THE VIRTUAL SOCIAL CAPITAL OF ONLINE COMMUNITIES:
MEDIA USE AND MOTIVATIONS AS PREDICTORS OF ONLINE AND OFFLINE ENGAGEMENT VIA SIX MEASURES OF COMMUNITY STRENGTH

A Dissertation

presented to

the Faculty of the Graduate School

at the University of Missouri

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

by

JEREMY LITTAU

Dr. Esther Thorson, Dissertation Chair

JULY 2009

The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled

THE VIRTUAL SOCIAL CAPITAL OF ONLINE COMMUNITIES: MEDIA USE AND MOTIVATIONS AS PREDICTORS OF ONLINE AND OFFLINE ENGAGEMENT VIA SIX MEASURES OF COMMUNITY STRENGTH

presented by Jeremy Littau,
a candidate for the degree of doctor of philosophy,

and hereby certify that, in their opinion, it is worthy of acceptance.

Professor Esther Thorson

Professor Shelly Rodgers

Professor Margaret Duffy

Professor Clyde H. Bentley

Professor David O'Brien

DEDICATION

The focus of my work and much of my research interests lies in the notion of support networks. I am fortunate to have my own model for this type of support from my wife, Amy. This dissertation is not only dedicated to her but also is the product of her patience and understanding as I've tried to balance being a good husband with the need to think big thoughts.

ACKNOWLEDGEMENTS

There are two people at Missouri whom I can never repay for all the help they've given me in my academic progress.

Dr. Esther Thorson was my first and best introduction to Missouri Journalism in her Mass Media Seminar, and she has been generous with her time and her mind to help me develop intellectually in my five years here through master's and doctoral study. Esther models everything I love about Missouri Journalism and I am going to miss working with her on research projects. The best way I can think of to repay her is to model her devotion and ethic with my own students as I go out and become a professor.

Dr. Clyde Bentley has been my source of energy from day one, constantly challenging me to think bigger in the face of massive journalism industry change. From Clyde I have learned to view technology as an opportunity rather than a threat to what journalists do. From a personal standpoint, Clyde has also been a constant friend and mentor and has a heart bigger than my home state of California. I hope to be even half as meaningful in my students' lives as Clyde has been in mine.

I'd like to thank the rest of my committee as well for their input and work to keep me on track. Dr. Margaret Duffy is one of the keenest minds around in cutting through the academese on media and technology, and she is the one who has helped me realize that, yes, it's all persuasion. Dr. Shelly Rodgers was an enormous help on this project in helping me focus in on the methods portion, and I appreciate most how she asks questions of me rather than tells me what to

do. I feel like I have learned a lot from this approach. Dr. David O'Brien taught one of the best courses I took at Missouri, and it really got me thinking about what it means to have community, build community, and keep community strong. I particularly enjoyed the ability to talk generally and specifically about my ideas in meetings with him, and have found in him an amazing mind full of ideas and experiences that apply well to what I do.

I'd also like to thank my wife, Amy for her hard work editing this research, all while trying to finish work for her job and help us get ready to move.

Lastly, because this dissertation represents the culmination of five years of graduate work, I feel it's appropriate to give a nod to a few general sources of inspiration.

Of all the books I've read during my time in graduate school, nothing has set my academic imagination ablaze quite like Dan Gillmor's *We the Media*. The book remains an inspiration for much of what I do and teach, and I am quite certain it will have a place on my students' bookshelves for years to come. One of the great joys I've had in the classroom has been introducing students to this book and watching it capture their minds in the same way it has captured mine.

Don Ranly was one of my first introductions to graduate school via his Literature of Journalism and Philosophy of Journalism classes. I don't know if I've ever been challenged in the classroom to think and reconsider my own views so much as I did in his courses.

TABLE OF CONTENTS

LIST OF TABLES

Table **Page**

LIST OF FIGURES

Figure **Page**

THE VIRTUAL SOCIAL CAPITAL OF ONLINE COMMUNITIES: MEDIA USE AND MOTIVATIONS AS PREDICTORS OF ONLINE AND OFFLINE ENGAGEMENT VIA SIX MEASURES OF COMMUNITY STRENGTH

Jeremy Littau

Dr. Esther Thorson, Dissertation Committee Chair

ABSTRACT

This research introduces a new measure of social capital for users of online communities. Whereas "local community" forms of social capital consist of ties created in local community for the benefit of local community, and "Web-local" social capital is ties created online for the benefit of local community, "Web network" social capital measures the strength of ties created online for the benefit of engagement that is non-local, specifically activism and reciprocity over distance to groups and people whom the user has not met. A survey of randomly selected online community users (N = 582) found that local community and Web network forms of social capital work together to predict online forms of helping one another, while there was a complex set of relationships that predicted different types of engagement. Motivations for using the online community, consistent with the Media Choice Model, found that use for information and connectivity were key positive predictors of engagement online. Entertainment was a negative predictor. Print and opinionated news content alternated as predictors of types of engagement. Social media predicted distance forms of engagement, but not local forms.

INTRODUCTION

On March 31, 2009, a special election was held in New York's 20th Congressional district to fill the House of Representatives seat recently vacated by newly appointed Senator Kirsten Gillibrand. Special elections, as they go, are a fairly common occurrence in American history, but the backdrop against which this election took place – on the heels of a historic presidential election and a Democratic Party sweep to power, with a decimated global economy and major social change atop President Barack Obama's agenda – made this special election of greater interest to both Republicans and Democrats.

Unique about the buildup to this special election was the tools that were used to campaign for both sides. Canvassing and phone banking, staples of major campaigns, continued on as they always had, but with a twist. Affordable technology tools such as Skype and unlimited cell phone minutes gave ordinary citizens across the country – and far removed from the confines of NY-20 – the ability to make a difference in a congressional campaign (Banks, 2009). The catalyst, as was the case in the election of Obama just five months before, was the World Wide Web.

Consider the following post put up on Blue Mass Group, a grassroots open community blog for Democratic Party loyalists who live in neighboring Massachusetts. In a post titled "NY-20: Stick It to the GOP" the author urges community members to get out the vote (GOTV) for Democrat nominee Scott Murphy in his race to capture the House seat over challenger Jim Tedisco (BMG, 2009).

> "The special election is this Tuesday! So what can you do to help? Phone bank for Scott Murphy! This is a special election, so GOTV is everything. On Monday or Tuesday, if you can spend literally one single hour making calls, that could be the difference in a Republican pick-up versus a Republican embarrassment."

It bears noting that Murphy ultimately won his race by 401 votes, capturing a congressional district that has been considered a Republican stronghold for over 70 years (Saul, 2009). Given the historical politics of the region, it seems likely that Murphy ultimately owes some thanks for his long-shot victory to people in faraway places whom he has never met.

Consider also the case of A Rainbow Of Hope[1], an online Web community and information portal devoted to spreading awareness about a rare newborn condition known as congenital diaphragmatic hernia (CDH). The site uses information resources and links to blogs written by families going through the tough times that come with raising a newborn with CDH, and it has helped to link users around a type of "blog ring" of people who support each other as they try to help their children battle this life-threatening condition.

The result is sites such as the one devoted to a baby named Sofia, which features periodic updates as well as links to other parents who are going through similar things and resources to raise awareness[2]. In some sense, these supportive mothers have created a type of community around a shared interest and struggle and figured out a way to give support in an online environment.

How do we classify, much less explain, this type of behavior? Traditional

[1] http://www.arainbowofhope.com/index.html
[2] http://www.sofiascdhstory.com/

work regarding civic ties and engagement by researchers such as Robert Putnam (2000) tends to look at peoples' relationships with others in the community as a predictor of their civic behavior both in their hometown and nationally. Others have looked at how online community joining has increased the tendency to join in one's own local community (Norris, 2002). But with the evolution of the Web, the ease of joining online communities has led to people being engaged in places far away with people they've never met even as others have raised concerns about the isolating effects of heavy Web use (Ng & Wiemer-Hastings, 2005; Becker & Mark, 1999).

Recent research from the Annenberg School for Communication underscores this point and adds to the picture (Center for the Digital Future, 2009). About 52% of Americans report that the Internet helps maintain offline social relationships, and 15% of Americans report being involved in an online community (usually related to hobbies, lifestyle, or politics). Online community users also report growing rates of activism as a result of their use of this medium. This should not come as a surprise given that 80% of Americans report using the Internet, an all-time peak since Annenberg first began measuring this rate of usage 15 years ago.

To get at the question of how online communities function and to what extent participation in these communities might be related to civic-style engagement necessitates understanding two related problems. First, we need to better understand online communities from a civics perspective, such as what makes them functioning and healthy against the backdrop of argument and discourse. Second, we need to figure out a better way of defining such things as

phone banking for candidates for whom one cannot vote, or raising money for an online friend via a shared online community as a new type of engagement. This new type of conception can take into account the global distance involved but the local nature of the online community user's passion.

This research attempts to answer both questions. For the first one, understanding communities, we will apply the concept of "Web network" social capital as a way of understanding how social ties create community. Whereas Putnam popularized social capital as a way of understanding how involvement in one's community and with one's neighbors breeds the kind of sharing and caring behaviors that benefit those in one's community (Putnam, 2005), Web network social capital as defined in this study examines how involvement in one's online virtual community breeds behaviors that help contribute to the health of that online community. Answering the second problem means redefining civic engagement as more than acts done in one's own community, and this research will attempt to define a form of civic engagement that is "glocal" in the sense that the reach of assistance is global, but the impetus to act comes from online communities that act as local bases for attracting like-minded users and empowering people to act on their ideals.

The purpose of this research, then, is to come up with new models by which we can understand virtual communities by applying ones that are familiar. It is in part an attempt to demonstrate that those in Generation X and younger are engaging in civic behavior that is beyond our current system of measurement, but it also is an attempt to come up with practical principles by which interested parties can learn to set up and maintain communities online.

