



© Copyright by

Alan F. Steinberg

May, 2013

CYBER-PARTICIPATION: REDUCING BIAS AND INCREASING TURNOUT

---

A Dissertation

Presented to

The Faculty of the Department of Political Science

University of Houston

---

In Partial Fulfillment

of the Requirements for the Degree

Ph.D.

---

By

Alan Steinberg

May, 2013

CYBER-PARTICIPATION: REDUCING BIAS AND INCREASING TURNOUT

---

Alan Steinberg

**APPROVED:**

---

Scott Basinger, Ph.D.  
Committee Chair

---

Kent Tedin, Ph.D.

---

Jeronimo Cortina, Ph.D.

---

Girish J. Gulati, Ph.D.  
Political Science, Bentley University

---

John W. Roberts, Ph.D.  
Dean, College of Liberal Arts and Social Sciences  
Department of English

CYBER-PARTICIPATION: REDUCING BIAS AND INCREASING TURNOUT

---

An Abstract of a Dissertation

Presented to

The Faculty of the Department of Political Science

University of Houston

---

In Partial Fulfillment

of the Requirements for the Degree

Ph.D.

---

By

Alan Steinberg

May, 2013

## **ABSTRACT**

One of the key ideals behind the American system of democracy is that everyone can and will participate. Reality is unlike the ideal of democracy due to the social barriers of participation. The ability to engage politically through mediums such as Facebook, will allow greater diversity of participation and increase turnout among those who utilize these tools. Prior research shows that political participation is biased toward people who are older, have higher than average levels of education, have above average income, are non-minorities, and are male. Internet communication technologies and the Web 2.0 environment in particular offer a solution to the biases found in the current means of political participation by being lower cost and more accessible options for political engagement. This study provides an argument on the similarities of political activities that can take place in cyberspace as compared to traditional means of participation. Data utilized includes national survey respondent's use of online social networking websites to engage politically in the 2008 and 2010 election cycles, as well as a student sample regarding 2012 election intentions. The study then examines the association between these forms of cyber-participation and turnout in order to demonstrate that cyber-participation has a positive effect on turnout. Findings suggest that cyber-participation is a unique but equitable form of political participation, utilized by a wider variety of people than traditional modes of participation, and that people who engage in cyber-participation are more likely to vote.

## ACKNOWLEDGEMENTS

This dissertation would not have been possible without the support of a handful of people over the years. This project started as a term paper in the Fall of 2009 for a course on Electoral Behavior at the University of Houston, where my desire to go against the grain of commonly held beliefs by suggesting Facebook could influence politics was supported by Noah Kaplan despite his disbelief in my theory and concern about the obscure nature of the topic. After a series of revisions based upon the issues and concerns brought up through the grading of that paper, it was revised and subsequently presented at a research colloquium held at the University of Houston in the Spring of 2010. Here the project was subject to the criticism of my peers, where I was greeted with a mix of enthusiasm for the topic and disbelief about my findings.

The paper then took me to my first major political science conference, as I presented it only a few weeks later at the Midwest Political Science Association Annual Meeting. It was here where I found others who shared my interest in studying new-media effects on participation, including Holly Teresi whose experimental work on studying Facebook effects has provided me with many ideas moving forward and inspiration to continue on with this project. It was also at this time that I decided that this project would be the basis for my dissertation and define my research agenda for the years to come.

In the Spring of 2011 I was enrolled in a Causal Inference course where Jeronimo Cortina allowed me to utilize that initial paper once again, but this time applying a stronger theory and more advanced statistical methodology. The matching technique and subsequent results which provided a robustness check on my findings are found in the Appendix to Chapter 4. In the Summer of 2011 Jeronimo once again assisted this project by providing thorough feedback on my paper and enduring multiple meetings and discussions on the topic despite his concerns about the project as a whole. Knowing that I needed more and better data, in the Fall of 2011 I designed and fielded my own survey of University of Houston undergraduates, which is utilized in Chapter 7. This would not have been possible had it not been for Kent Tedin's Survey Research Methodology course.

Scott Basinger however played the most fundamental role in the success of this project. In the fall of 2011, Scott became my advisor, and sometime later he became my friend. Having a second home in his office for the next three years has led to many discussions on this project; perhaps most importantly he steered me along as this project turned from a course paper to a conference paper to a string of papers and now into its present form of a dissertation. Without his guidance, this dissertation would not have the vigor that it has today.

I must also mention my parents, Harry and Esther Steinberg, as they provided me with moral and financial support, in addition to occasional editing services, throughout this whole ordeal.

## TABLE OF CONTENTS

CHAPTER 1 - Introduction .....	1
Why Study Cyber Participation? .....	4
CHAPTER 2 – Participation.....	8
History of Internet and Political Participation .....	8
Changing Dynamic of Civic Engagement .....	10
What is and is not Cyber-Participation? .....	11
Hypotheses .....	16
Who Are the Cyber-Participators?.....	18
Are Cyber-Participators More Likely Voters?.....	19
Model .....	21
CHAPTER 3 – Metrics of Participation .....	24
How Political Scientists Measure Traditional Participation .....	24
How Political Scientists Measure Online Participation .....	25
How Political Scientists Can Measure Cyber-Participation .....	26
CHAPTER 4 – Factors that Influence Participation .....	32
Comparison of Traditional, Online and Cyber-Participants .....	33
Factors that Influence Participation .....	35
CHAPTER 5 – Cyber-Participation in the 2008 Elections.....	65
Data .....	66
Methods.....	67
Results.....	68
Analysis.....	70
Conclusions.....	72
Appendix to Chapter 4.....	77
CHAPTER 6 – Cyber-Participation in the 2010 Midterm Election .....	81
Data .....	81
Model .....	84
Methods.....	85
Results & Analysis.....	86
Conclusion .....	91
CHAPTER 7 – Cyber-Participation in the 2012 Presidential Election.....	96
A Focus on Youth Participation.....	97
Model .....	99



Data.....	99
Methods.....	103
Results & Analysis of Causes of Participation .....	105
Results and Analysis of the Effects of Participation.....	108
Conclusions.....	109
CHAPTER 8 - Implications .....	114
Data Related Issues .....	114
If Cyber-Participation is Increasing, then why isn't Turnout? .....	117
Are There Possible Negative Information Effects? .....	118
Are Cyber-Participants Different in Ideology and Party Identification? .....	119
Moving Forward .....	120
Appendix 1: Questions used to explore Comparable Methods / Different Modes .....	121
Bibliography .....	124

## LIST OF TABLES

Table 1. Rates of Engagement .....	31
Table 2. Gender Based Participation (Traditional versus Cyber) .....	51
Table 3. Race Based Participation (Traditional versus Cyber).....	52
Table 4. Income Based Participation (Traditional versus Cyber).....	53
Table 5. Education Based Participation (Traditional versus Cyber).....	54
Table 6. Age Based Participation (Traditional versus Cyber) .....	55
Table 7. Civic Engagement Based Participation (Traditional versus Cyber) .....	56
Table 8. Party Intensity Based Participation (Traditional versus Cyber) .....	57
Table 9. 2008 Prediction of Modes of Cyber-Participation .....	74
Table 10. 2008 Turnout by Mode of Cyber Participation.....	75
Table 11. 2008 Marginal Effects of Cyber-Participation.....	76
Table 12. 2008 Turnout by Mode of Cyber-Participation (Propensity Score Matching) .	80
Table 13. Predictors of Online and Cyber-Participation.....	92
Table 14. Turnout by Method of Cyber-Participation .....	93
Table 15. 2010 Marginal Effects of Cyber-Participation.....	94
Table 16. Predictors of 2012 Participation .....	111
Table 17. Previous Turnout and Vote Intentions .....	112

## LIST OF FIGURES

Figure 1. Causal Model.....	23
Figure 2. Difference in Male vs. Female Participation Rates.....	58
Figure 3. Differences in Whites vs. Minority Participation.....	59
Figure 4. Differences in Higher vs. Lower Income Participation.....	60
Figure 5. Differences in Degree Holder vs. Non Degree Holder.....	61
Figure 6. Differences in Older vs. Younger Participation Rates.....	62
Figure 7. Differences in More vs. Less Civically Engaged Participation Rates.....	63
Figure 8. Differences in Strong Partisans vs. Independents Participation Rates.....	64
Figure 9. Modeling 2010 Participation and Turnout.....	95
Figure 10. Modeling 2012 Participation and Intentions to Vote.....	113

## CHAPTER 1 - Introduction

One of the key ideals behind the American system of democracy is that everyone can and will participate. Reality is unlike the ideal of democracy, as not everyone votes in our country. Despite the increasing degree of suffrage, overall turnout is not increasing. This is most likely due to the social barriers of participation that still exist despite legal changes. However, new tools can help with overcoming these barriers, and these tools come in the form of online social networking based internet communication technologies. In other words, the ability to engage politically through mediums such as Facebook, allows for greater diversity of participation and increasing turnout among those who utilize these tools.

The term democracy comes from Greek *dēmokratía* meaning “rule by the people,” from the words *dêmos* meaning "people" and *kratos* meaning "power." In the American democracy, this power of the people is utilized through various means of political participation, but most importantly through voting. Voting allows the people to influence government by giving them the power to elect their representatives in the legislature and choose who will control the executive branch of government.

Over the years suffrage, the right to vote, has increased, but turnout has not. Throughout our history, battles were fought in courtroom and in Congress to increase suffrage. As recently as 1971, the desire to increase suffrage was evident when the 26<sup>th</sup> Amendment to the United States Constitution guaranteed the rights of those as young as 18 to vote. However, there is a difference between allowing and enabling one to vote. While legal barriers have fallen, practical barriers have not. Extending the right to vote

was a legal issue; achieving high rates of turnout among those eligible to vote is a social problem.

These social barriers are an important problem because elected officials focus on the preferences and interests of people who vote, and voters differ in a variety of socioeconomic ways from non-voters. As Arend Lijphart stated in his Presidential Address to the American Political Science Association, “unequal participation spells unequal influence.” (Lijphart, 1997) Multiple studies have looked at why this representation imbalance occurs, be it due to voters selecting like minded representatives, representatives being more aware of voter preferences, or re-election interests. Research consistently shows that the interests of voters trump the interests of non-voters. (Bartels, 1998) (Bartels, 2008) (Fiorina, 1974) (Martin, 2003) (Griffin & Newman, 2005) As V.O. Key put it “The blunt truth is that politicians and officials are under no compulsion to pay much heed to classes and groups of citizens that do not vote.” (Key, 1949)

This would not matter if the interests of voters and non-voters were the same, but they are not. The typical voter is not a reflection of the average person, and the policy preferences of voters and non-voters are indeed different. (Verba & Nie, 1972) (Bennett & Resnick, 1990) The people who vote tend to be those who are politically engaged, and traditional means of political engagement have costs that not everyone can afford. These costs represent some of the social barriers to political participation. Political science research shows that political participation is biased towards people who are older, have higher than average levels of education, have above average income, are non-minorities, and are male. (Rosenstone & Hansen, 1993) (Verba & Nie, 1972) (Verba, Schlozman, & Brady, 1996) (Wolfinger & Rosenstone, 1980) Therefore, any tools that can decrease

these participation biases and increase voter turnout are beneficial to American democracy, as they would expand opportunity for those who wish to be heard. Internet communication technologies and the Web 2.0 environment in particular might offer a solution to the biases found in the current means of political participation by being lower cost and more accessible options for political engagement.

Some may feel that this dissertation is trying to oversell the value of social media in regards to political participation. Richard David believes that technological innovation alone will not lead to people suddenly acquiring an interest in politics. (David, 1999) Malcolm Gladwell wrote in *The New Yorker* that social media is not a tool of revolution and that the impact of such technologies is rather moderate. (Gladwell, 2010) However, the recent events in the Middle East and even the response to the Boston Marathon bombings may run contrary to his belief. In 2011, not only did activists make use of Facebook and Twitter to coordinate the series of events now collectively known as the Arab Spring, but many individual social media users were involved as well. According to the Arab Social Media Report by the Dubai School of Government, all but one protest called for on Facebook ended up taking place, and over four out of five Facebook users in Egypt and Tunisia stated that they posted about the protests. (Huang, 2011) (Dubai School of Government, 2011) While Facebook and other internet communication technologies were not the cause of the protests or the political change, it has been argued they did serve as one set of important tools used to communicate the political actions. (Stepanova, 2011) (Khondker, 2011) What this had led to is social media being used to discuss political grievances as well as provide avenues for engagement. (Howard & Hussain, 2011) In 2011, Gladwell acknowledged the use of social media tools by

demonstrators to communicate during the uprisings, but still questions if the tools were crucial to the revolutions. (Ingram, 2011) On the other side of the issue, Clay Shirky argues that social-media tools do allow for better communication and organization and have played a critical role in some circumstances. (Shirky, 2011) An even more recent example of such efforts can be seen in the response to the 2013 Boston Marathon bombings. Social media was initially utilized to share information about the incident more quickly than traditional media, but as time went on these mediums became forums for support, tools for coordinating disaster relief, as well as a resource for investigators. (Gilgoff & Lee, 2013) (Stern, 2013) (Rucke, 2013) Overall Shirky as well as this example suggest the usefulness and impact of social media tools and how they lead to increased democracy, and that is what this dissertation is trying to show.

### **Why Study Cyber Participation?**

The Internet has become a forum for political debate in the United States and abroad, due to its potential for fast and unhindered communication among potential voters. (Jensen, 2003) The Pew Internet and American Life survey suggests an increasing number of people are accessing the internet not only to obtain political knowledge about campaigns and candidates, but also to interact as part of the Web 2.0 political community. These effects suggest that new means of technical communication are serving as social capital building tools whereby individuals experience community involvement and exercise skills which can lead to political engagement.

The idea of online political discourse influencing other forms of civic participation has been documented over the last few years. (Kobayashi, Ikeda, & Miyata, 2006) (Klofstad, 2007) Additionally, research suggests, “engagement in nonpolitical

online participatory cultures may serve as a gateway to participation in important aspects of civic and political life.” (Kahne, Lee, & Feezell, 2011) If using Facebook could have such an effect, then cyber-participation should have an even larger effect on political participation in the years to come. However, research has yet to explore how, or if, this discourse has any direct linkage to voting. Additionally, the dynamic of online communication have been evolving over the last decade, with a greater focus on social media and web 2.0 technologies.

Within social networking sites, individuals can become “friends” with a politician or candidate, initiate or join a political themed group, or post questions or comments about an election. These three activities are all examples of cyber-participation, and represent ways that people can interact through social media. These social media actions allow an individual participant to have a broad reach within their social network in regards to transferring information and engaging with others. My focus is on examining the generalized effect of cyber-participation as a whole.

While an increasing number of people are using the internet as a source of news and information about politics, it is not clear who is using the internet as a deliberative political forum, and the impact of the internet on individual political behavior is still far from being understood. (Bimber & Davis, 2003) (Williams & Gulati, 2006) (Gulati & Williams, 2007) (Howard, 2005) (Herrnson, Stokes-Brown, & Hindman, 2007) While the internet and social media allows for people to discuss ideas and persuasion to take place, these effects can be difficult to measure. Some would suggest that these internet communication technologies are not means of civic engagement, though previous research does suggest that within networks, such as those found in social media websites



like Facebook, there is the ability to create political communities that can focus on issues in a dynamic and fluid context. (Bimber, 1998)

The following chapters will make the case that cyber-participation is a unique form of political participation, utilized by a wider variety of people than traditional modes of participation, and that people who engage in cyber-participation are more likely to turnout to vote. Chapter 2 will set the foundation for understanding cyber-participation as distinctive means of political engagement. First, by providing a history of online political engagement, the reader will learn about how civic engagement has been changing through uses of various technologies. Then, the term cyber-participation is disassembled to explain what is it and what it is not, to allow for better comparisons to other forms of participation. Chapter 3 will explain how cyber-participation is measured as compared to traditional and online forms of political participation. Chapter 4 examines the characteristics of political participators across means of participation. This allows for a look at how different political participation tools are utilized by different people. Chapter 5 assesses cyber-participation's influence on voter turnout in the 2008 Presidential Election. Using data from the Pew Internet and American life study, multivariate analysis is applied to examine who is making use of cyber-participation and the effect of cyber-participation on turnout. Chapter 6 follows a similar design to chapter 5, but this time using data to examine the influence on the 2010 midterm election. Chapter 7 introduces a recent university student based sample to utilize a more inclusive survey mechanism which allows for better controls of traditional means of political participation. This 2012 student survey is implemented and analyzed to better assess cyber-participation's influence on young people's intention to vote in the 2012 election.

Chapter 8 looks at the implications of this research and provides ideas for future research going forward.

## **CHAPTER 2 – Participation**

In this chapter, I will set the foundation for understanding cyber-participation as a distinct and beneficial means of political participation. In the course of doing so I provide a brief history of the internet's role in political participation, discuss the changing dynamics of civic engagement, and define what is meant by cyber-participation. Additionally, this chapter sets out the hypothesis that will be explored throughout the later chapters.

### **History of Internet and Political Participation**

Despite over a decade of study, the effect of the internet on participation in elections is poorly understood. Two possible hypotheses suggest why the advent and institutionalization of internet use would lead to increased voting. The first is the information effect hypothesis, which suggests that a better informed citizenry would be more likely to vote. The second is the engagement effect hypothesis, which suggests that a more engaged citizenry would be more likely to vote. Both of these theories have been examined and research has found varying degrees of support.

The information effect hypothesis was initially dismissed by Bruce Bimber, who found that individuals obtaining information from the internet were no more likely to engage in other forms of political participation other than donating money. (Bimber, 2001) The positive correlation between donations and internet usage may be a factor of the time period under study, such as in the late 1990s when internet use was much more popular among wealthier individuals who would also be more likely to donate money to campaigns. However, as the internet has become increasingly available to more people, other research findings suggest there is an impact of online political information.

Specifically, people with access to the internet and online election news are more likely to vote. (Tolbert & McNeal, 2003)

Bimber also dismisses the engagement effect hypothesis. Refuting claims that the internet will build community and with it social capital, he argues instead that the internet will not alter peoples' overall interest in political affairs. (Bimber, 1998) However, information exchange over the internet does seem to be positively associated with the production of social capital, especially among younger users who are more likely to embrace the technology. (Shah, Kwak, & Holbert, 2001) Other research suggests a generally positive relationship between engagement on the internet and civic and political participation. (Weber, Loumakis, & Bergman, 2003) While an increasing number of people are using the internet as a source of news and information about politics and are utilizing social networking websites, it is unclear who is using the internet as a deliberative political forum. The internet's effect on political knowledge is similarly unclear. (Gronlund, 2007)

The number of people with access to the internet is greater than ever as computers become part of our daily lives and as economic thresholds of computer ownership and online access continue to decrease. According to a May 2012 Pew Study, 94 percent of Americans have access to broadband internet connections. (Terry, 2012) Additionally, the Pew Internet and American Life survey suggests an increasing number of people are accessing the internet not only to obtain political knowledge about campaigns and candidates, but also to interact as part of the Web 2.0 political community. (Smith, Schlozman, Verba, & Brady, 2009) Younger rather than older individuals are using the internet, especially social networking sites such as Facebook and MySpace, but this is an

evolving demographic. (Schroeder, 2009) Seven out of ten Americans are utilizing online social networking sites, and among 18-29 year olds the use and interaction on social media sites is a constant if not continuous part of daily life. Age is the most likely factor of non-participation, and that gap is continuing to close. (Brenner, 2012)

Users of these sites are writing comments, joining interest groups and discussing politics in ways that were previously not measurable. This political discourse may also lead to other forms of civic participation. (Klofstad, 2007) (Kobayashi, Ikeda, & Miyata, 2006) Taken together, this suggests that these new means of technical communication are replacing or at least augmenting previous means of obtaining social capital, which Robert Putnam argues lead to political participation.

### **Changing Dynamic of Civic Engagement**

The concept that one's social network influences political behavior can be traced back to the 1940's. The Columbia School researchers suggested that social interaction will influence individual political choice. More specifically, studies found that institutions we think would influence politics such as unions, parties and the media do not have as much of an effect as friends, family and co-workers. (Lazarsfeld, Berelson, & Gaudet, 1944) (Berelson, Lazarsfeld, & McPhee, 1954) (Campbell, Gurin, & Miller, 1954) Robert Putnam pointed out that our traditional social networks are dwindling: the 1970s and 1980s witnessed a decline in civic engagement. (Putnam, 2000) However, such a decline is only evident when looking at metrics of in-person civic engagement, such as attending meetings. Instead, what might be happening is that, new technology allows for other forms of engagement. In-person interactions are becoming less frequent

at the same time that inter-personal interactions are increasing once cyberspace is taken into consideration.

Technology affecting society is hardly a new phenomenon. Widespread telephone usage and the advents of television, e-mail, and the Internet may help explain how networks remained influential over years in which in-person interaction became less frequent. The telephone and e-mail have allowed people to keep in touch without having to meet in the flesh, while the television and internet allow for economically cheap and easy information gathering about civic life. Moreover, online social networking allows for more interaction between individuals and the ability engage within the media rather than just serve as a means of information delivery. These interactions can even influence political behavior. (Straits, 1991) (Kenny, 1992) (Huckfeldt & Sprague, 1995) (Beck, Dalton, Greene, & Huckfelt, 2002)

People may not only influence each other directly, but their influences might also “ripple” through a social network. (Fowler, 2005) (Huckfeldt, 1979) (Huckfeldt, Plutzer, & Sprague, 1993) (Huckfeldt & Sprague, 1995) Therefore, with the beginning of online social networking taking place over the last decade we should expect to see an increase in civic engagement. Online social networks provide a new means by which to engage in politically, and this “cyber-participation” can influence more traditional means of political participation including voting.

### **What is and is not Cyber-Participation?**

Cyber-participation is defined as political engagement through the use of Web 2.0 technology and, more specifically, via online social networking. The easiest way to think about it is the example of using Facebook as a political tool. This does not mean that

political candidates and parties wield their Facebook pages against each other, but rather that this platform allows individuals to easily engage politically at reduced costs as compared to more traditional means of political participation. For example, it is much easier for someone to click a button to indicate that they like a particular candidate than it would be for them to obtain and wear a campaign button. In addition, the effects of cyber-participation are two-fold. Not only does Facebook allow for participation of individuals, but it can lead to engagement of other people within social networks.

