Individuals with higher levels of educational attainment also tend to have a propensity to have Internet access (van Dijk, 2006). Reasons for this range from a reliance on the technology for higher–skilled labor to a reliance on the technology for educational ends has become more commonplace over time.

Education in the CCES dataset is a self–reported measure of educational attainment[17]. A higher value in this variable is defined by having a higher level of educational attainment. In this dataset, near 73 percent of respondents have at least some college education, with some variance year–to–year. The reason to include an education variable is two–fold. Firstly, education level often indicates higher levels of political engagement, and is also indicative of interest in politics. Secondly, education is a strong indicator of Internet adoption. In this analysis, educational attainment (Table 4.10) is an ordered variable with 6 categories ranging from no high school diploma to a post–graduate degree. The median respondent in the data has at least some college education, which indicates that the respondents in the CCES are more educated than the average American.

4.6   Results

The first set of ordinal logit regression models for ideological strength have interesting results that vary from year to year. The QOIA's coefficient was only positive in the 2016 and cumulative model. QOIA was also only statistically significant in the 2016 and 2014 models. Geographical constraints had positive coefficients and were significant in each model. Race had positive coefficients that are statistically

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[17]See Appendix A for wording.

Table 4.10.
Education by Year

	2010	2012	2014	2016	Total
No HS (1)	1035	1554	1493	1971	6053
	(1.87)	(2.85)	(2.66)	(3.05)	(2.62)
High School Graduate (2)	10518	13815	15703	16381	56417
	(18.99)	(25.33)	(27.94)	(25.36)	(24.45)
Some College (3)	15798	14617	12917	15685	59017
	(28.52)	(26.80)	(22.98)	(24.28)	(25.58)
2-Year (4)	5074	5404	5349	7169	22996
	(9.16)	(9.91)	(9.52)	(11.10)	(9.97)
4-Year (5)	15965	12052	13969	14884	56870
	(28.82)	(22.10)	(24.86)	(23.04)	(24.65)
Post-Grad (6)	7010	7093	6769	8510	29382
	(12.65)	(13.01)	(12.04)	(13.17)	(12.73)
Total	55400	54535	56200	64600	230735
Median	4	3	3	3	3

Column Percentages in parentheses

significant in each model. The goodness of fit for each model was stronger among the likelihood ratio χ^2 tests, but weak for Pseudo R^2.

The first differences (Table 4.12) indicated minimal ideological strength changes with changes in either QOIA or geography. For QOIA, the first differences were only statistically significant in the 2014 model, yielding a positive value for the decrease in ideological preference, which runs contrary to the other models. As for geography, the changes were statistically significant in every year with the exception of 2010, holding all other variables constant at their means. Changes for geography were near or under 1 percent. When taking in account for both variables, the differences were comparable to the geographical ones, where there are differences of no more than 1 percent in either direction.

In the second set of multinomial logit regression models (Table 4.13), ideological identification was the dependent variable[18]. In these models these results found similarities with the ideological strength. The base case for the models were set to 3,

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[18]All Multinomial Logits for ideological identification are in Appendix B.

Table 4.11.
Ordinal Logit Results for Ideological Strength

	2010	2012	2014	2016	2010–2016
QOIA	1.004	1.010	0.968***	1.018	0.997
	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)
Interest in Politics	1.455***	1.396***	1.402***	1.370***	1.413***
	(0.01)	(0.01)	(0.01)	(0.02)	(0.00)
Age	0.998***	0.995***	0.998***	0.994***	0.996***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Geography	1.036	1.069**	1.126***	1.100***	1.081***
	(0.02)	(0.02)	(0.03)	(0.03)	(0.01)
Income	1.007**	0.983***	0.998	0.981***	0.993***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Education	1.007	1.018***	1.015**	0.967***	1.005
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Gender	0.854***	1.054***	1.033*	0.912***	0.972***
	(0.01)	(0.02)	(0.01)	(0.02)	(0.00)
Race	1.277***	1.318***	1.287***	1.346***	1.301***
	(0.02)	(0.02)	(0.02)	(0.04)	(0.01)
N	43832	42452	43656	25286	155226
Pseudo R^2	.0200	.0144	.0140	.0095	.0141
LR χ^2 (df=8)	1700.69***	1178.60***	1209.71***	479.87***	4278.35***

Exponentiated coefficients; Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

which would represent a moderate, meaning that the model is evaluating change from a moderate ideological position. With respect to the first differences, it was found that the changes from independent seem to not go to the extreme values ideologically when accounting for QOIA while holding all other variables constant at their respective means.

In the third set of ordinal logit regression models, partisan strength (Table 4.14) was the dependent variable. In these models, QOIA had positive coefficients and were statistically significant in all the ordinal logit models, with only the 2016 QOIA variable not being significant. Geography was significant in all years with the exception of 2012, and had negative coefficients, which would trend towards rural areas. Race was additionally negative and statistically significant in each model. In addition

Table 4.12.
First Differences for Ideological Strength

Change in QOIA	2010	2012	2014	2016	2010–2016
0	-.004	-.011	.037*	-.020	.002
	(.01)	(.01)	(.01)	(.01)	(.00)
1	.002	.006	-.018*	.010	-.001
	(.00)	(.00)	(.00)	(.00)	(.00)
2	.001	.005	-.019*	.010	-.001
	(.00)	(.00)	(.00)	(.00)	(.00)
Change in Geography	2010	2012	2014	2016	2010–2016
0	-.007	-.015*	-.027*	-.020*	-.017*
	(.00)	(.00)	(.00)	(.00)	(.00)
1	.003	.008*	.013*	.010*	.009*
	(.00)	(.00)	(.00)	(.00)	(.00)
2	.003	.007*	.013*	.011*	.008*
	(.00)	(.00)	(.00)	(.00)	(.00)
Change in Both	2010	2012	2014	2016	2010–2016
0	-.012	-.027*	.010	-.041*	-.014*
	(.01)	(.01)	(.01)	(.01)	(.00)
1	.006	.015*	-.004	.020*	.007*
	(.00)	(.00)	(.00)	(.00)	(.00)
2	.005	.012*	-.005	.022*	.007*
	(.00)	(.00)	(.00)	(.00)	(.00)

Standard errors in parentheses
* $p < 0.05$

to the ideological strength models, the Pseudo R^2 values were very weak, while the Likelihood Ratio χ^2 values were statistically significant at the $\alpha = .01$ level. QOIA seemed to have more positive effects on partisan strength, which contrasts from the findings in the ideological strength.

The first differences for partisan strength (Table 4.15) indicated that the changes were larger than those of ideological strength. For QOIA, the changes were positive towards stronger partisanship levels when everything else is held constant at their means, with the largest changes occurring in 2010. Varying geography, with every-thing else held at their means, yielded minimal changes in partisanship, with the largest changes coming in the 2016 election. The interaction between the two vari-

Table 4.13.

First Differences of Ideological Identification (Change in QOIA)

Change in QOIA	2010	2012	2014	2016	2010–2016
Very Liberal	-.005	-.014*	-.016*	.014*	-.008*
	(.00)	(.00)	(.00)	(.00)	(.00)
Liberal	.010	.021*	.020*	.032*	.020*
	(.01)	(.00)	(.00)	(.01)	(.00)
Moderate	-.001	-.018	.028*	-.030	-.003
	(.01)	(.01)	(.01)	(.01)	(.00)
Conservative	-.009	.009	-.015	-.002	-.004
	(.01)	(.01)	(.01)	(.01)	(.00)
Very Conservative	.005	.002	-.017*	-.013	-.004
	(.00)	(.00)	(.00)	(.00)	(.00)

Standard Error in Parentheses, * $p < .05$

ables was statistically significant in every election year with the exception of the 2016 election. From the first differences here, it seems that there is a very small, if any, impact of QOIA on ideology.

In the final set of multinomial logit regression models, party identification was the dependent variable[19]. In these regression models there are results similar to those of the partisan strength models. The base case for the models were set to 4, which would represent an independent, meaning that the model is evaluating change from an independent partisan preference. The first differences (Table 4.16) would indicate similar findings to the ideological identification, to that of partisan identification. There is movement to extremes.

4.7   Discussion

There is a lot to dissect in these results, the most striking part of the results is that the expectation is that QOIA is creating echo chambers in a way that there is ideological and partisan hardening being facilitated (Bond & Messing, 2015; Prior, 2007). From this analysis there seems to be some evidence that individuals with

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[19]All Multinomial Logits for ideology are in Appendix B.

Table 4.14.
Ordinal Logit Results for Partisan Strength

	2010	2012	2014	2016	2010–2016
QOIA	1.079***	1.030***	1.058***	1.019	1.050***
	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)
Interest in Politics	1.430***	1.395***	1.353***	1.338***	1.386***
	(0.01)	(0.01)	(0.01)	(0.02)	(0.00)
Age	1.005***	1.006***	1.009***	1.008***	1.007***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Geography	0.881***	0.970	0.958*	0.869***	0.923***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)
Income	1.002	1.005	1.008**	1.001	1.004**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Education	0.987**	0.977***	0.998	0.968***	0.984***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Gender	1.407***	1.455***	1.436***	1.493***	1.443***
	(0.02)	(0.02)	(0.02)	(0.03)	(0.01)
Race	0.708***	0.695***	0.666***	0.690***	0.689***
	(0.01)	(0.01)	(0.01)	(0.02)	(0.00)
N	44903	43533	45392	25988	159816
Pseudo R^2	.0174	.0165	.0167	.0122	.0161
LR χ^2 (df=8)	2079.15***	1899.75***	1994.32***	828.94***	6769.94***

Exponentiated coefficients; Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

stronger Internet access are more likely to have stronger ideological and partisan identities. While this is the case, these changes in QOIA have very small effects with respect to ideology. With respect to partisan strength there seems to be a stronger effect.

In the 2016 election year, younger people did participate more (Prior & Bougher, 2018), which is unusual given historical trends of younger individuals and their involvement, let alone interest in politics, historically (Page & Shapiro, 1992). This year continues to be odd when looking at the analysis, but that may be expected given the odd nature of the election and the subsequent analysis that will come from that election year for a long time. The analysis showed that there were increases for partisans in the 2010 and 2014 elections, which would indicate that there is an

Table 4.15.
First Differences for Partisan Strength

Change in QOIA	2010	2012	2014	2016	2010–2016
0	-.050*	-.016*	-.035*	-.011	-.030*
	(.00)	(.00)	(.00)	(.00)	(.00)
1	-.040*	-.018*	-.029*	-.009	-.027*
	(.00)	(.00)	(.00)	(.00)	(.00)
2	.004*	.001*	-.001*	-.001	.000
	(.00)	(.00)	(.00)	(.00)	(.00)
3	.085*	.033*	.066*	.022	.056*
	(.00)	(.01)	(.00)	(.01)	(.00)
Change in Geography	2010	2012	2014	2016	2010–2016
0	.015*	.003	.005	.017*	.009*
	(.00)	(.00)	(.00)	(.00)	(.00)
1	.013*	.003	.004	.014*	.009*
	(.00)	(.00)	(.00)	(.00)	(.00)
2	-.000*	-.000	.000	.001*	.000*
	(.00)	(.00)	(.00)	(.00)	(.00)
3	-.029*	-.006	-.010	-.033*	-.018*
	(.00)	(.00)	(.00)	(.00)	(.00)
Change in Both	2010	2012	2014	2016	2010–2016
0	-.034*	-.013*	-.030*	.005	-.020*
	(.00)	(.00)	(.00)	(.00)	(.00)
1	-.026*	-.014*	-.024*	.004	-.018*
	(.00)	(.00)	(.00)	(.00)	(.00)
2	.004*	.001*	-.000	.000	.000*
	(.00)	(.00)	(.00)	(.00)	(.00)
3	.056*	.026*	.055*	-.010	.038*
	(.01)	(.01)	(.01)	(.01)	(.00)

Standard errors in parentheses
* $p < 0.05$

increase in partisan behavior. Overall, over the entire model we do see that Internet access is affecting both ideological and partisan strength in small fashions, especially those who are stronger partisans or ideologues.

With respect to race and gender they are both flipped in their direction between ideology and partisanship. In the ideological strength models, stronger ideologues tend to be more likely to be white and to a small degree male. For the partisan

Table 4.16.
First Differences of Partisan Identification (Change in QOIA)

Change in QOIA	2010	2012	2014	2016	2010–2016
Strong Democrat	.026*	.005	-.040*	.017	.022*
	(.01)	(.01)	(.00)	(.01)	(.00)
Not Very Strong Dem.	-.007	.005	.024*	.032	.010*
	(.00)	(.00)	(.00)	(.01)	(.00)
Lean Dem.	-.005	.007	-.004	-.000	.002*
	(.00)	(.00)	(.00)	(.00)	(.00)
Independent	-.095*	-.041	-.062*	-.049	-.066*
	(.01)	(.00)	(.01)	(.01)	(.00)
Lean Republican	.017*	.001	-.005	.018	.006
	(.00)	(.00)	(.00)	(.00)	(.00)
Not Very Strong Rep.	.025*	.011	.002	-.010	.009*
	(.00)	(.00)	(.00)	(.01)	(.00)
Strong Rep.	.039*	.010	.005	-.008	.015*
	(.00)	(.00)	(.00)	(.01)	(.00)

Standard Error in Parentheses, * $p < .05$

models we see stronger partisans to be non–white and female. This is an interesting case for not only QOIA, but partisan and ideological identity. This could speak to gender and party loyalty with respect to either race or gender. As far as race, party identity could be more important for non–white individuals.

One downside to the data analysis is that the goodness of fit tests were fairly weak. This may indicate that the findings in this chapter may not explain much of what is going on with partisanship and ideological strength. It could also be due to the variables that are being employed in this model that could be collinear. While I accept this, these findings seem to indicate that there are some trends with respect to Internet access that could be further explored.

4.8   Conclusion

In this chapter, I have found that partisan strengths are affected by QOIA. Ideology, on the other hand, may have a minimal affect if at all. While this effect is small, there

is no reason to believe this effect is zero. With respect to geography, there is an effect on partisanship and ideology that was expected. The effect on partisanship seems to be more pronounced than ideology. This would be consistent with the research that shows that ideology and partisanship are not only stable, but also tend to be indicators of each other. Additionally, Internet access is in fact making impacts on the manner in which Americans interpret politics with regards to political attitudes and identity.

The largest conclusion here is that the partisan identity of individuals may be affected by stronger access to the Internet, but this effect is also small. This would indicate that the literature's allusion to the idea that the Internet can be a factor in hardening partisan attitudes must hold some weight, but should be challenged. While mere access to the Internet does not mean that there is more partisan strength, but rather it is a tool to enhance partisan strengthening. There is also an argument to be made that there is a resource advantage that goes with Internet access that Internet access is already taken into account. The only problem with this conclusion is that the results are not entirely consistent year to year, meaning this is likely a very small change for ideological and partisan differences. That can possibly be explained given that Americans are not necessarily very sophisticated ideologically, and with stronger Internet access that does not seem to be changing much, if at all.

With respect to partisanship, it would make sense that the Internet is actually strengthening and hardening partisan divides. Political divides and discourse online are seen as places where group affiliation is honed. It would stand to reason at this juncture that the partisan divides we see through exposure to the Internet could be adding to the larger political polarization and divides that have been observed in elite political discourse (Fiorina, Abrams & Pope, 2011). While polarization has been shown to be occurring before widespread Internet access, there is evidence that the exposure to the Internet could possibly be intensifying the effects. Beyond polarization, There is a possibility that there could be more to this phenomenon than just political identity. Because of the perceived ease of information access, the Internet

could be causing other phenomenon. These differences in ideological and partisan identity are possibly being overshadowed by other effects, such as political engagement and voting behaviors. In chapter 5, I will evaluate this question of whether the QOIA affects the outcomes of political behaviors. This analysis will be useful for understanding these effects, as they have historically been associated with political engagement and voting broadly.

5. QOIA AND POLITICAL ENGAGEMENT

The study of political engagement in the context of the Internet and other computer–mediated technologies is not a novel concept (Koc-Michalska, Lilleker & Vedel, 2016; Whitacre, 2017). However, while there is a plethora of research on behaviors using social media and other online activities, the research with regards to the effect of Internet access in general on political behavior is lacking. This could be because the Internet is a rather difficult topic to research in an era of technological change that is advancing more rapidly than the peer–review process (Farrell, 2012).

In Chapter 4, I have found evidence that there are small, if any, effects of Internet access on ideology, while also observing sizeable effects on partisanship. For these reasons, it is plausible that Internet access may affect political behavior with respect to engagement and voting (Boulianne, 2009, 2015). Internet access has historically been indicative of higher socioeconomic status due to its costly nature (Norris, 2001; van Deursen & van Dijk, 2019; van Dijk, 2006; van der Zeeuw, van Deursen & Jansen, 2019). Because of this economic hurdle, there is a need to understand how important Internet access is to the political process, especially in terms of engagement, as well as other political activity and behaviors.

The plan of this chapter is to better understand the effect of Internet access on political engagement and set up a further analysis of political engagement. I will start with a brief literature review of what is known about political participation and engagement with respect to the Internet. I will then attempt to answer the question of political engagement and Internet access by evaluating data from the Cooperative Congressional Election Survey (CCES) from 2010–2016, an era where Internet access was publicly available and discussed popularly. I will conclude with the findings and the further directions on political engagement, including a further analysis of political engagement in Chapter 6 that evaluates political giving specifically.

5.1   Literature Review

In the 1990s, there was wide debate within political science over the role of the Internet and the future of political interactions. Some scholars were skeptical, citing that the Internet was an isolating force (Putnam, 1996, 2000). Not only was the Internet hypothesized to be isolating, it was also seen as a continuing trend that the media cannot be taken seriously to broadcast reliable information (Postman, 2006; Putnam, 2000). Others cited the Internet as an equalizing force that could help unheard voices be heard and open processes that might be otherwise closed to individuals with less access to Washington D.C., and other lawmakers (Norris, 1995, 2001). There was an optimism that the Internet could solve society's ills and would result in a more informed and engaged electorate (Bimber, 2001; Kreuger, 2002; Norris, 1995). Since the 1990s, the literature has moved in a direction that expresses both cautious optimism and pessimism about the prospects of the Internet's role in political engagement and voting (Farrell, 2012; Prior, 2007).

In the 2000s this literature surrounding political participation sought to understand the effects of the Internet on general political behavior (Bimber, 2001; Boulianne, 2009; Farrell, 2012). Scholarship in this area has also found that there are general positive effects of the Internet on political behavior (Boulianne, 2009). It became increasingly difficult to just refer to phenomena related to information technology as a product of "the Internet" due to the complicated nature of the technology (Bimber, 2000b; Farrell, 2012). There is also evidence to show that the relationship is strengthening, but that relationship's change over time is unclear (Boulianne, 2015, 2018). There is evidence to show that the Internet provides new avenues for participation[1] (Hargittai & Shaw, 2015).

Moving forward, studying the Internet has taken on multiple avenues for research. There are avenues that evaluate digital inequalities and the divides within society (Robinson et al., 2015; van Deursen & van Dijk, 2019). Other parts of the literature evaluate the impact of the Internet and social media on political behavior (Bond &

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[1]Hargittai and Shaw (2015) are specifically referring to the 2008 election.

Messing, 2015). While research about social media and Internet uses are vital to the scholarly pursuits of researchers in this area, this dissertation will more specifically evaluate the aspect of access to the Internet.

5.2   U.S. Media Market

In addition to the divides with regard to access, it is important to acknowledge the complexities of the U.S. media environment. The media environment in the U.S. is structurally splintered (Prior, 2007), which can allow for individuals to consume news that conforms to their ideological biases (Brownstein & Kaufman, 2017; Lawrence, Sides & Farrell, 2010; Lelkes, Sood & Iyengar, 2015). Media fragmentation is defined as the expansion of choice supplied by the media with respect to news and information, initially discussed as the fragmentation in terms of cable TV, but Prior's (2007,2013) theories have become more applicable in an Internet context. This may have to do with increased partisan media consumption that is associated with higher interest in politics and Internet access (Lelkes, Sood & Iyengar, 2015; Prior, 2007, 2013b). In addition to media choice, soft news and other programs that are not the traditional platform for politics are increasingly important, as viewers do glean information from content that is not primarily political (Arceneaux & Johnson, 2013; Baum, 2003, 2012).

In addition to being a necessity, the Internet is being seen as another source of political polarization. The Internet is becoming a primary mode of communication and information gathering, to an extent that it may be increasingly difficult to be able to parse out civic behaviors from news reading habits (Nah & Yamamoto, 2018). Reasons for this difficulty could be due to the Internet's role in daily functions that are intertwined with general human behaviors. People are using the Internet for more than communicating, and are using it for employment, and other necessities in American life (van Deursen & Mossberger, 2018). On the Internet, political information is shared, discussed, and gathered online in forums that are not traditionally avenues for

learning about political information (Farrell, 2012; Nah & Yamamoto, 2018; Prior, 2007; Wojcieszak & Mutz, 2009). Those without access to the Internet may have more difficulty learning about politics, as part of an inequality often referred to as the digital divide.

In the U.S. only 80–85 percent of households have Internet access (, F.C.C.; NTIA, 2014). Those who do not have Internet access often cite high costs as the reason for why they do not have these services (NTIA, 2010, 2014). Therefore, some scholars might suggest that having home Internet access is a luxury, while the reality might suggest that these technologies are in fact necessities (Brownstein, 2013; Napoli & Obar, 2014; Strover, 2014). The reasons for having higher prices can range from the coupling of Internet with cable TV and telephone services, to complex monopolistic behaviors of the ISPs themselves (Downes & Greenstein, 2007; Frieden, 2013).

One way to understand political engagement with respect to the Internet is to evaluate it in the context of a linkage between civic behavior online and offline (de Zúñiga, Copeland & Bimber, 2013). Often behavior online is mimicking behavior that is seen offline (Feezell, Conroy & Guerrero, 2016). However, it is not safe to assume that access to the Internet is more reflective of the society as a whole, as those who have access to these technologies seem to be different than the population as a whole (Lawrence, Sides & Farrell, 2010; Schlozman, Verba & Brady, 2012). The technologies may also be strengthening these behaviors (Copeland & Bimber, 2015; van Deursen & van Dijk, 2019).

There has been a literature that has emerged about Internet access and its effects on political engagement and related political activities. As a result there has been discussion about whether the Internet can facilitate political engagement Because the Internet allows for individuals to find political information easier, as well as making the enterprise more social, the Internet facilitates an environment where these political behaviors can be groomed (Boulianne, 2018; Feezell, Conroy & Guerrero, 2016). Maintenance of an individual's identity is becoming crucial with respect to Internet use. Although this literature exists, there are also concerns that the Internet

may not be a reflection of the general public as a whole (Strover, 2014). Because there are barriers to Internet access, there are also concerns that Internet access may be necessary to be an informed and engaged citizen in the U.S. or elsewhere (van Deursen & van Dijk, 2019).

Scholars generally agree that political participation is driven by socioeconomic variables, interest in politics, and mobilization by political campaigns (Zukin et al., 2006; Schlozman, Verba & Brady, 2010). With a higher quality of Internet access, this mobilization might take on a more personal aspect. For example, individuals are also subject to more interactivity, are more likely to participate in politics (Tedesco, 2007). If individuals in such a study were more likely to participate because of their interactivity, the Internet and social media offer avenues in which people are constantly interacting and gathering information (Anduiza, Cantijoch & Gallego, 2009).

The Internet has a perceived effect to increase political engagement, via exposure that is both intentional (Lawrence, Sides & Farrell, 2010) and unintentional (Morris & Morris, 2013; Wojcieszak & Mutz, 2009). Access to the Internet has been associated with increases in interest in politics (Boulianne, 2009, 2018). As for voting, we may see more voters at the polls due to accidental online exposure to politics (Morris & Morris, 2017; Wojcieszak & Mutz, 2009). Accidental exposure is more likely when an individual has access to the Internet, since the users are likely to be exposed to political discussion in online forums (Wojcieszak & Mutz, 2009). Additionally, algorithms on popular social media websites and applications may be able to show only information that is more tuned with their partisan identity (Bond & Messing, 2015).

This interaction between individuals may also not necessarily lead to participation and engagement in politics (Christensen, 2012). Some scholars suggest that the Internet has changed behaviors more with respect to consumerism or even "slacktivism" (Christensen, 2012; Copeland, 2014). The idea of slacktivism is the concept that because an individual feels they have engaged in a political behavior on the

Internet which then gives the impression that they have sufficiently participated in a manner where they have fulfilled their own civic duty (Christensen, 2012). There has been some evidence to show that Internet behaviors do not necessarily translate to voting behavior, but is in fact its own form of engagement (Cantijoch, Cutts & Gibson, 2016).

In addition to information gathering, political participation is often predicated on the idea of citizenship and civic duty[2] (Miller & Shanks, 1996; Riker & Ordeshook, 1968). In an Internet environment, citizenship can take on many forms that include content creation and encouraging citizens to participate through organizing efforts online to be involved in offline political happenings (Baldwin-Philippi, 2015). These behaviors could be successful in bringing new people into the political process. The Internet has been credited for the success of the Obama 2008 and 2012 political campaigns, and political protest movements such as the Tea Party, Occupy Wall Street, or even the Arab Spring in Egypt (Cho, Gimpel & Shaw, 2012; Lynch, 2011; Williamson, Skocpol & Coggin, 2011). Overall the analysis of the Internet's effect on political participation has found it to be positive (Boulianne, 2009). This positive effect would indicate that as the level of Internet access increases, the level of political participation increases.

There could be several confounding factors that could be overlooked in an analysis of the effect of Internet access on political participation: age (Jennings & Zeitner, 2003), socioeconomic status (Schlozman, Verba & Brady, 2012). Although a positive effect is known, the mechanisms for how this works is not known clearly (Feezell, Conroy & Guerrero, 2016). One other aspect of this positive effect is that there seems to be less consensus on whether the Internet leads to increases in political engagement and participation. This effect is possibly non-linear in the sense that the relationship seems to be more of a step-wise process where the Internet facilitates certain steps of the process and introduction to politics (Boulianne, 2009; Cantijoch, Cutts & Gibson, 2016). There may be some effects that are present that are probably

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[2]Riker and Ordeshook (1968) see this as feelings towards democracy.

combined with offline networks. In other words, individuals may be maintaining their political networks both online and off-line where the Internet itself may just be an avenue in which to further those relationships (de Zúñiga & Valenzuela, 2011). There is evidence to show that political participation online may be better predicted by interest in politics, moreso than age or income (Copeland, 2014; Feezell, 2016).

5.3 Hypotheses

The question this literature review raises is as follows: does quality of Internet access (QoIA) affect political engagement? To answer this question, I will split the hypotheses into two groups: political engagement activities and voting activities. These two hypotheses will address political engagement in a manner that is exclusive of voting behavior to see if other political activities are affected differently because of Internet access levels in these two areas. The reason this is done is because there are strong theoretical reasons to separate voting and engagement behaviors (Zukin et al., 2006). Voting is an act that may be less costly, than say attending a protest, yard signs, etc., and should be addressed as such (Schlozman, Verba & Brady, 2012; Zukin et al., 2006).