One goal of this research would be to give a fresh perspective on what it takes to make these virtual communities thrive in hopes that media outlets that utilize them might have an opportunity to reinvigorate their news and information offerings. News as a cornerstone of American democracy has been theorized for decades (Hutchins, 1947; Kovach & Rosenstiel, 2004; Overholser & Jamieson, 2005; McCombs & Pointdexter, 1983) and tested in the form of public journalism (Lambeth, Meyer & Thorson, 1998; Rosen & Merritt, 1994; Haas, 2005). Indeed, the freedom to write and publish information is seen as crucial to a free society because informed voting requires informed citizenry (Siebert, Peterson & Schramm, 1956; Flink, 1997; Kovach & Rosenstiel, 2004; Merrill, Gade & Blevens, 2001), but in the digital age this becomes a more pressing concern as troubled financial models are creating concern about the viability of professional journalism in an age when anyone can publish (Tremayne, 2006; Gillmor, 2004). Given research that shows heavy amounts of linking to professional news and information in online communities and social media communities such as blogs, providing new avenues for different types of media products that focus on building community both offline and online would seem an appropriate course for a news company attempting to remake itself in the digital age.

This study also is an attempt at theory-building. It extends concepts used in the Media Choice Model, a more compact and parsimonious extension of uses-and-gratifications theory, by looking at the motives people bring to their media use and employing those motives as potential predictors of social capital production in the online communities that people use.

This study also extends social capital theory in mass communication research. Previous work has looked at how people create social capital via media, while others have examined how use of various media predicts the presence of social capital. This research extends social capital theory by extending it to measure the health of online relationships for the sake of *online* community building. Many scholars are concerned with how social capital builds local community and creates networks for reciprocity among individuals offline, but the concern has not yet been taken to the online realm. How do we build community online, what does it look like, and how can we measure it? Those are key goals of this research.

A second part of building theory in social capital research is the distinction between bridging and bonding. Scholars have debated the qualities of bonding social capital, which links people of like backgrounds or interests, compared to bridging social capital, which links people of varying backgrounds or interests. There is a tendency in research to magnify the benefits of bridging social capital at the expense of bonding because of research that shows that bridging social capital tends to have the most benefits in areas that interest researchers, such as voting and volunteering. Still, research has shown consistently that bridging and bonding social capital are linked and this might mean that bonding social capital might be getting too little credit for its role in community life. A goal of this research is to examine the relationship bridging and bonding social capital of various types has with the different forms of engagement in this study.

REVIEW OF THE LITERATURE

Online media

The age of Web 2.0

As noted before, Internet use among Americans is at an all-time peak. Moreover, Americans are reporting more time spent online than ever at 17 hours per week on average. Most of the distribution of time spent seems to be clustered with either light or heavy users of the Internet, with light users reporting an average of 2.8 hours per week compared to 42 hours per week for heavy users (Center for the Digital Future, 2009).

As those usage rates have been increasing, the Web has been undergoing rapid change, and there is good reason to believe the two trends are linked (Tremayne, 2006). For the past four years, online media has been undergoing a shift from the static Web page nature of the Web 1.0 era to the interactive and customizable nature of the Web 2.0 era (Briggs, 2007). No more clear has this shift been than in the rise of the blog. Up until the turn of the century, publishing on the Web involved some sort of knowledge in HTML coding or a Web page editor in order to create Web pages. But when Pyra Labs stumbled upon a Web application that could allow for push-button publishing among the masses, the rethinking of the Web as a software application rather than a content delivery network was born in the form of Blogger, which would go from a software application to one of the most popular blogging sites on the Web (Rodzvilla, 2002). Whereas Web 1.0 was about attracting users to log on and download or read content published on Web pages, Web 2.0 turns the user into a "produser"

(pronounced “PRO-dyou-zer”) that reads and writes, downloads and uploads, creates and consumes (Bruns, 2005). Or, as Gillmor (2004) put it, the audience has become a former audience that is actively engaged in helping to create content on the Web.

Web 2.0, though, represents some of the best ways in which Internet is different than other forms of technological communication. The key features of Web 2.0 include open-source principles of publishing, the use of data to serve Web applications that are interactive with users rather than the creation of static Web pages, decentralized forms of authority and control, and the use of material for dissemination through hyperlinking rather than a sole emphasis on content creation (Briggs, 2007; Bruns, 2005). Not surprisingly, then, Internet use has changed the way people use traditional professionally produced news content. Online news readership has been increasing over the past four years, with increasing numbers of American users reporting that they read online news. At the same time 61% say they wouldn’t miss their print newspaper should it cease publishing (Center for the Digital Future, 2009).

Communication and technological innovation

At their core, information technologies that drive applications on the Web are hardware or software that allows for the exchange of information. This information exchange can take a variety of forms and be conducted in a variety of ways. It can be asynchronous or in real time depending on the type of technology involved, such as a computer using e-mail or a phone conversation (Lin, 2001). It can be user-driven, such as information-seeking on the Web, or producer-driven, such as an online news site or a TV news broadcast (Flanagin & Metzger, 2001;

Huang *et al.*, 2007). It also can be one-way, two-way, or many-to-many in nature (Briggs, 2007; Bruns, 2005; Gillmor, 2004). Information technologies, then, are used to create a medium for information exchange, but they are not the exchange itself.

When dealing with communication innovation that replaces face-to-face communication, instrumental utility is vital (Flanagin & Metzger, 2001) and sometimes the uses are unexpected. Innovators often find that their initial perceived use of technology changes when people put it to use. For example, in trying to imagine what the Internet might be, Putnam (1995) noted that when the telephone first was invented it was thought to be more of a tool for business and that personal communication was an afterthought. Only when people started using it to call family from across the country did business leaders in the industry see its economic potential in terms of interpersonal communication between individuals.

Wellman et al. (1996) found people using online sites to replace missing interactions from everyday life, finding discussions about topics online that people care about that are unable to get the same attention in the real world. In the same way, Pyra Labs, the creators of the original Blogger software, thought their creation would be used for internal messaging on development projects at companies. When people began to use it to "diary" the creators realized what they had, but even then it took about 9 months from the launch for it to sink in (Rodzvilla, 2002). The point is that people tend to use technology to communicate in a way that has utility for them to replace missing elements in their face-to-face interactions, and sometimes these types of uses go outside the

intended purpose that the innovators first perceive when something new is invented.

While instrumental utility is important, the progression of innovation has a social aspect because it is driven by users using it to mediate communication that normally would be done in-person (Gillmor, 2004). In most cases, the economic reality is that business will turn an initial invention into a stream of innovation if there is revenue in it for the innovator (Tremayne, 2006). The exception, of course, is open-source development that uses a volunteer team approach in order to create a product that anyone can help co-create, edit, or use for free (Bruns, 2005; Gillmor, 2004). Past research has shown face-to-face communication to be more satisfying compared to various mediated forms of communication in user self-reports (Lin, 2001; Flanagin & Metzger, 2001; Papacharissi & Rubin, 2000), but it is difficult to argue against the notion that technology has changed the way society operates. The development of blogging has unleashed a whole generation of people who have grown up knowing the ease of publishing self-expression through the use of interactive Web technologies such as blogs or rich media publishing, and communities have sprung up around open-access blogging that have built networks of relationships among writers around various topics of interest (Gillmor, 2004; Tremayne, 2006).

Political blogging and social media have changed the way political campaigns are done, with some arguing that a presidential campaign that does not tap into this resource is effectively giving up on the campaign's "first primary" that takes place long before the votes are counted (Perlmutter, 2007). In addition, the development of cheap and rapid forms of communication (such as

VOIP technology replacing long-distance calling or e-mail replacing the written letter) has implications on society itself. People are now more mobile than they used to be and can move further away if the labor market demands it due to affordable ways people have of staying in touch (Briggs, 2007; Putnam, 2000). Although this could arguably have both positive and negative ramifications on societal cohesion, the connection is plain.

Self-publishing and societal change

Obviously a main benefit is that the ease of self-publishing has made it easier for a person to create content than it is with traditional forms of media, because time-consuming elements such as design or style can be fixed with a few clicks thanks to blogging software (Gillmor, 2004). A bigger impact, though, has meant a change in the flow of information. The Internet takes from some of the best strengths of print, television, and radio media and adds to that an interactive platform for publishing and consuming (Thorson & Duffy, 2006). It is this interactive platform that has turned the one-to-many nature of media into a format that can use-peer-to-peer technologies that directly connect users or allow for many-to-many dissemination of information (Briggs, 2007; Gillmor, 2004). Communication on the Internet, inherently interactive, resembles a stream of conversation more than it does the isolated and limited moments of communication that characterize other forms of communication. The many-to-many format of the Internet is more inclusive than the one-to-many natures of print or television media, and the asynchronous nature of the Internet allows for streams of communication to continue long after the direct connection of a phone call is gone.

Technology change can bring other types of change that are not appealing to some. The rise of computer-mediated communication and its effects on the way we interact socially can be an interesting research puzzle, but it has given scholars reason to worry about the impact social change built around communication technology has on culture, particularly in its role in shaping the natural development of human society.

Many cite the influence of Marshall McLuhan and Harold Innis as the chief intellectual forces behind the notion of technological determinism. Innis (1950) noted that technology becomes more embedded within social and governmental structures as civilizations develop but also argued that it is a development that is peculiar to certain types of societies, such as Western culture. Technology, as a tool of both development and communication, becomes essential to growing civilizations and actually causes those civilizations to develop based on particular forms of communication that are both adopted and then in turn shape the culture (Innis, 1951). Thus societies develop “biases” toward certain types of communication modes that have shaped that society’s development, and that in turn continues to shape societies even further to the point where technology becomes a powerful influence on societal change.

In giving voice to this theory of "technological determinism," Back in 1964, McLuhan (1994) predicted the evolution of an electronic "global village" that connects people by electronic devices, tools that we can use to meet our needs but also tools that reshape who we are, how we think about the world, and how we interact with one another in society. Tools of technology, he said, can be shaped by people to better interact with their world, but in turn those tools begin to

shape and influence people. Thus he argued that electronic communication in particular has fundamentally changed the way people think about their environment in a way that is akin to rewiring the way humans perceive the world. McLuhan could not have foreseen the invention of the Internet five years later or the way in which we access it through small mobile devices that increasingly free us from geographic constraints while simultaneously binding us to technological hardware even as he postulated that forms of media were essentially an extension of people themselves.