Cyber-participation is distinct from two other forms of participation: traditional and online. Traditional participation is generally considered as the activities performed in the “real world,” such as wearing a campaign button, putting out a yard sign, attending a political event, putting a campaign sticker on your car, talking about politics with friends or family, volunteering for a political candidate, or donating money. Online participation is simply the use of online tools to perform similar activities, such as donating money online, posting a message on a political website, signing up to volunteer online, etc. Cyber-participation, by contrast, includes simple actions such as liking a candidate, showing affiliation with a political group, or posing a question or comment about politics on one’s Facebook page. Unlike traditional or online participation, cyber-participation thus requires less time or resources. By simply clicking “like” on a candidate’s page an individual might have more of an impact on the political system than wearing a campaign button or putting out a yard sign. When a person “likes” a page on Facebook, not only is this recorded on that page, it is also a semi-permanent signal on their own personal page in the same way a button is a symbol on a person’s clothing or a sign is a symbol in front of a person’s house. However, unlike a button which might get

lost or a person forgets to wear it, once a politician is “liked” that badge remains on a person’s Facebook profile until they decide to remove it.

In addition, with every form of cyber-participation a message is sent out to members of the person’s online social network, for example through the Facebook wall, informing other people within the network of the cyber-participator’s political feelings. In terms of online participation, it would be akin to sending an e-mail to all of your friends and family to tell them you like a candidate but at the cost of a mere click of a button, a much quicker process and one less likely to be ignored as spam. To make this comparable to traditional participation one would have to take the time and expense to call all of the people in their social network using the telephone or physically mail them a letter.

Additionally, this interaction is an ingrained part of cyber-participation, as an individual’s actions are shared among a network without extra effort on the part of the participator. This information sharing subsequently increases the opportunity for interaction. Unlike many forms of traditional participation that happen in a vacuum, or perhaps only with a small select group of your social network, cyber participation happens among an entire social network, which increases the opportunity for dialogue regarding the political participation. Tools such as Facebook foster responses from across one’s social network. Members of a person’s online social network can show their affinity or disdain towards an individual’s actions through the click of a button. So not only is cyber participation easier and cheaper, but the ability to engage or influence is farther reaching than traditional or online participation.



Consequently, cyber-participation can be an instrument for achieving equality, leveling the bias seen with other forms of participation. Cyber-participation does not depend on the factors of other forms of participation. The low costs mean that economics and wealth are no longer barriers to entry into the world of political participation. The ability to engage on your own time also means that stay-at-home moms, blue-collar shift workers, and students can participate where and when it suits them, rather than on someone else's schedule. And perhaps most importantly, young people now have a place to get politically involved where they already are, i.e. on Facebook.

Social networking sites facilitate forming new connections between people and communities, provide a means for people to discuss ideas, and also persuasion to take place. (Wellman, Salaff, Dimitrova, Garton, Gulia, & Haythornthwaite, 1996) Within these networks there is the ability to create political communities that are dynamic and fluid. (Bimber, 1998) As mentioned previously, social networking sites allow individuals to participate by becoming "friends" with a politician or candidate, initiating or joining a political themed group, or posting questions or comments about a political issue or election.

Being a "friend" of a candidate measures multiple aspects of participation. Adding a candidate as a friend is a show of support, whereby the information appears publicly to others in your network. This is analogous to wearing a campaign button, having a bumper sticker on your car, or a sign in front of your house. However, the symbol appears for your entire social network to see, not just people you might physically run into on a day-to-day basis. This network not only includes your other friends on the website, but could also include people who work at the same company or attend the same

school that you may not even know, and depending on how one sets up their network, perhaps even open to anyone living in the same city or perhaps the public in general. In addition, “friending” a candidate leads to increased communication flow possibilities between an individual and the campaign.

Initiating or joining a political group has many of the same possibilities as friending a candidate, but here specific issues may be the focus rather than a person. Groups within social networking sites allow for the quick, efficient, and free distribution of information between people who have opted to get it. Rather than having to seek out information, being part of such a group will mean that information may come to you. This reduces the costs of obtaining information but increases the risks of information biases. In addition, groups facilitate discussion based on message boards or multi-party back-and-forth messaging, allowing for a group to talk about and debate issues. Without having to deal with physical meeting constraints, costs of meetings and distributing information, or organization around specific time-frames, groups on social network sites can communicate with each other faster and more proficiently than traditional interest groups. (DiMaggio, Hargittai, Neuman, & Robinson, 2001) (Bimber, 1998)

Posting questions or comments on political issues is yet another way to display thoughts about a campaign to members of your network as well as to solicit advice. Both are a means to achieve information more cheaply than spending time to go and search for it, but once again susceptible to misinformation and biases, posting can contribute to multiple metrics of participation. The effects of individual posts would be near impossible to measure, as the comment made by a person about a candidate’s view on an issue may encourage one friend to vote for them while dissuading another. Perhaps most

important in regards to posting is how easy and cost-effective it is to participate in this manner. It is as if every thought a person has about an issue can influence others with just the pushing of a few buttons in a matter of seconds. No form of traditional participation can claim to be as efficient.

## **Hypotheses**

While prior research has provided a model of characteristics of political participants, we do not know if cyber participants are cut from the same cloth. The first question this research looks to answer is: Who are the cyber-participants? Are cyber-participants the same party activists, older, wealthier individuals? Or, is the internet broadening the pool of participants? The second question this research looks to answer is: Are cyber-participants more frequent voters?

This study seeks to demonstrate that the individuals most likely to engage in cyber-participation, including political discourse, connecting with candidates, and joining political groups on social networking sites, are different from traditional political participants. Specifically, I will show that different factors predict cyber-participation and traditional participation, signaling that the characteristics of cyber-participation allow for more ubiquitous engagement due to the low costs in regards to time and resources. In turn, cyber-participation will lead to a positive effect on turnout due to its ability to engage the public in the same way that traditional participation leads to turnout. In order to understand the relationship between cyber-participation and turnout, there are four specific hypotheses that this study tests that help answer the two more general questions laid out above with the first three relating to the first question on who engages in cyber-

participation, and the fourth relating to the relationship between cyber-participation and turnout.

First, younger respondents will be more likely to engage in cyber-participation than older respondents due to the fact that younger people dominate in number of internet users and social networking website users. Although older individuals are playing an increasingly more active role on the internet, at present the vast majority of those engaged on websites such as Facebook are less than thirty-five years of age and over forty percent are less than twenty-five years of age. (Schroeder, 2009)

Second, other socioeconomic factors that generally predict traditional participation should not influence cyber-participation. Unlike traditional participation, which is resource heavy, the low amount of resources required for cyber-participation will allow for less biased participation. Therefore it is expected that socioeconomic factors such as education and income, and pre-disposing factors such as gender and race, will not be significant predictors of cyber-participation.

Third, strong partisans are expected to be more likely to engage in cyber-participation. Although social media users in general might not be more likely to be political activists, those who do engage in cyber-participation are still likely to have at least some political leanings given the relationship between political interest and participation evidenced in past research. (Rosenstone & Hansen, 1993) Additionally, prior research has shown an association between political activism and internet usage, suggesting that those who wish to be involved will continue to use the internet to participate. (Jennings & Zeitner, 2003)

Fourth, respondents who engage in cyber-participation will be more likely to turn out to vote than non-participants. Like traditional participants, cyber-participants have clear preferences in regard to vote choice and in addition they have put forth effort to show support for a favored candidate or issue. Furthermore, prior research suggests access to the internet alone increases the probability of voting. (Tolbert & McNeal, 2003) With this in mind, cyber participation should be related to turnout in ways similar to traditional participation.

### **Who Are the Cyber-Participants?**

Smith et al (2009) find that participation, both online and off, is still the domain of those with higher income and higher education. However, the internet is becoming increasingly used as a forum for political debate in both the United States and abroad with the potential for fast and unhindered communication among potential voters. (Jensen J. L., 2003) This being said, whether online political participants differ categorically from traditional participants is still up for debate.

The factors predicting online and cyber-participation differ from the factors that predict offline participation. (Best & Krueger, 2005) (Steinberg, 2010) While Best & Krueger (2005) identify some differences, they still find that many of the same SES determinants affect online participation suggesting that at some fundamental level perhaps the users are the same. Steinberg (2010) argues that due to the characteristics of cyber participation itself, those who participate through online social media are different from traditional participants as they represent a broader range of the public at large.

For young voters we would expect more online and cyber participation due to the lower economic and time costs as compared to more traditional forms of participation.

For example, younger voters are less likely to have disposable income to donate to political parties or candidates. Additionally, they may lack the time to attend a political rally but rather attend the same style rally in an online environment such as Second Life, or some other form of online town-hall style event that is more convenient.

Online and cyber-participation both also mitigate other socioeconomic characteristics that may curtail more traditional forms of political participation. For example, gender and race could hardly serve as a barrier as the internet is open to anyone. Meanwhile, online social networking makes finding like-minded people to network with politically easier than ever before. In addition, cyber-participation is also generally localized to a person's existing online network, thus their participation engages people already tolerant of each other, and increased interaction leads to increased tolerance. (DiMaggio, Hargittai, Neuman, & Robinson, 2001) (Kobayashi, Ikeda, & Miyata, 2006)

Political knowledge is also likely to play less of a role for online or cyber-participation as the threshold for engagement is low. A person does not need much political knowledge to start asking questions or posting comments. Interaction can lead to a quick growth in political knowledge should someone wish to take advantage of it. (Gronlund, 2007) Such interactions may even lead to more traditional offline participation as individual political engagement grows. (Klofstad, 2007)

### **Are Cyber-Participators More Likely Voters?**

The second overarching theme of this study is to assess whether cyber-participation enhances voting. Does cyber-participation elicit engagement from a different group of people as compared to online or traditional political participants?

The internet is still a tool of the younger generations, but the Pew Internet & American Life Survey reveals that the gap between young and old is narrowing. In 2000, about 74% of 18-29 year olds were using the Internet as compared to 63% of 30-49 and 49% of 50-69 year olds. In 2009, 93% of 18-29 year olds were online, while 81% of 30-49 year olds and 70% of 50-69 year olds were. This equates to a 19% increase by the youngest group, and a 21% increase by the oldest group in just less than a decade. Additionally, the Pew 2010 Generations report suggests that “certain key internet uses are becoming more uniformly popular across all age groups.” (Zickuhr, 2010)

As will be discussed more broadly in Chapter 3, measurements of online participation focus on the time people spend online looking at political information, visiting candidate websites, and making online donations and commentary. The internet allows candidates to reach the masses easily and cheaply, but is this new form of outreach better or just different? In addition, through the internet, traditional forms of participation have become easier, and in theory, more accessible to a greater number of people, and these traditional forms have been associated with higher turnout.

Prior research suggests that access to the Internet itself increases the probability of turnout. (Tolbert & McNeal, 2003) Tolbert and McNeal find that respondents with access to the Internet and online election news were significantly more likely to report voting in the 1996 and 2000 presidential elections controlling for socioeconomic factors. These findings are likely attributable to the knowledge gained by internet users, as internet access allows for easier and cheaper data gathering and thus a more informed electorate, who, armed with more knowledge, become increasingly more likely to vote. However, as the percentage of Americans with access to the internet continues to

increase, the effect may diminish given that it appears to be a factor of wealthy more educated people using the Internet rather than a treatment effect of Internet access itself.

Recent research has examined the effects of online participation, making the case that internet-based participation is at least somewhat distinct from traditional participation, the factors influencing online participation are not the same as the factors influencing traditional participation, and that online participation can influence turnout. (Gibson, Lusoli, & Ward, 2005) (Williams & Gulati, 2008) (Williams & Gulati, 2009). Each of these studies only looks at part of the story and have yet to put these three arguments together. Gibson et al. show similar to Best and Kruger that there are some differences between online and offline participators. Meanwhile, Williams and Gulati show that there is an association between social media-based participation and election outcomes. Taken together, the effect of individual level cyber-participation has been analyzed to some extent, but its connection to turnout has not. (Best & Krueger, 2005) Chapters 5 through 7 in this dissertation shall attempt to bridge this gap.

## **Model**

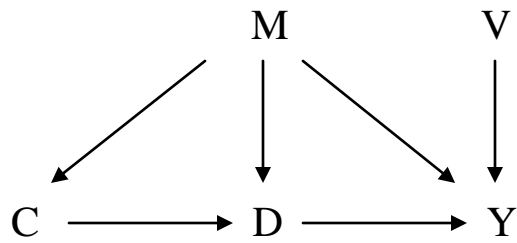
These hypotheses are part of the causal model in Figure 1. The model suggests that a series of functional factors (C), such as internet access and use of online social networking websites, influence cyber-participation (D). Additionally, socio-demographic factors (M), such as age, income, education, gender, and minority status, influence the initial factors of access and use (C) as well as both cyber-participation (D) and turnout (Y). There are also factors (V) that influence turnout (Y) but not cyber-participation (D), such as previous voting experiences. While the models in this study control for some of these factors, others are not able to be controlled for due to the availability of the data.



However, these factors are controlled for in the model. In addition, a secondary analysis uses matched data to ensure that similar groups of respondents are being compared in regards to the treatment effect of cyber-participation. This way this study can clearly identify the effect of cyber-participation (D) on turnout (Y).

FIGURE 1 HERE

**Figure 1. Causal Model**



C = Functional Factors (Internet access, use of social networking websites, etc.)

D = Cyber-participation

M = Socioeconomic Factors (age, income, education, race, gender, partisanship, etc)

V = Other factors that may influence turnout

Y = Turnout

## **CHAPTER 3 – Metrics of Participation**

While scholarship exists exploring the impact of the internet on political participation, thus far our discipline has failed to identify the difference between participating online and cyber-participation. Cyber-participation is the involvement of actors within the Web 2.0 space. In this world, web applications are designed to facilitate interactive information sharing and collaboration. In short, a Web 2.0 site allows users to interact with other users, in contrast to non-interactive sites where users are limited to passive viewing of information. This includes the creation of virtual communities with their own norms, structures that both constrains and facilitate social interactions. (Wellman, Salaff, Dimitrova, Garton, Gulia, & Haythornthwaite, 1996) Perhaps the most recognizable form for Web 2.0 technology today are social networking websites such as Facebook, MySpace and LinkedIn.

One of the first steps to understanding cyber-participation is to define how it differs from online participation. Despite the increasing amounts of research focusing on online participation, empirical analysis of cyber-participation is much rarer. While it is useful to compare online and offline participation, it is more valuable to explore cyber-participation as it is a new outlet rather than a modernized version of traditional participation. This chapter will provide an explanation for how cyber-participation is different from other forms of participation in regards to how it is measured. This includes a review of how traditional metrics of participation have been examined for the last few decades as well as recent attempts to measure online and cyber-participation.

### **How Political Scientists Measure Traditional Participation**

The American National Election Survey has been the hallmark study for examining political participation with data about individual level political behavior going back to 1948. Over the years participation has been looked at rather the same way despite changes in technology and society, and these forms can be summed up as metrics of traditional participation. These metrics include: talking to people about why they should vote for or against one of the parties or candidates, attending political meetings, rallies, speeches, dinners, or things like that in support of a particular candidate, wearing a campaign button, putting a campaign sticker on your car, placing a sign in your window or in front of your house, working or volunteering for a political party or candidate, and giving money to a political candidate or party. For the most part these are relatively high cost or difficult things to accomplish, other than the most commonly reported method of political participation, that of talking to others about politics.

### **How Political Scientists Measure Online Participation**

Online participation can take two forms. The first is when the method of engagement through the internet is the same as a method that could be done without the internet. The second is when the method of engagement is unique to the medium of the internet itself. A prime example of this first type is donating money. Contributing money can be done through multiple mediums: in person, through the mail, over the phone, and by using the internet. Regardless of the medium used to engage in this method, the costs are similar to a perspective participator. Another similar example is using the internet to volunteer for a political campaign. While the medium is different, the time commitment and costs to the would-be participator are still relatively high and similar to volunteering with a campaign more generally.

Other methods of online participation that are more reminiscent of online information gathering rather than active engagement, including: signing up online to receive updates about the campaign or the elections, looking for more information online about candidates' positions on the issues or voting records, watching a video online made by a candidate, campaign or news organization, or watching a campaign or election related video online that did not come from a campaign or a news organization (i.e fan-made or satire, YouTube or Vimeo video). There are however methods of online participation that are unique to the internet medium and for which there is a limited ability to do similar actions offline. These focus around the concepts of information sharing and gathering, including: sharing photos, videos or audio files online that relate to the campaign or the elections, forwarding someone else's political commentary or writing to others, forwarding someone else's political audio or video recordings to others, setting up news alerts to get political or campaign information emailed to you when new information is cited in the news or on the web, customizing a web page to display new political or campaign information that is especially interesting or important to you, and subscribing to receive campaign or political information through an RSS feed.<sup>1</sup>

### **How Political Scientists Can Measure Cyber-Participation**

Cyber-participation is not the same as traditional participation, nor is the same as traditional "online participation." Studies are quick to link aspects of internet participation to similar modes of traditional participation. As discussed in the previous section, this includes methods of participation that can be done in an offline as well as an online environment at relatively similar costs, such as reading campaign literature online,

---

<sup>1</sup> Questions that look at these metrics can be found to various degrees in the Pew Internet and American Life Surveys.

contacting an elective representative online, contributing to a campaign online, or signing a petition online. (Best & Krueger, 2005) (Smith, Schlozman, Verba, & Brady, 2009) Based on using these metrics it is no surprise that findings suggest that participation online is similar to that of participation offline.<sup>2</sup>

The November 2008 Post-Election Tracking Survey data set produced by Princeton Survey Research Associates International for the Pew Internet & American Life Project is the first national study that really allows for the examination of cyber-participation, by asking questions that explore means of political participation that involve taking advantage of the medium of Web 2.0 technology, through the use of online social-networking websites. Examples of cyber-participation include “friending” politicians or candidates on a social networking site, starting or joining a political group, or a group supporting a cause on a social networking site, and posting comments, queries, or information about politics, the campaign or the elections on a social networking site such as Facebook, MySpace or Linked in. In 2008, eleven percent of respondents “friended” a politician or candidate, fifteen percent stated or joined a group, and eleven percent posted questions or comments related to the election. Similarities in response rate can be seen with the 2008 American National Election Survey’s questions dealing with traditional participation, where twenty percent of respondents reported wearing a button or posting a yard sign, nine percent attended a political meeting or rally, and forty three percent discussed the election with other people.

---

<sup>2</sup> “Contrary to the hopes of some advocates, the internet is not changing the socioeconomic character of civic engagement in America. Just as in offline civic life, the well to-do and well-educated are more likely than those less well off to participate in online political activities such as emailing a government official, signing an online petition or making a political contribution.” (Smith, Schlozman, Verba, & Brady, 2009)

## **Comparable Methods / Different Modes**

When thinking more broadly about the ways to participate, there are four methods of participation that can be considered across the three modes of traditional participation, online participation and cyber-participation.<sup>3</sup> These include the concepts of display, talk, meeting, and engagement, each with an increasing degree of cost or effort associated with them. Display involves no interaction for the participator and takes the form of signaling intentions and beliefs. In traditional participation this would be through yard-signs, campaign buttons, and stickers. In online participation this could include customizing a website's imagery and information. In cyber-participation this would be through signing up as a friend or "liking" a politician or candidate, or even just "liking" a post someone else made. Talk involves interaction but at a rather low cost. For traditional participation this would be actually talking to someone else, for online participation this would be sending an e-mail, and for cyber-participation this would be "posting" information publicly about politics, a campaign or a candidate. Meeting involves multiple person interaction and higher effort in regards to organizing. Traditionally this would be attending a political meeting or rally. Online participation of this sort would include taking part in a discussion, listserv or other group forum like a blog, related to political issues or the campaign. For cyber-participants this would involve starting or joining a political group on a social networking site. Engage is the most in-depth of these concepts, and it involves taking actions on behalf of a cause or candidate. In traditional participation this would include volunteering for a group or a candidate. Similar

---

<sup>3</sup> A fifth method could be considered donating money, but given the high cost of this form of participation, the mode of engagement would be virtually irrelevant to participators.

activities can also take place online, where the work done takes place through the internet. This method of engagement does not really exist as much in regards to cyber-participation, but perhaps starting and organizing a community in a social networking realm would be somewhat on par.

Table 1 displays the percentages of the population that engage in each of the aforementioned methods by mode of engagement. The percents for traditional participation are based on responses to the 2008 American National Election Survey. The percents for online participation are based on responses to the 2008 Pew Internet and American Life Study for Display, the 2010 Pew Internet and American Life Study for Talk and Meeting, and an average of both studies for Engage, as different questions were asked in each year. The percents for cyber-participation are based on averages of the 2008 and 2010 Pew studies for Talk, Display, and Meeting, and on the 2010 alone for Engage based upon responses to the various questions asked each year. 70% of the 2008 and the 2010 Pew Internet and American Life Study respondents are internet users. However, 28% of the 2008 respondents report using online social networking websites while 57% of the 2010 respondents report using online social networking websites. Lists of the specific questions used in each survey can be found in the appendix.

#### TABLE 1 HERE

While these metrics are not directly comparable, they do provide an overall idea of the percentage of the population engaging in various methods of participation across each mode of participation. It should be kept in mind that as cyber-participation is a newer mode; adoption of it is still growing. This may also be true of online participation, though at a smaller rate. While one hundred percent of Americans in theory could



participate traditionally, seventy percent of Americans at least occasionally access the internet and only forty one percent of Americans use social networking sites such as Facebook, MySpace or LinkedIn based upon responses to the 2010 Pew Internet and American Life Survey. Additionally, the metrics of participation displayed in the chart are based upon users of those technologies, so 16.86 percent of internet users and 15.61 percent of social networking website users are engaging in the Talk based method of political participation. As a percentage of the American population, these estimates would be closer to 11.8 percent and 5.8 percent respectively.

We can see that only a small percentage of people are choosing to engage in cyber-participation. However, this will likely change in the future. Clay Shirky writes in 2008, “Communications tools don’t get socially interesting until they get technologically boring... It's when a technology becomes normal, then ubiquitous, and finally so pervasive as to be invisible, that the really profound changes happen.” It is now five years later and we can already see an increase in the use of social media tools in daily life. Therefore, we will likely see increased cyber-participation as the years go on.