With respect to political engagement and voting I hypothesize the following:

H1: *As the level of Internet access increases, the level of political engagement will also increase.*

H2: *As the level of Internet access increases, the level of voting behavior will also increase*

By evaluating these hypotheses, we may have a better sense of how voting behavior and political engagement can be affected by Internet access. Increases would be expected due to the findings in Chapter 4 to show increases in partisan identity with respect to QoIA. Additionally, the historical relevance of partisanship on engagement is also relevant because it often predicts voting behavior and turnout.

5.4   Data and Methods

I will analyze both dependent variables using slightly different methods than in Chapter 4, but using the same data from CCES. The data is analyzed using ordered logistical regression to determine increases in voting behaviors. The models further use CLARIFY (King, Tomz & Wittenberg, 2000) to break down the changes seen in the dependent variable. I analyze each year individually. For the voting dependent variable, I run 5 multi–nomial logit regression models, one for each of the 4 election years in the analysis, and finally one for the years 2010-2016 cumulative. For each model I use CLARIFY's post-estimation features and run probabilistic outcomes via simulation. I analyze geographical outcomes separately while only varying QoIA and other variables held constant at their respective means. I additionally look at the first differences when varying QoIA from its minimum to maximum while leaving all else constant. The process is repeated for urban and rural subjects as well. For political engagement, the data was also analyzed using ordinal logistical regression to understand the number of activities that an individual partakes in over the course of an election season. Similar to the voting behavior I will record first differences and make conclusions based on these results

5.5   Variables

5.5.1   Dependent Variables

The dependent variables in this section deals with different forms of political engagement and voting behavior. Political engagement and participation is being heavily influenced by the Internet and social media, which is an interactive environment (Bennett, 2012; Farrell, 2012). There is disagreement on social media's role for political engagement. However, this will not be considered in this analysis, because this analysis is more rooted in individuals that have access to the Internet in the first place, which is a pre–requisite to Internet use. While it is easier to access social media with

the explosion of mobile devices and usage, it is still important to understand the consequences of the Internet's reach at this point (Farrell, 2012; Schlozman, Verba & Brady, 2012). There is a need to understand that the Internet does not occur in isolation. However it is important to understand the effects of how the Internet is affecting politics (Bennett, 2012; Bimber, 2001; Farrell, 2012).

I break engagement into two different variables. Voting behavior and civic engagement are not necessarily the same phenomenon, and thus will be measured separately in this analysis (Zukin et al., 2006). Other studies who have evaluated these phenomena have also operationalized different forms of political engagement and participation into multiple variables (Bimber et al., 2015; Bimber & Copeland, 2013). For this project I define voting behavior as behaviors that are directly related to voting or registering for major federal elections that occur in the U.S. every two years. Additionally, political engagement will be defined as activities that are related to campaign and civic participatory activities.

For the voting variable (Table 5.1), it is a dichotomous variable where a 0 signifies that the respondent did not vote in the given year's federal elections. Conversely, a 1 signifies that the respondent voted in either the general or primary election. In the CCES survey, this voting variable is self–reported, however there is a validation method used to confirm this answer (Kuriwaki, 2018). One peculiarity is that there are not many individuals who score a 0 on this index, and that will be further reflected upon in the discussion section. This would indicate that the respondents in the data are active voters.

Table 5.1.
Voting Behavior by Year

	2010	2012	2014	2016	2010–2016
No (0)	20846	17787	30433	28659	97725
	37.63	32.62	54.15	44.36	42.35
Yes (1)	34554	36748	25767	35941	133010
	62.37	67.38	45.85	55.64	57.65
Total	55400	54535	56200	64600	230735

For the second dependent variable, political engagement, I created an index that included a series of dichotomous variables indicating whether an individual did one of these actions during the year's given election cycle to denote political engagement. A factor analysis is used to categorize political behaviors into two different indices[3] (Table 5.2). Upon rotation of the principal component factors (Table 5.3). I found that the variables separated nicely into two indices that could be explained through a separation of voting and other political behaviors[4]. This data analysis is similar to the study by Verba and Nie (1972) in its analysis of political engagement variables (Verba & Nie, 1972).

Table 5.2.
Factor Analysis of Political Engagement and Voting

	Factor 1	Factor 2	Uniqueness
Registered to Vote	.5025944	-.7674364	.1584403
Voted	.5733457	-.7294921	.139116
Donated to a Campaign	.628507		.5631888
Signed a Petition	.6104608	.3067799	.5332237
Contacted by a Campaign	.5555694		.6859039
Worked for a Campaign	.5558556	.4026628	.5288872
Attended a Meeting, rally, etc.	.56267	.38713	.5335329
Ran for Office	.2987332	.2929801	.8249212
Eigenvalues	2.3724	1.6603	
N	176370		
χ^2 (df=15)	286309.7		

From the results of this factor analysis, I can create the political engagement index with 6 variables. The index is a summation of the activities the respondent reports having pursued in the election period[5]. As expected there is a diminishing number of individuals who are highly active, and a larger number of those who participate in

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[3]Appropriate weighting for using variables in multiple election years was used in accordance to the CCES documentation.

[4]All wordings for these variables can be found in Appendix A.

[5]Cronbach's α test reports a co-variance of .03309; scale reliability coefficient of .6542.

Table 5.3.

Kaiser Normalization Factor Analysis of Political Engagement and Voting

	Factor 1	Factor 2	Uniqueness
Registered to Vote		.9165524	.1584403
Voted		.9269324	.139116
Donated to a Campaign	.6299241		.5631888
Signed a Petition	.6748878		.5332237
Contacted by a Campaign	.4085799	.3836125	.6859039
Worked for a Campaign	.686368		.5288872
Attended a Meeting, rally, etc.	.6828571		.5335329
Ran for Office	.4134881		.8249212
Eigenvalues	2.1307	1.9020	
N	176370		
χ^2 (df=15)	286309.7		

one activity or less. This distribution is expected because engagement activities are costly ventures with respect to time and money

It should be remarked that respondents are more participatory than the American public (Page & Shapiro, 1992). Americans are generally apathetic to politics and are not overly participatory, which can be evidenced from low turnout rates in elections. The average respondent overall in the data has participated in 1.35 activities, with a median of 1 activity. The average respondent in this dataset is likely more active politically than the general public, which is not likely to be interested or active in politics (Delli-Carpini & Keeter, 1996).

5.5.2 Independent and Control Variables

Internet Access (QoIA)

The independent variable of interest in this analysis is access to the Internet. Access to the Internet has become necessary in society for a variety of reasons. For one, it is becoming more necessary to have technical skills for most jobs in the U.S. (Feezell, Conroy & Guerrero, 2016; Strover, 2014). Because of this need for technical

skills, it is often necessary to have reliable access to the Internet. National trends show that there are socioeconomic trends in whether individuals prioritize Internet access (Farrell, 2012; Schlozman, Verba & Brady, 2010). It is seen that Internet access is often prioritized by those who have higher education levels, which may be associated to use while attaining higher education (Strover, 2014; van Deursen & van Dijk, 2019; Whitacre, 2017).

Physical access to the Internet has been studied by the Federal Communications Commission (F.C.C.), the National Telecommunications and Informatics Administration (NTIA) and other governmental organizations. There has been a consensus by these organizations that the levels of Internet access in the U.S. has been growing over the past decade, however there are still a sizable number of individuals who do not have adequate access to the Internet (, F.C.C.; NTIA, 2010, 2014; WhiteHouse, 2015). There is also an argument made about types of Internet access (Napoli & Obar, 2014). While mobile Internet has expanded possibilities for Internet access, scholars fear that the Internet is creating new divides due to skill sets (van Deursen, Helsper & Eynon, 2016), or even socioeconomically (Scheerder, van Deursen & van Dijk, 2017). There could be further divides that are exacerbated by the type of technology employed, particularly cell phones (Napoli & Obar, 2014). Because cell phones are becoming ubiquitous, it is important to note that some individuals are replacing or supplementing their Internet access by using phones instead of traditional Internet and Computer Technologies (ICTs).

Geography

Urban and rural Internet access may differ due to issues of infrastructure (Lelkes, Sood & Iyengar, 2015; WhiteHouse, 2015). Urban areas are generally better wired than rural areas and there is more of a likelihood that neighborhoods have connections to the Internet due to the population density that is higher than their rural peers[6]

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[6]While this is the case, the White House study found that certain neighborhoods within cities also experience different levels of access.

(Mossberger, Tolbert & Franko, 2013; Rheingold, 1992). There may also be observable differences in the demographics that reside in urban and rural settings with regards to socioeconomics (Whitacre, Strover & Gallardo, 2015). In this analysis I measure urban and rural residence based on the zip code of the respondent based on the 2010 Decennial Census. If a county is less than 50 percent rural, the respondent is coded to be residing in an urban zip code[7]. Additionally, if the county is over 50 percent rural, it was designated as residing in a rural zip code[8]. In this dataset, there are more urban respondents surveyed than rural respondents, although that number increased over time[9].

Table 5.4.
Urban and Rural Respondents by Year

	2010	2012	2014	2016	Total
Urban	47625	46979	48729	56135	199468
	86.58	86.27	86.93	87.15	86.75
Rural	7382	7479	7327	8278	30466
	13.42	13.73	13.07	12.85	13.25
Total	55007	54458	56056	64413	229934

Column Perecentages in Parentheses

In this analysis I take geographical considerations into account. With respect to urban and rural considerations of Internet access, particularly QoIA, there are similar distributions of Internet access. The majority of individuals in both rural and urban locations score a 3 or 5 on the QoIA index . On the outset, this would not seem very different, but as the result of a simple t–test. Because of this simple comparison, it might be expected to see different results with respect to the outcomes of political engagement or voting behaviors. There are many more urban individuals in this dataset than there are rural, however, the overall effects should not be ignored because the sample contains a good mix of urban and rural individuals and allows for comparison.

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[7]Coded as a 0.
[8]Coded as a 1.
[9]See Table 5.4

Political Interest

Political interest has been crucial in prior studies of the effects of Internet access on political engagement in American Politics (Bimber et al., 2015; Bimber & Copeland, 2013; Cantijoch, Cutts & Gibson, 2016). Political interest is said to be driven by Internet access. There is also evidence to show that political ideology is hardened by exposure to partisan information via Internet access (Lelkes, Sood & Iyengar, 2015). As found in chapter 4, political interest may be a limiting the effects of ideology with respect to QoIA. Political interest in this analysis is measured on a 4–point scale with increasing levels of interest. It would make sense that political interest is also associated with engaging in the political process, as one popular tenet of participating in politics is the idea of being informed.

Political Identity, and Partisanship

Any analysis of political engagement entails using political partisanship or ideological indicators and controls. Partisanship is heavily linked with political engagement and voting, as those who have stronger partisan identities tend to be more inclined to vote and participate in politics (Green, Palmquist & Schickler, 2002; Miller & Shanks, 1996; Schlozman, Verba & Brady, 2012). In this analysis I use both partisan strength and ideological strength to measure these political identities. The coding for these variables follows exactly the coding as it did in Chapter 4. The average respondent in this data are stronger partisans and ideologues than the general public.

Gender

Gender effects both political engagement and Internet access and use (Carreras, 2018; Lay, 2017). Gender extends also to advantages that urban women may have advantages over rural women (Lay, 2017). Differences in Internet use and abilities are stratified by gender. Some of this may be explained by perceptions of skills

and abilities which tend to be higher among men, however this may be overstated (Bimber, 2000*a*; Lay, 2017). Men may overestimate their skill levels, while women tend to underestimate their skill levels with respect to technology (Lay, 2017). Despite this underestimation, there has been an uptick in political engagement by women in recent years (Carreras, 2018). In the analysis, the coding for gender remains the same as it was in Chapter 4, where female is coded as a 1, and male as a 1.

Socioeconomic Status Variables

Internet access is often emphasized by individuals who have higher levels of education and income, which are more linked to each other (Barnidge, Diehl & Rojas, 2019; Schlozman, Verba & Brady, 2010). Individuals who have higher levels of education and higher levels of income are more likely to have Internet access (Schlozman, Verba & Brady, 2010). The reasons for this increase could be that the technologies are more important for employment and citizenship (Harvey & Ala-Fossi, 2016; Napoli & Obar, 2014; Strover, 2014; van Deursen & van Dijk, 2019). Additionally, younger individuals tend to also have an emphasis on obtaining Internet access. Some reasons for this could be that the Internet has been crucial for their well-being and everyday life, as well as a familiarity with the technology (Sourbati, 2009). Another reason could be that if the individual is higher educated and attended college in the past 20 years, the necessity of having Internet access has increased. Most classes have online homework and other electronic components that make it nearly impossible to go to school and not have access to the Internet. With respect to political engagement, younger individuals are not necessarily seeing increased results in participatory behavior (Brownstein & Kaufman, 2017) while exposed to more information online, but this does not always translate to higher participation rates (Brownstein & Kaufman, 2018). There is also some disagreement among scholars of how much of an effect Internet access has on political engagement and voting behaviors, there is an over-

all positive effect (Boulianne, 2009). Historically, older individuals have been more participatory (Page & Shapiro, 1992; Schlozman, Verba & Brady, 2012).

Because of the technical skills required for taking on social media and Internet forums is different, there may be differences in experiences online (Litt & Hargittai, 2014). These differences are not relevant to the analysis because the analysis takes in account for the presence of Internet access, not what individuals do with that access. Technical skills are still required for access to the Internet, but the barrier to entry has been lessened over time in some ways, but in other ways, they mimic socioeconomic trends (Scheerder, van Deursen & van Dijk, 2017). Despite possible differences in technical skills, I discount this in the analysis, because I assume a basic level of technological competence. Because the survey does not ask much about technical skills, I assume that the individuals having a device are able to use said device, but I cannot say if they are experts or just users. While likely a blind spot of the analysis, using self-reported data with respect to technical skills is a limitation of the analysis (Prior, 2013a; Strover, 2014; van der Zeeuw, van Deursen & Jansen, 2019).

5.6   Results

5.6.1   Voting Models

The voting logit model results (Table 5.5) show that QoIA was not significant in any model. Additionally, geography did not have a significant result either. The other control variables appear to be in the expected directions with socioeconomic variables trending positive, with stronger ideological and partisan identification. Interest in politics appears to be a stronger positive variable as well, as it was in chapter 4. The R^2 values for these regressions are stronger in the midterm election years, which indicate stronger models in those years. The QoIA variable in this model has a ordered ratio of near 1, meaning that the variable is having very little effect on the model.

The first differences models tell a different, yet interesting story (Table 5.6). Similar to the results in chapter 4, there is not much movement on the voting actions from year to year. The largest change observed occurred when both geography and QoIA varied, with all else constant. This indicates that there is an interaction effect occurring between the QoIA and geography with regards to voting. In isolation neither variable yields gains or decreases in voting that are substantial, ranging between 0 and 1 percent.

5.6.2   Engagement Models

For the political engagement ordinal logit models (Table 5.7), there were interesting results that were contrary to the voting models. The QoIA variable is found to be significant and positive in each of the years in addition to geography. The other controls are significant in the directions that are expected. Interest in politics was positive as expected and significant in each year. The one variable that is intriguing is race, which was trending towards white individuals in the voting logit models, but is only significant in the 2014 and 2016 models, and trending in different directions. In 2014, race was trending towards non–white individuals, and towards 2016 for white individuals. This difference could be accounted for by the environment for the 2016 election being racially charged.

The first differences for the QoIA variable changes (Table 5.8) over the ordinal logit models indicate that there seems to be changes between urban and rural locations[10] as far as political engagement. Both urban and rural locations have shown similar patterns where there are shifts from little activity to higher levels of activity[11]. These shifts would indicate that the level of Internet access is increasing while holding all other controlling variables at their means. Higher levels of Internet access seem to have larger increases in rural areas, comparable to the urban locations. While these increases seem to be modest in differences between rural and urban areas, there are

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[10]See Table 5.9.
[11]See Table 5.10

still increases in rural areas. The starkest part of the findings is that there seems to be a shift from 0 to at least 1 engagement activity, which would indicate the possibility of the Internet having a role in getting individuals engaged in the political process.

There is additionally an expected diminishing returns effect that is occurring in the higher levels of participation. This would mean that between 3 and 4 the changes are larger than those between 4 and 5 activities. This would be reflective of the fact that political engagement at higher levels is likely something done in smaller numbers. So it is more likely that the QoIA of an individual is accounting for whether someone is participating, rather than are they further engaging the political process. The first differences at the higher levels are at most 1 percent beyond 4 engagement activities.

5.7   Discussion

These results show that Internet access alone seems to have little effects on voting behaviors. The decision to vote is one that has life-cycle effects. With that being said, this decision to commit to voting is one that is decided at a younger age and is one that tends to be stable throughout the rest of an individual's life (Zukin et al., 2006). That being said, the age variable being positive indicates that older individuals are more likely to vote, which is also consistent with these findings.

For political engagement, there is something to be said about the political environment in which one is in. As with most phenomena, the context in which the Internet exists is important, because there are more considerations that should be taken for political environment in which one is present. The intent in which the Internet is used is important, and environmental effects could be better considered. For example, if an individuals' peers are more interest and involved in politics, it would be expected that the individual may also follow suit (Beck et al., 2002; Nickerson, 2008). With respect to geography, there seems to be some moderating effect, that may provide some, but not all of the context needed to understand Internet access' role on political engagement.

For example, There could be factors of interpersonal relationships and networking effects that are not accounted for by this model, and that's outside the scope of this project. It is important to note that these effects are there and it has been found that close interpersonal relationships through the Internet can be formed and have effects on behavior, but physical Internet access is different than what is occurring on the Internet and in these digital forums. It is important to consider that in order to access these online networks, one must be connected to the Internet. While this is getting easier, there are still inequalities associated with digital inequalities (van Deursen & van Dijk, 2019). There seems to be variables that would both explain Internet access and political engagement, meaning a plausible endogeneity that could be present. I'd argue that this is likely, but the changing nature of access makes it difficult to parse this out.

There seems to be evidence here of QoIA having some influence on getting individuals involved in political actions, especially with respect to engagement (Table 5.8). The first differences of the political engagement suggest that there are changes from taking no action, and taking at least one action that are sizeable. With that being said, there seems to be a diminishing return as the amount of activities an individual does participate in. The effect is not as pronounced in the first differences for geography (Table 5.9) which may reflect that there is an improvement of Internet access that is occurring in rural areas (LaRose et al., 2011). The use of the Internet in general is something else to consider for later years, as most of the functionality has changed over time (Strover, 2014; van Dijk, 2006). Internet access is now more available than it was a decade ago, but that may not explain the entire effect, due to the fact that levels of Internet access may affect usage and abilities. For example, certain areas of the country may not have strong access to the Internet which would affect the levels of QoIA but also the potential ability to improve QoIA (Kvasny & Keil, 2006).

Finally, there are limitations to data for this study, as there are to all studies of this nature. There are more urban individuals than rural individuals in the CCES

dataset, however this is not alarming, since the sample for the CCES is done as a representative sample. This could also be a result of self–report data, which is an occupational hazard when evaluating questions in a dissertation such as this one. In contrast, using data from the FCC for form 477 can be problematic in other ways that can bias towards higher QoIA in general (Lelkes, Sood & Iyengar, 2015). Another explanation for QoIA is that there could also be an inherent selection issue that cannot necessarily be controlled away. Because the CCES does give Internet access to those who do not have it, might bias the results in a slight manner. It is also worth noting that the phone ownership question is skipped for nearly half of the respondents in 2016[12], and this is due to pooling of data with multiple firms including YouGov[13]. With phones the question wording may imply that the respondents have a "smart–phone" which could be a dangerous assumption due to the fact that older cell phones are still used as a "pay as you go" service as an alternative to a traditional contract for cell phone service.

5.8 Conclusion

In this chapter I have found that QoIA does have a modest effect on political engagement behaviors, broadly. As for voting behavior, QoIA does not have much of an effect. There seems to be more of a case that can be made for political engagement than there is for voting behavior with respect to increases as a result of higher Internet access quality that might be also associated with people who are also more likely to have Internet access.

The lack of significance in voting is not to say that voting is not necessarily affected by QoIA. Like ideology in chapter 4, it may still have positive effects, but they are negligible. For example, an individual who works for a campaign or runs for office is someone who would likely vote. For voting, it is a form of political participation, but

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[12]Even though this is the case there are nearly 30,000 respondents in this time point, still making the data fairly robust.
[13]Thank you to Brian Schnaffer's and Sam Luk's help for clarifying this.

not one that has the same economic buy-in as running for office, for example. There is no clear evidence of increases, but I still would suggest there could be some increase, it is perhaps not one that is noticeable, or it is confounded by other variables that explain the phenomenon more fully.

Overall there seems to be a shift in the levels of political engagement behaviors from not engaging to at least engaging in one or more activities. This would indicate that there could be something to be said about the individuals who are already participating are becoming more participatory. This could also mean that the information rich are becoming richer. It may be more important for those who are already participating to have Internet access to engage further in political processes. Additionally, those who are more active in politics may see their civic duty fulfilled and see diminishing returns due to the time and cost it would take to fully participate in more activities. Looking at individual political engagement activities may be helpful to understand what drives an individual to engage in a specific political engagement activity.

In Chapter 6, I seek to break down this political engagement further, by looking deeper into a specific form of political engagement: political donation. By understanding that political engagement is increasing with respect to the QoIA sets a bar to understand that there is an increase occurring among the American electorate. By evaluating a specific aspect of political engagement, it might be better understood whether this is limited to only certain types of political engagement, versus general engagement increases.

Table 5.5.
Logit Models for Voting

	2010	2012	2014	2016	2010–2016
QoIA	1.017	0.991	0.991	1.005	1.003
	(0.0116)	(0.0111)	(0.0108)	(0.0142)	(0.00577)
Interest in Politics	1.965***	1.326***	1.465***	1.397***	1.503***
	(0.0286)	(0.0170)	(0.0208)	(0.0283)	(0.0107)
Partisanship	1.201***	1.211***	1.139***	1.153***	1.162***
	(0.0131)	(0.0134)	(0.0122)	(0.0156)	(0.00652)
Ideology	1.111***	1.063***	1.187***	1.110***	1.134***
	(0.0196)	(0.0190)	(0.0201)	(0.0242)	(0.0102)
Age	1.032***	1.023***	1.040***	1.020***	1.030***
	(0.000817)	(0.000746)	(0.000757)	(0.000996)	(0.000395)
Income	1.060***	1.025***	1.026***	1.019***	1.031***
	(0.00431)	(0.00414)	(0.00402)	(0.00523)	(0.00214)
Education	1.099***	1.208***	1.229***	1.003	1.145***
	(0.00895)	(0.0102)	(0.00999)	(0.0104)	(0.00486)
Gender	0.745***	1.077***	0.960*	1.043	0.949***
	(0.0167)	(0.0241)	(0.0212)	(0.0304)	(0.0110)
Geography	1.054	1.019	1.015	1.019	1.024
	(0.0336)	(0.0332)	(0.0320)	(0.0408)	(0.0169)
Race	1.542***	1.445***	1.663***	1.406***	1.507***
	(0.0406)	(0.0365)	(0.0426)	(0.0501)	(0.0202)
N	43231	41206	42817	25068	152322
Pseudo R^2	.1666	.0793	.1457	.0470	.1087
LR χ^2 (df=10)	9854.72	4158.09	8623.65	1461.45	22232.14

Exponentiated coefficients; Standard errors in parentheses
$* p < 0.10$, $** p < 0.05$, $*** p < 0.01$

Table 5.6.
First Differences Voting

	2010	2012	2014	2016	2010–2016
Changes in QoIA	.0207	-.0097	-.0114	.0052	.0035
	(.014)	(.012)	(.013)	(.015)	(.006)
Changes in Geography	.0123*	.0042	.0033	.0038	.0055
	(.007)	(.006)	(.007)	(.008)	(.003)
Changes in Both	.0330*	-.0055	-.0081	.0090	.0090
	(.016)	(.014)	(.016)	(.017)	(.008)

All changes are relative to a change from non–voting to voting.
Standard Errors in Parentheses, *$p < .05$

Table 5.7.
Ologit Models Political Engagement

	2010	2012	2014	2016	2010–2016
QoIA	1.081***	1.092***	1.072***	1.059***	1.079***
	(0.0111)	(0.0114)	(0.0107)	(0.0131)	(0.00574)
Interest in Politics	2.188***	2.006***	1.751***	2.167***	1.935***
	(0.0308)	(0.0267)	(0.0245)	(0.0460)	(0.0140)
Partisanship	1.147***	1.148***	1.167***	1.121***	1.140***
	(0.0113)	(0.0117)	(0.0114)	(0.0133)	(0.00587)
Ideology	1.286***	1.202***	1.154***	1.238***	1.218***
	(0.0203)	(0.0197)	(0.0178)	(0.0233)	(0.00998)
Age	1.029***	1.024***	1.021***	1.017***	1.022***
	(0.000741)	(0.000696)	(0.000677)	(0.000897)	(0.000363)
Income	1.088***	1.081***	1.085***	1.058***	1.079***
	(0.00397)	(0.00396)	(0.00387)	(0.00468)	(0.00203)
Education	1.180***	1.179***	1.170***	1.195***	1.172***
	(0.00845)	(0.00874)	(0.00837)	(0.0105)	(0.00440)
Gender	0.898***	0.935***	0.857***	0.862***	0.886***
	(0.0180)	(0.0190)	(0.0171)	(0.0215)	(0.00928)
Geography	1.300***	1.095***	1.189***	1.109***	1.172***
	(0.0369)	(0.0318)	(0.0337)	(0.0374)	(0.0174)
Race	0.969	1.035	0.932***	1.083**	1.003
	(0.0241)	(0.0267)	(0.0228)	(0.0360)	(0.0132)
N	36554	34239	37659	23522	131974
Pseudo R^2	.1069	.0854	.0710	.0628	.0787
LR χ^2 (df=10)	11915.10	8844.09	7462.28	4507.19	30942.69

Exponentiated coefficients; Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5.8.

First Differences Engagement with Changes in QoIA

	2010	2012	2014	2016	2010–2016
0	-.0735*	-.0847*	-.0831*	-.0592*	-.0802*
	(.010)	(.011)	(.012)	(.013)	(.005)
1	-.0047*	-.0052*	.0243*	-.0019*	.0052*
	(.000)	(.001)	(.004)	(.000)	(.000)
2	.0385*	.0444*	.0318*	.0284*	.0372*
	(.005)	(.005)	(.004)	(.006)	(.002)
3	.0225*	.0270*	.0153*	.0185*	.0215*
	(.002)	(.003)	(.002)	(.003)	(.001)
4	.0104*	.0115*	.0064*	.0084*	.0096*
	(.001)	(.001)	(.000)	(.001)	(.000)
5	.0055*	.0060*	.0040*	.0046*	.0053*
	(.000)	(.000)	(.000)	(.000)	(.000)
6	.0011*	.0010*	.0010*	.0011*	.0011*
	(.000)	(.000)	(.000)	(.000)	(.000)

Standard Error in Parentheses, $*p < .05$

Table 5.9.