Concept: Online communities

The term "community" has been debated and revised in sociology, but commonalities focus on the sharing of interests, purpose, goals, and values. Early research explored geographic features and boundaries (Preece, 2000; Wellman, 1982) but has since shifted toward characteristics that make up interpersonal relationships (Haythornthwaite & Wellman, 1998; Preece, 2000; Wellman, 1997). Granovetter's work that delineates the differences between "strong ties" and "weak ties" in relationship networks is an example (Granovetter, 1973). Strong ties, such as those that exist within families, help to meet important needs in peoples' lives whereas weak ties, such as those that exist among friends or in community interest groups, offer levels of emotional support or intellectual development as well as the occasional chance to aid in a life-determining event.

Communities of shared interest are an example of weak-tie relationships at work, and researchers have taken this notion of common bonds to define what comprises an online community. Rheingold (1994) was the first to define virtual

community, saying it is a group of people who “exchange words and ideas” through a technologically created medium such as a bulletin board. Preece (2000) defines online community as “any virtual social space where people come together to get and give information or support, to learn, or to find company” and notes that it exists independent of geographic borders. The “locality” in this sense is in the shared interest, not in the geographic sense of place.

As one would find in a real-world community, the common bond is a shared interest and the existence of norms and protocols that govern virtual community life (Brint, 2001; Wilson & Peterson, 2002). The other critical component as expounded by Rheingold and Preece (Preece, 2001; Rheingold, 1994) is that virtual communities are based on information exchange.

Porter (2004) defined virtual community as “an aggregation of individuals or business partners who interact around a shared interest, where the interaction is at least partially supported and/or mediated by technology and guided by some protocols or norms.” The definition allows for the notion that community can exist partly online and partly offline and also makes the lynchpin the mediation by technology rather than the computer. Porter created a list of five key attributes that online communities have to varying degrees: purpose, place, platform, population, and profit model. Purpose is the “specific focus of discourse” and the reason why the community exists and can be as varied as shared values, ethnicity or ideals to interest in a particular topic. Discussion and communication, which makes up the infrastructure of online communities (Preece, 2000), then, is centered on the site's purpose. Place is the location of interaction (online, or both online and offline) and platform refers to the

technical setup of the community that define communication patterns (such as asynchronicity). Population refers to patterns of interaction that define how communication happens, such as small group or meta discussion, and profit model refers to the site's purpose in terms of generating revenue (Porter, 2004).

Early research on online communities focuses on the reasons why online communities exist and the directions online relationships through these sites take. People who join the sites do it to meet people outside their geographic space. Online communities tend to form around shared topics or ideas that are the social glue and indeed the very reason for forming and joining (Wellman et al., 1996).

Forms of online community

Online community can take several forms. The earliest form, the Newsgroup, was an online bulletin board where people could post and reply to one another in asynchronous form that created discussion. Listservs are another example, except that the discussion takes place in a person's e-mail inbox rather than online. Web 2.0 has expanded the ease with which communities can form. Google Groups allows users to create a community at the click of a button, choose a theme or topic that guides discussion, invite others to join, and allow others to find the group and wander in. Others congregate around the notion of blogging, such as RedState.com and DailyKos.com, which are open-access communities that rely on community "diary" style blogging and the ensuing community comments to generate discussion on issues (Bruns, 2005; Perlmutter, 2007).

Communities on the Web are a form of participatory media in that they depend on users to produce the comments and commentary needed to keep the

community going (Bruns, 2005). News produced by professional media often drives the conversation, but posts, diaries, and commentaries in an open format where users can contribute work to shape the news once it is out in the stream of discussion (Perlmutter, 2007; Rodzvilla, 2002). The networked nature of the community then is the conduit through which information travels between people, but the information bonds themselves also act as a form of social cohesion within the virtual community.

Implications of online communities

Users and readers shape the news process in their commentary and interaction with media professionals (Gillmor, 2004). At times the citizens can even get together and "crowdsource" the news by using open-source principles to construct news independent of or in concert with media professionals (Rodzvilla, 2002; Gillmor, 2004). The professionals no longer can depend on their own instincts and elite sourcing in the hegemonic construction of news, but must rather see themselves as part of a conversation with "the former audience" in the co-creation of news (Gillmor, 2004). The power shift is akin to how open-source software is constructed, where power is shifted from the center of a structure to the edges, where multiple people can work on different parts of the project in an effort to construct a superior whole (Bruns, 2005; Gillmor, 2004).

For the "produsers," technological change also has societal impact that affects them even in social contexts such as online communities. On the positive side, the Internet has been found to be a tool for both greater knowledge through information seeking as well as a tool for building social connections (Papacharissi & Rubin, 2000). Add in the notion of greater ease of publishing, and a user's

ability to seek out information and connect with others through their own forms of expression should continue to expand as technology evolves. This has many implications, including the possibility of better communities, better informed citizenry, and healthy democracy (Gillmor, 2004; Perlmutter, 2007). From a more practical perspective, though, the biggest change is that people have more and arguably higher-quality ways in which to be connected to one another. The Internet's relatively short history does show that the first adopters to any new communication technology trend have been people who are marginalized whether by choice due to extreme views of the world or merely because they are a particular minority group in the culture (Rodzvilla, 2002). Research shows that the Internet continues to play a strong role in bonding people of like interests, beliefs, and life experiences together (Norris, 2002) and potentially has the power to create bridges between disparate groups due to egalitarian discourse online (Lin, 2001). The continuing evolution of the Internet, then, gives people more options for social connection than they ever have had.

There are potential downsides, though. Putnam (1994) warned about the Internet's ability to balkanize people in a way that television has done, and while his concerns probably are overstated there is research that shows the way in which people use any type of media greatly impacts the costs and benefits a person encounters in using it. This is particularly true in light of evidence from Parks & Floyd (1996) that found relationships forged online tend to lead to offline face-to-face interactions when geographic constraints are not an issue. Still, scholars wonder whether a lack of barriers in online conversation and discourse could lead to a more uncivil way of relating to one another (Perlmutter, 2007).

Thus as technology evolves and people become more familiar with how to do more and more on the Internet, they also will have to grow their own ideas of what comprises a good "netizen" in this new online sphere of discourse (Bruns, 2005).

In cases where the Web has been linked with anti-social behavior, the Web can at times be either a tool of social isolation or a symptom of a person's sense of isolation. For example, users can become addicted to the Web and this can contribute to negative real-world consequences such as problems with friends and family (Ng & Wiemer-Hastings, 2005). Still, the Web has been demonstrated to have positive effects on social connections. Adolescents, for example, have reported finding greater social satisfaction and connection online and people with disabilities also have used the Web to create social connections that are difficult in everyday life (Hasselbring & Glaser, 2000). Studies in social engineering online have looked at online communities and gaming worlds and found that sites can lay ground rules that promote prosocial interaction online in ways that let community members set standards and police the community in order to enforce values (Kollock & Smith, 1996; Becker & Mark, 1999).

To answer some of the concerns about the Web and anti-social behavior, there are applications from real-world studies that can be used. Anti-social behavior in general tends to decrease when there is a common task that unites a community in purpose, such as a goal or a cause (Karau & Williams, 1993). Online work in this area finds similar patterns, such as in virtual gaming worlds where players accomplish tasks together in cooperation for mutual benefit (Ducheneaut *et al.*, 2006).

One area of concern given past scholarship would be how these new spaces being created online will be affected by corporatism. Bourdieu (1986) in particular noted that corporations tend to take over public spaces of discussion, and thus to what extent corporate influence begins to move in on these social relationships becomes an issue. For example, Facebook drew protests from users a few years ago when it implemented (and quickly revoked) a feature that let others in a person's social network see what a person was buying online from sites such as Amazon in an attempt to draw more advertiser revenue (Rodgers, 2007). The fear that corporations could invade places of social discussion, though, is not new. Habermas (1989) noted that the bourgeois public sphere, a place for intellectual pursuit and discussion with others in one's community that is a separate entity from the private sphere or the public sphere of governmental affairs, is gradually invaded by entities such as corporations and the state as a matter of societal evolution. This, in turn, has the effect of simultaneously dismantling social structures that serve useful purposes for society and also make us more dependent on these structures to provide alternatives due to what he calls the loss of the bourgeois public sphere.

Social capital

We have dealt with what online communities are and how they function, but how do we determine the strength of the ties that bind them together? Social capital is a way of conceiving of community strength or health. Popularized by Robert Putnam in *Bowling Alone*, social capital theory from the political science and sociology disciplines posits that communities gain strength and work better

when people take advantage of social ties to work together for mutual benefit in the form of civic engagement behaviors such as voting, volunteering, or aiding others in need (Putnam, 2000). The core benefit is that people gain a sense of efficacy needed to change their communities for the better when they are empowered to help others through inhered social relationships. Peoples' attitudes toward institutions such as government are key markers of social capital, but so is a person's association with civic groups because the latter creates networks necessary for exchange and reciprocity (Putnam, 1995, 2000). As we shall discuss later, news media use also is a good indicator that a community has strong deposits of social capital.

Social capital research can roughly be divided into two streams. The first path, which invokes Bourdieu (1986) and Coleman (1988), focuses on networks between people as a type of roadway for reciprocity. Putnam argues for a different conception of social capital at least in the way it is measured, preferring to measure trust between people and focus on membership in associations with the assumption that this means people are networked. As a way of further defining what social capital is, the next two sections will focus on the two different research lines.

Bourdieu and Coleman

Bourdieu was one of the first to distinguish social capital as one of the distinct forms of capital, with physical capital and human capital being the other two forms (Bourdieu, 1986). His critique of the ways that economists view capital is that they often look at it only from the point of view of economic gain, which explains why many economists view land, labor, and physical capital as the

main forms of capital and rational self-interest as the choice of framework by which all decisions are made. Bourdieu disputes that view, saying that by viewing the world as a series of choices based on rational self-interest, it ignores the view that social relationships are embedded in any form of mercantile exchange. It also reduced every decision in life to one of economic choice.

In Bourdieu's view, economic transaction was still the building block of societal relations, but it is built within a system of social exchange. He defines social capital as networked obligations ("connections") that in certain circumstances can be converted to economic capital. Social capital thus could be informal exchange or be organized by categories such as family, tribe, or class and reproduced by continuous exchanges that affirm and reaffirm recognition and obligation. In this view, social capital was the most abstract form of capital but essential to understanding the relationships that guide the transactions and exchanges governing physical capital and the distribution of human capital. It provides a sense of why these exchanges happen beyond a person's own self-interest.