**Table 1. Rates of Engagement**

		<b>Medium of Participation</b>				
		Percent of Total Sample Population			Percent of Internet Users	Percent of Social Networking Website Users
<b>Method</b>		Traditional	Online	Cyber	Online	Cyber
<b>Of Participation</b>	Talk	42.95%	11.80%	5.80%	16.86%	15.61%
	Display	20.22%	3.61%	4.46%	5.15%	11.16%
	Meeting	9.28%	4.00%	4.65%	5.71%	12.31%
	Engage	4.66%	4.28%	1.14%	6.11%	2.27%

## **CHAPTER 4 – Factors that Influence Participation**

There are many factors that influence the decision to vote, and many of these factors also influence the decision to participate in other ways. In order to examine the relationship of causation between cyber-participation and turnout these other factors must be identified and controlled for. This includes socioeconomic factors such as education, income, and age, as well as other means of political participation that are more traditionally thought of such as involvement in campaigns and general interest and knowledge of politics. (Brady, Verba, & Schlozman, 1995) From prior research, we know that the SES model, based on components of socioeconomic status, such as education and income, does a good job at predicting political participation. (Brady, Verba, & Schlozman, 1995) But, does the SES model correctly predict cyber-participation?

A study done in the United Kingdom suggests that while women, youth, and lower social status individuals are less likely to be traditional political participators they are equally likely to engage in at least some forms of online political participation as the population as a whole. (Gibson, Lusoli, & Ward, 2005) Using an American sample, results suggest that factors predicting online participation do indeed differ from those associated with traditional participation, but socioeconomic status still matters as internet skills, an important factor in online participation, are likely to be correlated with those who engage in traditional political participation. (Best & Krueger, 2005)

Previous research has noted that the age group most active within the Web 2.0 community, is also considered to be most politically disengaged. (Zukin, Keeter, Andolina, Jenkins, & Delli Carpini, 2006) Younger respondents will be more likely to

engage in cyber-participation than older respondents. This comes from the fact that younger people dominate in number of internet users and social networking website users. While older individuals are playing an increasingly more active role on the internet, at present the vast majority of those engaged on websites such as Facebook are 34 or under and over 40% are 24 and under. (Schroeder, 2009) However, I believe online social networking will provide part of the solution to that problem. Kahne, Lee & Feezell (2011) suggested online participatory cultures may lead to political participation; I will argue that cyber-participation will serve as a gateway to voting.

### **Comparison of Traditional, Online and Cyber-Participants**

Whether online and cyber-participants differ categorically from traditional participants is up for debate. As noted previously, Smith et al. find that participation, both online and off, is still in the domain of those with high income and education. Other research has shown that the factors predicting online participation differ from that of offline participation. (Best & Krueger, 2005) However, Best & Krueger still find that the same SES determinants are present in online participants, suggesting that at some fundamental level; perhaps the users are the same.

Since cyber-participation is clearly different, why would we assume that the same factors predict engagement? The individuals most likely to engage in cyber-participation, including political discourse, connecting with candidates, and joining political groups on social networking sites are different from traditional political participants. Specifically, the predictors of cyber-participation are not the same as traditional participation, signaling that the characteristics of cyber-participation allow for more ubiquitous engagement due to the low costs in regards to time and resources.

Socioeconomic factors that generally predict traditional participation should not influence cyber-participation. Unlike traditional participation, which is resource heavy, the low amount of resources required for cyber-participation will allow for unbiased participation. Therefore it is expected that socioeconomic factors such as education and income, and pre-disposing factors such as gender and race, will not be significant predictors of cyber-participation.

In theory, cyber-participation has lower economic and time costs as compared to more traditional forms of participation. Political groups operating only in cyberspace provide most of the benefits of in-person participation while significantly reducing costs by removing time and schedule constraints and lowering expenses to all involved. This would suggest that economic factors would no longer play a role in participation.

Cyber-participation also mitigates other socioeconomic factors that typical plague political participation. Gender and race would not be a direct hindrance in regards to cyber-participation as the internet is virtually open to anyone. (Strek, 1998) (Sampaio & Aragon, 1998) Additionally, communication in cyberspace can potentially provide a medium devoid of cultural or gender identifiers. Regardless, the interaction ability of the Web 2.0 environment makes it easier for people to find like-minded individuals to join their network. Cyber-participation also is generally localized to a person's online network, and thus their participation engages people already tolerant of each other, and increased interaction leads to increased tolerance. (DiMaggio, Hargittai, Neuman, & Robinson, 2001) (Kobayashi, Ikeda, & Miyata, 2006)

Education is also likely to play less of a role in cyber participation as the threshold for participation is low. A person does not need vast political knowledge to

start asking questions or posting comments. These opportunities are vast, and the interactive aspects will lead to a quick growth in political knowledge should someone wish to take advantage of it. (Gronlund, 2007) Such interactions may even lead to more traditional offline participation. (Klofstad, 2007) Any effect education is likely to have would have played its role in the ability of a person to access the internet, not engage on a social networking site.

Strong partisans, however, will still be more likely to engage in cyber-participation than weak partisans. Despite that social media users in general are not likely to be political activists, those who do engage in cyber-participation are still likely to have at least some political leanings given the relationship between political interest and participation evidenced in past research. (Rosenstone & Hansen, 1993) Additionally, prior research has shown an association between political activism and internet usage, suggesting that those who wish to be involved will continue to use the internet to participate. (Jennings & Zeitner, 2003)

### **Factors that Influence Participation**

Previous research suggests numerous variables can influence political participation. This study takes into account socioeconomic factors that have been known to influence traditional and online participation, as well as turnout. The following variables about respondents are considered: gender, race, age, income, education, socialization, political knowledge, and partisanship. Each variable is taken into consideration as permitted by available data. Their use will allow for comparisons with traditional political participants as well as general measurements of online participation. Further explanation for the rationale behind controlling for individual variables is

explained below. While there is no need to control for party identification in the traditional sense, as research does not suggest that one political party is more prone to participate than another, it is included in the model in an attempt to gain some insight into how cyber participators may differ from traditional participators.

### *1. Gender*

There is little reason to suspect that gender will play a role in cyber-participation, or, in these days, turnout. However, due to its inclusion of other models for participation and turnout used in previous research, gender is controlled for here as well. Previous research suggests that political participation and turnout differs between the sexes, especially when comparing online and offline participation, though no rationales are offered for the differences. (Best & Krueger, 2005) (Tolbert & McNeal, 2003) (Leighley & Nagler, 1992)

Table 2 shows the levels of participation for males and females across the four different metrics of participation. The differences between rates of participation across gender are rather mild. In fact, the only difference between the genders that is statistically significant at the  $p < .05$  level is traditional engagement where 12.45% of men reports engaging with a campaign, while only 9.48% of women reported doing so. The largest differences shown are that 3.33% more men than women report talking to people about politics, and for cyber-participators, the largest gender gap is only 2.09% more men than women report joining a political group online. Both of these differences are not statistically significant.

What is statistically significant is the reduction in differences between traditional and cyber-participation. For cyber-participators, the 1.25% gender gap between posting

information or questions is not statistically significant, but the 2.08% reduction in differences between the genders between traditional and cyber-participation is. This reduction in differences is also seen for the display and the engage metrics. While 1.34% more men than women report displaying a campaign button or yard sign, only .21% more men report “friending” a candidate or politician. Additionally, 2.98% more men than women report engaging with a campaign, only 1.32% report doing so through a cyber based medium. These 1.13% and 1.66% reductions are statistically significant. This demonstrates that while the differences are not substantial between the sexes, they are still reduced more often than not when considering cyber versus traditional participation.

#### TABLE 2 HERE

Figure 2 presents the differences in male versus female participation rates graphically. Here it can be clearly seen that the differences between genders clearly drops for the Talk, Display and Engage metrics when looking at cyber-participation versus traditional participation. Gender appears to play less of a role for cyber-participation than it does in traditional participation. For the Meeting metric, the differences go up, but this is due to increases in female participation, whereby more females than males join political groups on social networking websites such as Facebook.

#### FIGURE 2 HERE

### 2. *Race*

In order to see the effect of minority status on cyber-participation and turnout, respondents are classified as white or non-white, as non-white respondents represent the minority in the country and historically minorities have faced more legal and social obstacles to political participation. While race has been a significant predictor for



turnout, it has a limited association with online participation where some research shows it to have a significant effect, but others do not. (Leighley & Nagler, 1992) (Tolbert & McNeal, 2003) (Smith, Schlozman, Verba, & Brady, 2009) Tolbert and McNeal show that race itself is not associated with online participation, while Leighley and Nagler show a strong negative association between minorities and turnout. As more minorities gain internet access and reap the benefits that internet access may provide, perhaps the effect on turnout will be mitigated. It is not expected that race would be a predictor of cyber-participation as it was not with online participation. (Tolbert & McNeal, 2003)

Table 3 shows the levels of participation for white and minorities across the four different metrics of participation. The differences between rates of participation are rather significant when looking at traditional means of participation. The differences between the metrics of Talk, Display, and Engage are statistically significant between white and minority respondents at the  $p < .05$  level. 7.58% more white respondents than minority respondents report talking about the campaign. 3.05% more white respondents report displaying a yard sign or wearing a campaign button. 0.93% more white respondents report working with a campaign.

The reduction in differences between traditional and cyber-participation for the Talk and Engage metrics is also statistically significant. For the talk metric there is a substantively significant reduction in the differences between white and minority respondents when comparing traditional and cyber-participation, 14.5%. Cyber-based campaign engagement is more popular with minority respondents than white respondents, and the 1.67% difference between traditional and cyber-participation is statistically significant. It is also important to note the the differences between white and minority

respondents across all four metrics of participation are not significant when looking at cyber-participation, despite the differences being significant when looking at traditional participation.

#### TABLE 3 HERE

Figure 3 presents the differences in participation for white versus minority respondents graphically. The visual representation of the Talk metric is the most outstanding, showing how minorities seem to dominate over whites in using cyber-participation to such a degree that the difference is significant towards minority participation. For the other metrics of participation, the change in differences do not seem that large, though it can be seen that there is a reduction in the differences between the Display metric and another flip for the Engage metric. This implies that minorities are making better use of cyber-participation than traditional participation, and that such use may be working to equalize past biases.

#### FIGURE 3 HERE

### 3. *Income*

Income is often a predictor of political engagement and mobilization as people with more income can afford to contribute to political causes as well as afford the time to engage in other forms of participation. Additionally, income has previously been shown to have an association with online participation. (Tolbert & McNeal, 2003) (Smith, Schlozman, Verba, & Brady, 2009) Given the ease of access to computers and the internet in general, there is no reason to believe that income would be directly related to online social networking usage. Furthermore, the costs of cyber-participation are lower than online participation and thus income is not likely to have an effect in predicting

cyber-participation. However, income has been shown to have an effect on registering to vote, and thus turnout in general. (Timpone, 1998) Therefore, the effect of income needs to be controlled for in order to best interpret the effect of cyber-participation on turnout. To measure this, income is broken down into four categories: less than \$20,000, \$20,000 to \$40,000, \$40,000 to \$75,000, and greater than \$75,000 a year for total family income.

Table 4 shows the levels of participation for each of the four levels of income across the four different metrics of participation. The differences are calculated by looking at a weighted average of the 1<sup>st</sup> and 2<sup>nd</sup> quartiles against the 3<sup>rd</sup> and 4<sup>th</sup> quartiles, where the 1<sup>st</sup> quartile is the lowest income level and the 4<sup>th</sup> quartile is the highest income level. The differences in rates of participation across income levels show as expected that higher income respondents are more likely to report involvement in traditional participation metrics. For the metrics of Talk, Display and Engage, the difference between the top two quartiles and the bottom two quartiles is substantively and statistically significant at the  $p < .05$  level. Higher income individuals are 9.14% more likely to talk about the campaign, 11.12% more likely to display a campaign button or yard sign, and 4.82% more likely to volunteer with a campaign.

For each metric there is a substantively significant reduction in the differences between higher and lower income respondents when comparing traditional and cyber-participation. Talk shows a reduction of 11.1%. Display shows a reduction of 11.96%. Meeting shows a reduction of 3.89%. Engage shows a reduction of 7.22%. When examining cyber-participation metrics, there are no statistically significant differences across income levels. This implies that income is not a factor for the rate of cyber-participation.

#### TABLE 4 HERE

Figure 4 presents a striking change in the differences among income levels for traditional versus cyber-participation. Across all metrics significant decreases can be seen. In addition, all of the metrics are flipped slightly, implying that lower income rather than higher income respondents are the ones most likely to be making use of cyber-participation. The low economic costs of cyber-participation seems to prevent any economic-based participation biases that are often seen in traditional participation metrics.

#### FIGURE 4 HERE

#### 4. *Education*

In addition to Tolbert and McNeal's research, data from the Pew Internet & American Life study also show that respondents with higher levels of education are more likely to use the internet.<sup>4</sup> In addition, education levels influence job status and obtainment of civic skills. Higher degrees of civic skill have been shown to be positively associated with traditional participation, but such skills should matter less for cyber participation. (Brady, Verba, & Schlozman, 1995) Therefore, the effect of education should not have a significant impact on cyber participation due to its ease of use and accessibility. Education levels themselves have also shown to be associated with both participation and turnout. (Tolbert & McNeal, 2003) (Timpone, 1998) Therefore, education is controlled for to evaluate the effect of cyber-participation on voting. Respondents are divided into two groups based upon completion of a bachelors degree.<sup>5</sup>

---

<sup>4</sup> Using the data from the 2010 Pew Internet and American Life Study, the correlation between education and internet access was .4116 and significant at the  $P < .001$  level.

<sup>5</sup> Models were also run using age as a less discreet variable with multiple options including "less than HS," "high school graduate or GED," "some college, technical or associates degree," "bachelors degree," and "post bachelors professional degree," and the

Table 5 shows the levels of participation for respondents with and without a bachelors degree across the four different metrics of participation. The differences between rates of participation are substantively and statistically significant when looking at traditional means of participation. Respondents holding a degree were 18.74% more likely to report talking about the campaign, 12.35% more likely to report displaying a yard sign or wearing a campaign button, 7.90% more likely to attend a political meeting or rally, and 7.05% more likely to volunteer with a campaign. When looking at the differences in cyber-participation, they are substantively low and statistically insignificant at the  $p < .05$  level.

However, the reduction in differences between traditional and cyber-participation for all four metrics of participation are both substantively and statistically significant. For the talk metric there is a reduction in the differences between degree holders and non degree holders of 18.81% when comparing traditional and cyber-participation. For the display metric there is a reduction of 13.69%. The metrics of meeting and engage also see significant reductions of 4.61% and 6.90% respectively. Therefore, holding a bachelors degree appears to play an insignificant roll for cyber-participants, as compared traditional participants.

#### TABLE 5 HERE

Figure 5 presents another striking graph, as the differences among education levels income seem to have almost no effect on cyber-participation despite the clear

---

results were similar. However, as the variations between these levels may not impact actual values of knowledge differences at least in relation to politics and governance, education was simplified to a dichotomous value as those with bachelors degree or more tend to have to take some political science courses, while others would not have such a requirement.

influence of higher education on traditional participation. Across all metrics significant decreases can be seen. The ease of use associated with cyber-participation seems to prevent any education based participation biases that are often seen in traditional participation metrics.

FIGURE 5 HERE

### 5. *Age*

Age has a special role in relation to both cyber participation and turnout. Prior research, including the Pew Internet & American Life Project, suggests that younger people are more active internet users. At the same time, political science literature holds that older people are more likely to vote. This variable thus plays a key role in understanding if cyber participation is expanding the number of people who participate or if it is just a new medium for the same people who already participate in more traditional means. Age has been shown to play a role in both participation and turnout. (Tolbert & McNeal, 2003) (Timpone, 1998) (Wattenberg, 2007) (Mesch & Coleman, 2007) (Xenos & Bennett, 2007) For this study age is treated as a dichotomous variable, with a cut off at 35 years of age. This cut off includes the “youth vote” that is often described as either 18-29 or 18-35 and takes into consideration that the “key electorate” is often thought of as the 35-60 year olds. By setting the cut off at 35, this avoids inclusion of the more traditional voter.<sup>6</sup> Given these cut offs, it is expected that young people are more likely to be participating in the Web 2.0 community, while older people are more likely to vote.

---

<sup>6</sup> Other cut offs of age were tried using 30 and younger as well as 40 and younger, and the results remain the same. Using age as a continuous variable also has little impact on cyber participation variables.

Table 6 shows the levels of participation for younger versus older respondents across the four different metrics of participation. The differences between rates of participation are substantively and statistically significant when looking at the Talk and Engage metrics of traditional participation. 4.64% more older respondents report talking about the campaign, and 6.25% more older respondents report volunteering with a campaign. There are small differences between older and younger respondents for the Display and Meeting metrics of 2.04% and 1.90% respectively, but they are not significant at the  $p < .05$  level. When looking at the differences in cyber-participation, the metrics of Display, Meeting and Engage are substantively low and statistically insignificant, but the Talk metric is substantively and statistically significant. In fact, younger respondents are 18.24% more likely to post questions or comments about the campaign, though this is likely due to the higher rates of young people using online social networking websites in general.

Once again, the reduction in differences between traditional and cyber-participation are both substantively and statistically significant for three of the four metrics. For the Talk metric there is a reduction in the differences between older and younger respondents of 22.88% when comparing traditional and cyber-participation. For the Display metric there is a reduction of 7.22%, and 5.76% for the Engage metric. Here we see that the bias towards older respondents participating that exists in traditional participation disappears when looking at cyber-participation.

TABLE 6 HERE

Figure 6 presents the differences in older versus younger participation rates graphically. Here it can be clearly seen that the differences between older and younger

respondents clearly drops for the Talk, Display and Engage metrics when looking at cyber-participation versus traditional participation. Younger people are significantly more likely than older people to engage in the Talk and Display metrics through cyber-participation. This is likely due to the fact that younger people make more use of online social networking tools in general, but there may be other reasons associated with this result. For example, cyber-participation is much more accessible to younger people than most means of traditional participation.

FIGURE 6 HERE

#### 6. *Civic Engagement*

Previous research demonstrated that declining civic engagement could be the cause for reduced turnout. (Putnam, 2000) Therefore, some sort of control for civic engagement is important. The closest variable available is a measure of attendance of religious services, or church attendance. Church attendance is generally associated with other forms of civic engagement, and church attendance itself has been shown to be a significant factor in predicting turnout. (Verba, Schlozman, & Brady, 1996) (Timpone, 1998) As the data provides no other source to measure civic engagement or even traditional participation, this variable was included, and including it leads to a slightly increased fit of the model. It has been coded from 0 to 5, increasing as religious institutional attendance increases.

Table 7 shows the levels of participation for respondents who are more or less engaged with their place of worship. Due to differences in measurements used of religiosity and the absence of the metric in the 2010 Pew data set, only a comparison of



the 2008 ANES and 2008 PEW are used to compare the metrics of Talk, Display and Meeting.<sup>7</sup>

The differences between rates of participation are substantively and statistically significant across all three metrics of traditional participation. More civically engaged people are more likely to report talking about the campaign, display a campaign button or yard sign, and attend political meetings and rallies, by 6.14%, 3.73% and 2.77% respectively. These differences are significant at the  $p < .05$  level. When looking at the differences in cyber-participation, the differences are substantively lower and statistically insignificant. The reduction in differences between traditional and cyber-participation are substantively smaller than the differences seen in the other tables, and are only statistically significant for the Talk and Meeting metrics. This reduction may be a sign that the very act of participating in online social networking websites may be raising other civic engagement variables that are not able to be measured through this analysis or provides similar benefits to respondents as other means of civic engagement. However, if this was the case, it would be expected that rates of cyber-participation would be higher than traditional participation, and for the most part, that is not reflected in the table for either the Talk or Display metrics.

#### TABLE 7 HERE

Figure 7 shows the changes in differences between more and less civically engaged respondents. Here it can be clearly seen that the differences drop across the board

---

<sup>7</sup> It should be kept in mind that the 2010 Pew Data set allows for a clear distinction between Meeting and Engage, while the 2008 Pew Data does not, hence the use of 2010 Pew in other tables. Additionally, due to the differences the table only reflects more versus less engaged, with the cut off being that more engaged people attend services regularly rather than sporadically, for this purposes once or twice a month or more, is considered more engaged.

between traditional and cyber-participation, but the drops are more significant for some metrics than others. While civic engagement is strongly associated with traditional participation, it is not associated with the Talk and Meeting metrics of cyber-participation. This might imply that online social networking websites are providing the same skills that one finds in civic life than lead to political participation, or that those skills are just no longer a necessarily component of the more modern methods of participation.

FIGURE 7 HERE

### *7. Partisanship*

Party identification is identified using five categories: Democrat, Democratic leaning, Independent, Republican leaning, and Republican. This study is not as much concerned about which way the sign ends up on this variable as much as for controlling for any possible party effects. On the other hand, partisan intensity - created by folding the party identification score and ranking respondents as independents, weak party affiliation or strong party affiliation - is expected to play a major role. Prior research suggests that strong party affiliates are more likely to engage in political participation. (Verba & Nie, 1972) (Best & Krueger, 2005) The significance of this variable in the studies conducted here would suggest whether or not cyber-participation is providing a new medium for traditional participators or actually engaging a new demographic.

Political knowledge is also included as a control variable when looking at the 2012 election. As age and education are typically associated with political knowledge, and given that those two factors are relatively constant for those surveyed, political knowledge serves as a similar substitute for the 2008 and 2010 election studies. It is expected that those with higher degrees of political knowledge would be both more likely

to participate as well as more likely to vote. However, it is difficult to tease out the causality of whether political knowledge leads to online and cyber engagement or if political knowledge is gained from the engagement itself. Chapter 7 also includes two more control variables: a measurement of trust in government, and overall satisfaction with “the way things are.” These metrics are discussed further in chapter 7 as they only pertain to the 2012 election data.

Table 8 shows the levels of participation for respondents based upon level of partisan intensity. Due to differences in measurements used for partisan intensity this table uses ANES and Pew Data sets.<sup>8</sup> In this table the differences between strong partisans and independence are examined.<sup>9</sup> Across all four metrics strong partisans are more likely to participate both in traditional as well as in cyber participation. For the metrics of Talk and Display the differences are substantively and statistically significant at the  $p < .05$  level. For the metric of Meeting the differences are statistically significant yet not that large, and for the metric of Engage only the difference in traditional participation is significant. Overall as expected, party intensity is associated with both higher rates of traditional and higher rates of cyber-participation.

TABLE 8 HERE

---

<sup>8</sup> The CCES provides a clearer question for comparison of the Display and Engage metrics than ANES and is used when possible, but due to the differences in coding for party intensity, only ANES and Pew data sets are used in this table.