First Differences Engagement with Changes in Geography

	2010	2012	2014	2016	2010–2016
0	-.0440*	-.0170*	-.0366*	-.0215*	-.0313*
	(.004)	(.004)	(.006)	(.006)	(.002)
1	-.0135*	-.0042*	.0067*	-.0030*	-.0027*
	(.001)	(.001)	(.000)	(.001)	(.000)
2	.0260*	.0098*	.0155*	.0107*	.0159*
	(.002)	(.002)	(.002)	(.003)	(.001)
3	.0174*	.0066*	.0080*	.0076*	.0102*
	(.001)	(.002)	(.001)	(.002)	(.001)
4	.0085*	.0029*	.0034*	.0036*	.0047*
	(.000)	(.000)	(.000)	(.001)	(.000)
5	.0045*	.0015*	.0022*	.0019*	.0026*
	(.000)	(.000)	(.000)	(.000)	(.000)
6	.0009*	.0002*	.0005*	.0005*	.0005*
	(.000)	(.000)	(.000)	(.000)	(.000)

Standard Error in Parentheses, $*p < .05$

Table 5.10.

First Differences Engagement with Changes in Geography and QoIA

	2010	2012	2014	2016	2010–2016
0	-.1172*	-.1016*	-.1195*	-.0805*	-.1112*
	(.011)	(.012)	(.013)	(.014)	(.006)
1	-.0187*	-.0096*	.0305*	-.0052*	.0020
	(.002)	(.001)	(.004)	(.001)	(.001)
2	.0642*	.0541*	.0473*	.0391*	.0529*
	(.005)	(.006)	(.005)	(.007)	(.002)
3	.0401*	.0337*	.0235*	.0262*	.0319*
	(.003)	(.003)	(.002)	(.004)	(.001)
4	.0191*	.0145*	.0099*	.0121*	.0144*
	(.001)	(.001)	(.001)	(.002)	(.000)
5	.0102*	.0076*	.0063*	.0066*	.0080*
	(.000)	(.000)	(.006)	(.001)	(.000)
6	.0021*	.0012*	.0017*	.0017*	.0017*
	(.000)	(.000)	(.000)	(.000)	(.000)

Standard Error in Parentheses, $*p < .05$

6. QOIA AND CAMPAIGN DONATION

As evidenced by the past three chapters, the Internet can be described as a political engagement building machine (Boulianne, 2009). As such, it has been found through analyses over the past 20 years that access to the Internet can help citizens in engaging politics in easier ways than that preceding the media (Prior, 2007). The Internet has also been a boon for political giving in the digital age (Hindman, 2005). Between making the process more available to those with a basic connection (Raja, 2014), and the improved accessibility of access through Wi–Fi, the giving process has become more open. Having found in chapter 5 that there seems to be a sizable effect on political engagement, does an individual's quality of Internet access matter for their respective political financial contributions? I will ask three specific questions in this chapter about financial contributions and political donors with respect to campaigns and the quality of Internet access (QoIA). The first research question is: does QoIA have an effect on the action of financial giving to campaigns? The second question is: does QoIA have an effect on how much they are giving? Finally, is there a reciprocal effect of political campaigns using QoIA as a consideration for soliciting donations? These questions will further the overarching question of what effect does Internet access have on political engagement by looking at a specific form of political engagement and discerning some of the effects (Brownstein, 2018).

The plan for this chapter is to open with a brief review of the literature surrounding the history of political donations and giving and political campaigns soliciting donations through the Internet After an analysis evaluating political donations, donation amounts, and an evaluation of party contact, the chapter will conclude with more evidence to show that QoIA is important in the role of political engagement broadly, leading to the conclusion of this dissertation.

6.1 Literature Review

6.1.1 Political Giving in Campaigns and Elections

Political giving to political campaigns is not a new or novel concept to evaluate (Ansolabehere, de Figueriedo & Jr., 2003). There is a long history of giving, especially during election campaigns. Traditionally, citizens would give to political campaigns by going to party events or fundraisers. Presidential campaigns have been soliciting donations from individuals and businesses online since 2004, when it was initially pioneered by Vermont Governor Howard Dean (Hindman, 2005). In the 2004 campaign, Gov. Dean saw a meteoric rise to the top of the field in the area of campaign fund-raising, and received key early endorsements among the Democratic Party elites[1] (Hindman, 2005). Although he was able to raise money and have a strong performance early in the 2004 Democratic Primary, including an Iowa Caucus victory, the Dean campaign was not ultimately successful (Hindman, 2009). The campaign has later been cited as an example of how there are differences between how liberal and conservative individuals use the Internet in general (Bennett, 2012; Best & Kreuger, 2005; Hindman, 2005).

The 2008 Presidential election would further highlight differences in campaign fundraising and Internet use, with the Obama campaign embracing social media and the Howard Dean stratagem for online campaigning (Bimber, 2014; Hindman, 2005). Following this election cycle, more campaign contributions were given through online means, and still are solicited this way, whether it be email or voluntary donations through candidate websites. This is not to say that traditional forms of political giving do not exist, as far as fundraising events, but rather access to the Internet has brought a new ease to the process that is more open to those with access to the technology (Herrnson, Stokes-Brown & Hindman, 2007).

This approach used by the Obama presidential campaigns of 2008 and 2012 has since expanded to include the Republican Party as well (Karpf, 2013). Candidates

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[1]These endorsements include AFL-–CIO and former Vice President Al Gore

brag about how they are able to solicit many smaller donations from individuals using an online platform. For example, the Bernie Sanders campaign often bragged about 1 dollar donations from millions of individuals[2] through networks online, and those are also likely to come from social networks. Facebook can be seen as a facilitator of political donations in the 2008 election (Bond et al., 2012; Vitak et al., 2011). Candidates are likely cultivating more online donations now than in the past due to the improved accessibility to the Internet over time (Bonica, 2019; Schlozman, Verba & Brady, 2010). This shift is challenging traditional understandings of political giving as a consumption good (Bouton, Castanheira & Drazen, 2018).

6.1.2   Who is Giving?

Improvements in device availability and Internet accessibility has rendered internet use nearly ubiquitous (Strover, 2014; van Deursen & van Dijk, 2014). With more access to the Internet, political information is more available than it ever has been (Hindman, 2009; Hoffman & Schecter, 2016; Strover, 2014). This may be affecting the manner in which individuals are donating to campaigns due to ease and changes in the avenues in which campaign contributions can be made. Despite these improvements, there also may be a demographic online that does not necessarily reflect the public, and has inequalities therein (Best & Kreuger, 2005; Hindman, 2009).

Donations to political organizations, more recently, tend to be given online (Bonica, 2014; Schlozman, Verba & Brady, 2012). These donors online also seem to have predictable qualities to them that may be indicative of others who are online in general. The general consensus in the literature is that the average Internet user is socially liberal and economically conservative (Best & Kreuger, 2005; Hindman, 2009), but does not preclude that other groups also use the technology. As evidenced in Chapter 4, there are groups using this technology that are not uniform in their political identity.

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[2]Some of this may be a result of showing that the donations being taken were coming from individuals versus PACs in the case of Bernie Sanders in 2016 or the Obama Campaigns of 2008 or 2012.

Individuals with higher levels of access to the Internet, are more likely to higher levels of socioeconomic status (Farrell, 2012; Norris, 2001; van Dijk, 2006). This being said, the Internet is also an equalizing force, which may open the door for smaller donors to be able to give online (Norris, 2001; Culberson, McDonald & Robbins, 2019). The reasons for this are both accessibility for smaller donors, but also anonymity for higher–end donors, as laws around donation allow donors to give anonymously[3] (Raja, 2014). For small donors, there is disagreement among scholars on what is driving these decisions. There is evidence to show reasons independent from income to donate to campaigns, and that whether the race has an incumbent or not is independent of this decision of this as well (Culberson, McDonald & Robbins, 2019). On the other hand, scholars have also found that there is a consumer element to political donation (Bouton, Castanheira & Drazen, 2018). Political campaigns are banking on this approach to solicit donations in order to finance campaigns and they are also occasionally championing this approach to show broader support for agenda items, candidates, and ideas (Bartels, 2008; Schlozman, Verba & Brady, 2012).

There are potential trends in how wealthy Americans' attitudes may affect their giving behaviors. For example, there is evidence to show that wealthier individuals are even thinking about politics differently than the general public (Page, Bartels & Seawright, 2013). Wealthier individuals may also be giving money in a directed manner in which their interests and needs with respect to business or other pursuits (Gilens & Page, 2014). This giving is important to note, because wealthier individuals are more likely to have money to spend, and spending on campaigns is easier for these individuals. With respect to life-cycle considerations, There seems to be gaps in generations for giving. Older individuals may have more money at their disposal than younger individuals who may not be as established in their professional life (Jennings & Zeitner, 2003; Schlozman, Verba & Brady, 2012).

Although there is theoretical evidence that donors giving to campaigns are trying to affect change in policy (Bonica, 2014; Gilens, 2005), rules around donations have

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[3]This particularly applies to Political Action Committees referred to as Super PACs. The existence of these groups comes from the 2009 *Citizens United v. Clinton* decision.

changed over the past few years, and large donors who are seeking to affect political change have sought to donate not only to campaigns and candidates but also to Super PACs. Super PACS have become more common as a result of Supreme Court rulings such as *Citizens United v. Clinton*, and perhaps became further appealing to large donors seeking to shape policy when limits on aggregate donations were deemed unconstitutional under the ruling of *McCutcheon v. Federal Election Commission* (Krell, 2016). While the implications of these court decisions are informative, this analysis will be limited to individuals.

6.1.3 Motivations for Giving

Motivations for political giving are not understood entirely, and there are several schools of thought as to why individuals donate to political causes (Barber, 2016; Rhodes, Schaffner & Raja, 2018). Literature on political giving by individuals seems to exist in two places: literature about policy responsiveness (Gilens, 2005; Ritter & Solt, 2019), and literature about inequality in political and civic engagement (Ritter & Solt, 2019). Both literatures also have different opinions about why political donations are given to campaigns. One reason could be policy efficacy. This type of giving could be seen as a way to "grease the wheels" and see changes in policy areas (Bartels, 2008; Bonica, 2014; Page, Bartels & Seawright, 2013). Donations to political causes can be seen as a signal to politicians, and can also be seen as a commodity when it comes to buying political benefits[4] (Ansolabehere, de Figueriedo & Jr., 2003; Wlezien, 1995). Additionally, it should be noted that politicians are likely responding moreso to rent–seeking behaviors with respect to re-election. These behaviors could be in the form of political donations for upcoming campaigns for re–election (Bartels, 2008), or for future employment post–retirement from elected office (Parker, 2008). This in turn leads to specific policy responsiveness that may be influenced by this political

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[4]The "thermostat" model.

giving, while also assuring a political official can spend the appropriate amount of money in their electoral campaign.

Another school of thought is that individuals tend to donate money to candidates that reflect their own ideologies (Barber, Canes-Wrone & Thrower, 2016; Bonica, 2019). The motivations between individuals and PACs who are giving to campaigns do differ (Barber, 2016). Reasons for individuals to donate seem to be ideological (Barber, 2016). Over the past few years, large donors who are seeking to affect political change have sought to donate not directly to political candidates, but rather to Super PACs, which have become more common as a result of *Citizens United v. Clinton* (2009) and further when limits on aggregate donations were deemed unconstitutional under the ruling of *McCutcheon v. Federal Election Commission* (2014) (Krell, 2016).

One's view of themselves may help to shape how they participate, especially with respect to political donation; someone who donates to a campaign is likely not giving for no reason at all (Bouton, Castanheira & Drazen, 2018). To this end, there are several types of citizens and views of citizenship (Copeland & Feezell, 2018; Zukin et al., 2006). In the 2016 CCES survey, about 25 percent of respondents suggested that those with means to give to campaigns should donate as part of their civic duty[5]. There is a connection between political giving, political identity, and group membership as well (Margolis & Sances, 2016; Putnam, 2000). Besides age, the existence of local social and giving networks may be more advantageous to those with strong partisan affiliations (Gimpel, Lee & Kaminski, 2006). It is important to note that the individuals who are donating, and other activists in general, have different policy preferences than the general public overall (Bartels, 2008; Gilens & Page, 2014; Verba et al., 1993). For individuals who are active in politics, group affiliation may be influential for understanding political giving (Kittilson & Dalton, 2011; Putnam, 2000). Group affiliations may pose an environment where giving behavior is encouraged. Unions may be promoting civic activities, and promote the coordination of

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[5]See Table 6.2 for a breakdown of CCES 2016 donors

Table 6.1.

Civic Giving and Political Donors Attitudes (2016 Respondents only)

Civic Giving	Respondents (PCT)
Strongly Disagree	1563
	(28.42)
Somewhat Disagree	881
	(16.02)
Neither Agree Nor Disagree	1699
	(30.90)
Somewhat Agree	971
	(17.66)
Strongly Agree	385
	(7.00)
Total	5499
	(100)

Column Percentages in Parentheses

political capital above social capital (Kerrissey & Schofer, 2013). Additionally, group memberships tend to foster social capital (Putnam, 2000), which in turn could create opportunities to donate to political causes, or establish donation networks (Bonica, 2014).

Some political giving could result from the peers of the donors in their respective social networks (Sinclair, 2013). Donations may also be motivated in blocs and for policy-specific purposes to try to grab attention and responsiveness (Lambie-Hanson, 2013). There has long been literature about the mobilizing effects of neighborhoods and their contexts (Huckfeldt et al., 1995). These neighborhoods with stronger collective action may be more likely to influence political officials, because of their ability to organize. Similarly, online behavior can be influential for elections (Bond et al., 2012). If this is the case, access to the Internet could be a large manner in which political giving can be manifested. Campaigns are collecting data to better understand political giving (Nickerson & Rogers, 2014).

Giving can be affected by the industry in which one works (Bonica, 2014). The CCES data sought to ask respondents queestions about their motivations for political

giving in the 2016 iteration of the survey. In the 2016 CCES survey, over 26 percent of respondents agreed with this statement[6]. The industry one works in may have professional organizations or unions that influence the manner in which its members may feel about politics and lead to subsequent political giving (Kim & Margalit, 2017).

Table 6.2.
Campaign Contributions are an Effective Way to Help my Industry?

Donations Effective for Business?	Respondents (PCT)
Strongly Disagree	831
	(15.13)
Somewhat Disagree	789
	(14.37)
Neither Agree Nor Disagree	2395
	(43.63)
Somewhat Agree	1042
	(18.98)
Strongly Agree	432
	(7.87)
Total	5489

Column Percentages in Parentheses

6.1.4 Campaigns Soliciting Donations Online

Political engagement and participation is being heavily influenced by the Internet and social media, which is an interactive environment (Bennett, 2012; Farrell, 2012). There is disagreement on social media's role for political engagement, however, this will not be considered in this analysis, because this analysis is more rooted in individuals that have access to the Internet in the first place, which is a pre–requisite to Internet use. While it is easier to access social media with the explosion of mobile devices and usage, it is still important to understand the consequences of the Internet's reach at this point (Farrell, 2012).

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[6]See Table 6.2. The question wording can be found in Appendix A.

It has been long understood that candidates seek campaign contributions as part of their campaigns as running for office is often seen as a costly venture (Herrnson, Stokes-Brown & Hindman, 2007). As mentioned above, there could be a quid pro quo behavior that goes along with these donations, and such one way to lessen this behavior could be through smaller online donations (Bouton, Castanheira & Drazen, 2018). In the 2016 and 2020 Presidential Primary elections, candidates sought out smaller donations, and some candidates were much more successful at this behavior. Democratic candidates such as Sen. Bernie Sanders, Sen. Elizabeth Warren, Mayor Pete Buttigieg, and Andrew Yang were all successful at this type of fundraising. Candidates are likely cultivating more online donations now than in the past due to the improved accessibility to the Internet over time and paradigm shifting that occurred through the past few election cycles (Levine, 2019).

One interesting side effect of regulations of political donations is that increases in turnout can be seen (Kolev & Jiwani, 2018). Additionally, private donors can hide their donations if they donate in smaller quantities (Raja, 2014). Larger donations require disclosure, which can present individuals with choices about privacy (Raja, 2014). There is the possibility that a large donation to a candidate could lead to potential harm to an individual due to the Internet's ability to make donation information more available (Raja, 2014).

Inequality in American Politics

Increasing inequality in American society is being reflected in American politics (Bartels, 2008; Gilens, 2005). There are trends that show that wealthier Americans are the ones who donate 200 dollars or more to campaigns (Barber, Canes-Wrone & Thrower, 2016; Gilens, 2005). Additionally, there seems to be trends about what the public wants and the government response to these requests tends to favor policies that encourage the status-quo (Gilens, 2005). Those who are donating more money to campaigns are likely engaging in rent-seeking behaviors and seeking access in addition

to policy change (Bartels, 2008; Bonica, 2014; Snyder, 1992). This could be problematic, because wealthier donors are more conservative than the American public as a whole, which can lead to mismatched representation (Page, Bartels & Seawright, 2013).

There are several schools of thought as to what political donation actually means. There is a comparative disagreement with whether organized interests matter more in political giving. One school of thought suggests that the organized interests tend to have a larger impact on politics than those of individual donors (Gilens & Page, 2014). This would theoretically imply that organized interests are more influential in policy-making, and could have larger levels of access to elected officials (Bartels, 2008). Donations during an election are spatially based, which means there could be regional giving differences (Cho & Gimpel, 2007). These spatial differences can range from both urban and rural settings, as well as regions of the country (Cho, Gimpel & Hui, 2013). The donors to the Democratic and Republican parties are less geographically diverse than the bases they represent (Gimpel, Lee & Kaminski, 2006).

This inequality could also be a structural one that affects not just giving, but society at large. There could also be an effect that has to do with the ideological and partisan leanings of elected officials who are in seats in a given district (Snyder, 1992). However, gerrymandering and other structural incentives may give politicians a way to ensure less accountability as a result of these structures (Bonica et al., 2013). This results in elected officials only hearing the voices they choose, which can often be as a result of political giving. One way in which inequality has been measured in the literature by scholars is by resources (Verba et al., 1993). These resources are socioeconomically based, and not only refer to income, gender, race, etc., but also interconnections in an individuals' respective community (Brady, Verba & Schlozman, 1995). One problem scholars often mention is that the online context is a place where inequalities are often exacerbated with respect to socioeconomic status (Oser, Hooghe & Marien, 2013; Norris, 2001). These inequalities do have an effect on

political behavior, but that effect may not be as pronounced as expected (Ritter & Solt, 2019).

6.2   Hypotheses

Following this literature review, I hypothesize that there are some effects based on Internet access and political giving that are occurring in addition to other social and political factors that are occurring concurrently. I will seek to answer two over–arching questions in this chapter: does QoIA affect political giving in general? Does this matter for political giving, and are campaigns targeting donors with this in mind? Also, does QoIA affect the amount of political donation that is given to political campaigns and groups? For these hypotheses it would also be important to note that socioeconomic status will be accounted for similarly to Chapters 4 and 5. My first hypothesis deals with party contact of voters:

H1: *As the level of Internet access increases, the likelihood of political campaign outreach will also increase.*

This first hypothesis addresses get out the vote efforts by campaigns, to mobilize voters. It is also used to solicit donations. With the Internet, this activity can be done electronically. It would be expected that with the increased importance of seeking out small dollar donations that campaigns would be looking for new donors of small amounts of money. The efforts of campaigns to seek these new donors indicates a democratization of the donation process. This behavior could cynically be viewed as an attempt by candidates to avert criticisms of only taking donations from larger donors.

The next hypothesis deals with the act of political giving itself with respect to Internet access:

H2: *As the quality of Internet access increases, the likelihood of political donation activity also increases.*

This hypothesis reflects the nature of political giving and the trends that are associated with political engagement. As found in chapter 5, there is a modest effect of

QoIA on political engagement. I would expect that higher-quality Internet access is positively associated with the factors that are leading to increased political engagement activities, which was found to have an effect with political engagement. Due to the socioeconomic advantages of having Internet access, I would expect that individuals who have higher levels of QoIA to also be more likely to contribute to campaigns financially. This is controlled for in the analyses in this chapter via age, income and education. The last hypotheses is:

H3: *As the level of Internet access increases, the dollar amount of political donation activity also increases.*

This last hypothesis seeks to answer the question about amounts of political donation and whether respondents gave to political causes by evaluating how much money was given to political causes. I would expect that, similarly to the first set of hypotheses, the factors that are responsible in increasing quality of Internet access are likely apparent for political donation amounts, given that avenues to donate have become more accessible with Internet access. My expectation is that political giving increases, and potentially dollar amounts that are being given to political causes also increase with higher quality Internet.

6.3   Data

The data in this chapter comes from the Cooperative Congressional Election Study (CCES) with data in all the election years between 2010–2016 inclusive. The questions about donation behavior are mostly about who donors gave to specifically, however in 2016, there were several questions that are asked about attitudes surrounding their political giving (Ansolabehere & Schaffner, 2017). Also, just like in previous chapters, there is data that comes from the U.S. Census about urban and rural classifications of population, that is attached to each individual from their FIPS coding. These classifications are determined by the percent of the zip–code is considered to be rural. If the zip–code is considered to be over 50 percent rural, the respondent is considered to be in a rural area.

6.4 Methods

The methods for this analysis had several steps. The first analysis evaluates whether individuals who have Internet access are more likely to be contacted by campaigns. The models are run as a logistical regression with campaign contact as the dependent variable. The model includes political giving as an independent variable, which is done because of the known effect of campaign contact on the likelihood of political giving, or support, to a campaign (Barber, 2016; Bonica, 2014; Miller & Shanks, 1996). In these simulations the analysis was separated between urban and rural individuals and allowed the QoIA index vary while keeping all other variables at their means. The first differences for each of the models were recorded. Similar to the analyses conducted in previous chapters, the regression models were run for each year separately and then as a singular model over the cumulative time period. The weighting in these models were used in accordance to the CCES documentation (Ansolabehere & Schaffner, 2017; Kuriwaki, 2018).

The second analysis tests whether individuals donated to campaigns or not was completed using a logistical model of analysis and CLARIFY to run a simulation (King, Tomz & Wittenberg, 2000). Similarly to the other logit models, the independent variables remain the same, and are also run using CLARIFY to get simulated first differences using QoIA, geography, and political interest to vary while all other variables being held at their means. Weighting is also used in accordance to the CCES guide in each model (Ansolabehere & Schaffner, 2017; Kuriwaki, 2018). Like all other analyses in chapters 4 and 5, the models are separated by year.

The third set of hypotheses that are geared towards the amount of political giving, are tested using an OLS regression. The dependent variable is a logged amount of money given to political causes. The regressions use the appropriate weighting for the regression models using single years for each individual year and cumulative years for the respective regressions (Ansolabehere & Schaffner, 2017; Kuriwaki, 2018). In the 2016 model, there were specific questions to donation behavior that were additionally

added to the analysis separately to see if there is consideration for donor attitudes, as the data was available for this analysis. These attitudes are hypothesized to be important for political giving, but the question was only asked to donors, so this will be used to understand if there is an effect on donor amounts.

6.5 Variables

6.5.1 Dependent Variables

The dependent variables for this chapter are related to campaign contributions and behaviors surrounding political giving. This will be operationalized in three different variables to fit the hypotheses: campaign contact, political donation behavior, political donation amount. The first dependent variable tested is about party contact of individuals and potential donors. In the past few election cycles, there has been an overarching notion that campaigns are using technologies such as text messages and emails to solicit funds from donors. This is not a new practice (Bouton, Castanheira & Drazen, 2018; Herrnson, Stokes-Brown & Hindman, 2007), but has become more noticeable with the Presidential campaigns of Sen. Bernie Sanders in 2016 and 2020. To operationalize campaign contacts of donors, I have used the dichotomous variable of whether donors were contacted by political campaigns. To make this contextual to QoIA, I will use the survey question that specifically asks if an individual was contacted by a campaign, which was asked in every time point in the analysis. Over the 2010–2016 time period, nearly 52 percent of individuals were contacted by a campaign by email or text message. Comparatively, 76.40 percent of donors were contacted by email by the campaigns (Table 6.3).

The second dependent variable is the action of political donation, a dichotomous variable is coded specifically to whether a respondent gave to a campaign in any type of financial contribution (Table 6.4). Political giving included traditional political campaigns in addition to giving to political groups or other organizations. If an individual donated to at least one of these political entities, the respondent was con-

Table 6.3.

Was Respondent Contacted by Campaign via Email or Text Message?

Overall	2010	2012	2014	2016	2010–2016
No (0)	15596	13828	15285	13143	57852
	45.53	43.61	58.90	46.00	48.02
Yes (1)	18656	17880	10667	15428	62631
	54.47	56.39	41.10	54.00	51.98
Total	34252	31708	25952	28571	120483
Donors	2010	2012	2014	2016	2010–2016
No (0)	3419	2446	2493	2189	10547
	24.94	18.95	32.35	21.09	23.60
Yes (1)	10289	10462	5214	8188	34153
	75.06	81.05	67.65	78.91	76.40
Total	13708	12908	7707	10377	44700

Column Percentages in Parentheses

sidered to be a political donor by the coding in this analysis. Overall, approximately 26 percent of respondents donated to political causes, with similar numbers in urban (27 percent) and rural areas (23 percent)[7].

Table 6.4.

Donation Behavior by Year

	2010	2012	2014	2016	Total
No (0)	31659	30829	39590	40509	142587
	67.82	68.48	81.04	76.58	73.71
Yes (1)	15025	14189	9263	12390	50867
	32.18	31.52	18.96	23.42	26.29
Total	46684	45018	48853	52899	193454

Column Percentages in Parentheses

The last dependent variable is political donation amounts, which is operationalized by the amount of money donated during the respective year's campaigns. This is a continuous, self–reported variable that measures how much money individuals donated to campaigns in the given campaign years[8]. The distribution of the data is

[7]The wording for political donation is in Appendix A.
[8]See Table 6.5 for quintile summaries for campaign donations from 2010–2016.

logarithmic, which can be seen in the tables. The distribution of the amount given to campaigns is skewed left, with 50 percent of the donations being over 100 dollars. In the years analyzed, 75 percent of donations are less than 300 dollars which means that the distributions are skewed by larger donors. In order to use this in a regression model, I have used a logarithmic transformation of the donation amounts. This will be used to understand the level of donation and whether Internet access and geography has an effect on the level of donation.

Table 6.5.
Number of Donors per Quintile 2010-2016

	2010	2012	2014	2016	2010-2016
Quintile 1	2335	2586	1715	2928	9564
	(16.87)	(19.64)	(19.74)	(24.61)	(20.09)
Quintile 2	5003	4407	3249	4213	16872
	(36.15)	(33.47)	(37.39)	(35.41)	(35.45)
Quintile 3	781	780	430	668	2659
	(5.64)	(5.92)	(4.95)	(5.61)	(5.59)
Quintile 4	2744	2574	1650	2014	8982
	(19.83)	(19.55)	(18.99)	(16.93)	(18.87)
Quintile 5	2977	2821	1645	2074	9517
	(21.51)	(21.42)	(18.93)	(17.43)	(20.00)
Total	13840	13168	8689	11897	47594

Percentages in Parentheses

6.5.2   Independent Variables

Internet Access

An individual's level of Internet access may matter due to the nature of the medium itself being able to draw donors who may have not otherwise given to political campaigns. Political campaigns are banking on this approach to solicit donations in order to finance campaigns and they are also occasionally championing this approach to show broader support for agenda items, candidates, and ideas. In more recent

elections media and campaigns have paid much heavier attention to online news and social media for information and analysis of campaigns.