Coleman builds on Bourdieu's thinking as it relates to the use of social capital in the transmission of resources. He defined social capital as a network or social structure that allows for certain actions by actors to take place within that system, the main example being the diamond trade in New York City that uses a heavily closed and close-knit community to impose norms and obligations on community members so that the process of appraisal and sale of diamonds can happen more efficiently. For Coleman, the benefit of social capital is that it allows a person in a community to access resources that they do not have via their

own networks. This is done by the creation of “credit slips” whereby a person does something for someone today so that they would have help or access to resources in a time of need at some future date by virtue of debt obligation (Coleman, 1988).

Coleman argues that *physical capital*, the creation of tools from raw material, and *human capital*, the creation of skills via changes in people, are owned by an individual and can be taken with them when they leave a community. In addition, a community does not necessarily benefit from an investment of physical or human capital. *Social capital*, which he calls the changes in relationships between people that facilitate action, benefits everyone in a community when it is invested, and the benefit is that it gives people in that community access to physical and human capital. For instance, he notes that the skills related to human capital that a person might have through education or training cannot be passed on to one’s children or neighbors without the social bonds and networks necessary for transmission. In addition, Coleman notes that his conception of social capital is a way of combining the rational self-choice model of action by which economists see the world with the view of the world sociologists take, which is based upon norms and obligations. Social capital then, in this context, is a sociological way of viewing the economic world; they are inextricably linked and it is impossible to understand one without the other.

Lin (2001) defined social capital as "investment in relationships with expected returns," a definition that is similar to how Coleman describes the concept. He argued that social capital works for four reasons. First, it facilitates the flow of information through networks because of weak ties between others.

Second, these social ties "exert influence" on people in positions of power, such as hiring, through the "putting in a good word" function that filters through these networks and thus can benefit people who are connected weakly to others. Third, network relationships can be used to certify a person's bona fides within a network, giving credibility to a person's credentials through the presence of a common friend that serves as the weak tie between two unknown people. Last, social relationships reinforce a new person's identity, allowing those who have been around for a while to "vouch" for another person and gain entrance to a group that has been together for a long time.

Putnam's conception and "Bowling Alone"

While Bourdieu and Coleman represent one stream of research in defining social capital, a second stream made famous several years later by Putnam (2000) takes a less-networked approach and hones in more on the idea of generalized trust (Foley & Edwards, 1999). In the Putnam conception of social capital, a "virtuous circle" exists between norms, networks, and social trust that spur participation in one's community in a self-feeding way (Putnam, 2000). This conception combines networks and participation efforts into the definition of social capital, one that is distinctly different from the Bourdieu and Coleman conception because engagement then becomes a measure of networks rather than an outcome variable.

Economic gain, in this model, is a side benefit of social capital, as is a better political process due to the loss of opportunism that exists in communities that have less social capital (Putnam, 1995). In Putnam's view of social capital and the world at large, economic exchange can exist in the absence of social

capital but it is far less efficient and far less trustworthy. Reciprocity that comes through face-to-face social interaction is the most important component of democratic society, and indeed Putnam argues that democracy depends on these interactions in order to function well. It should be noted though that social capital in his view was not inherently a positive or negative thing, and while he extolled the virtues it could give communities he also noted that some societies can use it for ill, such as the insular culture of gangs.

Putnam also is noteworthy compared the Bourdieu-Coleman branch because he argues that social capital is in decline in America. *Bowling Alone* gained notoriety for arguing that people are doing fewer of the things that generate and sustain a community's social capital: voting, volunteering, associating with civic groups, socializing with their neighbors, attending church, doing political activism, and so forth. Using aggregate national data on a wide range of issues related to social capital, Putnam makes the case that activity has been in decline since about 1960 and points to the rise in social maladies such as crime and disengagement in the voting process as negative results to the loss of this social capital.

Researchers have critiqued the disparate way in which social capital is conceptualized and measured, but a large part of the problem is the lack of congruity between the Coleman/Bourdieu branch of the research and the Putnam branch. In synthesizing the similarities and differences between Bourdieu, Coleman and Putnam, what emerge are disparate views of how social exchange works in relation to economic exchange. Bourdieu and Coleman take the view that the exchanges economists are interested in rely on social networks based on

norms, obligations, information channels, and reciprocity. Reduced even further, they would argue that while physical and human capital could theoretically exist independent of social capital, it would arguably be impossible to invest those forms of capital without the existence of social capital in a way that leads to economic gain. Putnam, on the other hand, views economic gain as more of an outcome variable. He certainly takes the view that social capital can increase economic potential in society, but this outcome is not dependent on social relationships.

Social capital and media

Mass communication researchers have been interested in social capital as part of their work in part because of claims that Putnam made in *Bowling Alone*. Putnam (2000) spent a good deal of time making a case that civic behavior is in decline, and in the latter half of the book he attempts to explain why this decline is happening. While he does cite other problems, such as the suburbanization of American cities, as factors, he assigns a large percentage of blame to television by noting that most of the trend lines began their downward march in the early 1960s when television began to gain a stronger foothold in American homes. Television, Putnam argued, disconnects people from one another in ways that lead to antisocial behavior by "privatizing" an individual's leisure time and thus making engagement in one's local community more difficult.

Mass communication researchers responded with skepticism. Moy *et al.* (1999) tested Putnam's time-displacement hypothesis and found that time spent with media in general does not displace an individual's leisure time in a way that leads to the erosion of social capital, nor did participants perceive a lack of time

that would lead to a lack of social ties. Television itself, they argued, did not erode social capital but time spent with television did have a direct effect. Further research found the nature of media use is more important than television use itself. For example, use of television for information-seeking purposes was found to be positively correlated with social capital, whereas use for entertainment was negatively correlated (Shah *et al.*, 2001b; Shah *et al.*, 2002; Uslaner, 2004). Advertising also can have a positive influence, as research has shown the benefits of using ad campaigns trying to create positive change on a locality (Beaudoin *et al.*, 2006) and providing vital links of information that people can use to know what is going on in their communities in areas such as public health (Smedley, 2000). Despite findings that showed entertainment's negative impact on social capital, research showed that not all entertainment is the same. Use of entertainment in the form of social drama (such as a nighttime drama that depicted social problems) had a positive relationship with social capital among viewers (Shah et al., 2001b). The nature of the use and the type of content, then, are better predictors of social capital generation or erosion than the actual medium itself.

Earlier findings about news led to research about news in particular rather than media variables. Newspapers have consistently been a positive indicator of social capital compared to television news (Moy *et al.*, 1999; Uslaner, 2004), but even regional differences on television matter. Local television watching for news had positive impacts on social capital in urban areas, but use for entertainment had a negative impact. On the other hand, local television news did not have the same effect on rural communities, and thus geographic density is a factor when

talking about television and social capital (Beaudoin & Thorson, 2004).

Given the aforementioned role that news plays in information exchange in communities, the role news plays in promoting social capital is thus important. If conversation and action are centered on information in virtual communities, then it would seem that news and information would play a vital role in the maintenance of social capital within virtual communities.

What about the Web and social capital? Putnam was not as strong in his criticism of the Internet as a potential tool for disconnection, but he clearly showed he was wary. He likened its newness to the invention of the telephone and noted that it is too early to judge the effect it will have on social relationships between people, but he did assert that many of the same features that people like about the Internet are akin to television (Putnam, 2000). He also argued that the mere fact that people associate with others through a device rather than through face-to-face interaction is a reason to be skeptical that it can be used as a tool to link others together.

To be fair, Putnam's major work was done in the early part of the new century, when Web 2.0 applications that could easily link people together were not even conceived of by most people. The Internet, to that point, consisted of mostly static Web pages that had to be updated and uploaded manually, and it would be about four years before the ability to push-button publish through blogs or link to others through social networking sites began to take hold in America.

Still, even before the social network revolution came to America, there was good enough reason to think Putnam's fears about the Web were misplaced. Some scholars found that the Web was neither a medium that engaged nor

disengaged others, but rather is a tool people can use for whatever purpose they seek (Uslaner, 2004). In addition, Shah *et al.* (2002) found that time spent online had positive relationships with engagement in the form of volunteerism and associations. Others pointed to clear signs that reciprocity was not only happening online, but also that it was serving the purpose of bringing people together across geography (Wellman *et al.*, 2001; Wellman & Hampton, 1999). Shah found the same use differences that helped determine whether television use was positively or negatively correlated with social capital (entertainment vs. information seeking) also applied to the Web, and in fact that generations that were heavily criticized by Putnam as low social capital generators actually were showing more signs of using the Web to connect socially with others in prosocial ways (Shah et al., 2001b). In fact, Shah also has found that people who use online communities for information seeking and social outreach are finding social connection online that could benefit offline civic behavior (Shah et al., 2001a).

Norris (2002) found that the Web was good for both bridging and bonding social capital promotion, but slightly better for bonding. This research was the first to make distinctions between social capital generated offline and online. "Offline social capital," in Norris' view, was social ties created in the real world with benefits to the person in the context of real-world community. "Online social capital" consists of social ties created online using the Web to connect people who live in the same local community but are not connected offline. This type of social capital, then, maintains the locus of social benefits offline but the social relationships that make this viable are located online. Social capital

created online and offline both have bridging and bonding facets as part of their function, with bonding aspects used to create dense networks around shared interests, ideas, or demographic traits while bridges connect users to people unlike them through the bridges of weak ties. Williams (2006) extended Norris' ideas by finding support for the existence of these separate ideas and creating a valid scale for both online and offline social capital.

This research will be using the conceptions found in Norris, Williams, and others, but for the sake of clarity the variables will be renamed. The "offline" social capital that Norris used will be "local community social capital" for this research, while the "online" version will be "Web-local social capital" to emphasize the ties that are created online for offline benefit in local community. The reason for this renaming is that a third type of social capital, "Web network social capital," will be introduced in this study as a way of distinguishing online ties created for the benefit of online networks and communities. The bridging and bonding labels, though, will remain intact for this study.