<sup>9</sup> Due to differences in how the questions are asked, it is not clear if the same level of partisanship is reflected in each of the three levels in the ANES versus Pew data. The reason for this concern is due to the closeness of rates between strong and weak partisans for the Pew data but the closeness of weak partisans and independents in the ANES data, suggesting that Pew strong and weak partisans are more similar to each other while ANES weak partisans and independents are more similar to one another.

Figure 8 echos the conclusions made when looking at Table 8. It shows that strong partisans are more likely to participate regardless of the method of participation. While there are some small decreases in the differences in participation rates among the Display, Meeting and Engage metrics, as expected, the two sets of graphs appear to be quite similar.

#### FIGURE 8 HERE

While these tables and figures provide a first look at the differences among various respondent characteristics for traditional versus cyber-participation, they can provide only part of the story. In the following chapters, multivariate analysis will be presented across three different national elections: the 2008 presidential election, the 2010 midterm election, and the 2012 presidential election. Multivariate analysis will provide the ability for these identified characteristics to be controlled for one another to better determine which, if any, of these socioeconomic factors have the greatest impact in cyber-participation rates. In addition, the analyses will allow for an examination of the impact of cyber-participation on turnout, while being able to control for the variables presented above.

Due to data availability, each chapter includes better and more diversified controls, but succumbs to tradeoffs in the form of more limited samples. Chapter 5 will present a large nationally representative sample and only include the controls listed above. Chapter 6 allows for an online participation control, but given that the data relate to a midterm election, which often suffer from participation and turnout biases, the results may not be as generalizable. Chapter 7 uses data from a student sample taken before the 2012 election. Therefore education and age of the respondents are roughly equal, and

rather than actual turnout the data only has voting intentions. However, this data set allows us to control for traditional participation to see its impact on cyber-participation and better examine the impact of cyber-participation on turnout.

**Table 2. Gender Based Participation (Traditional versus Cyber)**

		Male	Female	$\Delta$
<b>TALK</b>				
2008 ANES	Traditional	44.84%	41.51%	3.33%
2008 Pew	Cyber	20.71%	19.46%	1.25%
				<b>2.08%*</b>
<b>DISPLAY</b>				
2008 CCES	Traditional	35.35%	34.01%	1.34%
2008 Pew	Cyber	11.27%	11.06%	0.21%
				<b>1.13%*</b>
<b>MEETING</b>				
2008 ANES	Traditional	9.86%	8.84%	1.02%
2010 Pew	Cyber	10.92%	8.83%	2.09%
				<b>-1.07%*</b>
<b>ENGAGE</b>				
2010 CCES	Traditional	12.45%	9.48%	<b>2.98%*</b>
2010 Pew	Cyber	3.08%	1.76%	1.32%
				<b>1.66%*</b>

**Table 3. Race Based Participation (Traditional versus Cyber)**

		White	Minority	Δ
<b>TALK</b>				
2008 ANES	Traditional	46.69%	39.11%	<b>7.58%*</b>
2008 Pew	Cyber	18.99%	25.91%	-6.92%
				<b>14.50%*</b>
<b>DISPLAY</b>				
2008 CCES	Traditional	36.90%	33.85%	<b>3.05%*</b>
2008 Pew	Cyber	11.96%	9.35%	2.61%
				0.44%
<b>MEETING</b>				
2008 ANES	Traditional	8.77%	9.74%	-0.97%
2010 Pew	Cyber	9.91%	8.23%	1.68%
				<b>-2.65%*</b>
<b>ENGAGE</b>				
2010 CCES	Traditional	10.40%	9.47%	<b>0.93%*</b>
2010 Pew	Cyber	2.13%	2.87%	-0.74%
				<b>1.67%*</b>

**Table 4. Income Based Participation (Traditional versus Cyber)**

		Inc 1st Q	Inc 2nd Q	Inc 3rd Q	Inc 4 Q	$\Delta(4+3)-(1+2)$
<b>TALK</b>						
2008 ANES	Traditional	35.45%	41.47%	44.89%	51.74%	<b>9.14%*</b>
2008 Pew	Cyber	31.82%	20.94%	20.24%	22.39%	-1.96%
						<b>11.10%*</b>
<b>DISPLAY</b>						
2008 CCES	Traditional	27.26%	35.03%	40.88%	43.34%	<b>11.12%*</b>
2008 Pew	Cyber	10.00%	14.44%	9.38%	12.42%	-0.83%
						<b>11.96%*</b>
<b>MEETING</b>						
2008 ANES	Traditional	9.38%	6.63%	8.51%	12.76%	2.78%
2010 Pew	Cyber	8.87%	12.50%	11.11%	9.03%	-1.11%
						<b>3.89%*</b>
<b>ENGAGE</b>						
2010 CCES	Traditional	7.30%	10.09%	12.40%	14.56%	<b>4.82%*</b>
2010 Pew	Cyber	2.42%	4.55%	2.02%	0.72%	-2.41%
						<b>7.22%*</b>



**Table 5. Education Based Participation (Traditional versus Cyber)**

		BA	No BA	$\Delta$
<b>TALK</b>				
2008 ANES	Traditional	55.52%	36.78%	<b>18.74%*</b>
2008 Pew	Cyber	19.96%	20.03%	-0.07%
				<b>18.81%*</b>
<b>DISPLAY</b>				
2008 CCES	Traditional	44.12%	31.77%	<b>12.35%*</b>
2008 Pew	Cyber	10.38%	11.72%	-1.34%
				<b>13.69%*</b>
<b>MEETING</b>				
2008 ANES	Traditional	15.51%	7.60%	<b>7.90%*</b>
2010 Pew	Cyber	11.59%	8.30%	3.29%
				<b>4.61%*</b>
<b>ENGAGE</b>				
2010 CCES	Traditional	14.99%	7.94%	<b>7.05%*</b>
2010 Pew	Cyber	2.27%	2.12%	0.15%
				<b>6.90%*</b>

**Table 6. Age Based Participation (Traditional versus Cyber)**

		35+	<35	Δ
<b>TALK</b>				
2008 ANES	Traditional	44.27%	39.63%	<b>4.64%*</b>
2008 Pew	Cyber	16.24%	34.48%	<b>-18.24%*</b>
				<b>22.88%*</b>
<b>DISPLAY</b>				
2008 CCES	Traditional	36.83%	34.79%	2.04%
2008 Pew	Cyber	8.70%	13.88%	-5.18%
				<b>7.22%*</b>
<b>MEETING</b>				
2008 ANES	Traditional	9.81%	7.91%	1.90%
2010 Pew	Cyber	11.17%	8.31%	2.86%
				-0.96%
<b>ENGAGE</b>				
2010 CCES	Traditional	11.83%	5.58%	<b>6.25%*</b>
2010 Pew	Cyber	2.49%	2.00%	0.49%
				<b>5.76%*</b>

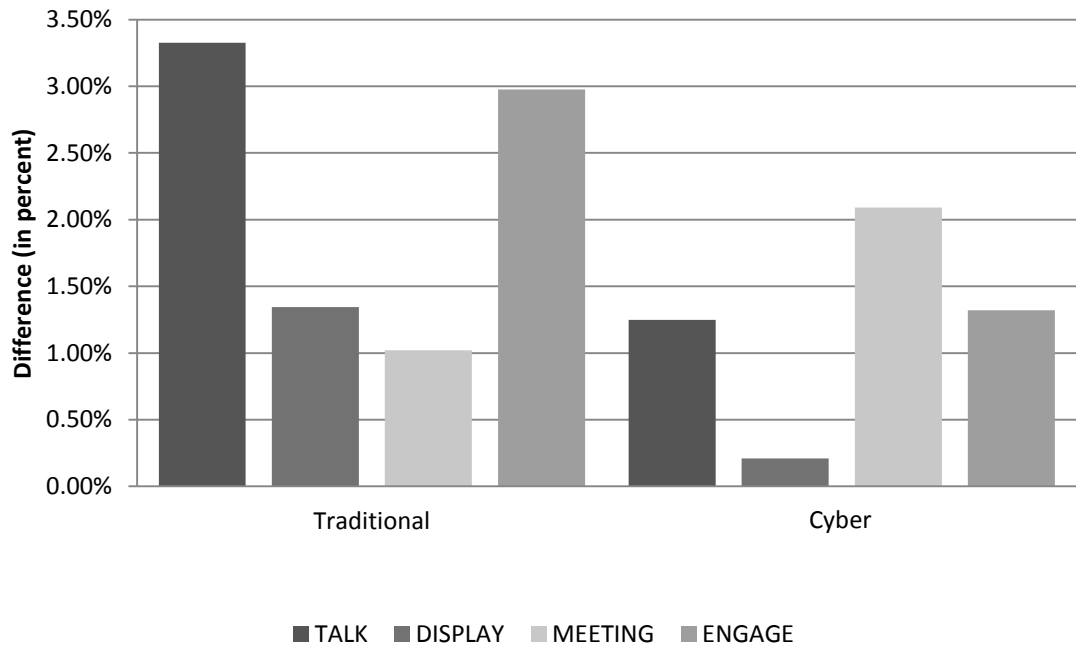
**Table 7. Civic Engagement Based Participation (Traditional versus Cyber)**

		More	Less	$\Delta$
<b>TALK</b>				
2008 ANES	Traditional	46.00%	39.86%	<b>6.14%*</b>
2008 Pew	Cyber	33.72%	33.54%	0.18%
				<b>5.96%*</b>
<b>DISPLAY</b>				
2008 ANES	Traditional	22.64%	18.90%	<b>3.73%*</b>
2008 Pew	Cyber	12.56%	10.00%	2.56%
				1.17%
<b>MEETING</b>				
2008 ANES	Traditional	10.99%	8.22%	<b>2.77%*</b>
2008 Pew	Cyber	15.05%	15.15%	-0.10%
				<b>2.87%*</b>

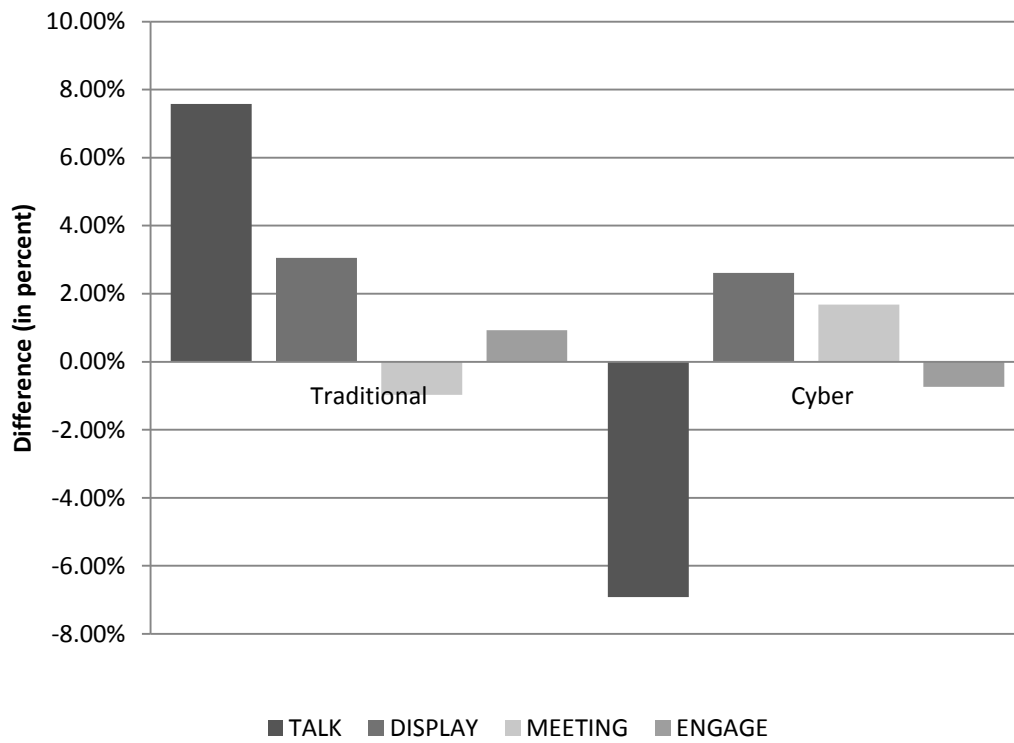
**Table 8. Party Intensity Based Participation (Traditional versus Cyber)**

		Strong Partisan	Weak Partisan	Independent	Δ (Strong vs Ind.)
<b>TALK</b>					
2008 ANES	Traditional	56.11%	38.93%	34.03%	<b>22.09%*</b>
2008 Pew	Cyber	31.69%	31.37%	8.33%	<b>23.35%*</b>
					-1.27%
<b>DISPLAY</b>					
2008 ANES	Traditional	31.79%	14.94%	13.33%	<b>18.47%*</b>
2008 Pew	Cyber	13.48%	10.19%	0.00%	<b>13.48%*</b>
					<b>4.99%*</b>
<b>MEETING</b>					
2008 ANES	Traditional	13.99%	6.27%	7.09%	<b>6.90%*</b>
2010 Pew	Cyber	11.15%	8.66%	5.34%	<b>5.81%*</b>
					1.10%
<b>ENGAGE</b>					
2008 ANES	Traditional	6.93%	2.40%	4.16%	<b>2.77%*</b>
2010 Pew	Cyber	2.60%	2.35%	0.76%	1.84%
					0.93%

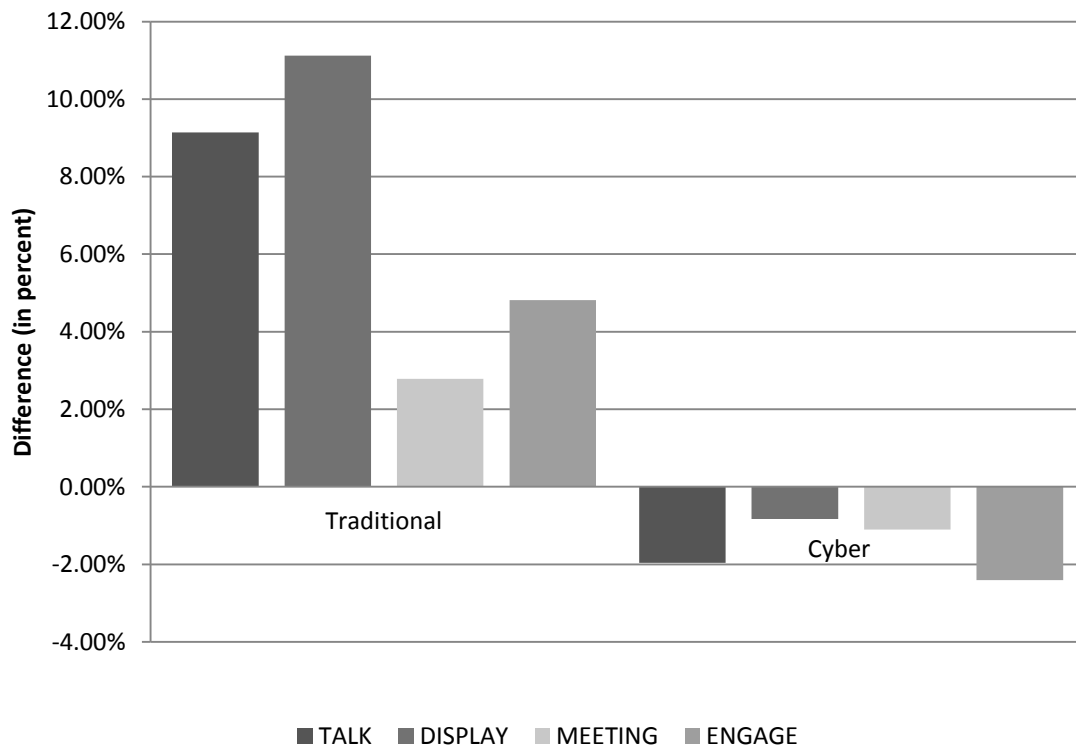
**Figure 2. Difference in Male vs. Female Participation Rates**



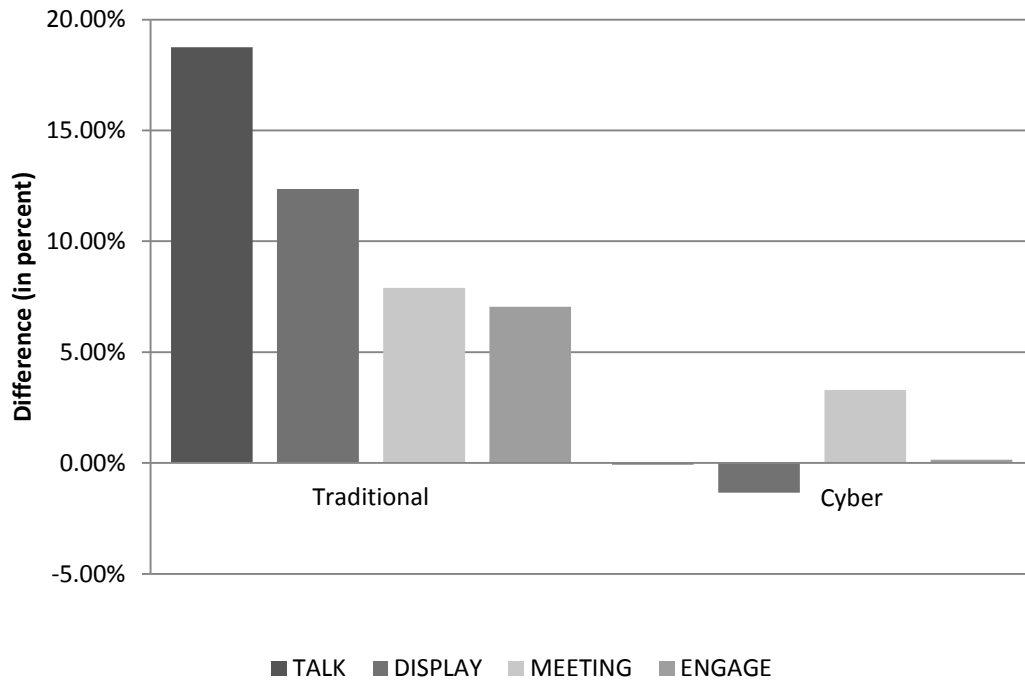
**Figure 3. Differences in Whites vs. Minority Participation**



**Figure 4. Differences in Higher vs. Lower Income Participation**

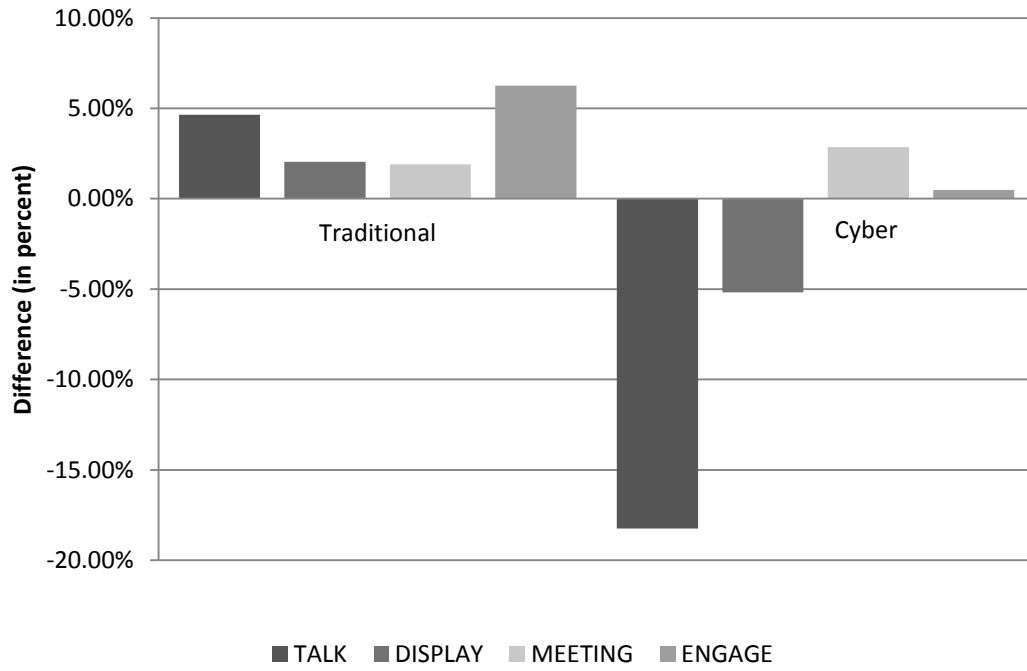


**Figure 5. Differences in Degree Holder vs. Non Degree Holder**

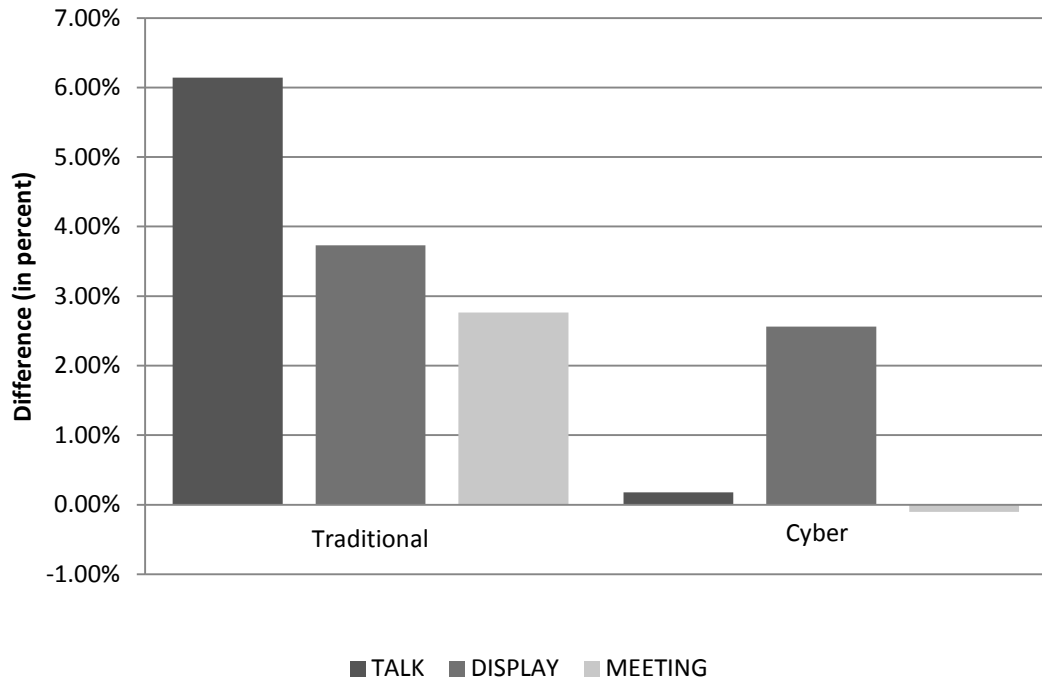




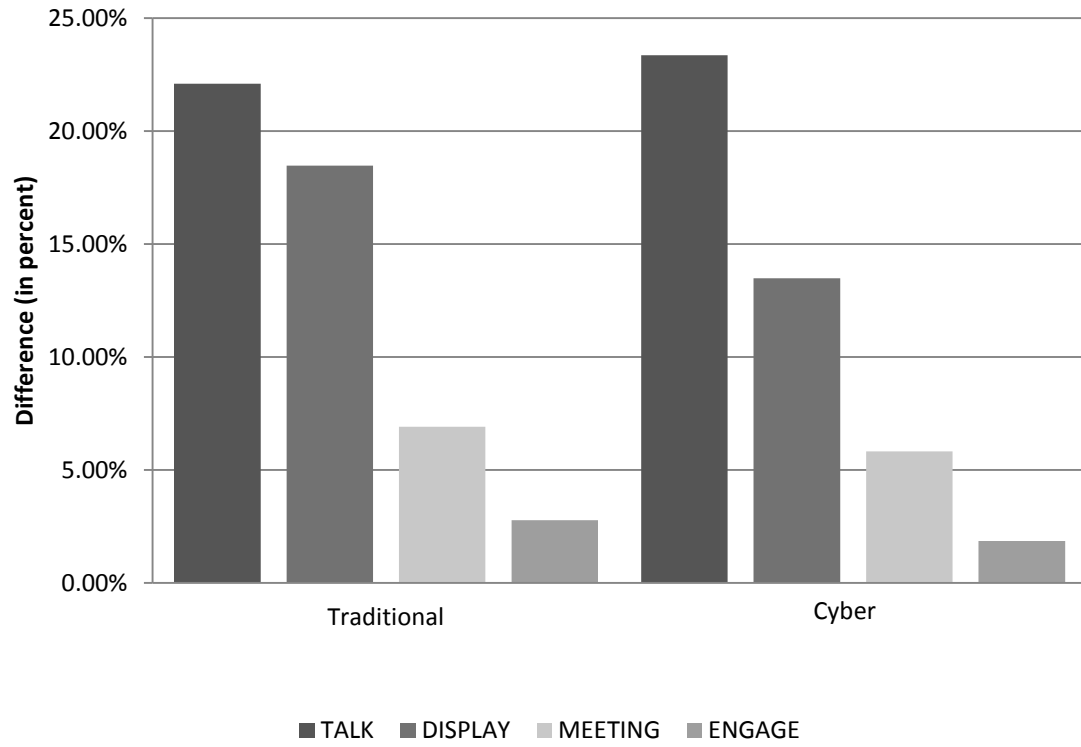
**Figure 6. Differences in Older vs. Younger Participation Rates**