In this analysis, I use the same Quality of Internet Access (QoIA). QoIA is a measurement from 0 to 5 based on home and mobile Internet technologies[9]. The higher end of QoIA seems to be have higher proportions for political donors, with 56.45 percent of donors between 2010-2016 having the highest value for QoIA, and only 45.37 percent for non-donors. This would be consistent with donors having more political resources and higher levels of socioeconomic status and that would be consistent with donors to political campaigns being wealthier.

Table 6.6.
QoIA of Political Donors

	2010	2012	2014	2016	Total
0	10	6	6	6	28
	0.07	0.04	0.07	0.07	0.06
1	60	52	52	59	223
	0.42	0.39	0.59	0.66	0.49
2	481	381	204	200	1266
	3.36	2.84	2.30	2.24	2.78
3	4633	4580	3020	3257	15490
	32.41	34.15	34.03	36.52	34.04
4	415	310	162	145	1032
	2.90	2.31	1.83	1.63	2.27
5	8696	8081	5431	5252	27460
	60.83	60.26	61.19	58.89	60.35
Total	14295	13410	8875	8919	45499

Percentages in Parentheses

Political Interest

Political interest is often associated with participation and engagement in American politics. It must be considered when it comes to Internet access and political engagement. There is disagreement over whether late adoption of technologies is making a

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[9]QoIA of political donors is broken down in Table 6.6

difference (Sourbati, 2009). Another aspect of political interest is that political giving could be occurring as a result of perceptions of policy change, and perceptions of success in business (Gilens & Page, 2014). These individuals could also be donating to campaigns to try to change policy, and not out of interest in politics specifically. In this model, the coding for political interest follows the same coding as Chapter 2. Political interest in this analysis is measured on a 4-point scale with increasing levels of interest. A 1 represents least interest in politics, while a 4 represents a high interest in politics. As a whole, political donors seem to have high levels of interest (Table 6.7). Overall, 86.14 percent of respondents have interest in politics between 2010-2016, with the proportion of respondents indicating their interest in politics being most of the time. Among non-donors (Table 6.8) there seems to be more mixed interest in politics that is less than those who have donated. There is a .33 correlation between political interest and donation behavior, indicating a weak-to-moderate association[10].

Table 6.7.
Political Donor Interest in Politics by Year

	2010	2012	2014	2016	2010–2016
Hardly (1)	35	52	71	62	220
	0.23	0.37	0.77	0.50	0.43
Only Now	158	233	267	319	977
and Then (2)	1.05	1.65	2.89	2.58	1.93
Some (3)	1088	1616	1248	1880	5832
	7.26	11.42	13.52	15.22	11.50
Most (4)	13711	12244	7644	10090	43689
	91.46	86.56	82.82	81.69	86.14
Total	14992	14145	9230	12351	50718

Column Percentages in Parentheses.

Income

When it comes to Income and political giving, upbringing and the economic conditions of their upbringing may affect that individual's attitudes and actions on political

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[10]Significant at the 0.01 level

Table 6.8.
Political Non–Donor Interest in Politics by Year

	2010	2012	2014	2016	Total
Hardly (1)	1671	2310	3590	3205	10776
	5.41	7.68	9.39	8.11	7.77
Only Now (2)	3759	4745	6829	6529	21862
and Then	12.17	15.77	17.86	16.53	15.76
Some (3)	7766	9158	11945	12831	41700
	25.13	30.44	31.24	32.48	30.06
Most (4)	17704	13876	15869	16935	64384
	57.29	46.12	41.51	42.87	46.41
Total	30900	30089	38233	39500	138722

Column Percentages in Parentheses.

giving (Dutta-Bergman, 2005; Ojeda, 2018). It has also been theorized that small income donations may not have as much of an impact as those with groups representing businesses (Gilens & Page, 2014). In order to donate money to a political cause it would be important to have money in the first place, so it would be expected that individuals with higher incomes are likely donating to campaigns (Gilens, 2005). While this may seem obvious, there are trends in newer political campaigns to solicit small donations, which may bring income into question in particular (Culberson, McDonald & Robbins, 2019). Smaller donors have been included in party thresholds for political debates, as seen in the 2020 Democratic Party Presidential primaries.

To account for income, the measurement of this variable follows the same coding as seen in chapter 4. Donors tend to have a skew towards higher incomes[11]. Incomes for the quintiles also seem to be positively correlated[12]. The income of political donors is skewed left, with a concentration of just over 30 percent making $100,000 or more per year, while about 15 percent of non-donors make $100,000 or more. This would indicate that donors are wealthier, which would be expected. Among political donors, rural individuals are more likely to be wealthier than their urban peers who

[11]See Table 6.9
[12]$\rho = .3324$, significant at $\alpha = .05$ level.

are donating to political campaigns[13]. The same difference has been observed between non-donating urban and rural individuals[14].

Table 6.9.
Income of Political Donors

	2010	2012	2014	2016	2010–2016
Less Than 10k (1)	115	146	120	182	563
	0.89	1.21	1.48	1.67	1.28
10–20k (2)	397	512	290	476	1675
	3.08	4.23	3.57	4.36	3.80
20-30k (3)	793	800	495	788	2876
	6.16	6.60	6.09	7.22	6.53
30–40k (4)	877	1015	665	914	3471
	6.81	8.38	8.18	8.37	7.88
40–50k (5)	1128	1171	651	941	3891
	8.76	9.66	8.01	8.62	8.83
50–60k (6)	1218	1251	792	1039	4300
	9.46	10.33	9.74	9.52	9.76
60–70k (7)	1075	952	651	897	3575
	8.35	7.86	8.01	8.22	8.12
70–80k (8)	1296	1142	747	1020	4205
	10.06	9.43	9.19	9.34	9.55
80–100k (9)	1704	1452	988	1274	5418
	13.23	11.98	12.15	11.67	12.30
100–120k (10)	1466	1184	804	1092	4546
	11.38	9.77	9.89	10.00	10.32
120–150k (11)	1190	1060	790	1042	4082
	9.24	8.75	9.72	9.54	9.27
More than 150k (12)	1618	1431	1138	1252	5439
	12.57	11.81	14.00	11.47	12.35
Total	12877	12116	8131	10917	44041

Column Percentages in Parentheses.

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[13]$t = 39.7522$, significant at the $\alpha = 0.01$ level.
[14]$t = -100$, significant at the $\alpha = 0.01$ level.

Geography

Donations are geographically coming from suburban areas less so than their rural peers[15] (Cho & Gimpel, 2007). The parties also seem to have differing stratagem for soliciting donations as there is evidence that Democrats rely heavier on denser social networks and geographical areas for donations (Lin, Kennedy & Lazer, 2017). This would make sense as the Democratic Party's base is more located in urban areas, and Republicans are searching out donors in both urban and rural areas, where they have been traditionally been stronger electorally (Kaufman, 2019). There could also be wealth gaps in urban and rural areas (Mossberger, Tolbert & Franko, 2013). These gaps would perhaps also indicate that because of the distribution of wealth that there could be less capability in donation (Bonica, 2014; Strover, 2019). Politics also look different in rural areas, than in urban ones (Kaufman, 2019).

In this chapter, the variable for geographical residence is the same as chapter 4 and 5. It is a dichotomous variable that is coded as a 0 for urban individuals (Table 6.10) and 1 for rural individuals (Table 6.11). In the CCES dataset, the urban and rural donors seem to be proportionally similar with about three quarters of both urban and rural individuals donating to campaigns. There is an association[16] between political donation and geographical residence, but that relationship is not very strong, and trends towards urban individuals

Table 6.10.
Donation Behavior in Urban Areas by Year

	2010	2012	2014	2016	2010–2016
No (0)	27069	26043	34123	34703	121938
	67.48	67.72	80.75	75.99	73.24
Yes (1)	13047	12416	8133	10962	44558
	32.52	32.28	19.25	24.01	26.76
Total	40116	38459	42256	45665	166496

Column Percentages in Parentheses

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[15]This was found using a kriging method.
[16]$\chi^2 =$. Significant at $\alpha = 0.01$ level.

Table 6.11.
Donation Behavior in Rural Areas by Year

	2010	2012	2014	2016	2010–2016
No (0)	4357	4735	5371	5697	20160
	69.89	72.96	82.92	80.27	76.66
Yes (1)	1877	1755	1106	1400	6138
	30.11	27.04	17.08	19.73	23.34
Total	6234	6490	6477	7097	26298

Column Percentages in Parentheses

Education

As stated earlier, education is important in determining whether someone would have Internet access (van Dijk, 2006). Education is also a strong indicator of income and would also ideally predict political giving behavior (Campbell et al., 1980; Page & Shapiro, 1992). Education would potentially dictate who and how individuals will donate to campaigns. More importantly for the argument of Internet access, education will likely indicate a prioritization of preference for Internet access (Hindman, 2009).

In the models evaluated in this chapter, education is measured as an ordinal variable ranging from 1–6, where a 1 represents less than a high school education and a 6 represents post-graduation education. In this dataset, the overwhelming majority of donors have above a high school education (Table 6.12). Additionally, it is noticeable that the donors have higher education levels than those of the non–donors (Table 6.13). This would be expected as there is strongly theoretical reasoning for wealthier individuals to be higher educated on average (Schlozman, Verba & Brady, 2012). In this dataset, 88 percent of respondents who reported donating to a campaign had at least attended some college, or completed at least one degree in higher education. In the dataset, political donors are found to have higher levels of educational attainment than their non-giving peers[17]. Geographically, it was found that urban donors

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[17]$t = -100$, significant at the $\alpha = 0.01$ level.

Table 6.12.
Education Breakdown of Donors

	2010	2012	2014	2016	Total
No HS	110	99	66	115	390
	0.73	0.70	0.71	0.93	0.77
High School Graduate	1558	1563	1018	1507	5646
	10.37	11.02	10.99	12.16	11.10
Some College	3869	3505	1983	3042	12399
	25.75	24.70	21.41	24.55	24.38
2-Year	1247	1363	816	1330	4756
	8.30	9.61	8.81	10.73	9.35
4-Year	5190	4238	3136	3593	16157
	34.54	29.87	33.86	29.00	31.76
Post-Grad	3051	3421	2244	2803	11519
	20.31	24.11	24.23	22.62	22.65
Total	15025	14189	9263	12390	50867
	100.00	100.00	100.00	100.00	100.00

Column Percentages in Parentheses

Table 6.13.
Education Breakdown of Non-Donors

	2010	2012	2014	2016	Total
No HS	676	989	1072	1001	3738
	2.14	3.21	2.71	2.47	2.62
High School Graduate	7078	9643	12533	11209	40463
	22.36	31.28	31.66	27.67	28.38
Some College	9324	8122	8927	9818	36191
	29.45	26.35	22.55	24.24	25.38
2-Year	2908	3045	3866	4720	14539
	9.19	9.88	9.77	11.65	10.20
4-Year	8548	6047	9178	8960	32733
	27.00	19.61	23.18	22.12	22.96
Post-Grad	3125	2983	4014	4801	14923
	9.87	9.68	10.14	11.85	10.47
Total	31659	30829	39590	40509	142587
	100.00	100.00	100.00	100.00	100.00

Column Percentages in Parentheses

have higher levels of educational attainment than rural donors[18]. Among non-donors, the same geographical trend was found, that urban individuals have higher levels of educational attainment[19].

Age

The literature would indicate that donors' behavior may be affected by age (Roberts & Maxfield, 2019). The trends in political engagement have found that older individuals are more likely to be engaged in politics (Miller & Shanks, 1996; Schlozman, Verba & Brady, 2012). Due to this trend, it would be expected that older individuals would also be more likely to donate money to campaigns. Schlozman, Verba, and Brady (2012) showed in their analysis that there were less donors online. They also showed that the age of respondents increased online [20].

In this analysis, age is measured as a continuous variable[21]. The average age of an individual who donated overall is near 60 years of age, while the overall average age of respondents is 50.2234 years[22] which may indicate that the individuals donating to campaigns are older in the CCES dataset. Age is measured in years, where the youngest donor is 18 and the oldest donor is 105. The age of donors of rural donors tended to be roughly normally distributed. Overall, the urban donors are younger than those in rural areas, on average[23]. In comparison to the non-donors, the non-donors are younger on average than their donating peers[24]. In general, regardless of geographical residence, donors are older than those of their non-donating peers[25].

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[18]$t = 49.4039$, significant at the $\alpha = 0.01$ level.

[19]$t = 41.4900$, significant at the $\alpha = 0.01$ level.

[20]See Figure 16.7 in Schlozman, Verba & Brady 2012

[21]Table 6.14 shows a categorical breakdown of the age of donors. The variable is analyzed as continuous in the analysis.

[22]Median is 53 years of age. These statistics are looking at only individuals in the years analyzed specifically: 2010, 2012, 2014, 2016

[23]$t = -12.0545$ ($df = 50694$). Significant at the $\alpha = 0.01$ level

[24]$t = -19.6888$ ($df = 142096$). Significant at the $\alpha = 0.01$ level.

[25]$t = -99.1798$ ($df = 193452$). Statistically significant at the $\alpha = 0.01$ level.

Table 6.14.
Age of Donors by Year

	2010	2012	2014	2016	Total
Under 20	22	43	48	85	198
	(0.15)	(0.30)	(0.52)	(0.69)	(0.39)
20-30	399	553	592	1003	2547
	(2.66)	(3.90)	(6.39)	(8.10)	(5.01)
30-40	731	540	618	1485	3374
	(4.87)	(3.81)	(6.67)	(11.99)	(6.63)
40-50	1858	1371	853	1433	5515
	(12.37)	(9.66)	(9.21)	(11.57)	(10.84)
50-60	4124	3762	2178	2756	12820
	(27.45)	(26.51)	(23.51)	(22.24)	(25.20)
60-70	5253	5021	3060	3208	16542
	(34.96)	(35.39)	(33.03)	(25.89)	(32.52)
70-80	2213	2439	1580	1842	8074
	(14.73)	(17.19)	(17.06)	(14.87)	(15.87)
80-90	418	444	327	552	1741
	(2.78)	(3.13)	(3.53)	(4.46)	(3.42)
Over 90	7	16	7	26	56
	(0.05)	(0.11)	(0.08)	(0.21)	(0.11)
Total	15025	14189	9263	12390	50867

Column Percentages in Parentheses

Gender

Democratic women tend to have an edge in money received from donors, an advantage that may be a function of the partisan nature of gender and politics (Crespin & Dietz, 2010). Overall, there is evidence that there is not much of a gender gap in political engagement in general (Carreras, 2018). With respect to political donations, there may be a preference towards more urban women due to the advantages that may exist in urban settings (Lay, 2017). Despite there not being a gender gap in political engagement, there is an observable gap in political donation and donors (Barber, Butler & Preece, 2016; Heerwig & Gordon, 2018). Measurement of the gender variable remains the same as Chapter 4, with male respondents coded as 0, and female coded as 1. Donors in this model (Table 6.15) tended to be more male, 9, which may be

more reflective of larger societal trends including wage gaps (Carreras, 2018; Heerwig & Gordon, 2018). In the years analyzed, political donors tend to be male with about 57 percent of respondents being male overall. There is a majority of men at each quintile for political donations (Table 6.16), except for the first quintile, of political giving.

Table 6.15.
Political Donor Gender by Year

	2010	2012	2014	2016	2010–2016
Male (0)	8969	7870	5718	6646	29203
	(59.69)	(55.47)	(61.73)	(53.64)	(57.41)
Female (1)	6056	6319	3545	5744	21664
	(40.31)	(44.53)	(38.27)	(46.36)	(42.59)
Total	15025	14189	9263	12390	50867

Column Percentages in Parentheses

Table 6.16.
Donation Quintile by Gender

	Male	Female	Total
1st Quintile	4491	5073	9564
	(46.96)	(53.04)	
2nd Quintile	9449	7423	16872
	(56.00)	(44.00)	
3rd Quintile	1508	1151	2659
	(56.71)	(43.29)	
4th Quintile	5475	3507	8982
	(60.96)	(39.04)	
5th Quintile	6393	3124	9517
	(67.17)	(32.83)	
Total	27316	20278	47594
	(57.39)	(42.61)	

Row Percentages in Parentheses

Race

It has been found that there is no difference in political engagement between those of different races, with respect to political resources (Verba et al., 1993). Race can also be used by candidates to stoke fear and donations to campaigns. In particular, white supremacy can be used to encourage donation as a fear mechanism (Krell, 2016). Race can also be a motivator from a descriptive representative standpoint, and it has been statistically significant variable so far in this dissertation. Race is a socioeconomic factor that may be a factor in political donations. This may be most prevalent in the 2016 election, however, it would be a trend that would be expected to hold in other election years as well. In this dataset race of the respondent is taken in account by a dichotomous variable. Respondents that self-identify as white are coded as a 1, and those who do not are coded as a 0. Donors in this dataset were nearly 82 percent white, and non-donors were nearly 75 percent white overall (Table 6.17).

Table 6.17.
Race of Donors and Non–Donors 2010-2016

Donors	2010	2012	2014	2016	2010–2016
Not White	2613	2405	1786	2427	9231
	17.39	16.95	19.28	19.59	18.15
White	12412	11784	7477	9963	41636
	82.61	83.05	80.72	80.41	81.85
Total	15025	14189	9263	12390	50867
Non–Donors	2010	2012	2014	2016	2010–2016
Not White (0)	8378	6433	9751	10373	34935
	26.46	20.87	24.63	25.61	24.50
White (1)	23281	24396	29839	30136	107652
	73.54	79.13	75.37	74.39	75.50
Total	31659	30829	39590	40509	142587

Percentages in Parentheses

Ideology and Party Identification

Consumption behaviors are also being dictated by partisan and ideological constraints (Margolis & Sances, 2016). This would therefore dictate that it would make sense to use an ideological measure in this model. The literature shows evidence that stronger partisans are more likely to be engaged in politics (Green, Palmquist & Schickler, 2002; Schlozman, Verba & Brady, 2012), and as a result, may be more likely to be donors (Page, Bartels & Seawright, 2013). These individuals may also be more likely to donate more as a result of partisan identity, and possibly as a part of a group identity (Putnam, 2000). There could also be online peer pressure that forms as a result of higher QoIA and interaction between other engaged individuals.

In this analysis, I am using the same measurement of ideology as in chapter 4 and 5. I'm looking mostly at ideological strength as self–reported by respondents. The distribution of ideology would indicate that donors are ideologically focused (Table 6.18), but may not be the most extreme. In this data it is found that ideologically donors are averaging 1.08 indicating some form of ideological identity among donors, but not perhaps stronger ones. For partisanship I am using the same measure as I used in chapter 4 and 5, where I collapse the party identification variable into an index of strength. This measure ranges from 0 to 3, where a 0 signifies an independent, and a 3 signifies a strong Democrat or Republican (Table 6.19). In this analysis, I find that the donors to campaigns are stronger partisans, averaging a value of 2.15 and a median of 3, indicating that there are high levels of partisan attachment among donors. This would be consistent with the literature which has suggested that donors are focused partisans (Bonica, 2014; Culberson, McDonald & Robbins, 2019). In this dataset, donors are more likely to be stronger on this ideological measurement.

As far as the geographical trends, rural donors tend to be ideologically stronger. This is true for both donors[26] and non–donors[27]. The measure for this analysis does not place the respondent into a liberal or conservative identity, but can identify if the

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[26]$t = 7.5494$, significant at the $\alpha = 0.01$ level.
[27]$t = 11.6447$, significant at the $\alpha = 0.01$ level.

Table 6.18.

Ideological Strength of Political Donors

	2010	2012	2014	2016	2010–2016
Moderate (0)	2790	3142	2172	3203	11307
	18.71	22.39	23.75	26.12	22.46
Lean Ideological (1)	6991	6495	4224	5861	23571
	46.89	46.29	46.18	47.80	46.82
Very Ideological (2)	5127	4393	2750	3197	15467
	34.39	31.31	30.07	26.07	30.72
Total	14908	14030	9146	12261	50345

Column Percentages in Parentheses

Table 6.19.

Partisan Strength of Donors

	2010	2012	2014	2016	Total
Independent (0)	1007	876	788	1387	4058
	6.74	6.26	8.57	11.25	8.04
Lean (1)	3856	3328	2111	2734	12029
	25.82	23.78	22.97	22.18	23.84
Not Very Strong (2)	1870	1585	1201	1885	6541
	12.52	11.32	13.07	15.29	12.97
Strong (3)	8201	8208	5091	6321	27821
	54.91	58.64	55.39	51.28	55.15
Total	14934	13997	9191	12327	50449

Column Percentages in Parentheses

individual is a stronger partisan and ideological individual. As shown in chapter 4, there was a negligible effect on political leaning with respect to Internet access itself, but with an uptick in political giving via the Internet, it is important to account for this variable.

Union Membership

Group membership may bring some benefits to political candidates, especially union memberships (Putnam, 2000). In the literature there has been a robust discus-

sion about whether this relationship is shrinking, but there seems to be some evidence that is less so, than once hypothesized (Kittilson & Dalton, 2011). Union membership, in particular can be beneficial for enhancing and nurturing political behavior (Kim & Margalit, 2017). While Union membership is decreasing in the U.S., there is still activity among unions that would cultivate donations and political engagement (Kim & Margalit, 2017). As such, it would be important to take in account for union membership in a model that deals with political giving. In this analysis, union membership was determined by whether the respondent is or was a member of a union. In this model, I use the household union membership variable[28]. This variable was re–coded to be dichotomous, with a 1 representing current or former union membership, and a 0 representing respondents who were never union members. In this dataset, political donors who report being a union member, current or former, is near 29 percent overall, while non–donors are current or former union members 21 percent of the time.

6.6   Results

In the logit models predicting the likelihood of campaign contact of respondents, there is a significant effect attributed to QoIA (Table 6.20). The ordered ratios in these models would indicate increases between 4 and a little over 11 percent increases with respect to QoIA. The interest in politics remains high acccounting for much of the increase in possibility of campaigns contacting individuals. Stronger ideology and partisanship account for increased likelihood of campaign contact, in addition to socioeconomic variables consistent with voting models. The purpose of the calls, by this model would indicate a possibility of "get out the vote" efforts by campaigns, or soliciting potential donors.

The first differences (Table 6.21) indicated that there may be some evidence of campaign contact effects for QoIA. Whether an individual had donated to a campaign,

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[28]See Appendix A for CCES question wording on Union variables

Table 6.20.
Party Contact Logit Models 2010–2016

	2010	2012	2014	2016	2010–2016
QoIA	1.104***	1.115***	1.043***	1.086***	1.090***
	(0.0149)	(0.0159)	(0.0163)	(0.0196)	(0.00814)
Interest in Politics	2.151***	2.178***	2.119***	2.043***	2.131***
	(0.0473)	(0.0433)	(0.0584)	(0.0734)	(0.0255)
Age	1.005***	1.003***	1.006***	0.995***	1.003***
	(0.000949)	(0.000935)	(0.00104)	(0.00129)	(0.000503)
Ideological Strength	1.203***	1.135***	1.109***	1.210***	1.158***
	(0.0246)	(0.0249)	(0.0257)	(0.0330)	(0.0131)
Partisan Strength	1.069***	1.072***	1.061***	1.020	1.046***
	(0.0138)	(0.0147)	(0.0159)	(0.0174)	(0.00746)
Geography	0.896***	0.824***	0.903**	0.887**	0.874***
	(0.0330)	(0.0323)	(0.0392)	(0.0434)	(0.0179)
Income	1.051***	1.040***	1.031***	1.051***	1.040***
	(0.00474)	(0.00488)	(0.00528)	(0.00634)	(0.00257)
Union Membership	1.032	1.191***	1.129***	1.066*	1.095***
	(0.0289)	(0.0361)	(0.0360)	(0.0402)	(0.0170)
Gender	0.830***	0.875***	0.747***	0.878***	0.831***
	(0.0219)	(0.0241)	(0.0227)	(0.0317)	(0.0121)
Race	1.084**	0.851***	0.926**	1.052	0.979
	(0.0367)	(0.0309)	(0.0362)	(0.0520)	(0.0186)
N	27335	24620	20902	14665	87522
LR χ^2 (df=10)	2848.39	2700.14	1635.09	896.47	7902.07
R^2	.0752	.0792	.0583	.0453	.0652

Exponentiated coefficients; Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

increased the likelihood of being contacted by a campaign increase. This effect seems
to be decreasing over time. The geographical consideration also is small and changes
negatively for whether a campaign contacts a given individual. As expected, political
donation has a strong effect on whether an individual is contacted by a campaign. As
noted above, contact from a campaign does influence donations to that campaign. In
addition, this may highlight some strategies campaigns may be taking with respect
to who to contact when soliciting a donation or encouraging political engagement,
which I will reflect on further in the discussion section.

Table 6.21.
Party Contact First Differences

	2010	2012	2014	2016	2010–2016
QoIA	.1212*	.1341*	.0486*	.0998*	.1053*
(Low to High)	(.016)	(.017)	(.010)	(.023)	(.009)
Geography	-.0272*	-.0482*	-.0239*	-.0291*	-.0335*
(Urban to Rural)	(.009)	(.010)	(.010)	(.011)	(.005)
Both	.0941*	.0861*	.0247	.0708*	.0719*
	(.018)	(.020)	(.019)	(.026)	(.011)

Standard error in Parentheses, $*p < .05$

In the logistical regressions based on the action of political donation, the results
showed that there was a sizeable positive effect of QoIA on the action of making a
political donation in each model (Table 6.22). Additionally, geography was statisti-
cally significant and negative, indicating a coefficient favoring urban individuals being
more likely to donate to campaigns. This variable was significant in all years except
for 2010. One oddity was that race was positively associated towards non-white indi-
viduals, and not significant in the 2016 model. From this model, it could be said that
the individuals donating to campaigns are in line with the literature. From the first
differences (Table 6.23) it can be inferred that changes in both geography and QoIA
had effects on whether a respondent donated to a political cause. While geography
had little effect, the QoIA measure was significant to seeing a 5 to 7 percent increase
in donation behavior. There does not seem to be an effect that is clearly increasing
or decreasing over time. The effects of Internet access seem to matter more than
geographical residence. The direction of the first differences for geography seem to
indicate that residing in an urban area was more conducive for political donations.
Together, the variables account for a near 5 to 7 percent increase in political donation
in each time period, with statistical significance in each year.