Social capital, virtual communities, and online social networking

Given the previous discussion about virtual technologies, social networking, and interactive media, it is worth reviewing what researchers have said about social capital with computer-mediated technologies (CMT). Researchers have debated the impact of the Internet on social capital. Nie (2001) argued that the Internet can be an antisocial medium and actually reduce the real-world social interactions necessary to build social capital in local communities. Research beyond that has attempted to demonstrate the flaws in this thinking. Norris (2002) found that the Web can link people online in both

bridging and bonding ways that impact what she calls "offline" social capital, that is social ties created virtually that extend the reach of a person's real-world network.

Virtual communities can help build social capital and civic engagement when they develop as a parallel companion to local geographic community, or when they create a new community around ideas or interests (Blanchard & Horan, 1998). The role that online community use can play is supplemental to offline ties, but it also can replace lost bonds by connecting people with others with whom a user has lost contact (Wellman, Haase, Witte, & Hampton, 2001). American users of online communities report no decrease in face-to-face time with friends and family due to their time online, and in fact users report more maintenance of offline relationships due to the connections they make online (Center for the Digital Futre, 2007).

Recall the prior discussion about people using CMTs to make up for interactions they do not have in real life; research has shown face-to-face communication to be a superior form of interaction (Shah, 2001b), but ties created online are better than no ties at all. Thus done correctly, online interaction can help create or rebuild social capital (Hampton & Wellman, 2003; Kavanaugh, Carroll, Rosson, Zin, & Reese, 2005). American online community users are showing signs of being involved, with 20.3% reporting using what they learn in online communities to take action offline, 64.9% reporting participation in social causes through the Internet, and 40% reporting more engagement activity offline due to their involvement in online communities. In fact, 43% of online community users report feeling just as strongly about their online

communities as they do about their real-world communities (Center for the Digital Future, 2007).

This makes sense given that online communities are a type of social media that can be used to create these ties. CMTs in the form of social media are interactive Web functions based on the idea of social linking. A person does not use a site such as Facebook or MySpace as a standalone Web site. Embedded in the use of these sites are friend connections that link people to others' pages, their interests, and their networks.

Boyd & Ellison (2008) define social networking sites as:

> "web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system."

They also noted social networking sites are particularly useful for building bridging social capital among users because they augment the number of weak ties a person has merely by mapping out social networks in Web form, and it does it in a way that is user-friendly and light on maintenance.

Beyond the traditional listserv or online bulletin board, one of the first Web 2.0 social networking technologies to be studied in terms of social capital was Facebook, which links people through the Web based on their real-world bonds via local community, past education, or business networking. Ellison et al. (2007) noted that early Facebook research efforts studied Facebook in a geographic sense since those geographic linkages were locally based by school or city (see Hampton & Wellman, 2003). Facebook users use the site to search for acquaintances and friends, but there also is a "serendipity" factor involved in

terms of finding new people with similar interests (Center for the Digital Future, 2007; Lampe, Ellison, & Steinfield, 2006). Twitter, a social networking site that is based around short 140-word updates and large "follow" networks made up of social networks, operates in much the same way, as there is a culture on the site built around the notion of introducing one's Twitter followers to other people with similar interests worth following (Kirkpatrick, 2009).

Ellison, Steinfeld & Lampe (2007) examined three different types of social capital when studying Facebook: bridging, bonding, and maintained. The first two are familiar from the literature, while maintained social capital is a form that looks at whether an individual's social capital is depleted by time and distance or whether those ties remain, thus turning what once were fleeting ties into ones that become more permanent through interactive media. Recall that Coleman noted that relocation out of a community destroys social capital. What Ellison et al discovered is that Facebook builds bridges and bonds, yes, but also helps maintain social capital in ways that are not possible in real life. In fact, the social capital built on Facebook is perhaps most crucial to college-age people because it allows for the faster creation of bridges (Steinfeld, Ellison & Lampe, 2008)

The linking culture is not limited to Facebook. Online communities based around "diary" blogging make heavy use of linking in order to build both traffic and credibility through the citation of source material (Tremayne, 2006). This, in fact, is built into the blogging culture. The notion of linking as a form of credit and as a form of getting noticed allows bloggers to build readership through the credibility of others' social networks, a description that matches well with Coleman's notion of social capital in the form of credit slips (Rodzvilla, 2002).

Because the sites being studied in this survey rely heavily on both diary blogging and online discussion, this point about social links becomes important. Social capital is a way of measuring not only the existence of these ties beyond mere linking, but also the strength and reach of these ties.

Measuring social capital

Although the forms of capital have been defined above and their interrelationship has been discussed, research has presented disparate ways of thinking and measuring the concept in ways that add credence to the notion that social capital lacks a clear metric. The disparity that will be discussed relates to issues of whether to measure social capital at the individual and community level or the aggregate (national) level. Research in all of these areas has led to very different formulations of the social concept and its application in the research literature. In addition, there are problems related to the metric in terms of what kind of construct social capital is and how it is conceptualized. An additional issue that has complicated research in this area is that bridging and bonding forms of social capital have a positive relationship with one another (Shah *et al.*, 2001b; Norris, 2002). Bonding has been theorized and later demonstrated to be an early type of condition needed to create bridging via weak ties (Granovetter, 1973; Coleman, 1988; Shah *et al.*, 2002). Thus methods that allow for clear scales that distinguish between bridging and bonding constructs but still allow for those factors to be correlated are important in measuring social capital.

The first problem with the literature is one of conceptualization. Putnam (2000) conceives it along dimensions of networks, norms, and social trust. These dimensions, though, are not used to measure a latent construct "social capital'

but rather three key aspects of social capital. Presumably high amounts of all three mean more social capital, but it's a concept he never defines in great detail to the point that it's impossible to know whether he conceives of them as being multicollinear or whether a society could have large amounts of two dimensions but not of the third.

Putnam is defining a type of virtuous circle where one dimension feeds the others in a cyclical pattern. Others in the mass communication literature also have adopted this approach, but they use contentment, interpersonal trust, and participation as their three dimensions (Shah et al., 2001a). Although trust remains a shared variable with Putnam, the other two are very different ways of defining the concept. Another approach uses Putnam's definition of networks, but then adds two other dimensions in participation and community commitment (Wellman *et al.*, 2001). Still another approach looks at behavior (trust), attitudes, and pro-social behaviors such as voting in a way that mirrors Shah, Kwak & Holbert but uses different labels in a way that can lead to more confusion about conceptual definitions (Beaudoin & Thorson, 2004). Others have noted that there are essentially five dimensions of social capital that were most often measured in the sociological literature: trust, networks, individuals, relationships, and reciprocity (Fulkerson & Thompson, 2004).

The point is that since Putnam first wrote *Bowling Alone* in 1994, social capital research that has come out of this stream has very different ways of measuring what essentially is a latent construct. In addition, research often looks at networks from an aggregate or "counting" approach that assumes that more involvement in community groups and activities means larger networks of social

relationships.

The second problem related to social capital metrics is that it is unclearly defined in terms of its use as a construct. Many media studies, for example, use social capital as a dependent variable that is the result of some use or dissemination of a media product (Beaudoin *et al.*, 2006; Norris, 2002; Shah et al., 2001b; Shah *et al.*, 2002; Wellman et al., 2001). In other conceptions, social capital is an independent variable that can affect outcomes in areas such as economic gain, criminal behavior, or access to resources (Putnam, 2000; Whiteley, 2000; Woolcock, 1998). Clearly some of the concepts used as independent variables in one set of studies have relationships to some of the dependent variables that social capital predicts, and thus there are issues of causality and vagueness associated with the relationships among those concepts. Coupled with unclear definitions of what comprises social capital, finding strong relationships and good measurements is difficult (Woolcock, 1998).

The third problem related to social capital comes in how it is measured, whether it is at the individual/community level or at the aggregate/national level. The approach made famous by Putnam (2000) is the technique of using aggregate/national level data to build an argument about the state of social capital. He shows a decline in participation and affiliation (networks) and both "thick" and "thin" trust to build an argument that social capital has been on the decline in the United States since the 1960s. Shah, Kwak & Holbert (2001) as well as Shah *et al.* (2002) used aggregate national data on issues related to trust and participation in their measure of social capital. Using aggregate data that has been collected over decades in order to have similar measures has a couple of

major weaknesses. First, to show a decline it means that measures need to be the same across several iterations of the survey, and this might not account for key changes in society that create new institutions that house social capital behaviors (Foley & Edwards, 1999; Norris, 2002; Uslaner, 2004). Second, aggregated data creates normalized data across societies but cannot account for the fact that in an Internet society the ability to be both global and local is possible, not to mention the fact that peoples' definition of what comprises a local community is changing (Wellman et al., 2001; Wellman & Hampton, 1999).

Another way of measuring social capital has been to look at it the individual level of analysis and then aggregate that data to the level of a defined community. One study, for example, looked at individual attitudes toward self and community as well as a person's participation in community and trust in others and measured that within a predefined community to come up with a score for the community's level of social capital (Shah et al., 2001b). Another looked at individual levels of social capital production along the lines of political involvement (Wellman et al., 2001). While the individual way of measuring social capital seems to fit better with the Bourdieu and Coleman way of looking at social capital, the data analysis is still being done at the aggregate community level and thus individuals are still not having their "social capital" measured individually as a function of the analysis. In effect this acknowledges that individual level social capital is the building blocks of communities but in actuality consists of measuring social capital at the community level rather than among individuals, where it is created. This is problematic because it might miss the loss of social capital that comes with social change. Coleman (1988) noted

that social capital is destroyed when people die or move away from a community; it is a public good in the sense that others own it, but because it exists as a relationship between people it is highly sensitive to any changes in individuals that might disrupt or eliminate it. Indeed, Yang, Lee & Kurnia (2007) found that social capital built through interaction online increases its use and its ability to survive geographic changes that come with increased mobility.

Lin (2001) argued that network density, which has been used by some to measure social capital, is good only for measuring bonding social capital and ignores the importance of bridges in facilitating the flow of information and influence. He noted that dense networks are good for preserving or maintaining the networks that manage the flow of resources, but that bridges are vital for either searching for or obtaining resources needed.