**Figure 7. Differences in More vs. Less Civically Engaged Participation Rates**



**Figure 8. Differences in Strong Partisans vs. Independents Participation Rates**



## **CHAPTER 5 – Cyber-Participation in the 2008 Elections**

The 2008 elections were the first in which use of social media in federal campaigns was widespread. Media outlets discussed the significance of the number of friends candidates had, pundits compared social media strategies, and campaign staffers were actually encouraged to spend their time on MySpace and Facebook in order to build a candidate's "online image." While a campaign without a social media presence would be labeled as "out of touch" with today's Web 2.0 electorate, the actual payoffs from these activities have yet to be determined.

An increasing number of people are accessing the Internet not only to obtain political knowledge about campaigns and candidates, but also to interact as part of the Web 2.0 political community. But who is using the internet for "cyber-participation" rather than as merely a modernization of traditional participation? And, what effect does this cyber-participation have on turnout? This chapter seeks to determine the characteristics of people who used online social networks for cyber-participation during the 2008 Presidential Election as a first step in order to determine if the Web 2.0 internet is breaking down the traditional barriers of participation.

First, this chapter will show that cyber-participation in 2008 was not dependent on traditional socioeconomic factors in the way that traditional and online participation has been shown to be. Second, this chapter will evaluate if cyber-participants were more likely to report voting in the 2008 U.S. Presidential Election. Taken together, this will demonstrate that cyber-participation can serve as an equalizer for those who traditionally do not participate.

## Data

The data used comes from the 2008 Pew Internet & American Life Project; one of the few data sets that allows for the exploration of cyber-participation in a more meaningful way than previous studies through the examination of actions on social networking websites that allow for fostering of Web 2.0 political communities. Typically, surveys ask questions regarding the amount of time spent on the Internet, using the Internet as an information source, and, to a lesser extent, use of the Internet to contact elected representatives. Therefore, they are geared toward studying online participation rather than cyber-participation as they do not cue in to social aspects of participation. The Pew data set used in this chapter, however, does have questions that enable us to determine a metric for cyber-participation as the questions focus on aspects of political participation that relate to community-building and discussion-based factors that are the hallmark of Web 2.0 technology.

The Pew data is from telephone interviews conducted by Princeton Survey Research Associates International between November 20 to December 4, 2008, among a sample of 2,254 adults, all are 18 and older. The sample started with a random digit dialing in the continental United States of 26,690 numbers. From these attempts, 11,401 were working and 9,704 numbers were contacted. At least 10 attempts were made to complete an interview at sampled households, with calls staggered over times of day and days of the week, leading to 2,254 completed surveys. However, once missing data is taken into account, only 1,614 respondents are available for analysis in this study.<sup>10</sup>

---

<sup>10</sup> Most of this missing data is due to respondents refusing to answer questions in regards to their income, though some drop off is due to other questions, most notably education

From the 2008 Pew Internet & American Life Project, three questions are operationalized as dependent variables for the first set of models. 1) “Thinking about what you have done on social networking sites like Facebook and MySpace, have you signed up as a *friend* of any candidates on a social networking site?” 2) “Thinking about what you have done on social networking sites like Facebook and MySpace, have you started or joined a political group, or a group supporting a cause on a social networking site?” 3) “Have you ever posted comments, queries or information about the campaign or the elections in any of these places online? On a social networking site such as Facebook, MySpace or Linked in?”<sup>11</sup> In order to discover who is likely to answer yes to any of the above questions this chapter takes into account socioeconomic factors that have been known to influence traditional and online participation as well as turnout. The following variables about the respondents are considered: gender, race, age, income, education, socialization, party identification and party intensity. Their use will allow for comparisons with traditional political participants as well as general measurements of online participation as described in the previous chapter.

## **Methods**

This study uses a series of four probit models to examine the characteristics most likely to be associated with individuals utilizing various forms of cyber-participation. The first three models are for specific forms of cyber-participation mentioned previously.

---

or party identification. It is assumed that this data is missing at random and should not greatly influence the results.

<sup>11</sup> These questions are Q27e, Q27b, and Q26c respectively in the November 2008 Post-Election Tracking Survey data set produced by Princeton Survey Research Associates International for the Pew Internet & American Life Project.

The fourth is a measure of general participation, coded 1 if the subject engaged in any of the three forms of cyber-participation. The models are as follows:

- (1) Friend = + B(gender) + B(race) + B(income) + B(education) + B(age) + B(socialization) + B(party identification) + B(partisan intensity)
- (2) Group = B(gender) + B(race) + B(income) + B(education) + B(age) + B(socialization) + B(party identification) + B(partisan intensity)
- (3) Posted = B(gender) + B(race) + B(income) + B(education) + B(age) + B(socialization) + B(party identification) + B(partisan intensity)
- (4) Cyber Participation = B(gender) + B(race) + B(income) + B(education) + B(age) + B(socialization) + B(party identification) + B(partisan intensity)

Then a series of four probit models are used to examine the treatment effects of cyber-participation on voting, one for each of the three key independent variables, and a fourth model for any of the three types of cyber-participation. The models are as follows:

- (5) Turnout = B(friend) + B(gender) + B(race) + B(income) + B(education) + B(age) + B(socialization) + B(party identification) + B(partisan intensity)
- (6) Turnout = B(group) + B(gender) + B(race) + B(income) + B(education) + B(age) + B(socialization) + B(party identification) + B(partisan intensity)
- (7) Turnout = B(posted) + B(gender) + B(race) + B(income) + B(education) + B(age) + B(socialization) + B(party identification) + B(partisan intensity)
- (8) Turnout = B(cyber participation) + B(gender) + B(race) + B(income) + B(education) + B(age) + B(socialization) + B(party identification) + B(partisan intensity)

## Results

The probit results from the first three models examining factors of cyber-participation can be found in Table 9. For all three modes of cyber-participation there is a significant association with age. Younger respondents, age 18-34 are more likely to

sign up as a *friend* of a candidate, join a political group, or post comments or questions about the campaign than older respondents. This is the first evidence supporting the hypothesis that the demographics for cyber participants are different from those of traditional participants, as previous research has shown time and again that older people are more likely to participate.

#### TABLE 9 HERE

In regards to the third hypothesis, party intensity shows a mixed result. Stronger intensity partisans are more likely to *friend* a candidate, but are not more likely to become involved with a political group or to post questions or comments about the elections. This finding is not that surprising as posting does not require an individual to necessarily express certain views, and thus could be relatively apolitical in regards to party politics. In addition, this finding could be due to the younger respondents who may be asking questions or making commentary on the election, but due to their age this could be their first election and thus they have not yet formed an allegiance to a party. Another possible explanation is that independents may be using the Internet as a cheaper medium to further their political messages or showing support for an outside candidate. (Paolino & Shaw, 2003)

Interestingly party identification is statistically significant in all of the models. Overall, Democrats are more likely to *friend* politicians, join groups, and make political postings. However, this finding could be time limited and due to the large Web 2.0 presence that Barack Obama's campaign initiated during the 2008 election cycle, and the history of Democratic candidates taking advantage of new Internet communication



technologies. However, for now, it confirms the findings of previous research and popular theory. (Williams & Gulati, 2007) (Williams & Gulati, 2009)

Perhaps more interesting are the factors that were not significant in these models. Supporting the second hypothesis, gender, race, education and income all failed to consistently reach statistical significance at the  $p < .05$  level. This implies that the role of these factors in determining cyber-participation is quite low. Additionally, this finding highlights that cyber-participation does not require the resources that other forms of participation do. This finding is important to note as the Internet is becoming more accessible to the growing number of population on a daily basis with Internet access becoming a part of cable TV ownership, social media website access through video game platforms, and increased free Internet accessibility at public places such as schools and libraries. As Internet access continues to grow and online social networking becomes increasingly commonplace, political engagement or at least cyber-participation should also increase.

## **Analysis**

Table 10 presents the four models of turnout utilizing traditional probit analysis on the unmatched data set. Before going into detail on these models, it is important to comment on the turnout for the overall data set and turnout levels of social networking website users. The data show an overall reported turnout of 85%. While this is higher than typical averages, the mean between social networking website users and non-users are both about this level. Social network website users report turnout at 84% and respondents who did not use social networking websites report an 85% rate of turnout. The differences between these are not significant, as a difference in means test resulted in

a t-score of 0.8356. This implies that social networking website users are no more or less likely to vote than those who choose not to engage in the Web 2.0 community and thus allows for the comparison of cyber participators with non cyber participators regardless of their decision to engage in online social networking websites.

TABLE 10 HERE

The probit analysis shown in Table 10 supports the fourth hypothesis that cyber-participation is associated with a higher likelihood of turnout. The overall treatment of cyber participation in the fourth model shows that the utilization of at least one of the three treatments corresponds positively and statistically significantly with turnout. In addition, each of the individual types of cyber-participation is statistically significant and also has a positive association with turnout.

The best way to understand the actual effect of these means of cyber-participation is to look at the marginal effects. The marginal effects are reported in Table 11. In general the treatment provides a strong effect on traditional non participators and a weak effect on those already likely to participate.

TABLE 11 HERE

In order to examine the marginal effects on these two types of people, two models were developed. The first model representing the traditional (or near guaranteed) participator is of a white male, 35 or older, with a college degree, making an income of \$75,000 or more and is a strong partisan, again with an average degree of socialization. The second representing the traditional non-participator being a 18 to 34 year old minority female with no college degree, making an income of under \$20,000 who considers themselves a political independent, and has an average degree of socialization.

The model representing those already greatly predisposed to vote had a 97.31% likelihood of voting for those who were not cyber participators, and a 99.34% likelihood of voting if they were cyber-participators. This shows an average treatment effect of 2.03% for cyber participation even among those most likely to participate. The more interesting result however is the effect on the model representing those not predisposed to vote. In this model the average treatment effect was 21.61%. As non cyber-participators had a 31.62% likelihood of voting as compared 59.23% for those engaged in cyber-participation.

The marginal effects of each type of cyber-participation are even more telling. As table 3 shows, the greatest marginal effects are from “friending” a political candidate, or joining a political group. Either of these two actions leads to an almost 40% increase in the propensity to vote for those initially least inclined to do so. However, even just posting a political comment still leads to a 16.5% increase in the likelihood of voting for this group.

Despite these strong findings, some would consider it important to consider looking at matched pairs of survey participants in order to attempt to estimate the effect of the treatment on two seemingly alike individuals. This analysis is presented in the Appendix to this chapter.

## **Conclusions**

This chapter has shown that the factors predicting cyber-participation in the 2008 Presidential election are clearly different from those traditionally associated with political participation. Traditional socioeconomic factors seem to play a minimal role, if any, in political participation among cyber-participators. A key take away from this chapter is

that in 2008, individuals theoretically least likely to vote, are much more likely to vote if they engaged in cyber-participation. Given the cheaper and easier means of engaging in cyber-participation, this mode of political involvement may reduce or remove the resource biases of political participation, increasing the opportunity for engagement for those who are traditionally left out.

While this chapter demonstrates a relationship between cyber-participation and turnout, there is much more at play that could not be taken into account due to limitations of the data. Important information about respondents such as degree of traditional participation as well as turnout history was unavailable. Subsequent chapters will try to address these issues using more robust control variables for other forms of participation.

**Table 9. 2008 Prediction of Modes of Cyber-Participation**

	Friend	Group	Posted	Cyber Participation
Gender	0.031	-0.085	-0.156	-0.125
	0.153	0.130	0.111	0.103
Race	0.141	0.149	-0.035	0.030
	0.195	0.189	0.146	0.138
Income	0.094	0.069	0.098 *	0.103 **
	0.058	0.048	0.041	0.038
Education	0.052	0.252	-0.039	0.059
	0.161	0.137	0.125	0.112
Age 35+	-1.044 ***	-0.925 ***	-1.251 ***	-1.221 ***
	0.144	0.133	0.112	0.105
Party Identification	-0.144 **	-0.088 *	-0.069 *	-0.067 *
	0.045	0.041	0.034	0.031
Party Intensity	0.367 *	0.199	0.159	0.208 *
	0.129	0.117	0.084	0.082
Socialization	-0.024	-0.029	-0.019	-0.025
	0.039	0.040	0.037	0.032
Intercept	-1.958	-1.632	-0.895	-0.942
	0.348	0.287	0.227	0.214
N	1614	1614	1614	1614
AIC	355.45	450.62	637.69	772.78

p<.05 = \*, p<.01 = \*\*, p<.001 = \*\*\*

**Table 10. 2008 Turnout by Mode of Cyber Participation**

	Friend	Group	Posted	Cyber Participation
Treatment	1.009 *	1.053 *	0.419 *	0.549 **
	0.485	0.461	0.238	0.228
Gender	-0.176	-0.166	-0.167	-0.164
	0.091	0.091	0.090	0.091
Race	-0.012	-0.002	-0.001	-0.006
	0.125	0.127	0.125	0.125
Income	0.157 ***	0.156 ***	0.156 ***	0.154 ***
	0.031	0.031	0.031	0.031
Education	0.298 **	0.285 **	0.298 **	0.297 **
	0.107	0.107	0.107	0.107
Age 35+	0.459 ***	0.462 ***	0.483 ***	0.519 ***
	0.110	0.110	0.116	0.117
Party Identification	0.022	0.020	0.018	0.019
	0.031	0.031	0.031	0.031
Party Intensity	0.495 ***	0.496 ***	0.494 ***	0.491 ***
	0.060	0.060	0.060	0.060
Socialization	0.051	0.053	0.051	0.052
	0.027	0.027	0.027	0.027
Intercept	-0.425	-0.443	-0.457	-0.491
	0.186	0.185	0.192	0.193
N	1614	1614	1614	1614
AIC	1046.1	1044.1	1048.8	1044.8

p<.05 = \*, p<.01 = \*\*, p<.001 = \*\*\*

**Table 11. 2008 Marginal Effects of Cyber-Participation**

Treatment Type	Traditionally likely to vote	Traditionally likely to vote	Marginal Effect	Traditionally not likely to vote	Traditionally not likely to vote	Marginal Effect
	<i>No Treatment</i>	<i>Treated</i>		<i>No Treatment</i>	<i>Treated</i>	
Friend	97.38%	99.84%	<b>2.46%</b>	40.26%	77.71%	<b>37.45%</b>
Group	97.33%	99.86%	<b>2.53%</b>	39.68%	78.57%	<b>38.89%</b>
Post	97.38%	99.08%	<b>1.70%</b>	38.77%	55.34%	<b>16.57%</b>
Cyber	97.31%	99.34%	<b>2.03%</b>	37.62%	59.23%	<b>21.61%</b>

## Appendix to Chapter 4

Propensity score matched data allows preprocessing a data set with matching methods, to ensure that the group of cyber-participants, the treatment group, is as similar as possible to the group of non-cyber participants, the control group. (Ho D. E., Imai, King, & Stuart, 2007) Typically we are forced to look at generalized average treatment effects as the same subject cannot be in both the treated and non-treated groups, i.e. the subject cannot, both, engage and not engage in cyber-participation. Using matching allows for comparisons between subjects that are the most alike, so that the treated and untreated pairs are as similar as possible. Multiple matching techniques were investigated, but a genetic matching technique was used to preprocess the data using the MatchIt software for the R statistical package. (Ho D. , Imai, King, & Stuart, 2007) The genetic matching technique provided for the best matches in that the cyber-participants and non-cyber-participants were most similar under these conditions. Meaning that the two groups are similar based on the factors that predict cyber-participation, thus eliminating error that could arise from self-selection into the treatment group of cyber-participation.

The drawback to this matching technique is a reduction in sample size. The matched results provide a better estimate of the effect of cyber-participation than unmatched results, as matching allows for a comparison of individuals who are similar to each other and the effect of the treatment of cyber-participation, on their likelihood of voting. However, the models were also run using unmatched data and similar results were achieved. Including both the traditional probit analysis with unmatched data as well as the propensity score matched data provides for a more robust analysis of the data.



The probit analysis for this set of models examining the association of cyber-participation on turnout again supports the fourth hypothesis that cyber-participation is associated with a higher likelihood of turnout. Respondents who engage in the treatment by being a *friend* with a candidate are significantly more likely to turn out, as are respondents who engage in political groups. The associated coefficients are positive and statistically significant at the  $p < .05$  and  $p < .01$  level respectively. This means that given two people that are nearly the same in every way other than their decision to engage in cyber-participation, the one that does, is more likely to turn out to vote.

TABLE 12 HERE

Contrary to the hypothesis, however, respondents who reported posting showed no significant association with turnout. This lack of significance could be due to two possibilities. Posters could be dissatisfied nonvoters who have opinions but dislike their choices and consequently do not vote. (Ragsdale & Rusk, 1993) Such individuals may be active cyber participants in that they post questions and comments about the election, but the posts elicit negative responses that turn off potential voters. Alternately, dissatisfied non-voters could be posting in order to inform others of their negative feeling towards the candidates or the election in general. Yet another possibility is that posters are armchair pundits who are willing to comment or question candidates or elections but are either not willing to spend the time and effort to vote or may be not be eligible to vote.

As seen in models of participation, partisan intensity and age again play significant roles with strong partisans and older respondents more likely to turnout in at least two of the models, despite attempting to match subjects on this characteristic. This finding supports previous research suggesting that strong party identification and older

age are strongly associated with turnout and/or the obstacles leading to turnout, such as registering to vote. (Timpone, 1998) The fourth model examines participation in at least one of the three modes of cyber-participation and supports the general conclusion that given two similar people, the one who engages in cyber-participation is more likely to turnout.

**Table 12. 2008 Turnout by Mode of Cyber-Participation (Propensity Score Matching)**

	Friend	Group	Posted	Cyber Participation
Treatment	0.980 *	1.567 ***	0.184	0.537 *
	0.499	0.560	0.245	0.235
Gender	0.147	-0.093	0.217	0.200
	0.340	0.387	0.256	0.213
Race	-0.551	0.369	0.107	-0.275
	0.561	0.488	0.314	0.303
Income	-0.084	-0.034	-0.037	0.008
	0.139	0.147	0.092	0.077
Education	0.539	0.975 *	0.211	0.213
	0.412	0.468	0.272	0.230
Age 35+	0.173	1.362 **	0.899 ***	0.922 ***
	0.392	0.418	0.258	0.226
Party Identification	0.198	0.248	-0.077	-0.024
	0.016	0.167	0.079	0.067
Party Intensity	0.915	0.808 *	0.526 *	0.354
	0.540	0.373	0.247	0.215
Socialization	-0.178	0.194	0.023	0.058
	0.137	0.123	0.083	0.070
Intercept	0.136	-1.923	0.046	0.100
	0.862	0.908	0.503	0.470
N	156	225	349	421
AIC	98.743	81.505	173.4	219.04

p<.05 = \*, p<.01 = \*\*, p<.001 = \*\*\*

## **CHAPTER 6 – Cyber-Participation in the 2010 Midterm Election**

While the 2008 elections provided the first mainstream use of social media in federal campaigns, it was not until the 2010 election cycle that politicians and pundits started to speculate about the value of social media based political participation and candidate use of social media became mainstream. Additionally, the 2008 election is a rather unique situation given the efforts of the Obama campaign to focus on groups with a history of low levels of political engagement: younger people and minorities. While the previous chapter suggests the importance and effect of cyber-participation in the 2008 election, these effects may be due to the characteristics of the Obama campaign rather than changes in the electorate itself. Therefore, this chapter will use data from the 2010 midterm elections to attempt to duplicate the results seen during the 2008 election.