The regression models referring to the amounts given to campaigns showed a small
positive impact of QoIA on giving to political campaigns (Table 6.24). QoIA was
statistically significant in all models, which could indicate that historically QoIA

Table 6.22.
Logit Models for Donation Action

	2010	2012	2014	2016	2010–2016
QoIA	1.179***	1.146***	1.168***	1.125***	1.156***
	(0.0176)	(0.0171)	(0.0182)	(0.0181)	(0.00884)
Interest in Politics	3.115***	3.146***	2.310***	3.219***	2.895***
	(0.0908)	(0.0789)	(0.0649)	(0.128)	(0.0417)
Age	1.027***	1.020***	1.018***	1.014***	1.020***
	(0.00107)	(0.000975)	(0.00103)	(0.00116)	(0.000519)
Ideology	1.398***	1.260***	1.237***	1.335***	1.304***
	(0.0305)	(0.0282)	(0.0279)	(0.0317)	(0.0146)
Partisanship	1.155***	1.192***	1.205***	1.124***	1.161***
	(0.0161)	(0.0169)	(0.0180)	(0.0170)	(0.00837)
Geography	0.937	0.795***	0.870***	0.850***	0.864***
	(0.0381)	(0.0334)	(0.0383)	(0.0375)	(0.0184)
Union Membership	1.155***	1.179***	1.279***	1.242***	1.204***
	(0.0344)	(0.0363)	(0.0397)	(0.0411)	(0.0186)
Income	1.146***	1.144***	1.143***	1.110***	1.136***
	(0.00556)	(0.00550)	(0.00569)	(0.00586)	(0.00281)
Gender	0.902***	0.940**	0.786***	0.950	0.898***
	(0.0257)	(0.0265)	(0.0234)	(0.0301)	(0.0131)
Race	0.889***	0.834***	0.863***	1.024	0.895***
	(0.0324)	(0.0300)	(0.0317)	(0.0446)	(0.0168)
N	36631	34252	37745	23602	132230
Pseudo R^2	.1842	.1736	.1292	.1135	.1519
LR χ^2 (df=10)	7341.64	6699.22	4573.72	3261.14	21770.12

Exponentiated coefficients; Standard errors in parentheses
All χ^2 values are significant at $\alpha = 0.01$ level.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

could matter less for the amount of money given as time has progressed. The amount of money expected from donors seems to increase range from a little over 3 percent in 2014, to 10 percent in 2012. Geographical residence does not seem to matter as much for the amount donated year to year, but there seems to be a statistically significant coefficient in the overall model in the positive direction, which would favor rural donors. Two control variables stand out in the regression models: interest in politics, and gender. Stronger interest in politics resulted in 20 percent or more of an increase in giving, and was statistically significant in each of the models. Gender

Table 6.23.
First Differences for Donation Action

	2010	2012	2014	2016	2010–2016
QoIA (Low to High)	.0729* (.007)	.0618* (.009)	.0577* (.006)	.0727* (.013)	.0668* (.004)
Geography (Urban to Rural)	-.0008 (.005)	-.0253* (.005)	-.0101* (.004)	-.0204* (.008)	-.0126* (.003)
Both	.0726* (.007)	.0557* (.008)	.0543* (.006)	.0689* (.012)	.0632* (.004)

Standard error in Parentheses, $*p < .05$

indicated that men tended to give nearly 20 to 25 percent more money than women, and was statistically significant across the models.

6.7 Discussion

This analysis would indicate that Internet access does positively affect political donations, through campaign contact. In fact, there is evidence to show that it is sizeable based on the QoIA measurement. These results, however, should be taken with a grain of salt, as Internet access in the grand scheme of things is fairly small, yet shows positive impacts for political engagement (Boulianne, 2018). QoIA results in a roughly 6 percent increase overall in dollar amount of political donation between 2010–2016. While this is small, the effect is consistently in a positive direction. Overall, the Internet is positively affecting political donation, and perhaps in some ways being funnelled into the campaigns via QoIA. This would be plausible due to the fact that the Internet makes the information gathering process cheaper in some ways, as it does political giving.

The urban and rural differences seen in political donation could be a factor of income in these settings. There is likely more wealth in urban settings, than those of rural settings, and therefore may be over-represented in the analysis due to suburban overlap. Despite these wealth changes, there does seem to be an increase in donor

Table 6.24.
Regression Models for Amount Given

	2010	2012	2014	2016	2010–2016
QoIA	1.044***	1.101***	1.034*	1.038**	1.059***
	(0.0143)	(0.0163)	(0.0198)	(0.0178)	(0.00847)
Interest in Politics	1.237***	1.252***	1.274***	1.560***	1.268***
	(0.0373)	(0.0335)	(0.0451)	(0.0729)	(0.0205)
Age	1.010***	1.020***	1.004***	1.013***	1.012***
	(0.000952)	(0.000950)	(0.00120)	(0.00117)	(0.000523)
Ideology	1.039**	1.031	0.979	1.075***	1.030***
	(0.0201)	(0.0218)	(0.0260)	(0.0259)	(0.0116)
Partisanship	0.999	1.066***	0.991	1.002	1.019***
	(0.0125)	(0.0145)	(0.0174)	(0.0153)	(0.00741)
Geography	1.050	1.032	1.031	1.079	1.050**
	(0.0393)	(0.0433)	(0.0551)	(0.0502)	(0.0233)
Income	1.136***	1.163***	1.143***	1.167***	1.153***
	(0.00488)	(0.00529)	(0.00666)	(0.00621)	(0.00284)
Union Membership	0.995	1.013	0.923**	0.976	0.988
	(0.0260)	(0.0292)	(0.0334)	(0.0323)	(0.0151)
Gender	0.756***	0.767***	0.744***	0.812***	0.763***
	(0.0194)	(0.0206)	(0.0264)	(0.0261)	(0.0113)
Race	1.009	1.003	0.956	0.925*	0.970
	(0.0338)	(0.0348)	(0.0426)	(0.0424)	(0.0188)
N	11306	10704	7354	7355	36719
F	154.2	240.4	91.22	142.0	600.0
R^2	0.120	0.184	0.110	0.162	0.140

Exponentiated coefficients; Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

giving with respect to Internet access changes. This is likely due to the ease that the medium encourages to be able to donate without attending an event, and just using the technology to make the donation. Geography for political donations is interesting. For the action of donation in general, the trends follow similar trends to chapter 2: rural areas see larger increases with respect to Internet access. Overall trends are similar regardless of geography. However, there seems to not be significance with respect to geography. For the models evaluating amount of money donated geography was not all significant in any model. This may mean that geography is insignificant.

It may also mean that the trends of individuals who are giving may be more reflective of socioeconomic status, and not as much about where they live.

One interesting note is that the race of donors did not seem to matter for donation in the 2016 election, which is interesting because the overwhelming media narrative and research has shown that there was an element of racial politics at play in the election (Enders & Scott, 2019). Race was central to the 2016 election, and continues to be through the rhetorical style of the Trump Presidency. However, when it came to donation amount, the variable was significant and negative, meaning it trended towards non-white individuals. This may mean that when it comes to donations that non-white individuals are giving more than their white peers, and this is specifically during the 2016 election.

6.8   Conclusion

In this chapter I have found that there is a connection between political giving and Internet access. As individuals have more access to the Internet, there is a stronger likelihood of donation and campaign contact. While there is not a profound effect for the amount of money given, there is a small one. There seems to be small advantages for urban individuals for political giving, however this analysis cannot conclude that this advantage is substantial. Additionally, I do have some evidence to show that campaign contact is increased through higher levels of QoIA, which would be expected. However, the campaign contact could be mediating the donation process, which is likely why we see increases, albeit small increases in donation amounts with respect to QoIA. This is further evidence that the findings in chapter 5 where political engagement is affected by the presence of higher levels of QoIA.

The over–arching literature on political giving is quite disjointed when it comes to understanding individual campaign donors, but this analysis should be a start to better understand these trends in a manner that includes Internet access. It is also important to note that although Internet access is becoming more ubiquitous,

there are advantages that are inherent with access to the medium. While the broader discussions of Internet access have moved on to evaluate less about access and more about the content with respect to the Internet, understanding differences in Internet access is still crucial, because of the assumptions that this particular literature is built upon.

The QoIA variable has a small effect on the amount of money donated. However, the action of donation had a larger effect. Merely having Internet access matters for whether someone donates, or is contacted by a campaign, but not for the magnitude in which someone donates. While the effect is small for the increase in donation, it could also be a limiting factor. Since campaigns do seek out small donors who are giving money online, there is an ease and modern sense of how campaign donations are physically handled. Larger donors may still go through traditional channels of donation, such as writing checks at large fundraisers or in person donations. This is something that can be further studied as there is also a sense that wealthier donors may want to remain anonymous in their spending habits on campaigns. This work cannot say whether this strategy by campaigns to solicit donors is fruitful, but rather state that there are trends among those giving and that there are trends in the Internet access those individuals have.

The space for future work on political donation is fertile, and gaining interest in political science, especially following influential Supreme Court rulings in the past decade. While this is the case, I assert that there is an importance to make sure to continue to address Internet access as part of this analysis. As Internet access allows for avenues for anonymity as well as more open avenues to give, it's crucial that the discipline consider who is giving, why they are giving, and how much they are giving. Once we know this, it may expand our knowledge about political engagement more broadly. Scholars should be evaluating other forms of political engagement specifically to understand the mechanisms involved for why political engagement is so affected by QoIA.

Coupled with the analyses in Chapters 4 and 5, there is evidence to state that Internet access is an important aspect of political engagement, specifically campaign donation behaviors. This evidence seems to be strongest in political engagement, even in the case of political donors. As has been argued throughout the dissertation, it would be foolish to ignore the technology entirely in analysis of the political engagement. This chapter has built on the conclusion of Chapter 5 that there is evidence of QoIA being involved in the effects of increases in political engagement. This chapter is building on this conclusion by raising one major concern for American democracy: inequality. Not only is it inequality from an angle of democratic practices, but also from the perspective of technology and economic well–being.

7. THE FUTURE OF THE INTERNET AND POLITICAL BEHAVIOR

In this dissertation I have found that the Internet has a certain effect on political engagement that is quantifiable with respect to the quality of connection. While this has been known, the QoIA measure seems to be helpful in this regard. We can see that there are differences between urban and rural areas, which has been documented, and the measure seems to be doing a better job illustrating the divide. It is not perfect, but it is a step in a better direction of quantifying Internet access as far as quality and availability. Internet access is a variable that has more depth to it that a dichotomous variable cannot capture, especially with an evolving nature of the technology.

Does QOIA affect the manner in which the public engages politics? It depends on what aspect of politics that is being engaged. With respect to ideological and partisan hardening, it may have a small, non–zero effect. For voting, there is a negligible effect, if there is one at all. However, for political engagement, QOIA matters and can be a boon in many forms for political engagement. There seems to be more of an effect on engagement activities that are not related to voting. While there does seem to be an effect on voting, it is not very large and the importance may be more likely to have a larger effect on political engagement.

These results should be concerning for the current era of political discourse. There are scholars and observers who are both lamenting that democratic practices and institutions are being eroded globally. It is only recently that the Internet has been at more of the center of this discussion, due to the technological failings of the U.S. in 2016 at the hand of the Russian government. The U.S. has seen a rise in anti-Semitism, racism, and other social harm to the culture, some of which has been attributed to Internet access and social media (Greenblatt, 2019). The results in this dissertation give evidence that there are effects on political engagement, but cannot

speak to these events specifically. However, it may provide some insight into what a fully connected society may look like with respect to the predictions scholars made in the 1990s and early 2000s.

James Madison once was concerned about factions in *Federalist No. 51*. He described factions as detrimental, but also inherent in democracy. In order to have minority perspectives heard, checks and balances were instituted. It has also been suggested that the U.S. governing system was set up to be deliberative and allow opinions that are overlooked at the will of the majority (Dahl, 2006). In this current time, the Internet may foster an environment for which this occurs. While there is much debate over whether this is healthy for democracy, it seems that the system is working as designed. However, the founders were not as concerned about the views of the populace as they were more evaluating the opinions of elites, which didn't include slaves or those who did not own land. This new perspective may not be in the founders' purview, and as such, we may be at the beginning of a profoundly different debate about American democracy that we have ever had as a country. This may be a paradigm shift for thinking about American democracy.

7.1 Current and Future Trends in QoIA

Internet access is becoming ubiquitous very slowly. As other scholars and I have pointed out, there are existing and persisting inequalities that are driven entirely by the technologies at hand (van Deursen & van Dijk, 2019). This may not seem like an unique finding, but it is very important to consider this fact as we move forward with research. Research on social media and other computer–mediated technologies are likely understating the economic inequality that is present in these technologies. Mobile technologies are also creating more inequalities (Barnidge, Diehl & Rojas, 2019), and as a result could be furthering barriers to access to the Internet.

Measurement of what has been accomplished in this dissertation is critical, because debates over how to measure Internet access may be futile if not dealt with in the

present. The Internet is too intertwined with American life and as a result is in need for not only definition, but one that is flexible. Technologies will clearly change, as they have in the past, and are doing so as I write this dissertation. In fact, defintion of this technology hypothetically could change within days, months, or years from the deposit of this document. This is why it is crucial to have a measurement that is unified now, rather than later. If we don't have a better measurement now, we may never be able to get one. Just because the technology is a moving target, does not mean that we should not attempt to define it. If anything, these technologies are disruptive for the world we know currently.

The Internet of Things has taken over current trends of technological consumption (de Boer, van Deursen & van Rompay, 2019; Greengard, 2015; van Deursen & Mossberger, 2018). Further qualitative research is needed to expand on this at this point because we may not understand preferences well enough in the literature. While this dissertation is adding in a quantitative manner to a saturated quantitative literature, it should be understood that the research into understanding Internet access could be additionally benefited by qualitative research. While, yes, this dissertation has been mostly quantitative, this lack of qualitative research cannot be ignored. We need better understandings of why the digital divide still persists, and one way to better understand this is with rich qualitative research. This is one way we can better understand the true, on the ground perspectives of why this phenomenon is still occurring.

As scholars we live in a privileged position with Internet access at home, but also value this access at our places of employment. As such, many of us do not have a grasp of what life without modern amenities looks like without them. This is especially true of older generations as they experienced the world without the technologies when they were not required for everyday life, and had an expectation of a base level of technical knowledge. We need to understand the changes in technology and have measures that can adapt with these changes. This juxtaposition of ideas of the role of technology is one that needs to be better understood as we are entering a time where surviving

without the technologies will become harder. Without the ability to have measures that are adaptive, the literature will remain unable to keep up with technologies that are newer.

One major criticism of technology and politics is that it moves faster than the peer–review cycles of academic work. While this is true, it does not mean we cannot study it as a discipline. My hope is that the analyses in this dissertation is evidence that technology, especially ones taken for granted, can be analyzed and further explored. The digital divide still exists, but understanding why and how that divide continues to close is important and interesting. Internet access is evolving in ways that we are not close to understanding all of the consequences. If anything, this dissertation has shown that the consequences of having Internet have impacts on elections and engagement. Although these impacts are small, they are instrumental and instructive to how Americans donate money to political campaigns, for example.

7.2 Recap of Results

This dissertation sought to establish a causal connection between Internet access quality and political engagement. By drawing on literature from the social sciences and technology, I was able to ground the theory in a space where there was an indication that increased access to information and technology would result in higher levels of engagement. This was shown by understanding digital inequalities broadly. Digital inequalities in the United States were shown to be higher with respect to other developed nations due to the nature of privatization of Internet distribution (Baek, 2009; Strover, 2014). This distribution causes the Internet to be not only a geographic problem (Mossberger, Tolbert & Franko, 2013), but a socioeconomic one as well (van Dijk, 2006).

To causally analyze the conneciton between Internet access and political engagement, I created an index called the Quality of Internet Access (QoIA). The reason to create this measurement was to explain Internet more broadly as a phenomenon of

quality. Too often in the literature, particularly in Political Science, the Internet is seen as a static dichotomous variable where it's assumed that an individual either has or does not have access to the technology. I established that this type of measurement is too simplistic to capture issues with speed and availability. To combat this, I suggested a measure that would illustrate access at home and work as well as a cell phone. The time period of 2010–2016 is particularly interesting because of the wider implementation of the "smart phone". This technology increased the processing capability that the average person possesses at their fingertips. In the measurement of the Internet it was found that the majority had access to some or all of these technologies. By establishing this measurement I was able to more accurately explain the variation in Internet access. While there are flaws in this measurement, such as self–reported data, this measurement may be one of the better attainable measures that can be replicated in other datasets.

In chapter 4 it was found that there was very small ideological considerations that can be drawn with respect to an individual's QoIA. The effects are significant, but small. With respect to the Online environment, there are ideologically extreme views being shared (Bond & Messing, 2015), but it is not a considerations as to whether an individual has Internet access or not. The factors that drive Internet access are not likely a result of political attitudes. This differs from what was found about partisan identity, where there does seem to be an effect of QOIA. Partisanship was found to be affected by QOIA moreso than ideology. This likely can be explained by the stability of partisan attitudes, and the honing of partisan cues as a part of heuristics needed for Internet information consumption. This may be resulting in hardening of partisan attitudes and identity.

In chapter 5 it was found that the QoIA of individuals mattered for political engagement more than it does for voting behaviors. One of the reasons for this is that the Internet seems to be more integral in the manner in which individuals partake in those activities. Additionally the geography could also play a large role in the manner in which this behavior occurs. While it is likely that partisanship

and ideology are not driving decisions to have Internet access it is likely enhancing it. There also seems to be a difference in the behaviors that are affected by QoIA as well. For example, it seems that campaign oriented behaviors are more affected by the changes in Internet access, whereas the act of voting itself seems to be less affected. This might indicate an effect that is tangential to the time and resource commitment that is involved with campaign behaviors.

In chapter 6 it was found that political donation activity is affected by QoIA. The amount in which someone gives is not as affected by this aspect. This very well could be a part of developing trends that political giving could be shifting to smaller donors[1]. There is evidence that parties are targeting not only donors, but those with stronger Internet access. While this is the case, this dissertation shows more evidence of a giving behavior, but this does not translate to larger donation amounts. Building off of chapter 5's findings, there would be an expectation that activities such as political donation would increase with QoIA, since it is a campaign action. Despite this notion, there is also a lurking notion that those donating are also resource rich and are more engaged in politics to begin with.

7.3   Policy Implications of this Dissertation

One recommendation I would make as a result of this research is a firmer definition by the F.C.C. for Internet access for several reasons: more measurement by a neutral entity, a realistic standard for quality Internet. A neutral entity from Internet Service Providers (ISPs) may be a better way to measure the Internet. The F.C.C. Form 477 data is self–reported data from the ISPs and the motive of the ISPs is to make this data available and maintain or gain competitive advantage in their markets. In some ways, the current market structure favors major ISPs to not only maintain their presence in current markets, but also to make sure their presence is not affected by political or economic competition. This leaves no incentive for these companies to

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[1]The Democratic Party's nomination process for the 2020 Presidential Election had debate requirements that involved the number of donors a candidate had.

necessarily expand to remote areas of the U.S. where there may not be a profit motive for ISPs to move into those areas.

Secondly, wireless technologies are important but should not be the only consideration in measurement. Current data on wireless networks are prioritized, and for good reason, as some areas will be better served with wireless access due to geographical constraints. We still need to acknowledge that from the data in this dissertation some of those constraints that are found in rural areas may be to a lack of broadband, which lowers the QOIA. This is something that can be adjusted in future work, if the technology in rural areas catches up to the same levels of that in the urban areas. This would face the same challenges as seen in recommendation one, because there may not be a cost motive for ISPs to move into remote areas.

Thirdly, a standard for the quality of Internet access that matches the modern realities of the Internet. The current speed standards of what makes high–speed Internet are slow. These standards have been politicized in the past, where states have taken on legislation to slow the progress of faster Internet due to costs. F.C.C. Chairman Ajit Pai attempted a redefinition of broadband Internet in addition to the repeal of Net Neutrality in 2018 (Finley, 2018). Because the politics in Congress are understood as a discussion of who has oversight over ISPs and their distribution, this issue is inherently partisan. For example, Republicans have opposed FCC oversight, and Democrats have suggested stronger FCC and other government oversight. Several Republican senators sent a letter to then-F.C.C. Chair Tom Wheeler, where they suggest that the new standards for Internet speeds place an unreasonable and arbitrary standard for more rural states (Daines et al., 2016). Another source of opposition came from Sen. Ted Cruz (R-TX), the chairman of the Science and Technology Committee, who voiced his opposition to increases of ISP regulation as "Obamacare for the Internet" (Weisman, 2015).

Policy solutions to the digital divide, as well as the expansion of Internet access must emphasize that the Internet is not a luxury, but rather becoming a necessity for everyday function. The problem with policy prescriptions that have been levied

have often not addressed this question (Strover, 2014, 2019). Although political and government information has mostly moved to the Internet medium, the information that an individual can access with a smartphone is limited, despite improvements to mobile access (Mossberger, Tolbert & Franko, 2013; van Deursen & van Dijk, 2014). Mobile access also has its own challenges as there are divides caused by the uses of the technology that are on multiple devices (Barnidge, Diehl & Rojas, 2019). Because online spaces are reflective of offline inequalities, it is important for policymakers who are developing solutions to be mindful of policies that furthers inequality (Scheerder, van Deursen & van Dijk, 2017; van Dijk, 2006). A QoIA measurement would allow for policymakers and scholars to better understand not only Internet penetration, but also whether the assumption of whether the Internet is a luxury or necessity can be appropriately be assumed. Per the literature, this is not a safe assumption.

As seen in Chapter 6, the donation to campaigns has becoming a more open platform, with political giving increasing with respect to QOIA. This increase in political giving can also be attributed to also a higher likelihood of campaign contact with higher levels of QOIA. While the likelihood of donation is increasing, QOIA has a small impact on political giving. Even if the act of giving to campaigns was found to increase a result of Internet access, that doesn't mean that the money donated to political campaigns is going to successful campaigns or to ones that reflect the general attitudes of the public. This maintains the status quo and preferences of wealthier Americans (Page, Bartels & Seawright, 2013), as the incentives for those in office is to remain in office (Downs, 1957). As this is the case, the politicians who are receiving the donations are still likely to listen to those who are donating the larger amounts of money. As cynical as this sounds, candidates who do not take PAC money and only small donations may be seeing this as a way to level the playing field popularly, but are perhaps still carrying out the political wishes of the political elites. While it was also found that QOIA did not significantly affect the amount of money donated, this hunch about status quo behavior is still likely.

7.4   Future Changes to QoIA

The limitations of this research are some that are common in this area of research, which is due to the nature of the data collection. For example, much of the data is self-reported, which can be problematic, and can be inaccurate (Prior, 2013*a*). While this is an issue that social scientists struggle with generally, it is important to be aware of the limitations and weaknesses of this research. Asking questions about Internet use might be one way to understand the Internet access being used by the respondents, but it should be acknowleged that it has its error with self-reported data. When the average person is asked what type of Internet access they are using, it is reasonable that they might not know with certainty.

Another element of Internet quality that would be useful to understand is Internet connection speed. There are a variety of sources in which Internet speed can be measured. As technologies are updated, the measure can take in account for it. For example, 5G technologies are becoming more widespread, which will give mobile access to more people in more places (Finley, 2019). This technology is something that cannot be accounted for in this study, as it is an upgrade from the access between 2010-2016. This is an exciting technology that might help people access the Internet with greater ease, and perhaps further close the existing digital divides in physical Internet access.

Additionally, we need to take a step back and make sure to understand Internet use inherently does not entirely translate to political behavior. In the top 500 websites by traffic, adult entertainment, sports, and celebrity gossip have higher levels of Internet traffic than those of political sites online (Hindman, 2009). Therefore, higher levels of Internet access does not necessarily imply that the Internet is used to further their civic and political engagement. Even though this is the case, I would argue that having a higher level of QoIA is a potential to hone these skills, due to the evidence we have seen with Internet access enabling civic behaviors (Boulianne, 2009, 2018).

With all of this said, future improvements to this measure can be taken. Those improvements should include Internet speed tests, and a consideration of other questions to be included in major surveys. Although I used the CCES here, the QoIA measure can be adapted to other surveys given the questions asked about Internet access. How strong this variable will be in other surveys will depend on the questions included about Internet access and technology. Other questions to ask in surveys would include the type of cell phone, or perhaps the type of connections available in the area. A word of caution when thinking about access to the Internet with respect to the connection type, is not to use results from questions that already imply access. For example, social media access is something to be weary about for a measure for Internet access. If an individual has access to social media, they had to be online somehow in order to have an account, which would be access via a cellphone or other ICT. The measure is about how the Internet is access and the quality therein, not whether someone is further using the Internet in a specific manner.

7.5   Conclusion and Future Directions

As technology improves and evolves, it is important that scholars take stock of their measurements for Internet Access. While it might be helpful to try to keep our measurements consistent, it is equally important to keep these measurements up to date and flexible. While dichotomous measures are often convenient as a control variable, it does not fully explain models with respect to Internet access. As evidenced in this dissertation, the quality of Internet access matters, and what type of Internet access matters. It also has an effect on what political behaviors an individual chooses to take part in or accomplish.

While we might not think of it this way, but QOIA could be a further reflection of the problems of inequality in the U.S. and its impact on representation. It has been suggested in the literature that political representation is reflective more of the preferences of wealthier individuals (Bartels, 2008; Hacker & Pierson, 2010). With

this in mind, if we think of Internet access as a luxury, as it is more popular thought of, with respect to resources, this dissertation shows that the inequalities of the Internet could be exacerbating this problem. The people who have stronger Internet access are those who have more resources, and as such have stronger, direct access to their representation as a result. When evaluating political phenomena scholars can be dismissive of social media campaigns and other computer–mediated actions, however we should be more conscious of how these technologies could be further strengthening these problems.

The QoIA measure presented in this dissertation should be flexible. If someone is to use this measure, it should be adapted to reflect technological changes. What is considered Internet access may change in 10 years, or it could change next week. Social scientists should seek to continually update this measure as Internet access changes. If scholars only use social media use, or other proxies for Internet access, it does not paint a full picture of the problems of digital inequality in the United States. The problems of digital inequality have been well documented for over 20 years, but appropriately measuring inequality has often been difficult. Even using proxies that are not reliant entirely on social media are a good way to begin understand Internet accessibility without relying on ISPs to provide this data.

One consideration for future research is to combine QoIA with other data about Internet access. One thought is to follow the lead of Lelkes, Sood, and Iyengar (2015) and use F.C.C. Form 477 data as a proxy to illustrate Internet availability. While this is a good start, there are flaws in using this data and understanding these flaws are vital. Regardless, a better proxy of availability would be helpful, because as mentioned earlier in this dissertation there are concerns with regard to the fact that a geographically diverse U.S. may be leaving ISPs in a position to not wire everyone as an economic incentive. This measurement is not a bad start, but it should not be leaned on heavily due to the problems of self-reporting.

Data for this line of research is difficult, but it should not stop progress for the analysis of this problem. There will never be a perfect dataset, and a lot of the

concerns for self–reported data will be present through current data collection methods. On the other-hand, similarly to scholarship in public opinion, there is a need to be particular about data collection methods that are both representative and robust (Prior, 2013*a*). While recognizing the weaknesses, there is still a need to research the role of Information technology in politics, and to continue asking questions that may have seemed closed in the past 20 years. While the technology continues to change, no theory in this area is a closed question, for precisely the reason that the technology continually evolves.

Using social media as a proxy could also be an interesting route to evaluate as well. It could tell us more in conjunction to QOIA about how individuals are actually using the technologies beyond access. Some of this assumption comes from cell phone ownership increasing, and cell phone capability increasing dramatically over the past decade. While there is established research on this topic, this research takes for granted that Internet access is ubiquitous. While from this research it would seem that the assumption there is not a very unfounded one, it should still be accounted for as more recent reports on Internet access still report sizeable swaths of the U.S. not having Internet access at home.

We as scholars may also want to ask ourselves, what is the ultimate goal of closing the gap of digital inequality? If the goal is to create an environment where individuals have equal access to resources, this cause is noble and necessary, especially with the changes in technology that have created an ease for e-governance. If the goal is to increase democratic fervor among the populace, the expansion of Internet access can be a double–edged sword. On one hand, an increased awareness in information is crucial for an informed citizenry (Delli-Carpini & Keeter, 1996). On the other hand, the evidence in this dissertation is that there is a concern that the Internet may have a hardening effect that could continue to calcify. How we answer this question is important for the future of American democracy, and is one that isn't new in the literature.