Social capital, then, as this study conceives of it is nothing more than networks of relationships that exist between people to provide opportunities for reciprocity. Social capital is not acts of reciprocity but rather the ties that link people together so that reciprocity can happen. In that sense, social capital is like a road that different forms of reciprocity or engagement travel upon, or like a pipe through which these acts flow through. This is an important distinction given that Putnam and Coleman diverge on this issue.

Criticism of social capital concept and application

While unclear measurement has been one problem that has plagued the social capital literature, others have been more general in their critique. One consistent criticism of the Putnam-based approach is that he aggregates national-level data in a way that creates too much homogeneity and gives the impression

that social capital is form of capital an individual can own rather than what one can access (Edwards & Foley, 1988). In another analysis, Foley & Edwards (1999) say that the approach of looking at norms and trust are useless without the context of them being embedded in social relationships and networks. In addition, Woolcock (1998) says that any study of social capital as a dependent variable necessarily strips it from the context of being part of networks by instead making it an outcome of networks. Both Foley and Edwards, in addition to Woolcock, posit that social capital must begin as a study of networks and incorporate norms and obligations as features within that network.

While Putnam does have "networks" as one of the dimensions he measures in his conception of social capital, he measures it in terms of participation in civic activities and organizations such as the PTA, unions, political parties, etc., while criticizing tertiary associations that require nothing more than writing a check for membership (Putnam, 2000). While he might be right in his assumption that association equals strong networks, it is hard to make the leap from number of memberships to that being a measure of the extent or strength of one's networks. As some researchers have pointed out, there is a difference between being a member in terms of actual attendance and being involved (McLeod et al., 1999). Thus Putnam's view of what comprises a network has a very critical assumption driving it.

In addition, Putnam seems to confuse the notion of civic engagement by making it a factor in the measurement of social capital rather than an outcome. Shah et al. (2002) noted engagement is part of a "virtuous circle" that feeds the creation and strengthening of social ties, but this is conceptually different than

calling civic behavior a social tie itself. The way Putnam conceived of civic engagement was thus an assumption on his part that working in the community would obviously help create social bonds, but his own critique of "checkbook democracy" that allows people to join groups such as the Audubon Society from afar without engaging in interaction shows the weakness of this approach (2000). Williams (2006) proposes instead to focus on measuring networks and on engagement as an outcome variable, which makes theoretical sense in light of Coleman's work.

Thus, despite Putnam's seeming misapplication of what comprises a strong network, it seems clear that any discussion of social capital needs to take a network view of the concepts of norms, trust, and reciprocity. Trust, for example, exists as a function of social relationships in place. On a basic level it explains that a relationship exists because of the obvious fact that trust cannot exist as a connection between people and other people or institutions without a relationship in place, but it does little to tell a researcher why or how it exists or even the nature of that relationship. These are the basic tenets of social capital laid out by Bourdieu and Coleman, but it seems that the popularization of Putnam's work has shifted social capital analysis to more of an aggregate snapshot of the state of society rather than the existence, formation, and maintenance of reciprocal bonds at the individual and community level that really make up social capital.

When one adds in the fact that the measures used, as we have seen, are different depending on the research being conducted, it becomes difficult to make sense of competing studies in social capital. In that sense, the criticism by

economists that social capital lacks a clear metric for determining how much social capital a person has is entirely valid. In a moment we will discuss ways in which some scholars have helped define a clear metric, but for now it is safe to say that the practice of social capital research definitely has contributed to the notion that the metrics are unclear.

Even from looking at the disparate streams of research, some scholars have suggested ways of looking at social capital that can lead to more fruitful metrics of the concept than others. We continue exploring the connection from definitions to metric problems by exploring reasons why a blanket criticism of social capital metrics is not entirely on target. While economists, as we have noted above, are right to say that there is little way to measure "how much" social capital a person has, that is mostly because the stream of research has at times abandoned the network view of looking at social capital and focused too much on individual characteristics that invoke the "counting" approach (Foley & Edwards, 1999). A better way would be to look at the strength of network ties, because in the original conception Bourdieu stated that the volume of a person's social capital depends on their network connections (Bourdieu, 1986).

In terms of refocusing on networks, one approach that could help improve the social capital metric is the emphasis on bridging and bonding functions. Bonding social capital is the networks and relationships between people within a group that draws them closer together for mutual benefit, whereas bridging social capital is the networks and relationships that link people across groups and connects an individual with beneficial resources through the strength of weak ties (Putnam, 2000; Granovetter, 1972). Bonding social capital is characterized by

social and ideological homogeneity, whereby people form affiliations based on ethnicity, culture, political interest, etc. Bridging social capital is characterized by social and ideological heterogeneity (Norris, 2002) and is centered on the idea that people of different backgrounds or interests are linked together by a series of "weak ties" that allow for a wider distribution of aid and resources in a society (Granovetter, 1973; Putnam, 2000). It is important to note that bridging and bonding social capital are not mutually exclusive but can (and often do) exist together (Putnam, 2000).

Thus it seems appropriate to suggest that those calling for more network-based approaches have opened up an avenue for social capital exploration that could help make the measurement of the concept more clear while at the same time advancing thinking on this area. Research in networks related to weak ties or density analysis (Granovetter, 1973; Shah et al., 2002) is much more easily linked to the conceptualizations found in Bourdieu and Coleman, because it allows the researcher to examine the quality, extent, and strength of a network. In doing this, it would allow component concepts in the previously cited studies to emerge from those networks rather than stand in for measures of the network itself. Trust, for example, is much more complicated than a simple measure of a network relationship because it is wrapped up in feelings toward other people as well as one's view of the world (Uslaner, 2004).

Social capital and local engagement

This network approach is how Williams (2006) built an approach for online media and social capital. By extending on the work Norris (2002) did, Williams conceived of social capital much as Coleman did by noting that it was

entirely explained by network ties via bridging and bonding. Williams then measured bridging and bonding within both online and offline contexts, accounting for results that show social capital can be created in both contexts and that these network ties can be separate from one another.

The research used for this study will adopt the approach Williams used by asking about bridging and bonding social capital in both online and offline contexts for users of Web communities. Focusing on bridging and bonding as features within social capital refocuses the effort on networks and makes civic engagement an outcome variable more akin to how social capital was originally conceived in the Coleman branch of study rather than Putnam's conception that engagement was a way of measuring social capital.

Online community users report more involvement in clubs and volunteer organizations than non-online community users (Center for the Digital Future, 2009) and thus those who use these communities should reported levels higher levels of different types of engagement as their media usage creates stronger and wider social bonds via social capital. In addition, Shah (2002) has already demonstrated civic engagement to be part of the "virtuous circle" process of social capital, and thus the following hypotheses would serve to extend those findings within a network context rather than using civic engagement as an indicator of social capital.

H_{1a}: There is a positive relationship between local community bonding social capital and local civic engagement in virtual communities.

H_{1a}: There is a positive relationship between local community

bridging social capital and local civic engagement in virtual communities.

H_{2a}: There is a positive relationship between Web-local bonding social capital and local civic engagement in virtual communities.

H_{2b}: There is a positive relationship between Web-local bridging social capital and local civic engagement in virtual communities.

These hypotheses, based on the past research previously discussed, will be used for two purposes. First, they test to see whether relationships that have been previously found in online research apply to online communities. Second, they are a test of whether social capital as it exists in the real world applies to these online settings. In that way, these hypotheses are the beginning of an argument about how social capital exists in virtual communities and offer a way of determining face validity to the Web network social capital construct that will be discussed in the next section.

Web network social capital

While social capital research can tell us much about real-world communities and the networks that make them work, most work related to social capital is similar to what Williams did in that it examines offline benefits of online joining. As noted before, research has examined social capital created both online and offline (Norris, 2002). But this conception does not help us understand how online communities grow and thrive, and to what extent online "civic" behavior comes about as the result of network and relationship ties between people.

In essence, what is needed is a better way to link our understanding of how

real-world relationship ties create more engaged communities with the relationships that help grow online communities. This research will test, then, the notion of a "Web network" form of social capital, that is the strength of networks, trust, and reciprocity needed to make online communities healthy and thriving just as we might see in the real world.

Thus questions of trust would be targeted solely at the lines of trust created between users of a Web community, and civic behavior and reciprocity would be examined solely in the context of the online community. Any social ties that are formed offline as a result of online community affiliation would be used for the aforementioned Web-local social capital measure, not the Web network social capital measure.

RQ1: Is the construct "Web network social capital" distinguishable from local community or Web-local social capital as a way for judging ties created and maintained online?

Given the literature that demonstrated strong ties between media use and civic engagement, and the literature that shows a strong relationship between media use and social capital, it would make most sense theoretically to propose a hierarchy that says that media use creates social capital for users, and that in turn creates civic engagement. Given the particularly interactive nature of social media, it is plausible that this relationship would hold as well given that the tools governing the media use itself are social in nature.

As the study progresses it might become easy to confuse the local community, Web-local, and Web network social capital constructs. Because this study takes the Coleman approach in terms of networks, the key to remembering

the difference between these three constructs falls under two guidelines. The first guideline is where the network relationships are formed for each of the constructs, and the second is where the benefits of those relationships exist. Figure 1 below summarizes the difference:

Figure 1. Comparison of local community, Web-local, and Web network social capital

	Local community	Web-local	Web network
Relationships formed ...	Locally	Online	Online
Benefits of formed relationships exist ...	Locally	Locally	Online

Social capital and distance engagement

One final test to perform is an attempt to split out some of the behaviors Putnam (2000) noted as types of "checkbook democracy." He posited that a weaker form of engagement is affiliation in national groups that do advocacy, such as the Audubon Society or the Sierra Club. The ease of joining such groups, he argued, meant it was a form of joining but not indicative of other types of joining in a local community.

At the same time, the past presidential election cycle showed a new type of trend on the Web, that of people volunteering to phone bank for candidates in faraway districts or donating money to candidates for whom they could not vote due to regional location (Banks, 2009). In addition, research has shown that reciprocity between people who have never met in the real world but know one another online is taking place in the context of Web communities. Traditional social capital research has not been able to capture this type of "glocal" civic engagement, where the action crosses local and state lines and is global in one

sense but still local in the sense that it is taking place because two people are "neighbors" in a Web community.