First, this chapter will again show that cyber-participation is not dependent on traditional socioeconomic factors in the way that traditional and online participation have shown to be. Second, this chapter will further validate that that respondents who engaged in cyber-participation were more likely to report voting in the 2010 midterm election. Taken together, this demonstrates that cyber-participation may be an equalizer for those who traditionally do not participate.

### **Data**

In order to explore these hypotheses, two distinct, but interconnected, sets of models are used. The first set of models examines the characteristics of respondents to determine the factors that influence cyber-participation: signing up as a friend of a candidate, engaging in a political group, or posting a question or comment about the 2010 elections. This data also allows for controlling for more traditional methods of online

participation. The second set of models examines the association between cyber-participation and turnout, also controlling for online participation effects.

The data used comes from the 2010 Pew Internet & American Life Project; one of the few data sets that allows for the exploration of cyber-participation in a more meaningful way than previous studies through the examination of actions on social networking websites that allow for fostering of Web 2.0 political communities. The Pew data set used in this chapter not only has questions regarding cyber-participation similar to those found in the previous chapter but also data allowing for an examination of more traditional participation taking place online.

The Pew data is from telephone interviews conducted by Princeton Survey Research Associates International between November 3 to November 24, 2010, among a sample of 2,257 adults, age 18 and older. A combination of landline and cellular random digit dial (RDD) samples was used to represent all adults in the continental United States who have access to either a landline or cellular telephone. Both samples were provided by Survey Sampling International, LLC (SSI) according to PSRAI specifications. The sample attempted random digit dialing in the continental United States of 29,342 landlines and 14,599 cell phones; 11,527 landlines and 8,294 cell phones were operational and contact was made with 8,310 landline customers and 5,852 cell phone customers.<sup>12</sup> Low cooperation rates led to 2,257 completed surveys with 1502 being

---

<sup>12</sup> At least 7 attempts were made to complete an interview at a sampled telephone number. The calls were staggered over times of day and days of the week to maximize the chances of making contact with a potential respondent.

landline based and 755 being cell phone based. However, once missing data is taken into account,<sup>13</sup> only 1,685 respondents are available for analysis in this study.

From the 2010 Pew Internet & American Life Project, three questions are operationalized as cyber-participation methods. 1) “Thinking about what you have done on social networking sites like Facebook and MySpace related to the November election, did you happen to sign up on a social networking site as a *friend* of a candidate or group involved in the campaign?” 2) “Thinking about what you have done on social networking sites like Facebook and MySpace related to the November election, did you happen to join/start a political group, or a group supporting a cause on a social networking site?” 3) “Thinking about what you have done on social networking sites like Facebook and MySpace related to the November election, did you happen to post content related to politics or the campaign on a social networking site?”<sup>14</sup>

In order to discover who is likely to answer yes to any of the above questions this study takes into account socioeconomic factors that have been known to influence traditional and online participation, as well as turnout, as control variables. The following variables about the respondents are considered: gender, race, age, income, education, party identification and party intensity. These are utilized as explained in Chapter 4.

---

<sup>13</sup> Due primarily to respondents refusing to answer questions in regards to their income, though some drop off is due to questions of education or party identification. It is assumed that this data is missing at random and should not greatly influence the results.

<sup>14</sup> These questions are Q20c, Q20e, Q20f and Q20d respectfully in the November 2010 Post-Election Tracking Survey data set produced by Princeton Survey Research Associates International for the Pew Internet & American Life Project. Q20e and Q20f have been combined to represent question 2 as they were in the 2008 data for comparability purposes. Additionally, the wording of Q20c is slightly different as used in the 2008 survey, but the effect of the change should not impact the outcome of the analysis.

The 2010 Pew data set did not ask about traditional forms of participation, such as those found in the American National Election Survey, but it did ask respondents if they used the internet to “Contribute money online to a candidate running for public office” or to “Participate in VOLUNTEER activities related to the campaign.”<sup>15</sup> These activities require resources similar to that of traditional participation, such as money or time; therefore, a metric of online traditional participation was created as a dummy variable based upon if the respondent took part in either of these two activities. Given the hypothesis that cyber-participants are different from traditional participants, this variable should not predict cyber-participation. However, it is expected that these metrics will be highly significant in predicting turnout, as previous research has shown strong relationships between traditional participation and turnout.

## **Model**

Figure 9 presents the model being tested in this chapter. The model suggests that socioeconomic factors and party intensity (M) influence both online participation (O) and cyber-participation (D). Additionally, online participation (O) may influence cyber-participation (D). Regardless, both online participation (O) and cyber-participation (D) influence voter turnout (Y). The statistical models below will test this formal model. They will show that predictors of online and cyber based political participation are in fact different and that both means of participation lead to increased voter turnout.

FIGURE 9 HERE

---

<sup>15</sup> These are questions Q18b and Q18e respectively in the November 2010 Post-Election Tracking Survey data set produced by Princeton Survey Research Associates International for the Pew Internet & American Life Project.

## Methods

This study uses a series of probit models to examine the characteristics most likely to be associated with individuals utilizing various forms of cyber-participation as well as online based traditional styles of participation. The first model examines the factors that predict online participation. The next three models are for specific forms of cyber-participation mentioned previously, and include online participation as a control. The fifth model uses a measure of general cyber-participation, coded 1 if the subject engaged in any of the three forms of cyber-participation. The models are as follows:

- (1) Online Traditional Participation =  $B(\text{gender}) + B(\text{race}) + B(\text{income}) + B(\text{education}) + B(\text{age}) + B(\text{party identification}) + B(\text{partisan intensity})$
- (2) Friend =  $B(\text{online traditional participation}) + B(\text{gender}) + B(\text{race}) + B(\text{income}) + B(\text{education}) + B(\text{age}) + B(\text{party identification}) + B(\text{partisan intensity})$
- (3) Group =  $B(\text{online traditional participation}) + B(\text{gender}) + B(\text{race}) + B(\text{income}) + B(\text{education}) + B(\text{age}) + B(\text{party identification}) + B(\text{partisan intensity})$
- (4) Posted =  $B(\text{online traditional participation}) + B(\text{gender}) + B(\text{race}) + B(\text{income}) + B(\text{education}) + B(\text{age}) + B(\text{party identification}) + B(\text{partisan intensity})$
- (5) Cyber-participation =  $B(\text{online traditional participation}) + B(\text{gender}) + B(\text{race}) + B(\text{income}) + B(\text{education}) + B(\text{age}) + B(\text{party identification}) + B(\text{partisan intensity})$

Then a series of four probit models are used to examine the treatment effects of cyber participation on voting, one for each of the three key independent variables, and a fourth model for any of the three types of cyber-participation. The models are as follows:

- (6) Turnout =  $B(\text{friend}) + B(\text{online traditional participation}) + B(\text{gender}) + B(\text{race}) + B(\text{income}) + B(\text{education}) + B(\text{age}) + B(\text{party identification}) + B(\text{partisan intensity})$



(7) Turnout = B(group) + B(online traditional participation) + B(gender) + B(race) + B(income) + B(education) + B(age) + B(party identification) + B(partisan intensity)

(8) Turnout = B(posted) + B(online traditional participation) + B(gender) + B(race) + B(income) + B(education) + B(age) + B(party identification) + B(partisan intensity)

(9) Turnout = B(cyber participation) + B(online traditional participation) + B(gender) + B(race) + B(income) + B(education) + B(age) + B(party identification) + B(partisan intensity)

Unlike the 2008 analysis, propensity score matching is not employed due to the low numbers of potential matched pairs given the rarity of online participation. Additionally, since the 2008 data in the previous chapter achieved similar results in both the matched and unmatched conditions, there is no reason to believe that similar findings would not exist for the 2010 election cycle.

## Results & Analysis

The probit results from the first three models examining factors of cyber-participation can be found in Table 13. For all three modes of cyber-participation there is a significant association with age. Younger respondents, age 18-34 are more likely to sign up as a *friend* of a candidate, join a political group, or post comments or questions about the campaign than older respondents. This is the first evidence supporting the hypothesis that the demographics for cyber participants are different from those of traditional participants, as previous research has shown time and again that older people are more likely to participate. This result does not hold true for online participants, where age is not a significant predictor. This is likely due to the inclusion of the donation variable, as young people generally are not fiscal donors to campaigns.

TABLE 13 HERE

Supporting the second hypothesis, gender, race, and income all failed to consistently reach statistical significance at the  $p < .05$  level in the first four models. This implies that the role of these factors in determining cyber-participation is quite low, and that highlights that cyber-participation does not require the resources as other forms of participation. Additionally, given that these factors do not appear to play a role in predicting online participation, the characteristics of online participants appear to be at least somewhat different from traditional participants. However, contrary to the 2008 findings, in 2010 education is found to be positively and significantly associated with cyber-participation. As Facebook, which no longer has age restrictions, has supplanted MySpace and becomes ubiquitous among online social network users, this education effect should diminish over time. Education is also a significant predictor for online participation, this could be an effect of the digital divide where people with higher levels of education are more likely to use the internet in their day to day lives given the types of jobs they are more likely to hold.

In regards to the third hypothesis, party intensity shows a mixed result. Stronger intensity partisans are only slightly more likely to become involved with a political group but are no more likely to “friend” a candidate or to post questions or comments about the elections. However, they are significantly more likely to be online participators. Perhaps this shows that while intense partisans were among the first to make use of cyber-participation in 2008, the effect is diminishing as cyber-participation becomes increasing widespread. However, given the higher expense of online participation as compared to cyber-participation, only those with strong affiliations choose to participate through donations of time and money. Party identification is also not statistically significant in all

of the methods of cyber-participation or online participation. This may suggest that the 2008 findings of Democrats being more likely to engage in cyber-participation is an artifact of the Obama campaign, or that Democrats served as innovators by using the technology first but that Republicans have since caught up.

Table 13 also shows that people who are using the internet for online participation in more general ways are also likely to engage in cyber-participation. Online participation is positive and statistically significant in all four of the models within which it is included. This implies that online participators and cyber-participators are somewhat similar. Additionally, since the two methods of online participation are rather different from the options available through cyber-participation, they work in tandem to represent the five possible methods of participation: Display, Talk, Meeting, Engage and Donate, discussed in chapter 3. A person who is likely to donate, the most costly of these methods of participation, is also likely to engage in less costly methods as well. So it makes sense that many online participators would also be cyber-participators assuming they utilize online social networking sites.

Table 14 presents the four models of turnout utilizing traditional probit analysis. Before going into detail on these modes, it is important to comment on the turnout for the overall data set and turnout levels of social networking website users. The data show an overall reported turnout of 65.7%. Social network website users report turnout at 63.8% and respondents who did not use social networking websites report a 67.2% rate of turnout. While these reported rates of turnout are higher than the percent of the population who actually turned out for the 2010 election, which is estimated to be closer to 42% of the voter eligible population, there is no reason to believe that this rate of

inflation would be non-random. The difference in turnout between social networking site users and non users is not statistically significant, implying that social networking website users are no more or less likely to vote than those who choose not to engage in the Web 2.0 community and thus allows for the comparison of cyber-participators with non cyber-participators regardless of their decision to engage in online social networking websites.

TABLE 14 HERE

The probit analysis shown in Table 14 supports the fourth hypothesis that cyber-participation is associated with a higher likelihood of turnout. The overall treatment of cyber-participation in the fourth model shows that the utilization of at least one of the three treatments corresponds positively and statistically significantly with turnout. In addition, each of the individual types of cyber-participation is statistically significant and also has a positive association with turnout. This finding remains true even when controlling for online participation as seen in Table 14. Both online participation and cyber-participation are significant positive predictors of turnout, at the  $P < .05$  level.

The best way to understand the actual effect of these means of cyber-participation is to look at the marginal effects. The marginal effects are reported in Table 15. In general the treatment provides a moderate effect on traditional non-participators and a weak effect on those already likely to participate.

TABLE 15 HERE

In order to examine the marginal effects on these two types of people, two models were developed. The first model representing the traditional (or near guaranteed) participator is of a white male, 35 or older, with a college degree, making an income of

\$75,000 or more and is a strong partisan. The second representing the traditional non-participator being a 18 to 34 year old minority female with no college degree, making an income of under \$20,000 who considers themselves a political independent.

The model representing those already greatly predisposed to vote had a 93.66% likelihood of voting for those who were not cyber participators, and a 97.99% likelihood of voting if they were cyber-participators. This shows an average treatment effect of 3.76% for cyber-participation even among those most likely to participate. The more interesting result however is the effect on the model representing those not predisposed to vote. In this model the average treatment effect was 8.96%. As non cyber-participators had a 9.16% likelihood of voting as compared 22.56% for those engaged in cyber-participation.

The marginal effects of each type of cyber-participation are roughly even providing an 11-12% increase in likelihood of voting for those initially least inclined to vote and a 3.75-4.25% increase in likelihood of voting for those initially most inclined to vote. These results differ quite a bit from the 2008 results where the marginal effects of cyber-participation were higher for traditional non-voters and lower for traditional voters. The marginal effects of online participation are also reported in Table 15. The effects of this traditional style participation taking place online, i.e. volunteering for a campaign or donating money to a campaign, was associated with a 5% increase in the likelihood of voting for those initially likely to vote and a 12.6% increase in the likelihood of voting for those initially not likely to vote. Therefore the higher cost methods of political participation had similar effects as the lower cost cyber-participation in regards to increasing the likelihood of voting.

## **Conclusion**

This chapter has shown that the factors predicting both online participation and cyber-participation in the 2010 Presidential election are different from those traditionally associated with political participation. Traditional socioeconomic factors seem to play less of a role in predicting political participation among online and cyber-participants. A key take-away from this chapter is that in 2010, individuals theoretically least likely to vote, are indeed more likely to vote if they engaged in either online or cyber-participation. Additionally, the effects of both mediums of participation are similar despite the higher costs involved in the online participation metric used here, which is quite similar to traditional participation. Given the cheaper and easier means of engaging through the internet though still having similar effects on the likelihood of subsequent voting, cyber-participation may reduce or remove the resource biases of political participation by increasing the opportunity for engagement for those who are traditionally less likely to be political participants.

Despite this chapter's attempt to parse out the effects of other forms of participation while demonstrating the relationship between cyber-participation and turnout, there was still a limitation to doing this based upon the available data. Important information about respondents such as degree of traditional participation as well as being able to better separate online versus traditional methods of participation was not possible. The following chapter will better address this issue by utilizing even more control variables for other forms of participation.

**Table 13. Predictors of Online and Cyber-Participation**

	Online Participation		Post		Friend		Group		Cyber-participation
Online Participation			0.984 ***		1.331 ***		1.145 ***		1.272 ***
			0.157		0.150		0.153		0.141
Gender	0.151		-0.137		0.025		-0.028		-0.092
	0.102		0.109		0.114		0.114		0.095
Race	-0.174		0.215		0.281 *		0.144		0.068
	0.118		0.136		0.148		0.139		0.113
Income	0.082		0.043		0.016		-0.021		0.031
	0.051		0.053		0.057		0.057		0.047
Education	0.420 ***		0.081		0.346 ***		0.335 ***		0.219 **
	0.110		0.118		0.122		0.122		0.102
Age 35+	-0.087		-0.646 ***		-0.587 ***		-0.550 ***		-0.728 ***
	0.118		0.112		0.118		0.118		0.098
Party ID	-0.027		0.033		0.045		0.028		0.042
	0.031		0.033		0.035		0.034		0.029
Party Intensity	0.212 ***		0.044		0.010		0.124		0.060
	0.084		0.082		0.085		0.089		0.071
Intercept	-2.056		-1.611		-1.911		-1.862		-1.295
	0.203		0.192		0.207		0.211		0.165
N	1685		1685		1685		1685		1685
AIC	360.38		329.7		291.6		290.8		443.18

p<.05 = \*, p<.01 = \*\*, p<.001 = \*\*\*

**Table 14. Turnout by Method of Cyber-Participation**

	Post		Friend		Group		Cyber- participation	
Treatment	0.419 **		0.393 **		0.393 **		0.322 **	
	0.165		0.178		0.176		0.131	
Online Participation	0.562 ***		0.538 ***		0.546 ***		0.522 ***	
	0.173		0.176		0.174		0.175	
Gender	0.043		0.037		0.037		0.042	
	0.068		0.068		0.068		0.068	
Race	0.196 **		0.197 **		0.200 **		0.202 ***	
	0.080		0.080		0.080		0.080	
Income	0.171 ***		0.173 ***		0.174 ***		0.172 ***	
	0.033		0.033		0.033		0.033	
Education	0.373 ***		0.362 ***		0.361 ***		0.364 ***	
	0.079		0.079		0.079		0.079	
Age 35+	0.829 ***		0.818 ***		0.817 ***		0.836 ***	
	0.079		0.079		0.079		0.080	
Party ID	0.023		0.022		0.023		0.022	
	0.022		0.022		0.022		0.022	
Party Intensity	0.348 ***		0.347 ***		0.344 ***		0.346 ***	
	0.048		0.048		0.048		0.048	
Intercept	-1.369		-1.350		-1.350		-1.375	
	0.126		0.125		0.125		0.126	
N	1685		1685		1685		1685	
AIC	929.5		930.3		930.3		929.75	

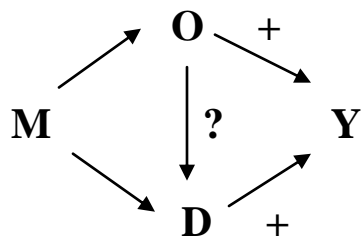
p<.05 = \*, p<.01 = \*\*, p<.001 = \*\*\*



**Table 15. 2010 Marginal Effects of Cyber-Participation**

Treatment Type	Traditionally likely to vote	Traditionally likely to vote	Marginal Effect	Traditionally not likely to vote	Traditionally not likely to vote	Marginal Effect
	<i>No Treatment</i>	<i>Treated</i>		<i>No Treatment</i>	<i>Treated</i>	
Friend	93.74%	97.99%	<b>4.25%</b>	9.69%	21.75%	<b>12.06%</b>
Group	93.77%	97.95%	<b>4.18%</b>	9.73%	21.53%	<b>11.80%</b>
Post	93.87%	97.95%	<b>4.08%</b>	9.45%	20.76%	<b>11.31%</b>
Cyber	93.66%	97.42%	<b>3.76%</b>	9.16%	18.12%	<b>8.96%</b>
Online	93.42%	98.36%	<b>4.94%</b>	9.97%	22.55%	<b>12.58%</b>

**Figure 9. Modeling 2010 Participation and Turnout**



M = Socioeconomic Factors & Party Intensity

O = Online Participation

D = Cyber-participation

Y = Turnout

## **CHAPTER 7 – Cyber-Participation in the 2012 Presidential Election**

The previous chapters have helped clarify who uses the internet for cyber-participation, and its effect on turnout. This chapter will advance upon previous work to determine how the determinants of cyber-participation compare to that of other forms of online participation as well as traditional participation. First, this chapter will show once again using a different data set that cyber-participation is not based on traditional socioeconomic factors and, unlike traditional participation, is not driven by political drive or ideology but rather by political curiosity and engagement. Second, this chapter will demonstrate that even when controlling for other forms of participation, political engagement through Web 2.0 technologies will lead to increased intentions for youth voting. When these two aspects are taken in tandem, it demonstrates the potential for political science courses to encourage political participation and effect voter turnout. The goal is to answer the question, “Do young online and cyber-participants turnout?”

This chapter makes use of a student sample rather than the Pew Internet and American Life Survey data. This chapter seeks to demonstrate that young people are active political participants, but that due to participation online and through Web 2.0 technologies, more traditional modes of surveying political participation, such as those found in the American National Election Study, are unable to detect this participation. According to a recent study, 85% of college students have engaged in some form of online political participation. Yet when asked about more traditional forms of political participation, that statistic drops to 59%.<sup>16</sup> This implies that over 25% of young people surveyed are participating politically but through a means that traditional metrics and most

---

<sup>16</sup> This statistic is gathered from the survey used in this study.

surveys on political behavior fail to capture. This is a significant difference! If we as political scientists are not even aware of this happening, how can we start to understand this effect on our political system?

The 2008 elections might have provided the first mainstream use of social media in federal campaigns, but individuals have likely been making use of online social media for political discourse and participation since even before that time. Since the advent of Facebook, and even before with blogs, chat-rooms, and other means of online participation, an increasing number of people are accessing the internet not only to obtain political knowledge but to interact as part of the Web 2.0 political community. Additionally, these online and Web 2.0 forms of participation stem from different underlying factors than traditional participation, due to their lower costs and ease of access, making them an equalizing force for young voters against the bias of traditional participation toward older and better socioeconomically endowed individuals. In turn, cyber-participation will lead to a positive effect on turnout due to its ability to engage young citizens in ways similar to how traditional participation leads to turnout.

### **A Focus on Youth Participation**

Although the last two chapters have focused on national samples, the focus on young people in this chapter allows us to think about the impact of cyber-participation on future generations of voters. If these new forms of participation are eliciting a different group or even just engaging potential young voters in ways not seen in the past, then it is important to know if this group will turnout. Young people tend to be technology adaptors, and this may translate toward the adoption of cyber-participation. In 2000, about 74% of 18-29 year olds were using the internet, but by 2009, 93% of 18-29 year

olds were online, and today almost everyone in this age group uses the internet. The internet allows candidates to reach the masses easily and cheaply, and in regards to potential young voters, reach them in the world they constantly engage in and where they are spending their time. In addition, through the internet, both new and more traditional forms of participation have become easier and in theory accessible to a greater number of people.

The impact of internet access and online participation is not clear. Tolbert and McNeal (2003) find that respondents with access to the Internet and online election news were significantly more likely to reporting voting in the 1996 and 2000 presidential elections controlling for socioeconomic factors. However, these findings may be attributable to political knowledge given that internet access itself allows for a person to become more informed about issues and elections and in a quick and efficient manner. Instead of measuring access, more recent research has examined the effects of online participation. (Gibson, Lusoli, & Ward, 2005) (Williams & Gulati, 2008) (Williams & Gulati, 2009). However, this research only looks at part of the story, as none of it attempts to attribute online participation to turnout. Gibson et al. show similar to Best and Kruger that there are some differences between online and offline participators. Meanwhile, Williams and Gulati show that there is an association between social media based participation and election outcomes. Neither however take the next step as will be done in this chapter to link internet based participation to voting, while controlling for other factors that are known to influence turnout.

Unlike traditional participation, which is resource heavy, the low amount of resources required for cyber-participation will allow for unbiased, i.e. increased youth,

participation. Therefore it is expected that socioeconomic factors such as income, and pre-disposing factors such as gender and race, will not be significant predictors of cyber-participation among young citizens. Additionally, prior research suggests access to the internet alone increases the probability of voting. (Tolbert & McNeal, 2003) With this in mind, cyber-participation should be related to turnout in ways similar to traditional participation.