Viewing this question in the context of the 2016 and 2020 elections raises concerns of negative consequences of the QOIA being higher everywhere. The U.S. has historically had a voting turnout of near 60 percent (Miller & Shanks, 1996), and that rate may not reflect the general population's held attitudes that are encountered on the Internet. As this is the case, that likely plays an effect in weeding out ideas and candidates that could be destructive to democratic practice. While also including interference from the 2016 election from Russia on social media, we are becoming vulnerable to cues being manipulated, which has been a concern for misleading the public (Converse, 2006; Zaller, 1992). If this dissertation is evidence of this, it's that online users are engaged, and participate in democracy in ways that would look healthy on the surface, but could be manipulated with respect to Internet access.

The COVID-19 pandemic will be remembered for many reasons, especially for how disruptive it has been. With Americans shut down in their houses, there has been political activity on the Internet. During the crisis there was one instance where this higher level of Internet access may have played a role. If the primary that was held in Wisconsin in April 2020 is any indication, this could be informative. A state judicial election had a lot of attention due to the attempts by the state of Wisconsin to postpone their elections due to the COVID-19 "stay at home" orders (Epstein, 2020). The Supreme Court stepped in, granting a stay forcing the primary election to continue (SCOTUS, 2020). As a result, Jill Karofsky defeated Justice Daniel Kelly, who had been a central figure in controversial voter suppression in Wisconsin that has broader implications nationally (Epstein, 2020). It would appear in some ways, perhaps anecdotal, that the Internet played a role in this electoral upset. Campaigns cannot traditionally run in person due to the fact that they are large gatherings. Information for these elections had to be distributed online, and organizing was quick. Without the Internet this upset may have not occurred. Additionally, the news moved so quickly about this event that those who are advantaged with higher qualities of Internet access were most likely to be able to mobilize. Understanding this election, in conjunction with the findings within this dissertation allow for Political Scientists

to answer questions about this phenomenon without making assumptions of equal access to the Internet.

REFERENCES

REFERENCES

Abramson, Paul R. 1979. "Developing Party Identification: A Further Examination of Life–Cycle, Generational, and Period Effects." *American Journal of Political Science* 23(1):78–96.

Achen, Christopher H. & Larry M. Bartels. 2017. *Democracy for Realists: Why Elections Do not Produce Responsive Government.* Princeton, NJ: Princeton University Press.

Almond, Gabriel & Sidney Verba. 1963. *The Civic Culture.* Princeton, NJ: Princeton University Press.

Anduiza, Eva, Marta Cantijoch & Aina Gallego. 2009. "Political Participation and the Internet." *Information, Communication, and Society* 12(6):860–878.

ANES. 2014. "User's Guide and Codebook for the ANES 2012 Time Series Study.".
URL: *https://electionstudies.org/wp-content/uploads/2012/02/ anes_timeseries_2012_userguidecodebook.pdf*

ANES. 2018. "Time Series Cumulative Data File Variables.".
URL: *https://electionstudies.org/wp-content/uploads/2018/12/ anes_timeseries_cdf_codebook_var.pdf*

Ansolabehere, Stephen & Brian F. Schaffner. 2017. "CCES Common Content, 2016.".
URL: *https://doi.org/10.7910/DVN/GDF6Z0*

Ansolabehere, Stephen, John M. de Figueriedo & James M. Snyder Jr. 2003. "Why is There so Little Money in U.S. Politics?" *Journal of Economic Perspectives* 17(1):105–130.

Arceneaux, Kevin & Martin Johnson. 2013. *Changing Minds or Changing Channels? Partisan News in an Age of Choice.* Chicago, IL: Chicago University Press.

Atkin, David J., Tuen-Yu Lau & Carolyn A. Lin. 2006. ""Still on Hold? A Retrospective Analysis of Competitive Implications for the Telecommunication Act of 1996, on its 10th Year Anniversary." *Telecommunications Policy* 30(2):80–95.

Baek, Mijeong. 2009. "A Comparative Analysis of Political Communication Systems and Voter Turnout." *American Journal of Political Science* 53(2):376–393.

Bafumi, Jospeh & Robert Y. Shapiro. 2009. "A New Partisan Voter." *Journal of Politics* 71(1):1–24.

Baldwin-Philippi, Jessica. 2015. *Using Technology, Building Democracy: Digital Campaigning and the Construction of Citizenship.* New York: Oxford University Press.

Barber, Michael. 2016. "Donation Motivations: Testing Theories of Access and Ideology." *Political Research Quarterly* 69(1):148–159.

Barber, Michael, Brandice Canes-Wrone & Sharece Thrower. 2016. "Ideologically Sophisticated Donors: Which Candidates Do Individual Contributors Finance?" *American Journal of Poltical Science* 61(2):271–288.

Barber, Michael, Daniel M. Butler & Jessica Preece. 2016. "Gender Inequalities in Campaign Finance." *Quarterly Journal of Political Science* 11:219–248.

Barnidge, Matthew, Trevor Diehl & Hernando Rojas. 2019. "Second Screening for News and Digital Divides." *Social Science Computer Review* 37(1):55–72.

Bartels, Larry M. 2008. *Unequal Democracy: The Political Economy of the New Guilded Age.* Princeton, NJ: Princeton University Press.

Baum, Matthew. 2003. "Soft News and Political Knowledge: Evidence of Absence or Absence of Evidence?" *Political Communication* 20(2):173–190.

Baum, Matthew. 2012. Preaching to the Choir or Converting the Flock: Presidential Communication Strategies in the Age of Three Medias. In *iPolitics: Citizens, Elections, and Governing in the New Media Era*, ed. Richard L. Fox & Jennifer M. Ramos. New York: Cambridge University Press pp. 183–205.

Beck, Paul Allen, Russell J. Dalton, Steven Greene & Robert Huckfeldt. 2002. "The Social Calculus of Voting: Interpersonal, Media, and Organizational Influences on Presidential Choices." *American Political Science Review* 96(1):57–73.

Bennett, W. Lance. 2012. "The Personalization of Politics: Political Identity, Social Media, and Changing Patterns of Participation." *The ANNALS of the American Academy of Political and Social Science* 644(1):20–39.

Berners-Lee, Tim. 1999. *Weaving the Web: The Past, Present and Future of the World Wide Web by Its Inventor.* London: Orion.

Best, Samuel J. & Brian S. Kreuger. 2005. "Analyzing the Representativeness of Internet Political Particiaption." *Political Behavior* 26(2):183–216.

Bimber, Bruce. 2000*a*. "Measuring the Gender Gap on the Internet." *Social Science Quarterly* 81(3):868–876.

Bimber, Bruce. 2000*b*. "The Study of Information Technology and Civic Engagement." *Political Communication* 17(4):329–333.

Bimber, Bruce. 2001. "Information and Political Engagement in America: The Search for Effects of Information Technology at the Individual Level." *Political Research Quarterly* 51(1):53–67.

Bimber, Bruce. 2003. *Information and American Democracy: Technology in the Evolution of Political Power.* New York: Cambridge University Press.

Bimber, Bruce. 2014. "Digital Media in the Obama Campaigns of 2008 and 2012: Adaptation to the Personalized Political Communication Environment." *Journal of Information Technology and Politics* 11(2):130–150.

Bimber, Bruce, Andrew J. Flanagin & Cynthia Stohl. 2012. *Collective Action in Organizations: Interaction and Engagement in an Era of Technological Change.* Cambridge, MA: Cambridge University Press.

Bimber, Bruce & Lauren Copeland. 2013. "Digital Media and Traditional Political Participation Over Time in the U.S." *Journal of Information Technology and Politics* 10(2):125–137.

Bimber, Bruce, Marta Cantijoch Cunill, Lauren Copeland & Rachel Gibson. 2015. "Digital Media and Political Participation: The Moderating Role of Political Interest Across Acts and Over Time." *Social Science Computer Review* 33(1):21–42.

Bond, Robert M., Christopher J. Fariss, Jason J. Jones, Adam D. I. Kramer, Cameron Marlow, Jaime E. Settle & James H. Fowler. 2012. "A 61-million-person experiment in social influence and political mobilization." *Nature* 489:295–298.

Bond, Robert M. & Solomon Messing. 2015. "Quantifying Social Media's Political Space: Estimating Ideology from Publicly Revealed Preferences on Facebook." *American Political Science Review* 109(1):62–78.

Bonica, Adam. 2014. "Mapping the Ideological Marketplace." *American Journal of Political Science* 58(2):367–386.

Bonica, Adam. 2019. "Are Donation–Based Measures of Ideology Valid Predictors of Individual–Level Policy Preferences?" *Journal of Politics* 81(1):327–333.

Bonica, Adam, Nolan McCarty, Keith T. Poole & Howard Rosenthal. 2013. "Why Hasn't Democracy Slowed Rising Inequality?" *Journal of Economic Perspectives* 27(3):103–123.

Boulianne, Shelley. 2009. "Does Internet Use Affect Engagement? A Meta-Analysis of Research." *Political Communication* 26(2):193–211.

Boulianne, Shelley. 2015. "Social Media Use and Participation: A Meta-Analysis of Current Research." *Information, Communication, and Society* 18(5):524–538.

Boulianne, Shelley. 2016. "Online News, Civic Awareness and Engagement in Civic and Political Life." *New Media and Society* 18(9):1840–1856.

Boulianne, Shelley. 2018. "Twenty Years of Digital Media Effects on Civic and Political Participation." *Communication Research* pp. 1–20.

Bouton, Laurent, Micael Castanheira & Allan Drazen. 2018. "A Theory of Small Campaign Donations.".
URL: *https://www.nber.org/papers/w24413.pdf*

Brady, Henry, Sidney Verba & Kay Lehman Schlozman. 1995. "Beyond SES: A Resource Model of Political Participation." *American Political Science Review* 89(2):271–294.

Brownstein, Michael R. 2013. Playing Monopoly with the Internet: Telecoms, ISPs, and the Digital Divide. Southern Political Science Assocation Annual Meeting Orlando, FL: .

Brownstein, Michael R. 2018. It's 2016, Do You Know Where Your Internet Is? Voting Behavior and Internet Access. Midwest Political Science Assocation Annual Meeting Chicago, IL: .

Brownstein, Michael R. & Chelsea N. Kaufman. 2017. News that's Fit to Post Online: Fake News and Political Discussion among Young Voters. Presented at the annual meeting of the American Political Science Association San Francsico, CA: .

Brownstein, Michael R. & Chelsea N. Kaufman. 2018. News That's Fit to Post: Internet Access and Discussion of Fake News amoung Young Voters. Presented at the annual meeting of the American Political Science Association Boston, MA: .

Brugger, Niels. 2016. "Introduction: The Web's first 25 years." *New Media and Society* 18(7):1058–1065.

Cacciola, Scott & Sopan Deb. 2020. "N.B.A. Suspends Season After Player Tests Positive for Coronavirus." *New York Times* .
URL: *https://www.nytimes.com/2020/03/11/sports/basketball/nba-season-suspended-coronavirus.html*

Campbell, Angus, Philip E. Converse, Warren E. Miller & Donald E. Stokes. 1980. *The American Voter Unabridged*. Midway reprint ed. Chicago: University of Chicago Press.

Campbell, Scott W. & Nojin Kwak. 2010. "Mobile Communication and Civic Life: Linking Patterns of Use to Civic and Political Communication." *Journal of Communication* 60(3):536–555.

Cantijoch, Marta, David Cutts & Rachel Gibson. 2016. "Moving Slowly up the Ladder of Political Engagement: A 'Spill-Over' Model of Internet Participation." *British Journal of Politics and Inernational Relations* 18(1):26–48.

Carreras, Miguel. 2018. "Why no gender gap in electoral participation? A civic duty explanation." *Electoral Studies* 52(1):36–45.

Castells, Manuel. 2001. *The Internet Galaxy: Reflections on the Internet, Business, and Society*. New York: Oxford University Press.

Cho, Wendy K. Tam, James G. Gimpel & Iris S. Hui. 2013. "Voter Migration and the Geographic Sorting of the American Electorate." *Annals of the Association of American Geographers* 103(4):856–870.

Cho, Wendy Tam & James C. Gimpel. 2007. "Prospecting for (Campaign) Gold." *American Journal of Political Science* 51:255–268.

Cho, Wendy Tam, James G. Gimpel & Daron R. Shaw. 2012. "The Tea Party Movement and Geography of Collective Action." *Quarterly Journal of Political Science* 7(1):105–133.

Christensen, Henrik Serup. 2012. "Political Activities on the Internet: Slacktivism or Political Participation by Other Means?" *First Monday* 16(7–2).

Converse, Philip E. 2000. "Assessing the Capacities of Mass Electorates." *Annual Review of Political Science* 3:331–353.

Converse, Philip E. 2006. "The Nature of Belief Systems in Mass Publics." *Critical Review* 18(1–3):1–74.

Copeland, Lauren. 2014. "Conceptualizing Political Consumerism: How Citizenship Norms Differentiate Boycotting from Buycotting." *Political Studies* 62(S1):172–168.

Copeland, Lauren & Bruce Bimber. 2015. "Variation in the Relationship Between Digital Media Use and Political Participation in U.S. Elections over Time, 1996–2012: Does Obama's Reelection Change the Picture?" *Journal of Information Technology and Politics* 12(1):74–87.

Copeland, Lauren & Jessica T. Feezell. 2018. "The Influence of Citizenship Norms and Media Use on Different Modes of Political Participation in the U.S." *Political Studies* 65(4):805–823.

Couldry, Nick, Hilde Stephansen, Aristea Fotopoulou, Richard MacDonald, Wilma Clark & Luke Dickens. 2014. "Digital Citizenship? Narrative Exchange and the Changing Terms of Civic Culture." *Citizenship Studies* 18(6–7):615–629.

Crespin, Michael H. & Janna L. Dietz. 2010. "If You Can't Join 'Em, Beat 'Em: The Gender Gap in Individual Donations to Congressional Candidates." *Political Researh Quarterly* 63(3):581–593.

Culberson, Tyler, Michael P. McDonald & Suzanne M. Robbins. 2019. "Small donors in Congressional Elections." *American Politics Research* 47(5):970–999.

Dahl, Robert A. 2006. *A Preface to Democratic Theory.* Expanded ed. Chicago: University of Chicago Press.

Daines, Steve, Roy Blunt, Ron Johnson, Roger Wicker, Deb Fischer & Cory Gardner. 2016. "Letter from Steve Daines et al. to Tom Wheeler.".
URL: *http://thehill.com/sites/default/files/letter_to_fcc_chairman_wheeler_-_broadband_definition.pdf*

Dalton, Russell J. 2008. "Citizenship Norms and the Expansion of Political Participation." *Political Studies* 56(1):76–98.

Davis, Nicholas T. & Johanna L. Dunaway. 2016. "Party Polarization, Media Choice, and Mass Partisan–Ideological Sorting." *Public Opinion Quarterly* 80(2).

de Boer, Pia S., Alexander J.A.M. van Deursen & Thomas J. L. van Rompay. 2019. "Accepting the Internet–of–Things in our Homes: The Role of User Skills." *Telematic and Informatics* 36:147–156.

de Zúñiga, Homero Gil, Lauren Copeland & Bruce Bimber. 2013. "Political consumerism: Civic engagement and the social media connection." *New Media and Society* 16(3):488–506.

de Zúñiga, Homero Gil & Sebástian Valenzuela. 2011. "The Mediating Path to a Stronger Citizenship: Online and Offline Networks, Weak Ties, and Civic Engagement." *Communication Research* 38(3):397–421.

de Zúñiga, Homero Gil, Victor Garcia-Perdomo & Shannon McGregor. 2015. "What Is Second Screening? Exploring Motivations of Second Screen Use and Its Effect on Online Political Participation." *Journal of Communication* 65(5):793–815.

Deller, Steven & Brian E. Whitacre. 2019. "Broadband's relationship to rural housing values." *Papers in Regional Science* 98:2135–2156.

Delli-Carpini, Michael X. & Scott Keeter. 1996. *What Americans Know About Politics and Why it Matters.* New Haven, CT: Yale University Press.

Dinterman, Robert & Mitch Renkow. 2017. "Evaluation of USDA's Broadband Loan Program: Impacts on Broadband Provision." *Telecommunications Policy* 41(1):140–153.

Douthit, N, S Kiv, T Dwolatzky & S Biswas. 2015. "Exposing some important barriers to health care access in the rural USA." *Public Health* 129:611–620.

Downes, Tom & Shane Greenstein. 2007. "Understanding why Universal Service Obligations May be Unnecessary: The Private Development of Local Internet Access Markets." *Journal of Urban Economics* 62(1):2–26.

Downs, Anthony. 1957. *An Economic Theory of Democracy.* New York, NY: Harper and Row.

Dutta-Bergman, Mohan J. 2005. "Access to the Internet in the Context of Community Participation and Community Satisfaction." *New Media and Society* 7(1):89–109.

Dylko, Ivan & Michael McCluskey. 2012. "Media Effects in an Era of Rapid Technological Transformation: A Case of User–Generated Content and Political Participation." *Communication Theory* 22:250–278.

Eastin, Matthew S., Vincent Cicchirillo & Amanda Marby. 2015. "Extending the Digital Divide Conversation: Examining the Knowledge Gap Through Media Expectancies." *Journal of Broadcasting and Electronic Media* 59(3):416–437.

Enders, Adam M. & Jamil S. Scott. 2019. "The Increasing Racialization of American Electoral Politics, 1988–2016." *American Politics Research* 47(2):275–303.

Epstein, Dmitry, Erik C. Nisbet & Tarleton Gillespie. 2011. "Who's Responsible for the Digital Divide? Public Perceptions and Policy Implications." *The Information Society* 27(2):92–104.

Epstein, Reid J. 2020. "Upset Victory in Wisconsin Supreme Court Race Gives Democrats a Lift." *New York Times* .
URL: *https://www.nytimes.com/2020/04/13/us/politics/wisconsin-primary-results.html*

Farrell, Henry. 2012. "The Consequences of the Internet for Politics." *Annual Review of Political Science* 15(1):35–52.

(F.C.C.), Federal Communications Commission. 2015. "2015 Broadband Progress Report.".
URL: *https://docs.fcc.gov/public/attachments/FCC-15-10A1.doc*

Feezell, Jessica T. 2016. "Predicting Online Political Participation: The Importance of Selection Bias and Selective Exposure in the Online Setting." *Political Research Quarterly* 69(3):495–509.

Feezell, Jessica T., Meredith Conroy & Mario Guerrero. 2016. "Internet use and political participation: Engaging citizenship norms through online activities." *Journal of Information Technology and Politics* 13(2):95–107.

Ferro, Enrico, Natalie C. Helbig & J. Ramon Gil-Garcia. 2011. "The Role of IT literacy in Defining Digital Divide Policy Needs." *Government Information Quarterly* 2011(1):3–10.

Finley, Klint. 2018. "FCC Won't Redfine 'Broadband;' Move Could Have Worsened Digital Divide." *Wired* .
URL: *https://www.wired.com/story/fcc-wont-redefine-broadband-move-could-have-worsened-digital-divide/*

Finley, Klint. 2019. "The WIRED Guide to 5G." *Wired* .
URL: *https://www.wired.com/story/wired-guide-5g/*

Fiorina, Morris, Samuel J. Abrams & Jeremy C. Pope. 2011. *Culture War? The Myth of a Polarized America.* 3rd ed. New York, NY: Longman.

Fountain, Jane E. 2000. "Constructing the Information Society: women, Information Technology, and design." *Technology in Society* 22(1):45–62.

Frieden, Rob. 2005. "Lessons from Broadband Development in Canada, Japan, Korea, and the United States." *Telecommunications Policy* 29(8):595–613.

Frieden, Robert. 2013. "The Mixed Blessing of a Deregulatory Endpoint for the Public Switched Telephone Network." *Telecommunications Policy* 37:400–412.

Fuchs, Christian. 2009. "Information and Communciation Technologies and Society: A Contribution to the Critique of the Political Economy of the Internet." *European Journal of Communication* 24(1):69–87.

Gilens, Martin. 2005. "Inequality and Democratic Responsiveness." *Public Opinion Quarterly* 69(5):778–796.

Gilens, Martin & Benjamin I. Page. 2014. "Testing Theories of American Politics: Elites, Interest Groups, and Average Citizens." *Perspectives on Politics* 12(3):564–581.

Gimpel, James G., Frances E. Lee & Joshua Kaminski. 2006. "The Political Geography of Campaign Contributions in American Politics." *Journal of Politics* 68(3):626–639.

Gimpel, James G. & Iris Hui. 2017. "Inadvertent and Intentional Partisan Residential Sorting." *The Annals of Regional Science* 58:441–468.

Goldfarb, Avi & Jeff Prince. 2008. "Internet Adoption and Usage Patterns Are Different: Implications for the Digital Divide." *Information Economics and Policy* 20(1):2–15.

Goldstein, Dana, Adam Popescu & Nikole Hannah-Jones. 2020. "As School Moves Online, Many Students Stay Logged Out." *New York Times* .
URL: *https://www.nytimes.com/2020/04/06/us/coronavirus-schools-attendance-absent.html*

Green, Donald P., Palmquist & Eric Schickler. 2002. *Partisan Hearts and Minds: Political Parties and the Social Identities of Voters*. New Haven, CT: Yale University Press.

Greenblatt, Jonathan A. 2019. "One year after the Tree of Life attack, anti-Semitism is still on the rise — and social media isn't helping." *Washington Post* .
URL: *https://www.washingtonpost.com/opinions/one-year-after-the-tree-of-life-attack-anti-semitism-is-still-on-the-rise–and-social-media-isnt-helping/2019/10/25/1596b88a-f67a-11e9-ad8b-85e2aa00b5ce_story.html*

Greengard, Samuel. 2015. *The Internet of Things*. Cambridge, MA: M.I.T. Press.

Hacker, Jacob S. & Paul Pierson. 2010. "Winner–Take–All Politics: Public Policy, Political Organization, and the Precipitous Rise of Top Incomes in the United States." *Politics and Society* 38(2):152–204.

Hargittai, Eszter & Aaron Shaw. 2015. "Digitally Savvy Citizenship: The Role of Internet Skills and Engagement in Young Adults' Political Participation around the 2008 Presidential Election." *Journal of Broadcasting and Electronic Media,* 57(2):115–134.

Hargittai, Ezster & Amanda Hinnant. 2008. "Digital Inequality: Differences in Young Adults' Use of the Internet." *Communication Research* 35(5):602–621.

Harsgor, Liran. 2018. "The Partisan Gender Gap in the United States: A Generational Replacement?" *Public Opinion Quarterly* 82(2):231–251.

Harvey, Sylvia & Marko Ala-Fossi. 2016. "Eroding the Assets of Citizenship? From Broadcast to Broadband." *The International Communication Gazette* 78(4):294–301.

Heerwig, Jennifer A. & Katie M. Gordon. 2018. "Buying a Voice: Gendered Contribution Careers among Affluent Political Donors to Federal Elections, 1980–2008." *Sociological Forum* 33(3):805–825.

Herrnson, Paul S., Atiya Kai Stokes-Brown & Matthew Hindman. 2007. "Campaign Politics and the Digital Divide: Constituency Characteristics, Strategic Considerations, and Candidate Internet Use in State Legislative Elections." *Political Research Quarterly* 60(1):31–42.

Hilbert, Martin. 2016. "The Bad News is that Digital Access Divide is Here to Stay: Domestically Installed Bandwidths Among 172 Countries for 1986–2014." *Telecommunication Policy* 40:567–581.

Hindman, Matthew. 2005. "The Real Lessons of Howard Dean." *Perspectives on Politics* 3(1):121–128.

Hindman, Matthew D. 2009. *The Myth of Digital Democracy*. Princeton, NJ: Princeton University Press.

Hoffman, Lindsay H. & Amanda L. Schecter. 2016. "Technical Skills Requried: How Technological Efficacy Influences Online Political Behavior." *Journal of Broadcasting and Electronic Media* 60(3):484–502.

Howard, Philip N., Laura Busch & Penelope Sheets. 2011. "Comparing Digital Divides: Internet Access and Social Inequality in Canada and the United States." *Canadian Journal of Communication* 35(1):109–128.

Hsieh, J. J. Po-An, Arun Rai & Mark Keil. 2011. "Addressing Digital Inequality for the Socioeconomically Disadvantaged Through Government Initiatives: Forms of Capital that Affect Utilization." *Information Systems Research* 22(2):233–253.

Huckfeldt, Robert, Paul Allen Beck, Russel J. Dalton & Jeffrey Levine. 1995. "Political Environments, Cohesive Social Groups, and the Communication of Public Opinion." *American Journal of Political Science* 39(4):1025–1054.

Huddy, Leonie, Lilliana Mason & Lene Aarøe. 2015. "Expressive Partisanship: Campaign Involvement, Political Emotion, and Partisan Identity." *American Political Science Review* 109(1):1–17.

Ikeda, Ken'ichi, Sean Richey & Holly Teresi. 2013. "Browsing Alone: The Differential Impact of Internet Platfroms on Political Participation." *Japanese Journal of Political Science* 14(3):305–319.

Iyengar, Shanto & Kyu S. Hahn. 2009. "Red Media, Blue Media: Evidence of Ideological Selectivity in Media Use." *Journal of Communication* 59(1):19–39.

Iyengar, Shanto & Sean J. Westwood. 2015. "Fear and Loathing across Party Lines: New Evidence on Group Polarization." *American Journal of Political Science* 59(3):690–707.

Jennings, M. Kent & Vicki Zeitner. 2003. "Internet Use and Civic Engagement: A Longitudinal Analysis." *Public Opinion Quarterly* 67(3):311–334.

Karpf, David. 2013. "The Internet and American Political Campaigns." *The Forum* 11(3):413–428.

Katz, James E., Ronald E. Rice & Philip Aspden. 2001. "The Internet, 1995–2000: Access, Civic Involvement, and Social Interaction." *American Behavioral Scientist* 45(3):405–419.

Kaufman, Chelsea N. 2016. "The changing political character of American farmers: 1954–2008." *Journal of Rural Studies* 47:153–164.

Kaufman, Chelsea N. 2019. "Rural political participation in the United States: alienation or action?" *Rural Studies* 28(2):127–143.

Kerrissey, Jasmine & Evan Schofer. 2013. "Union Membership and Political Participation in the United States." *Social Forces* 91(3):895–928.

Kim, Sung Eun & Yotam Margalit. 2017. "Informed Preferences? The Impact of Unions on Workers' Policy Views." *American Journal of Political Science* 61(3):728–743.

Kinder, Donald R. & Nathan P. Kalmoe. 2018. *Neither Liberal nor Conservative: Ideological Innocence in the American Public.* Chicago, IL: University of Chicago.

King, Gary, Michael Tomz & Jason Wittenberg. 2000. "Making the Most of Statistical Analyses: Improving Interpretation and Presentation." *American Journal of Political Science* 44(2):341–355.

Kittilson, Miki Caul & Russell J. Dalton. 2011. "Virtual Civil Society: The New Frontier of Social Capital?" *Political Behavior* 33:625–644.