This research proposes that behaviors that constitute this "glocal" type of civic engagement be added to Putnam's checkbook democracy measure to split out some types of engagement from traditional community-based ones. At the same time, because the Web is the best medium for creating and facilitating the kinds of connections needed to produce this type of engagement, it is logical to assume that the types of social capital formed online would be most conducive to this type of engagement over distance. One of these "glocal" indices is based on non-geographic political and cause-based work (distance activism) and one is based on acts of reciprocity and aid through distance (distance helping). Both of these variables will be defined more closely in the Methods section.

H_{3a}: There is a relationship between Web-local social capital (both bridging and bonding) and distance helping in virtual communities.

H_{3b}: There is a relationship between Web-local social capital (both bridging and bonding) and distance activism in virtual communities.

Web-local social capital tends to predict different types of offline behaviors in local communities, but it is unclear what role it plays in distance activism due to lack of research in this area.

H_{4a}: There is a positive relationship between Web network social capital (both bridging and bonding) and distance helping in virtual communities.

H_{4b}: There is a relationship between Web network social capital (both bridging and bonding) and distance activism in virtual communities.

Note that H_{4a} predicts a positive relationship while H_{4b} does not predict direction. Because not all of the communities being used in this study will be political, it is unclear what direction the correlation will go for activism. But the helping variable covers acts of reciprocity and it's expected that this should extend across different types of communities.

These hypothesis tests are included as part of this research for two main reasons. Because this research is an attempt to reconceive "checkbook democracy" in a new way, it is important to first see how these new dependent variables are related to both the Web-local social capital construct that has been well demonstrated in past research and the Web network social capital construct that has been created for this research. Second, it is an attempt to look at the strength of local and online network ties that are created as a correlate with these types of non-local engagement.

Theory: Uses-and-gratifications

The U&G approach

An unanswered question in the previous literature is why people would choose to associate with others in an online setting instead of a real-world setting. Mass communication researchers have been attempting to answer the motives behind choice for a number of years, and this use-based theoretical approach is the one that will guide this study.

While it might seem counterintuitive given the direction media research has taken in the past 20 years, the notion of research in mass communication research that explores it from the audience perspective was not obvious at the outset. Early researchers instead examined media's effects upon users, with the assumption that media exert great amounts of control on users, and thus the direction of research focused nearly exclusively on the production and outcome of media content (McQuail, 1994). A perceived crisis of purpose in the field of mass communication, though, led some to begin asking questions about not what media do to people, but rather what people do with media. That is, what are the needs that drive media use and how do people use media to fill those needs (Katz, 1959)?

The product of this line of inquiry is what has become known as uses-and-gratifications theory (U&G hereafter). Blumler & Katz (1974) described it thusly:

> (1) the social and psychological origins of (2) needs, which generate (3) expectations of (4) the mass media or other sources, which lead to (5) differential patterns of media exposure (or engagement in other activities), resulting in (6) need gratifications and (7) other consequences, perhaps mostly unintended ones.

Given this different type of approach to media research, this audience-based approach comes with several assumptions. First, it assumes an active audience, and also notes that the user is responsible for linking need gratification with a particular media choice. Third, an assumption is that media compete with many sources for a person's need satisfaction, both media-based and non-media-based sources. A fourth assumption is that the audience is self-aware of its needs, can articulate those needs, and then choose media for the appropriate need fulfillment. A final assumption is that value judgments about the cultural

impact of media and media effects should be suspended until audience approaches are fully explored (Blumler & Katz, 1974). In essence, the argument is that exploring audience needs and what people do with their media choices should come before trying to understand what media do to people.

U&G has been applied across all forms of media. Blumler & Katz (1974) began by enlarging the universe to include many types of media not often studied in mass communication, such as movies, books, and works of literature. Within the context of mass communication, television, newspapers, radio, and the Web all have drawn attention of mass communication researchers (Ruggiero, 2000). Scholars also note that U&G might be particularly suited to the Web, in fact, because it involves active use of media rather than passive viewing such as what is seen with broadcast media (Kaye & Johnson, 2002). Even so, it is clear that when U&G is applied to media it goes far beyond the realm of news use.

Two other basic parts of U&G should be considered. First, non-media sources were always more gratifying than a media-based equivalent (such as talking face-to-face vs. talking on the phone), and this finding has been replicated in U&G studies since (Katz *et al.*, 1973; Ruggiero, 2000). Also, the Katz study noted that media needs are not created by media, but rather that the needs explored in this line of inquiry existed within media consumers before emergence of the media. Still, an unanswered question is whether media use can create dependence on other media (DeFleur & Ball-Rokeach, 1976).

Scholars have conceptually broken up media needs into different areas. The initial work by Katz determined five classifications of needs people have when using media: cognitive needs, affective needs (emotional), integrative

needs (combination of cognitive and affective), integrative function (social needs), and escape (E. Katz et al., 1973). Mass media, in their view, take on the role of strengthening or weakening a connection – cognitive, affective, and integrative – with some referent (such as the person's conception of self or their network of friends). In addition, this study found that the greater the distance from a referent, the more important the role of media. Newspapers, then radio news, then television news were most helpful for people who say matters of society are important to them.

Most studies that have built theory in U&G tend to have in common the core features of information-seeking needs and the need for escape. Some have termed the entertainment function "diversion" (McQuail *et al.*, 1972; Palmgreen & Rayburn, 1979; Payne *et al.*, 1988) while others have called it "entertainment" or "escape" (O'Keefe & Sulanowski, 1995; Vincent & Basil, 1997). The information-seeking function often is called surveillance in other research, invoking the notion that the media user is accessing media in order to either seek specific information in a task-oriented manner or to discover what is happening in the world or be informed (McQuail, 1994; Palmgreen & Rayburn, 1979; Parker & Plank, 2000; Payne et al., 1988).

U&G and the Web

In terms of the Internet, which is the focal point for this research, several studies have used models for other media and tested to see whether the Internet works in the same ways. Kaye & Johnson (2002) found four motivations for accessing political information from the Web: guidance, information seeking/surveillance, entertainment, and social utility. Shah also looked at

information but termed the social function as “social interaction” while examining individual and intergroup social needs called “personal identity” and integration” (Shah *et al.*, 2001b). Others have attempted to boil down needs gratified into simpler categories that split into whether a person is looking for specific content, social interaction, or wanting to merely enjoy the process of using media (Stafford *et al.*, 2004). Recent work has added to the body of research and demonstrated Web use motivations along several factors that combine literature from advertising and news content use (Rodgers *et al.*, 2005).

Where the Internet seems to stand out compared to other media is its ability to both serve as an information source and a form of social interaction (Norris, 2002; Papacharissi & Rubin, 2000; Shah *et al.*, 2001a; Shah et al., 2001b). As a result researchers have argued that news-media delivery on the Internet that does not take advantage of these features is more trying to duplicate the features of legacy media such as professional print or broadcast rather than using the Internet to its full advantage (Johnson & Kaye, 2000; Perlmutter, 2007; Severin & Tankard, 1997). Thus the components of information seeking or surveillance appear necessary to any U&G study involving the Internet, as would components of social utility.

U&G has spawned other approaches to media that owe their genesis at least in part to this stream of research, including media dependency theory and a more synthesized approach known as the “media choice model” (MCM). We will examine MCM later in the context of answering U&G’s critics. Media dependency is an approach that extends beyond the notion that people use media to meet needs by examining the changes in society when people depend on media

to meet psychological and social needs rather than other sources such as interpersonal relationships. Thus this theory posits that expanding information function that replaces interpersonal interaction and comes with changing technology causes people to depend more on media in times of great conflict and distress. Thus it adds a third component to U&G's focus on the relationship between user and media, adding in an examination of the cognitive, affective, and behavior changes that take place in society as a result of interdependency among U&G's key components (Ball-Rokeach & DeFleur, 1976).

The methods of U&G

Because U&G is one of the older theories in mass communication, it has been studied in a variety of ways, including use of both quantitative and qualitative approaches. In fact, most of the early work was qualitative field work that led to the creation of categories that contained the needs people gratify with media (Blumler & Katz, 1974; McQuail *et al.*, 1972; Parker & Plank, 2000).

Some U&G research has employed content analysis as the methodological approach (Ha & James, 1998; Kaye & Johnson, 2002) while others have tried experimental approaches (Eighmey & McCord, 1998), but those approaches can be problematic because they often rely on the researcher guessing the motives and needs for a person's media use. The method most often used, surveys, instead relies on self-report from users to articulate their media use needs. Research using this method has been done in several ways. As noted before, qualitative interviews led to the formation of general areas of needs to be gratified, and in turn those were tested in surveys. Early work that asked questions along the lines set by previous qualitative research, and in using factor

analysis found five basic needs gratified by using media: cognitive needs, affective needs, integrative needs (combination of cognitive and affective), integrative personal needs (social), and escape (E. Katz *et al.*, 1973). From there, U&G study using surveys tended to take two branches. The first has tended to take those needs found in Katz, Gurevitch & Haas or work in TV done by McQuail, Blumler & Brown (1972) and apply that framework to other types of media such as the Internet (Althaus & Tewksbury, 2000; Flanagin & Metzger, 2001) or in specific contexts such as use for political knowledge, adopting online service, or joining online bulletin boards (Becker & Dunwoody, 1982; Lin, 2001; Rafaeli & LaRose, 1993). The second branch has been to try to build on the original studies by using surveys to refine, reduce, or remake categories via factor analysis to reflect different thinking about society or weaknesses suggested by U&G critics (Parker & Plank, 2000; Shah et al., 2001b; Stafford et al., 2004; Thorson & Duffy, 2006). In short, surveys have been used in ways that utilize both exploratory factor analysis and confirmatory factor analysis either to extend the interpretations of current thinking on the theory or to attempt to find new avenues for study and theory building.

Criticism of U&G

While U&G has drawn much attention from researchers attempting to build theory, it also has drawn its share of critics. Ruggiero (2000) and Severin & Tankard (1997) both have offered thorough summaries of U&G criticism.