### **Model**

Figure 10 presents the model being tested in this chapter. The model suggests that socioeconomic factors and party intensity (M) influence traditional participation (T), online participation (O) and cyber-participation (D). Additionally, traditional participation (T) and online participation (O) may influence cyber-participation (D). The statistical models below will show that even when controlling for traditional participation and online participation, cyber participation will still have a positive significant influence on intentions to vote in an upcoming election.

FIGURE 10 HERE

### **Data**

Given the inability of previous data sets to provide for information on traditional, online and cyber-participation metrics in the same data set, a survey was designed and conducted in the fall of 2011 on students taking introductory political science courses at the University of Houston for just this purpose. This survey combined elements of the Pew Internet and American Life Survey regarding online and social media based activities, with elements from the American National Election Survey regarding political participation. Taken together, this survey allows for measuring traditional, online, and

cyber-participation of the same group of subjects. Students were offered extra credit in their course should they choose to take the online survey, and out of the approximately 2,900 eligible students, 1,605 successfully completed the survey. The students, while of similar age and educational standing, are politically, racially and economically diverse.

In this analysis political participation is measured in four different ways: cyber-participation, online only participation, online participation, and traditional participation. Cyber-participation is operationalized in the same way it is in the previous two chapters, where the respondent is coded 1 or 0 based on if they engage in any of the three forms of cyber-participation on an online social networking website: 1) *friending* or *liking* a political candidate, 2) starting or joining a political group, or 3) posting a question or comment about politics.

Online only participation is similar to cyber-participation style methods, where by respondents engaged in any of the following six activities that could only take place in an online environment and for which there is a limited ability to do similar actions offline:

- 1) Sharing photos, videos or audio files online that relate to the campaign or the elections,
- 2) Forwarding someone else's political commentary or writing to others,
- 3) Forwarding someone else's political audio or video recordings to others,
- 4) Setting up news alerts to get political or campaign information emailed to you when new information is cited in the news or on the web,
- 5) Customizing a web page to display new political or campaign information that is especially interesting or important to you,
- 6) Subscribing to receive campaign or political information through an RSS feed.<sup>17</sup>

---

<sup>17</sup> Questions were worded similar to the Pew Internet and American Life Survey (2008).

Online participation more generally includes six additional activities in addition to online only participation as outlined previously. The first two of these additional activities are more reminiscent of traditional participation and the online participation metric seen in chapter 6, while the other four are more or less online information gathering rather than active engagement. These methods are thus more similar to traditional modes of participation. They include: 1) Signing up online for any volunteer activities related to the campaign – like helping to register voters or get people to the polls, 2) Contributing money online to a candidate running for public office, 3) Looking for more information online about candidates' positions on the issues or voting records, 4) Watching a video online made by a candidate, campaign or news organization, 5) Watching a campaign or election related video online that did not come from a campaign or a news organization (i.e fan made or satire, YouTube or Vimeo video), 6) Signing up online to receive updates about the campaign or the elections.

Traditional participation is based upon engagement in any form of participation as measured by the American National Election Survey, and includes: 1) Talking to any people and trying to show them why they should vote for or against one of the parties or candidates, 2) Attending any political meetings, rallies, speeches, dinners, or things like that in support of a particular candidate, 3) Wearing a campaign button, 4) Putting a campaign sticker on your car, 5) Placing a sign in your window or in front of your house, 6) Working or volunteering for a political party or candidate, and 7) Giving money to a political candidate or party.

In order to understand the characteristics associated with the various means of political participation, this study takes into account socioeconomic factors that have been



known to influence traditional and online participation, as well as turnout, as control variables. The following variables about the respondents are considered and operationalized as described in chapter 3: gender, race, income, socialization, political knowledge, party identification, and party intensity. Their use will allow for comparisons with traditional political participants as well as general measurements of online participation. While there is no need to control for party identification, it is included in the model in an attempt to gain some insight into which party is making greater inroads in regards to the utilization of new technology via cyber-participation. Additionally, previous research suggests that race should not be a predictor of youth online or cyber-participation, though it is highly associated with political participation and turnout in general and is therefore included in the models. (Tolbert & McNeal, 2003) (Steinberg, 2010)

Given the ease of access to computers and the internet in general, there is no reason to believe that income would be directly related to online social networking usage. Additionally, since the subjects are students, household income may not directly affect their individual spending abilities. Household income is coded differently in this chapter as the data allowed for a more nuanced approach with an eight category breakdown rather than four – as follows: 0=<\$10,000, 1=\$10,000 < \$20,000, 2=\$20,000<\$30,000, 3=\$30,000<\$40,000, 4=\$40,000<\$50,000, 5=\$50,000<\$75,000, 6=\$75,000<\$100,000, 7=\$100,000<\$150,000 and 8=\$150,000+.<sup>18</sup>

---

<sup>18</sup> For purposes of comparison, a less nuanced version of coding for income was also used as found in previous chapters. The results from both analyses were similar and thus the more nuanced version is reported here.

Political knowledge is also included as a control variable in this chapter. As age and education are typically associated with political knowledge, and given that those two factors are relatively constant for those surveyed, political knowledge serves as a similar substitute. It is expected that those with higher degrees of political knowledge would be both more likely to participate as well as more likely to vote. However, as mentioned previously, it is difficult to tease out the causality of whether political knowledge leads to online and cyber engagement or if political knowledge is gained from the engagement itself. Political knowledge is measured on a scale of 0-10 based on the number of correct answers to a series of questions including identification of foreign and local political leaders, state and federal policy issues, government spending, and a question about Facebook. On average respondents answered 7 out of 10 questions correctly; implying a relatively high degree of knowledge.

Two more control variables are added to the analysis of turnout in this chapter, a measurement of trust in government, and overall satisfaction with “the way things are.” These metrics have been shown to influence voting in the past but should not influence political participation in any particular way. Those with less trust in government may not bother to vote, while respondents who are less satisfied may be more likely to want to vote in attempts of changing the status quo. Both variables are measured on a scale of 0 to 3, from lowest to highest degree of trust and lowest to highest degree of satisfaction, respectively.

## **Methods**

In order to explore these hypotheses, two distinct, but interconnected, sets of models are used. The first set of models examines the characteristics of respondents to

determine the factors that influence various forms of participation: traditional, online and cyber. The second set of models examines the association between these various modes of participation and turnout.

The first model is a measure of general cyber-participation, coded 1 if the subject engaged in any of the three forms of cyber-participation. The second and third models assess the predictors of online only and general online participation; coded 1 if the subject engaged in any aspect of online participation that does not have a traditional counterpart or any form of online participation, respectively. The fourth model is a measure of traditional participation, coded 1 if the subject engaged in any of the standard traditional participation methods surveyed by the ANES and similar studies. The models are as follows:

- (1) Cyber Participation = B(gender) + B(race) + B(income) + B(socialization) + B(party identification) + B(partisan intensity)
- (2) Online Only Participation = B(gender) + B(race) + B(income) + B(political knowledge) + B(socialization) + B(party identification) + B(partisan intensity)
- (3) Online Participation = B(gender) + B(race) + B(income) + B(political knowledge) + B(socialization) + B(party identification) + B(partisan intensity)
- (4) Traditional Participation = B(gender) + B(race) + B(income) + B(political knowledge) + B(socialization) + B(party identification) + B(partisan intensity)

Then a series of probit models are used to examine the treatment effects of online and cyber participation on turnout. The models are as follows:

- (5) 2008 Turnout = B(cyber participation) + B(online participation) + B(traditional participation) + B(gender) + B(race) + B(income) + B(political knowledge) + B(socialization) + B(party identification) + B(partisan intensity) + B(trust in government) + B(satisfaction)
- (6) 2010 Turnout = B(cyber participation) + B(online participation) + B(traditional participation) + B(gender) + B(race) + B(income) + B(political knowledge) +

B(socialization) + B(party identification) + B(partisan intensity)+B(trust in government) + B(satisfaction)

(7) 2012 Intention to Turnout = B(cyber participation) + B(online participation) + B(traditional participation) + B(gender) + B(race) + B(income) + B(political knowledge) + B(socialization) + B(party identification) + B(partisan intensity)+B(trust in government) + B(satisfaction)

## **Results & Analysis of Causes of Participation**

Out of the 1,605 respondents, 945 survey respondents (58.88%) engaged in some form of traditional participation, 904 (56.32%) engaged in one of the three types of cyber participation and 1,366 (83.24%) engaged in some form of online participation. While the difference between traditional and cyber participation is only 2.55%, and thus not statistically significant, the difference between traditional and online only participation is 24.36% which is a statistically significant difference at the  $p < .05$  level. This demonstrates that the future generations of potential voters are more likely to engage through an internet based medium than through traditional participation.

The most common form of traditional participation was “Talked to any people and try to show them why they should vote for or against one of the parties or candidates,” a form of traditional participation that could easily take place through online social networking. 30% of respondents engaged in this form of traditional participation. The way the survey was written, there is no way to be sure that this communication happened in a traditional setting, such as in person or on the phone and not via online social networking such as through Facebook.

In order to see if the respondents engaging in each form of participation are the same a series of correlations was calculated. The correlation between online and traditional participants is .3405, the correlation between online and cyber-participants is

.3515, and the correlation between cyber and traditional participants is .2929.

Additionally, 493 respondents (30.72% of the sample) engaged in either online or cyber participation, but not in traditional forms of participation. So while there is a clear relationship between forms of participation, the various forms also elicit specific users.

The probit results from the first four models examining factors of various forms of participation can be found in Table 16. In line with the second hypothesis, traditional socioeconomic factors do not predict online or cyber-participation. Gender, race, and income all failed to consistently reach statistical significance at the  $p < .05$  level. This implies that the role of these factors in determining online and cyber-participation is quite low, and that highlights that these forms of participation do not require the resources as other forms of participation. However, these socioeconomic variables are also not significant in predicting traditional participation. This implies that the socioeconomic effects are a thing of the past as previous research shows their general effect on the population, but this study does not show the effect for this younger generation.

Across the board, income fails to reach statistical significance. Race reaches the  $p < .1$  level of significance, but the coefficient is in the wrong direction, suggesting non-white respondents are more likely to engage in online only and traditional participation. Gender is only significant in the online only model, suggesting men are more likely to engage in this type of participation.

The only consistent relationships worth noting are religiosity, party intensity, and political knowledge. Respondents who attend a place of worship more often are also more likely to engage in all three forms of participation, though the effect is most significant for traditional participation. Respondents with high levels of partisanship, are

more likely to engage in participation across the board, but only significant at the  $p < .05$  level for online and traditional participation. Being a strong partisan identifier implies a young adult is more likely to engage politically, however, the effect is not a strong predictor in regards to cyber and online only participation, but rather for more traditional means of participation. In other words, cyber and online participators (who avoid traditional participation metrics) are less partisan than their traditional participation counterparts.

Political knowledge has an interesting relationship with participation because there is no means by which to evaluate causality. What the data show is that there is a significant association between cyber-participation and political knowledge as well as online participation and political knowledge, but that relationship is not significant between traditional participation and political knowledge. Perhaps those who engage through cyber and online participation are gaining their knowledge through engagement, while traditional participants are not building knowledge through engagement. Another possibility is that more politically knowledgeable individuals are also just more likely to engage through cheaper and less time consuming means, and thus take more advantage of cyber and online only participation opportunities.

#### TABLE 16 HERE

Interestingly, party identification does not have statistically significant effects in the models. This finding is in opposition to previous findings by Williams & Gulati (2007 & 2009) as well as Steinberg (2010). Their findings were likely time limited and due to the large Web 2.0 presence that Barack Obama's campaign initiated during the 2008 election cycle, and the history of Democratic candidates taking advantage of new

internet communication technologies. As these mediums are more familiar to a wider demographic of voters, the effects have subsided.

### **Results and Analysis of the Effects of Participation**

Table 17 displays the results of probit analysis on the respondents' turnout in the 2008 general election, turnout in 2010 midterm election, and intention to turnout for the 2012 election. It should be kept in mind that the majority of the sample was ineligible to vote in 2008 due to being under 18 at the time of the election. Of those old enough, 243 respondents (15.14% of the sample) voted in 2008 and 165(10.28% of the sample) in 2010. Therefore, most of the weight of analysis should be given to the subjects' intentions to vote in the next election.

#### TABLE 17 HERE

In 2008 and 2010 traditional participation is the only means of engagement to be a significant predictor of turnout. This is hardly surprising given the small number of voters in those elections, the majority of which would be older non-traditional students in the sample as younger students would not have been eligible. Previous chapters have shown that older individuals are less likely to engage in cyber-participation, and thus cyber-participation would not be expected to be significant for older voters. However, when looking at intention to vote of the subject, cyber and online participation are both statistically significant at the  $p < .05$  level and have larger effects than traditional participation. The best way to understand the actual effect of these means of participation is to look at the marginal effects.

Manipulating only the various forms of participation allows for an exploration of the effects of a person's decision to engage in each form and the effect on the likelihood

that they intend to vote. For a student who engages in only traditional participation, but not online or cyber participation, the predicted value of their intention to vote is 64.16%. However, should they engage in only online participation or only cyber participation the predicted value of the intention to vote goes up to 68.24% or 65.53% respectively. A respondent who chooses to engage in none of the various forms of participation has a predicted value of intent to vote at 57.43%. This means that any form of participation raises the intention to vote from between 6.73 to 10.81%. And that engaging in online or cyber participation has the same if not more of an effect on the intention of a student to vote in an upcoming election.

Additionally, should a respondent choose to engage in all three forms of participation, the predicted value of their intention to vote raises to 80.57%. This is over 16% higher than the intention to vote given traditional participation alone. Taken together, this suggests that both online and cyber-participation have a positive and significant impact on the intention of young people to turnout in future elections.

## **Conclusions**

Access to the internet allows for people to participate in politics through means that are less economically taxing or time consuming than traditional methods. With the advancing presence of the internet in daily life, more people are able to participate than ever before. These effects are even more potent for young citizens who have grown up using this medium. By the time a student reaches college and voting age, use of the internet is a standard in daily life.

This chapter has shown that online and cyber-participation is frequent among potential young voters, with over 80% of students sampled becoming politically engaged



using the internet. Additionally, these forms of participation are not biased toward the socioeconomic characteristics of traditional participation. Thus implying, they are a natural means for young voters to engage in. Once engaged through the internet or Facebook, a young person is more likely to vote. From a civic engagement standpoint, perhaps just encouraging students in the classroom to voice their political opinions may in turn lead to broader engagement and increased political participation. Given the relatively high degree of political knowledge students seem to either already possess or are able to gain through engagement, such action would also then lead to a more informed electorate.

**Table 16. Predictors of 2012 Participation**

	Cyber	Online Only	Online	Traditional
Party ID	-0.023 *	-0.026	-0.018	0.000
	0.014	0.017	0.018	0.020
Party Intensity	0.064 ***	0.043 .	0.090 **	0.189 ***
	0.021	0.026	0.028	0.031
Political Knowledge	0.037 **	0.056 ***	0.131 ***	0.036 *
	0.012	0.014	0.015	0.017
White	0.044	0.105	0.175 *	0.026
	0.053	0.065	0.070	0.077
Income	0.008	0.007	0.006	0.009
	0.009	0.011	0.012	0.013
Religiosity	0.026 .	0.010	-0.007	0.049 *
	0.014	0.017	0.018	0.020
Gender	0.001	0.127 *	0.066	0.152 *
	0.044	0.053	0.057	0.063
Intercept	0.431	0.320	0.481	0.272
	0.106	0.129	0.139	0.153
N	1605	1605	1605	1605
Adj R <sup>2</sup>	0.0171	0.017	0.0595	0.0319

p<.05 = \*, p<.01 = \*\*, p<.001 = \*\*\*

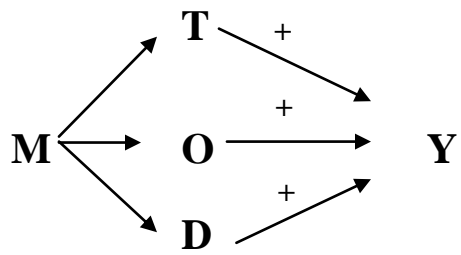
**Table 17. Previous Turnout and Vote Intentions**

	Vote 2008	Vote 2010	Vote Intent
Cyber Participation	-0.031 0.087	0.084 0.098	0.225 ** 0.076
Traditional Participation	0.286 ** 0.09	0.41 *** 0.103	0.196 * 0.077
Online Participation	0.066 0.129	0.171 0.16	0.226 * 0.103
Party ID	-0.035 0.024	0.001 0.026	0.063 * 0.025
Party Intensity	0.126 ** 0.04	0.117 ** 0.044	0.268 *** 0.037
Political Knowledge	0.056 * 0.022	0.052 * 0.025	0.029 0.019
Race	0.511 *** 0.091	0.308 ** 0.102	0.404 *** 0.089
Income	-0.039 * 0.017	0.017 0.019	0.015 0.015
Gender	-0.052 0.081	0.04 0.089	-0.07 0.071
Trust in Government	-0.033 0.076	-0.025 0.082	0.042 0.066
Satisfaction Level	-0.163 * 0.066	-0.099 0.073	-0.08 0.059
Intercept	-1.487 0.231	-2.336 0.275	-0.602 0.202
N	1605	1605	1605
Pseudo R <sup>2</sup>	0.064	0.06	0.079

p<.05 = \*, p<.01 = \*\*, p<.001 = \*\*\*

NOTE: Most of the students surveyed had never voted before, and were not old enough to have voted in the 2008 elections.

**Figure 10. Modeling 2012 Participation and Intentions to Vote**



C = Socioeconomic Factors & Party Intensity  
T = Traditional Participation  
O = Online Participation  
D = Cyber-participation  
Y = Turnout

## **CHAPTER 8 - Implications**

The factors predicting cyber-participation are clearly different from those associated with traditional participation. Traditional socioeconomic factors seem to play only a minimal role in political participation among cyber-participants. However, factors such as income, education, race, and age do still play a role, albeit diminishing, in access to the internet. (DiMaggio, Hargittai and Celeste, et al. 2004) (Hargittai 2002) While this may be an issue today, the access gap is closing. (Compaine 2001) In addition to the issue of access, there is an issue of usage, whereby access does not necessarily lead to meaningful usage. (Selwyn 2004) The traditional biases of participation and the “digital divide” seem to impact the same people, lower income, lower educated minorities. However, this study has shown that when those same people manage to overcome the divide and utilize an online social networking website, like Facebook, they no longer face biases to participation. Should these people choose to participate they subsequently should be more likely to vote.

### **Data Related Issues**

While this study demonstrates a statistically significant relationship between cyber-participation and turnout, we should be cautious about the conclusions drawn from the findings. There are other factors at play that can influence both cyber-participation and turnout that cannot be easily taken into account due to limitations of the data currently available. In this study some of the factors of potential concern are the measurement issues with the metric of cyber-participation, the difficulties that can come up in gathering more robust data and a less than full conception of the impact of new-media on political behavior.

Cyber-participation itself is only a loose metric as the discipline has yet to agree on how exactly it is defined. For example, we do not know what groups people are in, how many they are a part of, or what takes place in these groups. These groups can range from large organizationally run groups that frequently post information that may be superficial, have low importance, or is available elsewhere, to small personal groups of highly committed individuals whose frequency of posting is less relevant; instead the posts themselves are of high value due to their significance to members of the group and the deliberation between group members that they inspire. Therefore the impact of group membership on turnout may be different. Additionally, just being a member of a group does not imply being active in it. Posts about politics could be as simple as re-posting a critique about health care, or as sophisticated as a home-made YouTube video explaining the problems with local building ordinances. Who is to say which of these posts would be more strongly associated with an individual turning out to vote?

These problems of defining the metric of cyber-participation also plague other forms of participation, though they are ignored. The impact of traditional participation, such as a person who only attended a political meeting because their co-worker dragged them along or donated funds to a campaign because of a personal connection, would be different from a person who attends weekly meetings or maxes out their contributions to multiple candidates, yet are assessed as equal based on most metrics. Therefore, cyber-participation metrics face measurement obstacles in ways similar to traditional participation but can perhaps be ignored in the same way. While one person may have a single campaign button on their backpack, another may have a dozen, and still another may utilize a virtual backpack with hundreds of buttons. Which of these people is most

likely to vote? That is a question for future research for academics who study participation regardless of the medium.

Gathering in-depth data about how people are embracing cyber-participation is more difficult than with traditional participation data. While survey data on either cyber or traditional participation would be equally easy to gather, as well as just as likely to be true or false, validity checks of cyber-participation might actually be more difficult. A researcher might be able to get attendance lists for public meetings, drive by and see if a yard sign is there, visually inspect a button on a backpack or a sticker on a car, and campaigns often keep records of volunteers and other information about participants. However, most online social networking sites have privacy controls which limit who can see what the participant is actually doing. Therefore there is a stronger reliance on self-reporting, and the only way forward in this regard may be through controlled experiments that allow researchers to directly administer manipulations of cyber-participation in order to parse out possible effects.

There is still much work for political scientists to do in order to fully understand the Web 2.0 political community and the impact of interactivity on political behavior. By default, Facebook, MySpace and LinkedIn are designed to promote activity between individuals, and interactivity is key to new media technologies, such as blogging, YouTube and Twitter. The quality of connections that people make and utilize via online social networking websites is not clear, and there is debate to how valuable such communication really is. Additionally, our discipline has yet to fully embrace research regarding the effects of online social networks. Preliminary research exists in studying online social capital, but it is limited in its understanding of how online community

effects offline actions. (Kobayashi, Ikeda, & Miyata, 2006) (Jensen, Danziger, & Venkatesh, 2007) (Jennings & Zeitner, 2003)

### **If Cyber-Participation is Increasing, then why isn't Turnout?**

It is also important to explore what else may influence personal motivations to participate. While these findings show that cyber-participation is not biased towards people of certain socioeconomic standing, it is not clear who is taking advantage of these resources of political engagement. Cyber-participants are clearly younger, so perhaps this means of engagement is a means of pre-participation, meaning that cyber-participants will later become traditional participants. If this is the case, then are cyber-participants a separate population that is going to add to the overall number of political participants in society? Or is cyber-participation a replacement means of participation, whereby individuals could be traditional participators but are instead choosing a different route? In other words, are these findings actually a cohort effect due to changing technology or could political participation actually be on the upswing, given the reduced costs of becoming engaged?