Koc-Michalska, Karolina, Darren G. Lilleker & Thierry Vedel. 2016. "Civic Political Engagement and Social Change in the New Digital Age." *New Media and Society* 18(9):1807–1816.

Kolev, Kiril & Anushah Jiwani. 2018. "Do private donations depress electoral turnout? An empirical investigation of voter participation." *Election Studies* 52:73–83.

Kraut, Robert, Michael Patterson, Vicki Lundmark, Sara Kiesler, Tridas Mukopadhyay & William Scherlis. 1998. "Internet Paradox: A Social Technology That Reduces Social Involvement and Psychological Well-Being?" *American Psychologist* 53(9):1017–1031.

Kraut, Robert, Sara Kiesler, Bonka Boneva, Jonathon Cummings, Vicki Helgeson & Anne Crawford. 2002. "Internet Paradox Revisted." *Journal of Social Issues* 58(1):49–74.

Krell, Matthew Reid. 2016. "Fear–Driven Donations: Campaign Contributions as Mechanisms for Entrenching White Supremacy." *Social Science Quarterly* 97(5):1118–1129.

Kreuger, Brian S. 2002. "Assessing the Potential of Internet Political Participation in the United States." *American Politics Research* 30(5):476–498.

Kuriwaki, Shiro. 2018. "Cumulative CCES Common Content (2006–2017).".
URL: *https://doi.org/10.7910/DVN/II2DB6*

Kvasny, Lynette & Mark Keil. 2006. "The Challenges of Redressing the Digital Divide: A Tale of Two U.S. Cities." *Information Systems Journal* 16(1):23–53.

Lambie-Hanson, Timothy. 2013. "Campaign Contributions as Valence." *Public Choice* 157(1):3–24.

Lane, Robert. 1962. *Political Ideology: Why the American Common Man Believes What He Does.* New York: The Free Press.

LaRose, Robert, Jennifer L. Gregg, Sharon Strover, Joseph Straubhaar & Serena Carpenter. 2007. "Closing the Rural Broadband gap: Promoting Adoption of the Internet in Rural America." *Telecommunications Policy* 31(6–7):359–373.

LaRose, Robert, Sharon Strover, Jennifer L. Gregg & Joseph Straubhaar. 2011. "The Impact of Rural Broadband Development: Lessons from a Natural Field Experiment." *Government Information Quarterly* 28(1):91–100.

Lawrence, Eric, John Sides & Henry Farrell. 2010. "Self-Segregation or Deliberation? Blog Readership, Participation, and Polarization in American Politics." *Perspectives on Politics* 8(1):141–157.

Lay, Celeste J. 2017. "She Was Born in a Small Town: The Advantages and Disadvantages in Political Knowledge and Efficacy for Rural Girls." *Journal of Women, Politics, and Policy* 38(3):318–334.

Lee, Hyunjoo, Namsu Park & Yongsuk Hwang. 2015. "A New Dimension of the Digital Divide: Exploring the Relationship Between Broadband Connection, Smartphone Use and Communication Competence." *Telematics and Informatics* 32(1):45–56.

Lelkes, Yphatch, Gaurav Sood & Shanto Iyengar. 2015. "The Hostile Audience: The Effect of Access to Broadband Internet on Partisan Affect." *American Journal of Political Science* 61(1):5–20.

Levine, Carrie. 2019. "Why Democrats Are Falling Over Themselves To Find Small-Dollar Donors.".
URL: *https://fivethirtyeight.com/features/why-democrats-are-falling-over-themselves-to-find-small-dollar-donors/*

Lin, Yu-Ru, Ryan Kennedy & David Lazer. 2017. "The geography of money and politics: Population density, social networks, and political contributions." *Research and Politics* 4(4):1–8.

Litt, Eden & Ezster Hargittai. 2014. "A Bumpy Ride on the Information Superhighway: Exploring Turbulence Online." *Computers in Human Behavior* 38:520–529.

Llorens, Jared J. 2011. "A Model of Public Sector E–Recruitment Adoption in a Time of Hyper Technological Change." *Review of Public Personnel Administration* 31(4):410–423.

Lohr, Stephen. 2018. "Digital Divide is Wider than We Think." *New York Times* .
URL: *https://www.nytimes.com/2018/12/04/technology/digital-divide-us-fcc-microsoft.html*

Long, Heather. 2020. "U.S. now has 22 million unemployed, wiping out a decade of job gain." *Washington Post* .
URL: *https://www.washingtonpost.com/business/2020/04/16/unemployment-claims-coronavirus/*

Lynch, Marc. 2011. "After Egypt: The Limits and Promise of Online Challenges to the Authoritarian Arab State." *Perspectives on Politics* 9(2):301–310.

Margolis, Michele F. & Michael W. Sances. 2016. "Partisan Differences in Nonpartisan Activity: The Case of Charitable Giving." *Political Behavior* 39:839–864.

Mason, Lilliana. 2018. "Ideologues without Issues: The Polarizing Consequences of Ideological Identities." *Public Opinion Quarterly* 82:280–301.

Meneses, Julio & Josep Maria Mominó. 2010. "Putting Digital Literacy in Practice: How Schools Contribute to Digital Inclusion in the Network Society." *The Information Society* 26(3):197–208.

Mesch, Gustavo S. & Ilan Talmud. 2011. "Ethnic Differences in Internet Access: The Role of Occupation and Exposure." *Information, Communication, and Society* 14(4):445–471.

Miller, Warren E. & J. Merrill Shanks. 1996. *The New American Voter.* Cambridge, MA: Harvard University Press.

Milner, Helen V. 2006. "The Digital Divide: The Role of Political Institutions in Technology Diffusion." *Comparative Political Studies* 39(2):176–199.

Morozov, Evgeny I. 2011. *The Net Delusion: The Dark Side of Internet Freedom.* New York: Public Affairs.

Morris, David S. & Jonathan S. Morris. 2013. "Digital Inequality and Participation in the Political Process: Real or Imagined?" *Social Science Computer Review* 31(5):589–600.

Morris, David S. & Jonathan S. Morris. 2017. "Evolving Learning: The Changing Effect of Internet Access on Political Knowledge and Engagement." *Sociological Forum* 32(2):339–358.

Morris, Jonathan. 2005. "The Fox News Factor." *The Harvard Journal of Press and Politics* 10(3):56–79.

Mossberger, Karen, Caroline J. Tolbert & Mary Stansbury. 2003. *Virtual Inequality: Beyond the Digital Divide.* Washington, D.C.: Georgetown University Press.

Mossberger, Karen, Caroline Tolbert & William Franko. 2013. *Digital Cities: The Internet and the Geography of Opportunity.* New York: Oxford University Press.

Mossey, Sean, Daniel Bromberg & Aroon P. Manoharan. 2019. "Harnessing the power of mobile technology to bridge the digital divide: a look at U.S. cities' mobile government capability." *Journal of Information Technology and Politics* 16(1):52–65.

Mullinix, Kevin J. 2016. "Partisanship and Preference Formation: Competing Motivations, Elite Polarization, and Issue Importance." 38(2):383–411.

Mullinix, Kevin J. 2018. "Civic Duty and Political Prefernce Formation." *Political Research Quarterly* 71(1):199–214.

Mutz, Diana C. 2006. *Hearing the Other Side: Deliberative versus Participatory Democracy.* New York: Cambridge University Press.

Mutz, Diana C. & Byron Reeves. 2005. "The New Videomalaise: Effects of Televised Incivility on Political Trust." *American Political Science Review* 99(1):1–15.

Nah, Seunghan & Masahiro Yamamoto. 2018. "The Integrated Media Effect: Rethinking the Effect of Media Use on Civic Participation in the Networked Digital Media Environment." *American Behavioral Scientist* 62(8):1061–1078.

Napoli, Philip M. & Jonathan A. Obar. 2014. "The Emerging Mobile Internet Underclass: A Critique of Mobile Access." *The Information Society* 30(5):323–334.

Napoli, Philip M. & Jonathan A. Obar. 2017. Second Class Netizens: Race and the Emerging Mobile Internet Underclass. In *Race and Gender in Electronic Media: Content, Context, Culture*, ed. Rebecca Ann Lind. New York: Routledge pp. 311–329.

Newton, Kenneth. 1999. "Mass Media Effects: Mobilization or Media Malaise." *British Journal of Political Science* 29(4):577–599.

Nickerson, David W. 2008. "Is Voting Contagious? Evidence from Two Field Experiments." *American Political Science Review* 102(1):49–58.

Nickerson, David W. & Todd Rogers. 2014. "Political Campaigns and Big Data." *Journal of Economic Perspectives* 28(2):51–74.

Nie, Norman H. 2001. "Sociability, Interpersonal Relations, and the Internet: Reconciling Conflicting Findings." *American Behavioral Scientist* 45(3):420–435.

Nie, Norman H. & D. Sunshine Hillygus. 2002. "The Impact of Internet Use on Sociability: Time–Diary Findings." *IT and Society* 1(1):1–20.

Nie, Norman H., Darwin W. Miller III, Saar Golde, Daniel M. Butler & Kenneth Winneg. 2010. "The World Wide Web and the U.S. Political News Market." *American Journal of Political Science* 54(2):428–439.

Niemi, Richard G. & M. Kent Jennings. 1991. "Issues and Inheritance in the Formation of Party Identification." *American Journal of Political Science* 35(4):970–988.

Norris, Pippa. 1995. "Does Television Erode Social Capital? A Reply to Putnam." *P.S.: Political Science and Politics* 29(3):474–480.

Norris, Pippa. 2001. *The Digital Divide: Civic Engagement, Information Poverty, and the Internet Worldwide.* New York: Cambridge University Press.

Nossiter, Adam, Raphael Minder & Elian Peltier. 2020. "Shutdowns Spread Across Europe as Spain and France Order Broad Restrictions." *New York Times* .
URL: *https://www.nytimes.com/2020/03/14/world/europe/france-coronavirus.html*

NTIA. 1995. "Falling Throughthe Net: A Survey of the 'Have Nots' in Rural and Urban America.".
URL: *https://www.ntia.doc.gov/ntiahome/fallingthru.html*

NTIA. 2010. "Exploring the Digital Nation: Home Broadband Adoption in the United States.".
URL: *http://www.ntia.doc.gov/files/ntia/publications /esa_ntia_us_broadband_adoptionreport_11082010_1.pdf*

NTIA. 2014. "Exploring the Digital Nation: Embracing the Mobile Internet.".
URL: *http://www.ntia.doc.gov/files/ntia/publications/exploring_the_digital_nation _embracing_the_mobile_internet_10162014.pdf*

Ojeda, Christopher. 2018. "The Two Income-Participation Gaps." *American Journal of Political Science* 62(4):813–829.

Ondercin, Heather L. & Daniel Jones-White. 2011. "Gender Jeopardy: What is the Impact of Gender Differences in Political Knowledge on Political Participation?" *Social Science Quarterly* 92(3):675–694.

Ono, Hiroshi & Madeline Zavodny. 2003. "Gender and the Internet." *Social Science Quarterly* 84(1):111–121.

O'Reilly, Timothy. 2005. "What is Web 2.0? Design patterns and business models for the next generation of software.".
URL: *http://oreilly.com/web2/archive/what-is-web-20.html*

Oser, Jennifer, Marc Hooghe & Sofie Marien. 2013. "Is Online Participation Distinct from Offline Participation? A Latent Class Analysis of Participation Types and Their Stratification." *Political Research Quarterly* 66(1):91–101.

Page, Benjamin I., Larry M. Bartels & Jason Seawright. 2013. "Democracy and the Preferences of Wealthy Americans." *Perspectives on Politics* 11(1):51–73.

Page, Benjamin I. & Robert Y. Shapiro. 1992. *The Rational Public.* Chicago, IL: University of Chicago Press.

Paloque-Bergés, Camille & Valérie Schafer. 2019. "ARPANET (1969–2019)." *Internet Histories* 3(1):1–14.

Parker, Glenn R. 2008. *Capitol Investments: The Marketability of Political Skills (Economics, Cognition, And Society).* Ann Arbor, MI: University of Michigan Press.

Popkin, Samuel. 1991. *The Reasoning Voter: Communication and Persuasion in Presidential Campaigns.* Chicago, IL: University of Chicago Press.

Postman, Neil. 2006. *Amusing Ourselves to Death: Public Discourse in the Age of Show Business.* New York: Penguin.

Powell, Alison, Amelia Byrne & Dharma Dailey. 2011. "The Essential Internet: Digital Exclusion in Low Income Areas." *Policy and Internet* 2(2):161–192.

Prior, Markus. 2007. *Post-Broadcast Democracy: How Media Choice Increases Inequality in Political Involvement and Polarizes Elections.* New York: Cambridge University Press.

Prior, Markus. 2013*a*. "The Challenge of Measuring Media Exposure: Reply to Dilliplane, Goldman, and Mutz." *Political Communication* 30(4):620–634.

Prior, Markus. 2013*b*. "Media and Political Polarization." *Annual Reviews of Political Science* 16:101–127.

Prior, Markus & Lori D. Bougher. 2018. "'Like They've Never, Ever Seen in this Country:' Political Interest and Voter Engagement in 2016." *Public Opinion Quarterly* 82(S1):236–256.

Putnam, Robert D. 1996. "Tuning In, Tuning Out: The Strange Disappearance of Social Capital in America." *P.S.: Political Science and Politics* 28(4):664–683.

Putnam, Robert D. 2000. *Bowling Alone: The Collapse and Revival of American Community.* New York: Simon and Schuster.

Raja, Raymond J. La. 2014. "Political Participation and Civic Courage: The Negative Effect of Transparency on Making Small Campaign Contributions." *Political Behavior* 36:753–776.

Rheingold, Harold. 1992. *The Virtual Community: Homesteading on the Electronic Frontier.* Reading, MA: Addison–Wesley.

Rhodes, Jesse H., Brian F. Schaffner & Raymond J. La Raja. 2018. "Detecting and Understanding Donor Strategies in Midterm Elections." *Political Research Quarterly* 71(3):503–516.

Rice, Ronald E. & James E. Katz. 2003. "Comparing internet and mobile phone usage: digital divides of usage, adoption, and dropouts." *Telecommunication Policy* 27(8-9):597–623.

Riker, William H. & Peter C. Ordeshook. 1968. "A Theory of the Calculus of Voting." *American Political Science Review* 62(1):25–42.

Ritter, Michael & Frederick Solt. 2019. "Economic Inequality and Campaign Participation." *Social Science Quarterly* 100(3):678–688.

Roberts, Jennifer R. & Molly Maxfield. 2019. "Mortality Salience and Age Effects on Charitable Donations." *American Behavioral Scientist* 63(14):1863–1884.

Robinson, Laura, Shelia R. Cotten, Hiroshi Ono, Anabel Quan-Haase, Gustavo Mesch, Wenhong Chen, Jeremy Schulz, Timothy M. Hale & Michael J. Stern. 2015. "Digital Inequalities and Why They Matter." *Information, Communication, and Society* 18(5):569–582.

Robinson, Michael J. 1976. "Public Affairs Television and the Growth of Political Malaise: The Case of "The Selling of the Pentagon"." *American Political Science Review* 70(2):409–432.

Scheerder, Anique, Alexander van Deursen & Jan van Dijk. 2017. "Determinants of Internet skills, uses and outcomes. A systematic review of the second- and third-level digital divide." *Telematics and Informatics* 34(8):1607–1624.

Schlozman, Kay Lehman, Sidney Verba & Henry E. Brady. 2010. "Weapon of the Strong? Participatory Inequality and the Internet." *Perspectives on Politics* 8(1):487–509.

Schlozman, Kay Lehman, Sidney Verba & Henry E. Brady. 2012. *The Unheavenly Chorus: Unequal Political Voice and the Broken Promise of American Democracy.* Princeton, NJ: Princeton University Press.

SCOTUS. 2020. "RNC v. DNC.".
URL: *https://www.supremecourt.gov/opinions/19pdf/19a1016_o759.pdf*

Shah, Nikhil. 2012. "Welfare and Technology in the Network Society: Concerns for the Future of Welfare." *Futures* 44(7):659–665.

Silva, Simone, Narine Badasyan & Michael Busby. 2018. "Diversity and Digital Divide: Using the National Broadband Map to Identify the Non–Adopters of Broadband." *Telecommunication Policy* 42(5):361–373.

Sinclair, Betsy. 2013. *Peer Networks and Political Behavior (Chicago Studies in American Politics).* Chicago, IL: University of Chicago Press.

Snyder, James M. 1992. "Campaign Contributions as Investments: The U.S. House of Representatives, 1980–1986." *Journal of Political Economy* 98(6):1195–1227.

Sourbati, Maria. 2009. "It Could be Useful, but Not for Me at the Moment: Older People, Internet Access and e-Public Service Provision." *New Media and Society* 11(7):1083–1100.

Storsul, Tanja. 2019. "What, When, and Where is the Internet?" *European Journal of Communication* 34(3):319–322.

Strover, Sharon. 2013. A Retrospective Convergence, Moral Panic, and the Internet. In *Frontiers in New Media Research*, ed. Francis L. F. Lee, Louis Leung, Jack Linchuan Qiu & Donna S. C. Chu. New York, NY: Routledge pp. 132–152.

Strover, Sharon. 2014. "The U.S. Digital Divide: A Call for a New Philosophy." *Critical Studies in Media Communication* 31(2):114–122.

Strover, Sharon. 2019. "Public Libraries and 21st Century Digital Equity Goals." *Communciation Research and Practice* 5(2):188–205.

Strover, Sharon L. 2001. "Rural Internet Connectivity." *Telecommunications Policy* 25(5):331–347.

Tapia, Andrea Hoplight, Alison Powell & Julio Angel Ortiz. 2009. "Reforming Policy to Promote Local Broadband Networks." *Journal of Communication Inquiry* 33(4):354–375.

Tedesco, John C. 2007. "Examining Internet Interactivity Effects on Young Adult Political Information Efficacy." *American Behavioral Scientist* 50(9):1183–1194.

Tsetsi, Eric & Stephen A. Rains. 2017. "Smartphone Internet access and use: Extending the digital divide and usage gap." *Mobile Media and Communication* 5(3):239–255.

U.S.Census. 2010. "2010 Decennial Census.".
URL: *https://www.census.gov/programs-surveys/decennial-census/data/datasets.2010.html*

Vaccari, Cristian & Augusto Valerani. 2018. "Dual Screening, Public Service Broadcasting, and Political Participation in Eight Western Democracies." *The Intenational Journal of Press/Politics* 23(3):367–388.

van der Zeeuw, Alex, Alexander J.A.M. van Deursen & Giedo Jansen. 2019. "Inequalities in the social use of the Internet of things: A capital and skills perspective." *New Media and Society* 21(6):1344–1361.

van Deursen, Alexander J.A.M., Ellen J. Helsper & Rebecca Eynon. 2016. "Development and validation of the Internet Skills Scale (ISS)." *Information, Communication, and Society* 19(6):804–823.

van Deursen, Alexander J.A.M. & Jan A. G. M. van Dijk. 2014. "The Digital Divide Shifts to Usage." *New Media and Society* 16(3):507–526.

van Deursen, Alexander J.A.M. & Jan A.G.M. van Dijk. 2019. "The First–Level Digital Divide Shifts from Inequalities in Physical Access to Inequalities in Material Access." *New Media and Society* 21(2):354–375.

van Deursen, Alexander J.A.M. & Karen Mossberger. 2018. "Any Thing for Anyone? A New Digital Divide in Internet–of–Things Skills." *Policy and Internet* 10(2):125–144.

van Dijk, Jan A. G. M. 2006. *The Deepening Divide: Inequality in the Information Society.* Thousand Oaks, CA: Sage Publications.

van Dijk, Jan A. G. M. & Kenneth Hacker. 2003. "The Digital Divide as a Complex and Dynamic Phenomenon." *The Information Society* 19:315–326.

Verba, Sidney. 1996. "The Citizen as Respondent: Sample Surveys and American Democracy Presidential Address." *American Political Science Review* 90(1):1–7.

Verba, Sidney, Kay Lehman Schlozman, Henry Brady & Norman H. Nie. 1993. "Race, Ethnicity and Political Resources: Participation in the United States." *British Journal of Political Science* 23:453–497.

Verba, Sidney, Kay Lehman Schlozman & Henry E. Brady. 1995. *Voice and Equality: Civic Voluntarism in American Politics.* Cambridge, MA: Harvard University Press.

Verba, Sidney, Nancy Burns & Kay Lehman Schlozman. 1997. "Knowing and Caring about Politics: Gender and Political Engagement." *Journal of Politics* 59(4):1051–1072.

Verba, Sidney & Noman H. Nie. 1972. *Participation in America: Political Democracy and Social Equality.* New York: Harper and Row.

Vitak, Jessica, Paul Zube, Andrew Smock, Caleb T. Carr, Nicole Ellison & Cliff Lampe. 2011. "It's Complicated: Facebook Users' Political Participation in the 2008 Election." *Cyberspsychology, Behavior, and Social Networking* 14(3):107–114.

Waterman, David & Sujin Choi. 2011. "Non–Discrimination Rules for ISPs and Vertical Integration: Lessons from Cable Television." *Telecommunications Policy* 35(11):970–983.

Weisman, Jonathan. 2015. "Shifting Politics of Net Neutrality Debate Ahead of F.C.C. Vote." *New York Times* .
URL: *http://www.nytimes.com/2015/01/20/technology/shifting-politics-of-net-neutrality-debate-ahead-of-fcc-vote.html*

Whitacre, Brian. 2017. "Fixed Broadband or Mobile: What Makes us More Civically Engaged?" *Information and Teleinformatics* 34:755–766.

Whitacre, Brian & Colin Rhinesmith. 2015. "Public Libraries and Residential Broadband Adoption. Do More Computers Lead to Higher Rates?" *Government Information Quarterly* 32:164–171.

Whitacre, Brian E. & Jacob L. Manlove. 2016. "Broadband and civic engagement in rural areas: What matters?" *Community Development* 47(5):700–717.

Whitacre, Brian, Sharon Strover & Roberto Gallardo. 2015. "How Much Does Broadband Infrastructure Matter? Decomposing the Metro—Non-Metro Adoption Gap with the Help of the National Broadband Map." *Government Information Quarterly* 32(3):261–269.

WhiteHouse. 2015. "Connecting America: What High Speed Internet Means in the 21st Century.".

Williamson, Vanessa, Theda Skocpol & John Coggin. 2011. "The Tea Party and the Reamking of Republican Conservatism." *Perspectives on Politics* 9(1):25–43.

Wlezien, Christopher. 1995. "The Public as Thermostat: Dynamics of Preferences for Spending." *American Journal of Political Science* 39(4):981–1000.

Wojcieszak, Magladena E. & Diana C. Mutz. 2009. "Online Groups and Political Discourse: Do Online Discussion Spaces Facilitate Exposure to Political Disagreement." *Journal of Communication* 59(1):40–56.

Wray-Lake, Laura, Erin H. Arruda & David A. Hopkins. 2019. "The Party Goes On: U.S. Young Adults' Partisanship and Political Engagement Across Age and Historical Time." *American Politics Research* 47(6):1358–1376.

Zaller, John R. 1992. *The Nature and Origins of Mass Opinion.* New York: Cambridge University Press.

Zillen, Nicole & Eszter Hargittai. 2009. "Digital Distinction: Status–Specific Types of Internet Usage." *Social Science Quarterly* 90(2):274–291.

Zukin, Cliff, Scott Keeter, Molly Andolina, Krista Jenkins & Michael X. Delli-Carpini. 2006. *A New Engagement? Political Participation, Civic Life and the Changing American Citizen.* New York: Oxford University Press.

APPENDICES

A. QUESTION WORDING

A.1 ANES

All Question Wordings are found in the Respective Year's ANES codebook.

- **2008 Internet Question** (Variable: V083018): Do you have access to the internet or the World Wide Web?
  - (1) Yes
  - (5) No
  - (-8) Don't Know
  - (-8) Refused

  Note: This question was the same wording for the surveys conducted in the following years in addition to 2008: 1996 (V961160), 1998 (V980209), 2000 (V001433), 2004 (V045155).