Naysayers of the findings presented here may question that if cyber-participation is having this great effect, then where is the growth in turnout? I would suggest that despite advances in the technology of participation we are behind in the technological advances in voting, therefore the Downsian perspective of the benefits of voting not outweighing the costs still holds true. While cyber-participation may reduce the costs of engagement, without on-line voting, the costs of casting a vote may not have changed in a significant enough way to influence participation. This can be explored both through theoretical discussion as well as controlled for using survey metrics of political interest.



Another possible explanation is that while these new technologies are allowing new people to become engaged, this engagement might be a double edged sword. If we assume that participation (in any form) actually does not lead to turnout but instead there are underlying factors that lead to both, then we have two groups of people: those destined to vote and those destined not to. In any given election both groups may engage in any of the various forms of participation be it traditional, online, or cyber. Those who will vote will vote regardless, but may also be more likely to now participate while they did not before due to the ease of cyber-participation. Meanwhile, others will become cyber-participants also due to the low costs of such engagement but still will not vote.

### **Are There Possible Negative Information Effects?**

In regards to information availability, previous research suggests that the internet has opened the door to greater access to information, but perhaps too much information has provided people with the opportunity to select their information channels to tailor the information they receive. (Pariser, 2012) Social media could be subject to similar issues, but in this environment individuals do not have as much control given the network effects. Information not sought after is often pushed toward the subject based upon their social connections. Therefore, both the subject and the subject's network shape social media information. So what exactly does this mean for the value of the information? How this influences the political participation of the subject is clearly important, but also not well understood.

Cyber-participation, just like other forms of participation, might also have a negative effect on turnout for some people due to the information effects. For this set of people, becoming engaged politically leads them to decide that their vote does not matter

or that they cannot personally make a difference and thus do not vote. Perhaps before their cyber-participation, they may have voted out of ignorance of how little their vote affects an election or, due to being over-engaged, they have actually lost interest in being part of the system. This, of course, is a much deeper discussion for researchers studying political participation and its effects on turnout more generally to follow up upon and out of the scope of this study.

Despite the down-falls highlighted above, the findings in this study are still significant. As the world around us becomes more wired and interconnected and the internet plays a larger role in our daily lives, the internet threshold will become weaker. Once this hurdle is crossed, anyone will have the ability to participate within the Web 2.0 political community, at least to the extent outlined in this study. Other forms of cyber-participation are sure to take hold, and innovation will continue to change political participation as we know it today. Only the future knows what effects on turnout will come from the world of tomorrow

### **Are Cyber-Participants Different in Ideology and Party Identification?**

If we were to examine this question using only the 2008 Presidential Election data, it would be a resounding yes. However, once data from the 2010 midterm election and the 2012 student sample are taken into consideration this turns to a clear no. In 2008, party identification is statistically significant in all of the models. Overall, Democrats are more likely to “friend” politicians, join groups, and make political postings. However, this finding was likely time limited due to the large Web 2.0 presence that Barack Obama’s campaign initiated during the 2008 election cycle, and the history of Democratic candidates taking advantage of new internet media. By 2010 this Democratic

advantage had disappeared. Given that the 2012 student survey also showed no ideological effects on cyber-participation, this further buttresses the concept that the 2008 effects were due to the times and that members of both parties are currently equally likely to be taking advantage of this newer means of political participation.

### **Moving Forward**

Although these questions open a door to a more robust understanding of cyber-participation, they do not undermine the conclusions of this research. Cyber-participation is less subject to biases than traditional participation, and cyber-participation influences turnout. Deconstructing the how and the why will make-up the next steps for cyber-participation research. This work has provided a strong rationale for why it is important to study the impact of new media on political participation. With the increasing ubiquity of the internet and daily growth in social media as both a form of communication as well as a means of political engagement, this line of research will be of growing importance in the years to come.

## Appendix 1: Questions used to explore Comparable Methods / Different Modes

---

### Display

Traditional:

2008 ANES

During the campaign, did you wear a campaign button, put a campaign sticker on your car, or place a sign in your window or in front of your house? (V085031 B6)

Online:

2008 PEW

There are many different activities related to the campaign and the elections that a person might do on the internet. I'm going to read a list of things you may or may not have done online in the past year related to the campaign and the elections. Just tell me if you happened to do each one, or not. Did you... Customize a web page to display new political or campaign information that is especially interesting or important to you (Q25k)

Cyber:

2008 PEW

Thinking about what you may have done on social networking sites like Facebook and MySpace, have you... Signed up as a "friend" of any candidates on a social networking site? (Q27e)

2010 PEW

Thinking about what you may have done on social networking sites like Facebook and MySpace related to the November elections, did you happen to... Sign up on a social networking site as a "friend" of a candidate, or a group involved in the campaign such as a political party or interest group? (Q20c)

### Talk

Traditional:

2008 ANES

During the campaign, did you talk to any people and try to show them why they should vote for or against one of the parties or candidates? (V085029 B4)

Online:

2010 PEW

There are many different activities related to the campaign and the elections that a person might do on the internet. I'm going to read a list of things you may or may not have done online in the months leading up to the November elections. Just tell me if you happened to do each one, or not. Did you... Send emails related to the campaign or the elections to friends, family members or others? (Q18g)

Cyber:

2008 PEW

Have you ever posted comments, queries or information about the campaign or the elections in any of these places online? [INSERT ITEM; RANDOMIZE]... have you ever posted there about the campaign or the elections? **(Q26)**

2010 PEW

Thinking about what you may have done on social networking sites like Facebook and MySpace related to the November elections, did you happen to... Post content related to politics or the campaign on a social networking site **(Q20d)**

## **Meeting**

Traditional:

2008 ANES

During the campaign, did you go to any political meetings, rallies, speeches, dinners, or things like that in support of a particular candidate? **(V085030 B5)**

Online:

2010 PEW

There are many different activities related to the campaign and the elections that a person might do on the internet. I'm going to read a list of things you may or may not have done online in the months leading up to the November elections. Just tell me if you happened to do each one, or not. Did you... Take part in an online discussion, listserv or other online group forum like a blog, related to political issues or the campaign **(Q18i)**

Cyber:

2008 PEW

Thinking about what you may have done on social networking sites like Facebook and MySpace, have you... Started or joined a political group on a social networking site? **(Q27b)**

2010 PEW

Thinking about what you may have done on social networking sites like Facebook and MySpace related to the November elections, did you happen to JOIN a political group, or group supporting a cause on a social networking site? **(Q20e)**

## **Engage**

Traditional:

2008 ANES

During the campaign, did you do any (other) work for one of the parties or candidates? **(V085032 B7)**

Online:

2008 PEW

There are many different activities related to the campaign and the elections that a person might do on the internet. I'm going to read a list of things you may or may not have done online in the months leading up to the November elections. Just tell me if you happened to do each one, or not. Did you... Use the internet to participate in VOLUNTEER activities related to the campaign? **(Q25f)**

2010 PEW

There are many different activities related to the campaign and the elections that a person might do on the internet. I'm going to read a list of things you may or may not have done online in the months leading up to the November elections. Just tell me if you happened to do each one, or not. Did you... Use the internet to participate in VOLUNTEER activities related to the campaign? **(Q18e)**

Cyber:

2010 PEW

Thinking about what you may have done on social networking sites like Facebook and MySpace related to the November elections, did you happen to START a political group, or group supporting a cause on a social networking site? **(Q20f)**

## Bibliography

- Bartels, L. M. (2008). *Unequal Democracy: The Political Economy of the New Gilded Age*. Princeton, NJ: Princeton University Press.
- Bartels, L. M. (1998). Where the Ducks Are: Voting Power in a Party System. In J. Geer (Ed.), *Politicians and Party Politics* (pp. 43-79). Baltimore, MD: Johns Hopkins University Press.
- Beck, P. A., Dalton, R., Greene, S., & Huckfelt, R. (2002). The social calculus of voting: Interpersonal, media, and organizational influences on presidential choices. *American Political Science Review*, 96 (1), 57-73 .
- Bennett, S. E., & Resnick, D. (1990). The Implications of Nonvoting for Democracy in the United States. *American Journal of Political Science*, , 34 (3), 771-802.
- Berelson, B., Lazarsfeld, P., & McPhee, W. (1954). *Voting: A Study of Opinion Formation in a Presidential Campaign*. Chicago: University of Chicago Press.
- Best, S. J., & Krueger, B. S. (2005). Analyzing the Representativeness of Internet Political Participation. *Political Behavior*, 27 (2), 183-215.
- Bimber, B. (2001). Information and Political Engagement in America: The Search for Effects of Information Technology at the Individual Level. *Political Research Quarterly*, 54 (1), 53-67.
- Bimber, B. (1998). The Internet and Political Transformation: Populism, Community, and Accelerated Pluralism. *Polity*, XXXI (1), 133-160.
- Bimber, B., & Davis, R. (2003). *Campaigning Online: The Internet in U.S. Elections*. Oxford: Oxford University Press.
- Brady, H. E., Verba, S., & Schlozman, K. L. (1995). Beyond SES: A Resource Model of Political Participation. *American Political Science Review*, 89 (2), 271-294.
- Brenner, J. (2012, November 13). *Pew Internet: Social Networking (full detail)* . Retrieved December 26, 2012, from Pew Internet and American Life Project: <http://pewinternet.org/Commentary/2012/March/Pew-Internet-Social-Networking-full-detail.aspx>
- Campbell, A., Gurin, G., & Miller, W. E. (1954). *The Voter Decides*. Evanston, IL: Row, Peterson.
- Compaine, B. M. (2001). *The Digital Divide: Facing a Crisis or Creating a Myth?* Cambridge, MA: MIT Press.

- David, R. (1999). *The Web of Politics*. New York: Oxford University Press.
- Denny, K., & Doyle, O. (2009). Does Voting History Matter? Analysing Persistence in Turnout. *American Journal of Political Science* , 53 (1), 17-35.
- DiMaggio, P., Hargittai, E., Celeste, C., & Shafer, S. (2004). From Unequal Access to Differentiated Use:. In K. M. Neckerman, *Social Inequality* (pp. 355-400). New York: Russell Sage Foundation.
- DiMaggio, P., Hargittai, E., Neuman, W. R., & Robinson, J. P. (2001). Social Implications of the Internet. *Annual Review of Sociology* , 27, 307-336.
- Dubai School of Government. (2011). *Arab Social Media Report*.
- Fiorina, M. P. (1974). *Representatives, Roll Calls, and Constituencies*. Lexington, KY: Lexington Books.
- Fowler, J. (2005). Turnout in a small world. In A. Zuckerman (Ed.), *Social Logic of Politics* (pp. 269-287). Philadelphia: Temple University Press.
- Gibson, R. K., Lusoli, W., & Ward, S. (2005). Online Participation in the UK: Testing a 'Contextualised' Model of Internet Effects. *British Journal of Politics and International Relations* , 7 (4), 561-583.
- Gilgoff, D., & Lee, J. J. (2013, April 15). *Social Media Shapes Boston Bombings Response*. Retrieved April 21, 2013, from National Geographic News: <http://news.nationalgeographic.com/news/2013/13/130415-boston-marathon-bombings-terrorism-social-media-twitter-facebook>
- Gladwell, M. (2010, October 4). *Small Change: Why the revolution will not be tweeted*. Retrieved February 21, 2011, from The New Yorker: [http://www.newyorker.com/reporting/2010/10/04/101004fa\\_fact\\_gladwell?currentPage=1](http://www.newyorker.com/reporting/2010/10/04/101004fa_fact_gladwell?currentPage=1)
- Griffin, J. D., & Newman, B. (2005). Are Voters Better Represented? *Journal of Politics* , 67 (4), 1206-1227.
- Gronlund, K. (2007). Knowing and Not Knowing: The Internet and Political Information. *Scandinavian Political Studies* , 30 (3), 397-418.
- Gulati, G. J., & Williams, C. B. (2007). Closing the Gap, Raising the Bar: Candidate Web Site Communication in the 2006 Campaigns for Congress. *Social Science Computer Review* , 25 (4), 443-465.
- Hargittai, E. (2002). Second-Level Digital Divide: Differences in People's Online Skills. *First Monday* , 7 (4).



Herrnson, P. S., Stokes-Brown, A. K., & Hindman, M. (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.

Ho, D. E., Imai, K., King, G., & Stuart, E. A. (2007). Matching as Nonparametric Preprocessing for Reducing Model Dependence in Parametric Casual Inference. *Political Analysis* (15), 199-236.

Ho, D., Imai, K., King, G., & Stuart, E. (2007). Matchit: Nonparametric Preprocessing for Parametric Causal Inference. *Journal of Statistical Software* , <http://gking.harvard.edu/matchit>.

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

Howard, P. N., & Hussain, M. M. (2011). The Role of Digital Media. *Journal of Democracy* , 22 (3), 35-48.

Huang, C. (2011, June 6). *Facebook and Twitter key to Arab Spring uprisings: report*. Retrieved January 13, 2013, from The National: <http://www.thenational.ae/news/uae-news/facebook-and-twitter-key-to-arab-spring-uprisings-report>

Huckfeldt, R. (1979). Political Participation and the Neighborhood Social Context. *American Journal of Political Science* , 23 (3), 579-592.

Huckfeldt, R., & Sprague, J. (1995). *Citizens, Politics and Social Communication: Information and Influence in an Election Campaign* . New York: Cambridge University Press.

Huckfeldt, R., Plutzer, E., & Sprague, J. (1993). Alternative Contexts of Political Behavior: Churches, Neighborhoods, and Individuals. *Journal of Politics* , 55 (2), 365-381.

Ingram, M. (2011, March 29). *Malcolm Gladwell: Social Media Still Not a Big Deal*. Retrieved January 13, 2013, from GigaOM: <http://gigaom.com/2011/03/29/malcolm-gladwell-social-media-still-not-a-big-deal/>

Jennings, M. K., & Zeitner, V. (2003). Internet Use and Civic Engagement: A Longitudinal Analysis. *Public Opinion Quarterly* , 67, 311-334.

Jensen, J. L. (2003). Virtual democratic dialogue? Brining together citizens and politicians. *Information Polity* (8), 29-47.

Jensen, M. J., Danziger, J. N., & Venkatesh, A. (2007). Civil Society and Cyber Society: The Role of the Internet in Community Associations and Democratic Politics. *The Information Society* , 23, 39-50.

Kahne, J., Lee, N.-J., & Feezell, J. T. (2011). *The Civic and Political Significance of Online Participatory Cultures among Youth Transitioning to Adulthood*. University of California, Digital Media and Learning Research Hub. Irvine: University of California Humanities Research Institute.

Kenny, C. (1992). Political Participation and Effects from the Social Environment. *American Journal of Political Science* , 36 (1), 259-267.

Key, V. (1949). *Southern Politics in State and Nation*. New York: Vintage Books.

Khondker, H. H. (2011). Role of the New Media in the Arab Spring. *Globalizations* , 8 (5), 675-679.

Klofstad, C. A. (2007). Talk Leads to Recruitment: How Discussions about Politics and Current Events Increases Civic Participation. *Political Research Quarterly* , 60 (2), 180-191.

Kobayashi, T., Ikeda, K., & Miyata, K. (2006). Social Capital Online: Collective use of the Internet and Reciprocity as Lubricants of Democracy. *Information, Communication & Society* , 9 (5), 582-611.

Lazarsfeld, P., Berelson, B., & Gaudet, H. (1944). *The People's Choice: How the voter makes up his mind in a presidential campaign*. New York: Columbia University Press.

Leighley, J. E., & Nagler, J. (1992). Individual and Systemic Influences on Turnout: Who Votes? 1984. *The Journal of Politics* , 54 (3), 718-740.

Lijphart, A. (1997). Unequal Participation: Democracy's Unresolved Dilemma. *American Political Science Review* , 91 (1), 1-14.

Martin, P. S. (2003). Voting's Rewards: Voter Turnout, Attentive Publics, and Congressional Allocation of Federal Money. *American Journal of Political Science* , 47 (1), 110-127.

Mesch, G. S., & Coleman, S. (2007). New Media and New Voters: Young People, the Internet and the 2005 UK Election Campaign. In B. D. Loader (Ed.), *Young Citizens in the Digital Age: Political Engagement, Young People and New Media* (pp. 35-47). New York, NY: Routledge.

Paolino, P., & Shaw, D. R. (2003). Can the Internet Help Outsider Candidates Win the Presidential Nomination? *PS: Political Science and Politics* , 36 (2), 193-197.

- Pariser, E. (2012). *The Filter Bubble: How the New Personalized Web Is Changing What We Read and How We Think*. New York: Penguin Books.
- Putnam, R. D. (2000). *Bowling Alone*. New York, NY: Touchstone.
- Ragsdale, L., & Rusk, J. G. (1993). Who Are Nonvoters? Profiles from the 1990 Senate Elections. *American Journal of Political Science* , 37 (3), 721-746.
- Rosenstone, S. J., & Hansen, J. M. (1993). *Mobilization, Participation, and Democracy in America*. New York: Macmillan.
- Rucke, K. (2013, April 16). *Value Of Social Media Affirmed After Boston Marathon Bombings*. Retrieved April 2013, 21, from Mint Press News: <http://www.mintpressnews.com/value-of-social-media-affirmed-after-boston-marathon-bombings/>
- Sampaio, A., & Aragon, J. (1998). 'To Boldly Go (Where No Man Has Gone Before)': Women and Politics in Cyberspace. In C. Toulouse, & T. W. Luke (Eds.), *The Politics of CyberSpace* (pp. 144-166). New York: Routledge.
- Schroeder, S. (2009, July 7). *Facebook Users Are Getting Older. Much Older*. Retrieved 11 26, 2009, from Mashable: The Social Media Guide: <http://mashable.com/2009/07/07/facebook-users-older/>
- Selwyn, N. (2004). Reconsidering Political and Popular Understandings of the Digital Divide. *New Media Society* , 6, 341-362.
- Shah, D. V., Kwak, N., & Holbert, R. L. (2001). "Connecting" and "Disconnecting" With Civic Life: Patterns of Internet Use and the Production of Social Capital. *Political Communication* , 18, 141-162.
- Shirky, C. (2008). *Here Comes Everybody*. New York: Penguin Press.
- Shirky, C. (2011). The Political Power of Social Media. *Foreign Affairs* , 90 (1), 1-12.
- Smith, A., Schlozman, K. L., Verba, S., & Brady, H. (2009). *The Internet and Civic Engagement*. Washington, DC: Pew Internet & American Life Project.
- Steinberg, A. (2010). Is Social Media Networking Breaking Down the Barriers of Traditional Participation. *Midwest Political Science Association Annual Meeting*. Chicago.
- Stepanova, E. (2011, May). The Role of Information Communication Technologies in the "Arab Spring". *PONARS Eurasia Policy Memo No. 159* . The George Washington University Elliott School of International Affairs.

- Stern, J. (2013, April 16). *Boston Marathon Bombing: The Waves of Social Media Reaction*. Retrieved April 21, 2013, from ABC News: <http://abcnews.go.com/blogs/technology/2013/04/boston-marathon-bombing-the-waves-of-social-media-reaction>
- Straits, B. C. (1991). Bringing strong ties back in: Interpersonal gateways to political information and influence. *Public Opinion Quarterly* , 55 (3), 432-448.
- Strek, J. M. (1998). Pulling the Plug on Electronic Town Meetings: Participatory Democracy and the Reality of the Usenet. In C. Toulouse, & T. W. Luke (Eds.), *The Politics of Cyberspace* (pp. 18-48). New York: Routledge.
- Terry, A. (2012, August 24). *Got broadband? Access now extends to 94 percent of Americans*. Retrieved December 26, 2012, from The Christian Science Monitor: <http://www.csmonitor.com/USA/Society/2012/0824/Got-broadband-Access-now-extends-to-94-percent-of-Americans>
- Timpone, R. J. (1998). Structure, Behavior, and Voter Turnout in the United States. *American Political Science Review* , 92 (1), 145-158.
- Tolbert, C. J., & McNeal, R. S. (2003). Unraveling the Effects of the Internet on Political Participation? *Political Research Quarterly* , 56 (2), 175-185.
- Verba, S., & Nie, N. (1972). *Participation in America: Political democracy and social equality*. New York: Harper and Row.
- Verba, S., Schlozman, K. L., & Brady, H. (1996). *Voice and Equality: Civic Voluntarism in American Politics* . Cambridge: Harvard University Press.
- Wattenberg, M. P. (2007). *Is Voting for Young People?* New York, NY: Pearson Education, Inc.
- Weber, L. M., Loumakis, A., & Bergman, J. (2003). Who Participates and Why? An Analysis of Citizens on the Internet and the Mass Public. *Social Science Computer Review* , 21 (1), 26-42 .
- Wellman, B., Salaff, J., Dimitrova, D., Garton, L., Gulia, M., & Haythornthwaite, C. (1996). Computer Networks as Social Networks: Collaborative Work, Telework, and Virtual Community. *Annual Review of Sociology* , 22, 213-138.
- Williams, C. B., & Gulati, G. J. (2009). Facebook Grows Up: An Empirical Assessment of its Role in the 2008 Congressional Elections. *2009 Annual Meeting of the Midwest Political Science Association*. Chicago, IL.

Williams, C. B., & Gulati, G. J. (2007). Social Networks in Political Campaigns: Facebook and the 2006 Midterm Elections. *2007 Annual Meeting of the American Political Science Association*. Chicago, IL.

Williams, C. B., & Gulati, G. J. (2006). The Evolutionary Development of Campaign Web Sites: The U.S. Senate, 2000-2004. *2006 Annual Meeting of the American Political Science Association*. Philadelphia, PA.

Williams, C. B., & Gulati, G. J. (2008). What is a Social Network Worth? Facebook and Vote Share in the 2008 Presidential Primaries. *2008 Annual Meeting of the American Political Science Association*. Boston, MA.

Wolfinger, R. E., & Rosenstone, S. J. (1980). *Who Votes?* New Haven: Yale University Press.

Xenos, M., & Bennett, W. L. (2007). Young Voters and the Web of Politics: The Promise and Problems of Youth-Oriented Political Contest on the Web. In B. D. Loader (Ed.), *Young Citizens in the Digital Age: Political Engagement, Young People and New Media* (pp. 48-67). New York, NY: Routledge.

Zukin, C., Keeter, S., Andolina, M., Jenkins, K., & Delli Carpini, M. X. (2006). *A New Engagement? Political Participation, Civic Life, and the Changing American Citizen*. New York, NY: Oxford University Press, Inc.