- **2012 Home Internet Question** (Variable: prmedia_useinet): Do you or anyone in this household use the Internet at any location? (page 106, 2012 Codebook)
  - (1) Yes
  - (2) No
  - (-1) Inapplicable
  - (-8) Don't Know

- **2016 Home Internet Question** (Variable: V161326): Do you or does anyone in this household connect to the Internet from home? (Page 536, 2016 Codebook)
  - (1) Yes
  - (2) No
  - (-8) Don't Know (FTF Only)
  - (-9) Refused

A.2 CCES

All Question Wording can be found in the CCES manuals. All wordings here come from the 2016 manual. All Differences in wording are addressed with specific variables

A.2.1 QOIA variables

- **Home Internet Access** (CCES 2016 Variable: internethome): "'What best describes the access you have to the internet at home?" (page 38, 2016 Guide)
    - (1) Broadband
    - (2) Dial–Up
    - (3) None
    - (8) skipped
    - (9) not asked

- **Work Internet Access** (CCES 2016 Variable: internetwork): "What best describes the access you have to the internet at work (or at school)?" (page 38, 2016 Guide)
    - (1) Broadband
    - (2) Dial–Up
    - (3) None
    - (8) skipped
    - (9) not asked

- **Phone Service** (CCES 2016 Variable: phone): "Thinking about your phone service, do you have ...?" (page 38, 2016 Guide)
    - (1) Both
    - (2) Cell Only
    - (3) Landline
    - (4) No Phone
    - (8) skipped
    - (9) not asked

A.2.2 Political Questions

- **Interest in Politics** (Question Variable: newsint): "Some people seem to follow what's going on in government and public affairs most of the time, whether there's an election going on or not. Others aren't that interested. Would you say you follow what's going on in government and public affairs ..." (page 49, 2016 Guide)
    - Most of the Time
    - Some of the Time
    - Now and Then
    - Hardly at All
    - Don't Know

- Skipped
- Not Asked

- Party ID (Question Variable:pid7): "Generally speaking, do you think of yourself as a ...?" (page 39, 2016 Guide)

  - (1) Strong Democrat
  - (2) Not as Strong Democrat
  - (3) Lean Democrat
  - (4) Independent
  - (5) Lean Republican
  - (6) Not as Strong Republican
  - (7) Strong Republican
  - (4) Other
  - (5) Not Sure
  - (8) Skipped
  - (9) Not Asked

- Ideology (Question Variable:ideo5):="In general, how would you describe your own political viewpoint?" (page 40, 2016 Guide)

  - (1) Very Liberal
  - (2) Liberal
  - (3) Moderate
  - (4) Conservative
  - (5) Very Conservative
  - (6) Not Sure
  - (8) Skipped
  - (9) Not Asked

A.2.3   Socioeconomic Variables

- **Gender** (Question Variable: gender): "Are you male or female?" (page 26, 2016 Guide)

  - (1) Male
  - (2) Female
  - (8) Skipped
  - (9) Not asked

- **Education** (Question Variable: educ): "What is the highest level of education you have completed?" (page 27, 2016 Guide)

  - (1) No HS

- – (2) High School Graduate
- – (3) Some College
- – (4) 2–year
- – (5) 4–year
- – (6) Post–Graduate
- – (8) Skipped
- – (9) Not asked

- **Income** (Question Variable: famminc): "Thinking back over the last year, what was your family's annual income?[1]" (page 50, 2016 Guide)
    - – (1) Less Than $10,000
    - – (2) $10,000 – $19,999
    - – (3) $20,000 – $29,999
    - – (4) $30,000 – $39,999
    - – (5) $40,000 – $49,999
    - – (6) $50,000 – $59,999
    - – (7) $60,000 – $69,999
    - – (8) $70,000 – $79,999
    - – (9) $80,000 – $99,999
    - – (10) $100,000 – $119,999
    - – (11) $120,000 – $149,999
    - – (31) $150,000 or More
    - – (97) Prefer not to say
    - – (12) $150,000 – $199,999
    - – (13) $200,000 – $249,999
    - – (14) $250,000 – $349,999
    - – (15) $350,000 – $499,999
    - – (16) $500,000 or more
    - – (98) Skipped
    - – (99) Not Asked
    - – (32) $250,000 or more

- **Race** (Question variable: race): What racial or ethnic group best describes you? (page 28, 2016 Guide):
    - – (1) White
    - – (2) Black
    - – (3) Hispanic

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[1](NOTE: In the dataset, the variable is collapsed to indicate more than $150,000 in the larger income amounts)

- (4) Asian
- (5) Native American
- (8) Middle Eastern
- (6) Mixed
- (7) Other
- (98) Skipped
- (99) Not Asked

A.2.4 Political Donation Attitudes

- **Political Efficiency** (Question Variable: CC16_417e_1): "Campaign contributions are an effective way to influence public policy" (page 112, 2016 Guide)
  - (1) Strongly Disagree
  - (2) Somewhat Disagree
  - (3) Neither Agree nor Disagree
  - (4) Somewhat Agree
  - (5) Strongly Agree
  - (8) Skipped
  - (9) Not Asked
- **Campaign Contributions and business efficacy** (Question Variable: CC16_417e_2): "Campaign contributions are an effective way to help my business/industry" (page 112, 2016 Guide)
  - (1) Strongly Disagree
  - (2) Somewhat Disagree
  - (3) Neither Agree nor Disagree
  - (4) Somewhat Agree
  - (5) Strongly Agree
  - (8) Skipped
  - (9) Not Asked
- **Donor Network** (Question Variable: CC16_417e_3): "Campaign contributions allow me to be part of a network with other contributors" (page 113, 2016 Guide)
  - (1) Strongly Disagree
  - (2) Somewhat Disagree
  - (3) Neither Agree nor Disagree
  - (4) Somewhat Agree
  - (5) Strongly Agree
  - (8) Skipped
  - (9) Not Asked

- **Civic duty and political giving** (Question Variable: CC16 417e 5) "For anyone who can afford to contribute, it is a civic duty to contribute Financially to campaigns." (page 113, 2016 Guide)
  - (1) Strongly Disagree
  - (2) Somewhat Disagree
  - (3) Neither Agree nor Disagree
  - (4) Somewhat Agree
  - (5) Strongly Agree
  - (8) Skipped
  - (9) Not Asked

A.2.5   Union Membership

- **Union Membership** (Question Variable: union): "Are you a member of a labor union?" (page 53, 2016 Guide)
  - Yes, I am currently a member of a labor union
  - I formerly was a member of a labor union
  - I am not now, nor have I been, a member of a labor union
  - Skipped
  - Not Asked
- **Union Membership in Household** (Question Variable: unionhh): "Other than yourself, is any member of your household a union member?" (page 53, 2016 Guide)
  - Yes, a member of my household is currently a union member
  - A member of my household was formerly a member of a labor union, but is not now
  - No, no one in my household has ever been a member of a labor union
  - Skipped
  - Not Asked

A.2.6   Political Participation Variables

- **Voting in Primary** (Question Variable: CC16_327): "Did you vote in a Presidential primary election or caucus this year?" (page 75, 2016 Guide)
  - (1) Yes, voted in a primary or caucus
  - (2) No, didnt vote in a primary or caucus
  - (8) Skipped
  - (9) Not Asked

- **Voter Registration** (Question Variable: votereg): "Are you registered to vote?" (page 28, 2016 Guide)
  - (1) Yes
  - (2) No
  - (3) Don't Know
  - (8) Skipped
  - (9) Not Asked

- **Political meeting question**(Question Variable: CC16_417a_1): "During the Past Year did you Attend local political meetings (such as school board or city council)?" (page 106, 2016 Guide)
  - (1) Selected
  - (2) Not Selected
  - (8) Skipped
  - (9) Not Asked
  - (-1) No Data

- **Put Up a Political Sign** (Question Variable CC16_417a_2): "During the Past Year did you Put up a political sign (such as a lawn sign or bumper sticker)?" (page 107, 2016 Guide)

- Run For Office
  - (1) Selected
  - (2) Not Selected
  - (8) Skipped
  - (9) Not Asked
  - (-1) No Data

- **Work for a Campaign** (Question Variable CC16_417a_3): "During the Past Year did you Work for a candidate or campaign?" (page 107, 2016 Guide)
  - (1) Selected
  - (2) Not Selected
  - (8) Skipped
  - (9) Not Asked
  - (-1) No Data

- **Political Donation** (Question Variable CC16_417a_4): "During the Past Year did you donate money to a candidate, campaign, or political organization" (page 107, 2016 Guide)
  - (1) Selected
  - (2) Not Selected
  - (8) Skipped

-    – (9) Not Asked
-    – (-1) No Data

- **Run for Office** (Question Variable: CC16_418a) Have you ever run for elective office at any level of government (local, state or federal)? (page 115, 2016 Guide)
  - – (1) Yes
  - – (2) No
  - – (8) Skipped
  - – (9) Not Asked
  - – (-1) No Data

- **Political Donation Amount** (Question Variable: CC16_417c): Approximately how much did you contribute to all candidates and committees over the last year? (page 112, 2016 Guide)
  - – Question was open ended, NA option was given.

- **Political Contact** (Question Variable: CC16_425a): Did a candidate or political campaign organization contact you during the 2016 election? (page 114, 2016 Guide)
  - – (1) Yes
  - – (2) No
  - – (8) Skipped
  - – (9) Not Asked
  - – (-1) No Data

- **Contact by Email or Text Message** (Question Variable: CC16_25b_3): How did these candidates or campaigns contact you? Check all that apply. (Page 114, 2016 Guide)
  - – (1) Selected
  - – (2) Not Selected
  - – (8) Skipped
  - – (9) Not Asked
  - – (-1) No Data

B. ADDITIONAL TABLES FOR CHAPTER 4

Table B.1.
Ideology Multinomial Logit Model 2010

	Very Liberal	Liberal	Conservative	Very Conservative
QOIA	0.975	1.011	0.995	1.018
	(0.0246)	(0.0140)	(0.0122)	(0.0202)
Interest in Politics	1.702***	1.200***	1.407***	2.355***
	(0.0564)	(0.0195)	(0.0217)	(0.0769)
Age	0.979***	0.987***	1.005***	1.007***
	(0.00174)	(0.000961)	(0.000859)	(0.00137)
Geography	0.775***	0.713***	1.155***	1.332***
	(0.0613)	(0.0309)	(0.0390)	(0.0677)
Income	0.964***	0.991*	1.034***	1.023***
	(0.00857)	(0.00491)	(0.00462)	(0.00724)
Education	1.179***	1.143***	0.934***	0.910***
	(0.0207)	(0.0113)	(0.00836)	(0.0127)
Gender	0.977	1.254***	0.776***	0.587***
	(0.0478)	(0.0342)	(0.0190)	(0.0233)
Race	0.980	1.058*	1.610***	1.615***
	(0.0547)	(0.0327)	(0.0483)	(0.0837)
N	43832			
Pseudo R^2	.0378			
LR χ^2 (df=32)	4644.78***			

Exponentiated coefficients; Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B.2.
Ideology Multinomial Logit Model 2012

	Very Liberal	Liberal	Conservative	Very Conservative
QOIA	0.954**	1.032**	1.016	1.018
	(0.0224)	(0.0142)	(0.0125)	(0.0213)
Interest in Politics	1.790***	1.248***	1.253***	1.880***
	(0.0548)	(0.0197)	(0.0183)	(0.0541)
Age	0.973***	0.988***	1.008***	0.998
	(0.00151)	(0.000880)	(0.000808)	(0.00132)
Geography	0.672***	0.741***	1.197***	1.512***
	(0.0536)	(0.0323)	(0.0412)	(0.0807)
Income	0.960***	0.978***	1.004	0.974***
	(0.00792)	(0.00476)	(0.00446)	(0.00736)
Education	1.183***	1.127***	0.958***	0.911***
	(0.0200)	(0.0112)	(0.00871)	(0.0142)
Gender	1.343***	1.283***	0.901***	0.907**
	(0.0625)	(0.0348)	(0.0221)	(0.0377)
Race	1.030	1.011	1.763***	1.813***
	(0.0528)	(0.0303)	(0.0529)	(0.0978)
N	42452			
Pseudo R^2	.0304			
LR χ^2 (df=32)	3604.18***			

Exponentiated coefficients; Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B.3.
Ideology Multinomial Logit Model 2014

	Very Liberal	Liberal	Conservative	Very Conservative
QOIA	0.931***	1.011	0.976**	0.940***
	(0.0198)	(0.0144)	(0.0114)	(0.0180)
Interest in Politics	1.927***	1.253***	1.237***	1.797***
	(0.0616)	(0.0224)	(0.0185)	(0.0525)
Age	0.980***	0.991***	1.009***	1.002
	(0.00142)	(0.000934)	(0.000776)	(0.00127)
Geography	0.797***	0.749***	1.210***	1.597***
	(0.0571)	(0.0353)	(0.0407)	(0.0806)
Income	0.969***	0.986***	1.026***	0.996
	(0.00753)	(0.00506)	(0.00438)	(0.00710)
Education	1.169***	1.132***	0.945***	0.924***
	(0.0185)	(0.0118)	(0.00828)	(0.0135)
Gender	1.259***	1.322***	0.887***	0.901***
	(0.0551)	(0.0382)	(0.0212)	(0.0357)
Race	0.998	0.962	1.668***	1.725***
	(0.0487)	(0.0305)	(0.0480)	(0.0883)
N	43656			
Pseudo R^2	.0288			
LR χ^2 (df=32)	3505.42***			

Exponentiated coefficients; Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B.4.
Ideology Multinomial Logit Model 2016

	Very Liberal	Liberal	Conservative	Very Conservative
QOIA	1.068**	1.055***	1.012	0.980
	(0.0299)	(0.0200)	(0.0157)	(0.0244)
Interest in Politics	1.934***	1.367***	1.132***	1.512***
	(0.0923)	(0.0397)	(0.0260)	(0.0629)
Age	0.966***	0.992***	1.014***	0.996**
	(0.00180)	(0.00129)	(0.00113)	(0.00174)
Geography	0.705***	0.706***	1.263***	1.597***
	(0.0634)	(0.0422)	(0.0537)	(0.101)
Income	0.943***	0.981***	1.000	0.991
	(0.00915)	(0.00662)	(0.00568)	(0.00916)
Education	1.121***	1.086***	0.925***	0.824***
	(0.0225)	(0.0147)	(0.0104)	(0.0155)
Gender	1.223***	1.151***	0.718***	0.766***
	(0.0677)	(0.0440)	(0.0229)	(0.0397)
Race	1.097	1.044	1.936***	1.517***
	(0.0729)	(0.0482)	(0.0840)	(0.105)
N	25286			
Pseudo R^2	.0343			
LR χ^2 (df=32)	2444.17***			

Exponentiated coefficients; Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B.5.
Ideology Multinomial Logit Model 2010–2016

	Very Liberal	Liberal	Conservative	Very Conservative
QOIA	0.969***	1.024***	0.999	0.989
	(0.0117)	(0.00754)	(0.00634)	(0.0103)
Interest in Politics	1.859***	1.232***	1.269***	1.923***
	(0.0315)	(0.0110)	(0.0101)	(0.0305)
Age	0.975***	0.989***	1.008***	1.001
	(0.000791)	(0.000486)	(0.000427)	(0.000690)
Geography	0.738***	0.731***	1.197***	1.493***
	(0.0293)	(0.0172)	(0.0213)	(0.0402)
Income	0.961***	0.983***	1.018***	0.997
	(0.00411)	(0.00259)	(0.00235)	(0.00379)
Education	1.168***	1.126***	0.941***	0.897***
	(0.0101)	(0.00598)	(0.00440)	(0.00692)
Gender	1.206***	1.262***	0.836***	0.788***
	(0.0289)	(0.0186)	(0.0107)	(0.0167)
Race	1.018	1.015	1.712***	1.693***
	(0.0276)	(0.0168)	(0.0271)	(0.0467)
N	155226			
Pseudo R^2	.0307			
LR χ^2 (df=32)	13341.28***			

Exponentiated coefficients; Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B.6.
Party ID Multinomial Logit Model 2010

	Strong Dem	N.V. Strong Dem.	Lean Dem.	Lean Rep.	N. V. Strong Rep.	Strong Rep.
QOIA	1.142***	1.104***	1.103***	1.149***	1.173***	1.183***
	(0.0186)	(0.0192)	(0.0217)	(0.0218)	(0.0228)	(0.0214)
Interest in Politics	1.888***	1.061***	1.397***	2.089***	1.167***	2.472***
	(0.0367)	(0.0204)	(0.0315)	(0.0512)	(0.0250)	(0.0596)
Age	1.007***	0.995***	0.997*	1.012***	1.002	1.011***
	(0.00118)	(0.00127)	(0.00142)	(0.00135)	(0.00138)	(0.00129)
Geography	0.667***	0.756***	0.686***	0.916*	0.973	0.907**
	(0.0316)	(0.0384)	(0.0398)	(0.0462)	(0.0499)	(0.0435)
Income	0.992	1.006	0.990	1.060***	1.071***	1.051***
	(0.00618)	(0.00679)	(0.00734)	(0.00744)	(0.00770)	(0.00705)
Education	1.056***	1.047***	1.151***	0.930***	0.994	0.908***
	(0.0133)	(0.0145)	(0.0171)	(0.0132)	(0.0146)	(0.0123)
Gender	1.813***	1.653***	1.253***	0.894***	1.288***	1.258***
	(0.0609)	(0.0603)	(0.0503)	(0.0345)	(0.0506)	(0.0459)
Race	0.442***	0.679***	0.878***	1.703***	2.411***	1.915***
	(0.0166)	(0.0274)	(0.0406)	(0.0865)	(0.132)	(0.0948)
N	44903					
Pseudo R^2	.0536					
LR $\chi^2(48)$	9221.04					

Exponentiated coefficients; Standard errors in parentheses
$* p < 0.10$, $** p < 0.05$, $*** p < 0.01$

Table B.7.
Party ID Multinomial Logit Model 2012

	Strong Dem.	N. V. Strong Dem.	Lean Dem.	Lean Rep.	N. V. Strong Rep.	Strong Rep.
QOIA	1.065***	1.068***	1.068***	1.064***	1.083***	1.076***
	(0.0180)	(0.0201)	(0.0186)	(0.0229)	(0.0218)	(0.0198)
Interest in Politics	1.853***	1.049**	1.411***	1.873***	1.120***	2.175***
	(0.0369)	(0.0215)	(0.0274)	(0.0495)	(0.0244)	(0.0495)
Age	1.005***	0.994***	0.992***	1.009***	0.999	1.008***
	(0.00115)	(0.00128)	(0.00116)	(0.00142)	(0.00133)	(0.00122)
Geography	0.691***	0.741***	0.756***	1.016	1.012	1.117**
	(0.0359)	(0.0429)	(0.0389)	(0.0592)	(0.0557)	(0.0553)
Income	1.001	1.026***	1.031***	1.064***	1.073***	1.062***
	(0.00652)	(0.00741)	(0.00677)	(0.00835)	(0.00799)	(0.00725)
Education	1.024*	1.039***	1.055***	0.977	1.010	0.937***
	(0.0135)	(0.0153)	(0.0141)	(0.0156)	(0.0154)	(0.0131)
Gender	1.994***	1.553***	1.284***	0.938	1.269***	1.437***
	(0.0704)	(0.0608)	(0.0458)	(0.0407)	(0.0517)	(0.0535)
Race	0.359***	0.584***	0.889***	1.819***	1.882***	2.463***
	(0.0141)	(0.0254)	(0.0370)	(0.108)	(0.102)	(0.130)
N	43533					
Pseudo R^2	.0496					
LR χ^2 (48)	8228.50					

Exponentiated coefficients; Standard errors in parentheses
$* \ p < 0.10$, $** \ p < 0.05$, $*** \ p < 0.01$

Table B.8.
Party ID Multinomial Logit Model 2014

	Strong Dem.	N.V. Strong Dem.	Lean Dem.	Lean Rep.	N.V. Strong Rep.	Strong Rep.
QOIA	1.116***	1.116***	1.067***	1.065***	1.082***	1.083***
	(0.0174)	(0.0193)	(0.0206)	(0.0202)	(0.0202)	(0.0184)
Interest in Politics	1.716***	0.976	1.258***	1.761***	1.045**	1.849***
	(0.0345)	(0.0197)	(0.0295)	(0.0453)	(0.0228)	(0.0421)
Age	1.012***	0.999	0.993***	1.008***	1.003***	1.011***
	(0.00107)	(0.00119)	(0.00130)	(0.00127)	(0.00125)	(0.00114)
Geography	0.686***	0.702***	0.633***	0.938	0.907*	1.073
	(0.0329)	(0.0379)	(0.0388)	(0.0493)	(0.0473)	(0.0495)
Income	0.993	1.016**	1.017**	1.050***	1.083***	1.073***
	(0.00601)	(0.00683)	(0.00742)	(0.00742)	(0.00752)	(0.00684)
Education	1.088***	1.059***	1.122***	1.007	1.060***	0.955***
	(0.0135)	(0.0148)	(0.0169)	(0.0146)	(0.0152)	(0.0125)
Gender	1.927***	1.760***	1.151***	0.972	1.356***	1.323***
	(0.0642)	(0.0653)	(0.0466)	(0.0385)	(0.0525)	(0.0467)
Race	0.375***	0.615***	0.900**	1.847***	2.200***	2.224***
	(0.0138)	(0.0250)	(0.0416)	(0.0970)	(0.115)	(0.107)
N	45392					
Pseudo R^2	.0507					
LR χ^2	8754.34					

Exponentiated coefficients; Standard errors in parentheses
$* p < 0.10$, $** p < 0.05$, $*** p < 0.01$

Table B.9.
Party ID Multinomial Logit Model 2016

	Strong Dem.	N. V. Strong Dem.	Lean Dem.	Lean Rep.	N. V. Strong Rep.	Strong Rep.
QOIA	1.069***	1.106***	1.050*	1.101***	1.036	1.039*
	(0.0218)	(0.0262)	(0.0276)	(0.0277)	(0.0247)	(0.0232)
Interest in Politics	1.826***	1.012	1.530***	1.851***	1.071**	1.707***
	(0.0546)	(0.0303)	(0.0589)	(0.0753)	(0.0335)	(0.0579)
Age	1.008***	1.002	0.993***	1.009***	1.009***	1.015***
	(0.00145)	(0.00168)	(0.00180)	(0.00176)	(0.00169)	(0.00160)
Geography	0.608***	0.687***	0.710***	1.170**	1.065	1.096
	(0.0372)	(0.0491)	(0.0555)	(0.0767)	(0.0680)	(0.0651)
Income	0.986*	0.991	0.988	1.021**	1.044***	1.032***
	(0.00757)	(0.00893)	(0.00949)	(0.00936)	(0.00929)	(0.00856)
Education	1.014	0.998	1.146***	0.932***	0.975	0.907***
	(0.0156)	(0.0181)	(0.0223)	(0.0170)	(0.0174)	(0.0150)
Gender	2.034***	1.834***	1.307***	0.929	1.319***	1.394***
	(0.0885)	(0.0934)	(0.0716)	(0.0490)	(0.0662)	(0.0653)
Race	0.447***	0.702***	1.044	1.760***	2.662***	2.316***
	(0.0229)	(0.0419)	(0.0725)	(0.132)	(0.210)	(0.164)
N	25988					
Pseudo R^2	.0395					
LR χ^2 (48)	3895.73					

Exponentiated coefficients; Standard errors in parentheses
$* p < 0.10$, $** p < 0.05$, $*** p < 0.01$

Table B.10.

Party ID Multinomial Logit Model 2010–2016

	Strong Dem.	N.V. Strong Dem.	Lean Dem.	Lean Rep.	N. V. Strong Rep.	Strong Rep.
QOIA	1.104***	1.098***	1.086***	1.095***	1.100***	1.105***
	(0.00938)	(0.0103)	(0.0106)	(0.0113)	(0.0112)	(0.0103)
Interest in Politics	1.811***	1.021*	1.339***	1.895***	1.106***	2.064***
	(0.0191)	(0.0108)	(0.0153)	(0.0259)	(0.0127)	(0.0253)
Age	1.008***	0.997***	0.993***	1.009***	1.003***	1.010***
	(0.000590)	(0.000653)	(0.000665)	(0.000700)	(0.000687)	(0.000634)
Geography	0.666***	0.727***	0.697***	0.983	0.975	1.039
	(0.0171)	(0.0208)	(0.0205)	(0.0275)	(0.0268)	(0.0260)
Income	0.993**	1.011***	1.010***	1.053***	1.070***	1.057***
	(0.00325)	(0.00367)	(0.00371)	(0.00402)	(0.00402)	(0.00367)
Education	1.047***	1.039***	1.098***	0.957***	1.013*	0.926***
	(0.00692)	(0.00772)	(0.00819)	(0.00739)	(0.00777)	(0.00652)
Gender	1.926***	1.681***	1.244***	0.933***	1.307***	1.352***
	(0.0344)	(0.0334)	(0.0252)	(0.0199)	(0.0271)	(0.0258)
Race	0.396***	0.634***	0.905***	1.777***	2.196***	2.201***
	(0.00795)	(0.0140)	(0.0213)	(0.0510)	(0.0630)	(0.0588)
N	159816					
Pseudo R^2	.0482					
LR χ^2 (48)	29470.08					

Exponentiated coefficients; Standard errors in parentheses

$* \ p < 0.10$, $** \ p < 0.05$, $*** \ p < 0.01$

VITA

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EDUCATION

Ph.D, Political Science, August 2020 Purdue University, West Lafayette, IN
  Fields: American Politics, Public Policy, Communications
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M.A. Political Science, December 2013
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B.A. Political Science, May 2010
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TEACHING EXPERIENCE

Independent Instructor
  Purdue University, West Lafayette, IN
  Courses:

- POL 101 - Introduction to American Government and Politics

  - *In Classroom*: Summer 2014, Fall 2014, Spring 2015, Summer 2015, Fall
    2015, Spring 2016, Fall 2016, Spring 2017
  - *Distance*: Summer 2016, Summer 2017, Spring 2019

- POL 120 - Introduction to Public Policy

  - *In Classroom*: Fall 2017, Spring 2018, Fall 2018, Spring 2019
  - *Distance*: Summer 2019

Teaching Assistant Purdue University, West Lafayette, IN
  Courses:

- POL 101 - Introduction to American Government and Politics, Fall 2012

- POL 231 - Introduction to American Foreign Policy, Spring 2013
- POL 223 - Introduction to Environmental Policy, Fall 2013
- POL 415 - Media and Politics, Spring 2014

AWARDS AND SERVICE

- Purdue Teaching Academy Graduate Teaching Award, 2014.
- Pi Sigma Alpha Graduate Instructor of the Year, 2017.
- Purdue Political Science Graduate Student Association
  - President 2013-2014
  - Vice President 2012-2013
  - Department Senator to Grad Student Government 2011
  - Social Science Mechanics Committee Chair, 2012, 2014-2015
  - Social Science Mechanics Committee Member, 2013-2014, 2017-2018

RELEVANT WORKING EXPERIENCE AND SKILLS

The Data Mine

- **Teaching Assistant**: Fall 2019-Spring 2020 for STAT 190. Worked to help edit projects for R and SQL assignments.
- **Corporate Partners**: Summer 2020. Worked on writing projects for MITRE and the 2020-2021 school year in R, SQL, and UNIX.

Brookings Institution

- Consulting for data and analysis on a project for Kathryn Tempas in 2016.

  Programming Skills

- Stata, R, and SQL
- Knowledge able about: UNIX, Java

  Methodological Skills

- Comparative Methodology
- Research Design and OLS Regression Analysis
- Limited Dependent Variable Modeling
- Differential Equations

  Languages

- English (Primary)
- Spanish (Basic)
- American Sign Language (Basic)

RESEARCH INTERESTS

Political Behavior, Technology and Politics, Political Communication, Public Opinion, Election Studies, Research Methods

PUBLICATION

Cahill, Katie A., Michael R. Brownstein, Christopher Kulesza, Amanda E. Burke, and James A. McCann. 2015. "Social Science Mechanics: A Graduate Training Module that 'Looks under the Hood' at Innovative Research Designs." *PS: Political Science and Politics* 48(2): 373-377.

CONFERENCE PRESENTATIONS

- "Minding our ISPs and ICTs: A Model of the Policy Challenges to Alleviate the Digital Divide." Presented at the Center for Education and Research in Information Assurance and Security Conference in West Lafayette, IN., April 2012.

- "Playing Monopoly with the Internet: Telecoms, ISPs, and the Digital Divide." Presented at the annual meeting of the Southern Political Science Association in Orlando, FL., January 2013.

- "Face-to-Face or Facebook? Political Participation and the Differences between Online and Offline Social Capital." Presented at the annual meeting of the Midwest Political Science Association in Chicago, IL., April 2013.

- With Suzanne L. Parker. "Evaluating Friendship Networks with Homophily." Presented at the annual meeting of the Southern Political Science Association, New Orleans, LA., January 2014.

- "Does Online Access Lead to Further Political Participation? Internet Access and the Typology of Political Participation." Presented at the annual meeting of the Western Political Science Association, Las Vegas, NV., April 2015.

- "Is the Media Dumping Tea? The Tea Party and the Hostile Media Effect." Presented at the annual meeting of the Midwest Political Science Association in Chicago, IL., April 2015.

- "Does Online Access Lead to Further Political Participation? The Quality of Internet Access with Respect to Political Participation." Presented at the annual meeting of the Midwest Political Science Association in Chicago, IL., April 2017.

- With Chelsea N. Kaufman. "News that's Fit to Post Online: Fake News and Political Discussion among Young Voters." Presented at the annual meeting of the American Political Science Association, San Fransisco, CA., September 2017.

- "It's 2016, Do You Know Where Your Internet is? Voting Behavior and Internet Access." Presented at the annual meeting of the Midwest Political Science Association in Chicago, IL., April 2018.

- With Chelsea N. Kaufman. "Internet Access and Discussion of Fake News among Young Voters." Presented at the annual meeting of the American Political Science Association, Boston, MA., September 2018.

- "Are the Information Rich Giving to Candidates? Political Donations and Internet Access." Presented at the annual meeting of the Midwest Political Science Association in Chicago, IL., April 2019.

MEMBERSHIPS & ASSOCIATIONS

- American Political Science Association Member

- Midwest Political Science Association Member

- Purdue University Political Science Graduate Student Association
  - Graduate Student Senator, Fall 2012
  - Vice President 2013-2014
  - President 2014-2015
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REFERENCES

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