Criticisms of U&G have abounded over the years. The most common criticism of U&G is that it is not a theory, but rather a way of collecting data (Ruggiero, 2000). Critics have argued that U&G is merely a framework that

frames concepts and relationships in ways that allow for measurement, but that the theory does not predict what a person would choose or how they use a medium to meet a need other than consuming it. A second criticism is that concepts and needs studied are unclear in U&G. A literature review by Parker & Plank (2001) bears this out, showing that even within the same media the concepts used in U&G have differed widely, as has been the use of needs. A third criticism, related to the previous one, is that the conceptual framework that makes up U&G theory is not well developed. This is one of the older criticisms of the theory, as Ruggiero (2000) notes, and until recently has not been addressed much in terms of research methods. Another criticism related to methods is that the theory relies too much on self-report in terms of conceptualizing media needs. This has, critics argue, created a research approach that is unsophisticated about social causes of media needs because individuals are simply not able to grasp the deeper needs attached to their media use (Ruggiero, 2000). Finally, critics have noted that when results finally are gathered in U&G research, the factors scholars use actually account for little of the variance found once the data finally are analyzed (LaRose *et al.*, 2001). This has led to questions about the reliability of the theory to predict media use as well as questions about whether particular media are best associated with particular user needs.

Media Choice Model (MCM): Answering the criticisms

While many of these well-worn criticisms have merit and have in part exposed the flaws of the U&G approach, recent research has attempted to synthesize and recast U&G in a way that keeps the essential approach intact while also answering criticisms. The approach that has best tried to balance the two is

the MCM, which attempts to model a path of decision that users can make in terms of their media use.

MCM is particularly useful because it serves as a bridge between traditional legacy media and emerging forms of media that are becoming more popular due to the rise of the Internet. As a function of its own flexibility, MCM is based in part on disruptive innovation that comes with new choices entering the market (Thorson & Duffy, 2006).

MCM splits out needs and choice in a way that allows a researcher to follow the path a user might take in determining media choice. It starts with a person's communication need states (information, entertainment, connectivity, shopping) and goes through a person's demographic factors (age, income, education, gender, culture, race) in addition to the concept of aperture. An advertising term, aperture describes seasonal or generation-specific factors, among other things, that moderate whether or not a person chooses a product. In terms of the MCM, the essential questions to ask for aperture are what time of day the choice is being made, and what task needs to be accomplished. After going through those two factors, the next step is the type of media presentation (authoritative, created, opinionated) followed by the different media features a particular medium has (print, sound, moving images, portability, scannability, ease of participation, immediacy, customizability, interactivity, mobility, and search).

The end result of the steps described above is that it illustrates the path users makes in choosing media to gratify their own particular needs. Put another way, the original conceptions of U&G can be found at the top and the bottom of

the pathway, and Thorson & Duffy are attempting to fill in the "black box" that is the road between need and media choice. In addition, the model adds the ability for new technology to create both new media choices and new needs, and thus it is flexible for a media environment characterized by constant innovation.

One of the critical differences between traditional U&G application and the MCM is that by filling in the black box between need and choice, the model does much to address some of the criticisms that U&G has faced over the years. The following paragraphs will illustrate how his works by applying MCM to the criticisms listed in the previous section.

The first criticism, that U&G is not a theory but a way of collecting data, is answered by looking at the origins of MCM. This newer model is based on a synthesis of years of U&G research with an eye on predicting outcomes. Thus MCM is an attempt to apply predictive power to the framework set up by past research, combining communication needs and media features in a relationship moderated by concepts such as aperture and news construction features. Using MCM adds a systematic way to gather and examine data.

The second criticism, that concepts and needs studied are unclear in U&G, is answered by MCM along two lines. First, MCM is based on an exhaustive literature review and has done much to reduce the needs to four main ones that seem to well address other variables. While there are other needs from other studies, such as "relaxation" (Parker & Plank, 2000), MCM does highlight the common ones and can be expanded. A second point to note is that the model allows for use of more systematic statistical techniques such as structural equation modeling (SEM). The use of SEM will mitigate some of the concerns

about unclear variables through the use of latent variables as well as potential intercorrelations among variables. The strength of SEM is that by testing various combinations of models, researchers can consider other paths or correlations that they might not have considered previously, and this can lead to new ways of thinking about connections between variables that can lead to conceiving of new moderating variables or, in the case of high covariance, consider whether there is an unobserved latent variable that has not been considered.

This second point also offers a way to answer the third criticism, that the conceptual framework that makes up U&G theory is not well developed. MCM provides pathways that are both measurable using SEM and also have face validity in terms of its relation to the way a typical person might go through the process of making a media choice.

The fourth criticism cited above is that the theory relies too much on self-report in terms of conceptualizing media needs. MCM is not built on a particular method, and in fact the development of this new conception of U&G leaves researchers more open to explore alternative ways for finding needs, such as depth interviews or experimental approaches. Secondly, using techniques based on modeling to analyze the data allows researchers to figure out ways to discover the path between needs and choice. By using SEM techniques and employing the use of variables that moderate that path, the goal is to find a method of prediction that can eventually use choice to verify self-reported needs through more sophisticated data analysis. Thus if a media choice does not match a stated need consistent with past studies or research in this area, then it can help the researcher to investigate whether outliers were involved or whether there are

avenues of explanation that can help build more theory in this area.

A final criticism, that U&G research accounts for little variance in prediction of the relationship between user needs and media choice, can be answered by MCM in many ways. First, there are social causes embedded in some of the needs in the presence of moderating variables in the MCM, such as time or demographics. Second, it is difficult to make a causality argument that social causes are the basis of media choice. It actually runs against the heart of the U&G assumptions, namely that the audience is active in its use (Blumler & Katz, 1974; Elihu Katz, 1959). Katz argued that too much emphasis on media effects can lead to the perception that people are powerless in the face of media (Elihu Katz, 1959), and to argue that social causes are the reason for media choice would seem to be indicative of that argument. Lastly, MCM opens up a variety of avenues of explanation, including individual, social, time, and media production issues that all moderate the path between a person's needs and their ultimate choice. What La Rose *et al.* (2001) correctly identified is that the relationship between need and choice is far too simplistic to explain a good deal of variance in that relationship, and thus MCM's adding in other features and factors can help add more explanatory power to that relationship.

Despite the answering of the criticisms in this section, there are two common criticisms that have not been answered in this design. First, some critics argue that the over reliance on self-report means that these media needs are created and as such might not actually exist (Ruggiero, 2000). On its face this is a criticism that is hard to disprove. Needs cannot be observed directly and thus to some degree they need to come from self-report. The test for the

researcher is to link need with choice in order to ensure that what people say they want or need from media matches what they use or the way in which they use it. While early U&G studies indeed did not do this very well, more recent studies have looked at choice (Kaye & Johnson, 2002; Stafford *et al.*, 2004). In fact the MCM attempts to link peoples' needs to their choices, as noted previously (Thorson & Duffy, 2006).

Second, critics argue that U&G does not address needs in the context of society's dysfunction, arguing that the presence of some needs such as social utility or connectivity are a sign of problems in society related to disconnection, and thus U&G does not do enough to critique those problems and actually reinforces them through silence (Ruggiero, 2000). But while media products do exist to fill needs of society, it has never been the role of media product creators to deconstruct the ills that create the need for their products and it would seem likely that by filling that need the critique of the dysfunction is implied. Most U&G critics seem to train this particular criticism on television in particular, but several studies have found that mere use is not the problem but rather the way in which a medium is used (Blumler & Katz, 1974; McQuail *et al.*, 1972; Severin & Tankard, 1997). Television used for information, for example, has been found to be good for learning and social relationships while television used for entertainment has not.

Testing U&G with the Web Motivations Inventory scale

In terms of this research and MCM, the instrument used here will be the Web Motivations Inventory scale validated by Rodgers et al. (2007) and replicated in several studies. The advertising literature in U&G and motivations

tends to take a more complete approach to the Web in terms of use, noting that several different tasks and motivations are entwined with one another and cannot be as easily separated. Rodgers' scale uses four different main motivations (communication, research, surf, and shopping) that mostly mirror the communication need states given by Thorson & Duffy, with each of those motivations also containing 2-4 submotivations (the surf motive, for example, contains motivations to use the Web for news, entertainment, gaming, downloading). In terms of the Web communities studied for this research, the communication motivation would seem to be the most applicable since virtual communities are built on the notion of peer-to-peer communication. Interactivity on these communities would seem to be a high motivation. Users of online communities report having higher levels of online-only friends (a difference of 4.64 on average) and 70.4% of users say they sometimes or always interact with other members in an online community when they are logged on (Center for the Digital Future, 2007).

Rodgers' communication variable has three different facets to it: community, interaction, and survey. Community is the motivation to get to know other people and join groups on the Web and would seem to correlate with the use of online community, whereas interaction is the motivation to have two-way conversation on the Web compared to more of a one-way mode. To match the MCM we are calling Rodgers' interactivity variable "connectivity" to capture facets of the scale that we will be using in this study, as the survey motive is not a good match for the types of activity that go on in these communities compared to the Web at large.

H_5: The Web use motivation connectivity will be positively correlated with Web-local social capital in virtual communities.

Because this research is testing the notion that Web network social capital behaviors are needed to maintain online communities, community would seem to be a strong motivator for people to put time and effort into building that community.

H_6: The Web use motivation connectivity will be positively correlated with Web network social capital in virtual communities.

Another facet of Rodgers' communication variable, interaction, looks for specific acts of communication between users. This can take place on instant messaging, e-mail, or other forms of media. Because online community use is geared toward interaction, it would seem that this submotivation would be important.

H_7: The Web use motivation information will be positively correlated with Web-local social capital in virtual communities.

Again, because this research is testing the notion that Web network social capital behaviors are needed to maintain online communities, interaction would seem to be a strong motivator for people to put time and effort into building that community.

H_8: The Web use motivation information will be positively correlated with Web network social capital in virtual communities.

These four hypotheses are used as a way to test whether the motives for use that are found in the mass communication social capital literature would apply to the Web network social capital construct created for this research.

Connectivity and information-use have been found to strongly predict the presence of social capital in other forms of media, but given that this is testing online community strength it is important to know how those motives are related to the way that people use these virtual communities.

Proposed model

Last is the question of how all these ideas of media use, web use motivations, a person's involvement in social media, the different types of social capital, and the two types of engagement being measured fit together into a model that can be used to conceive of how these different variables work together to predict different types of involvement.

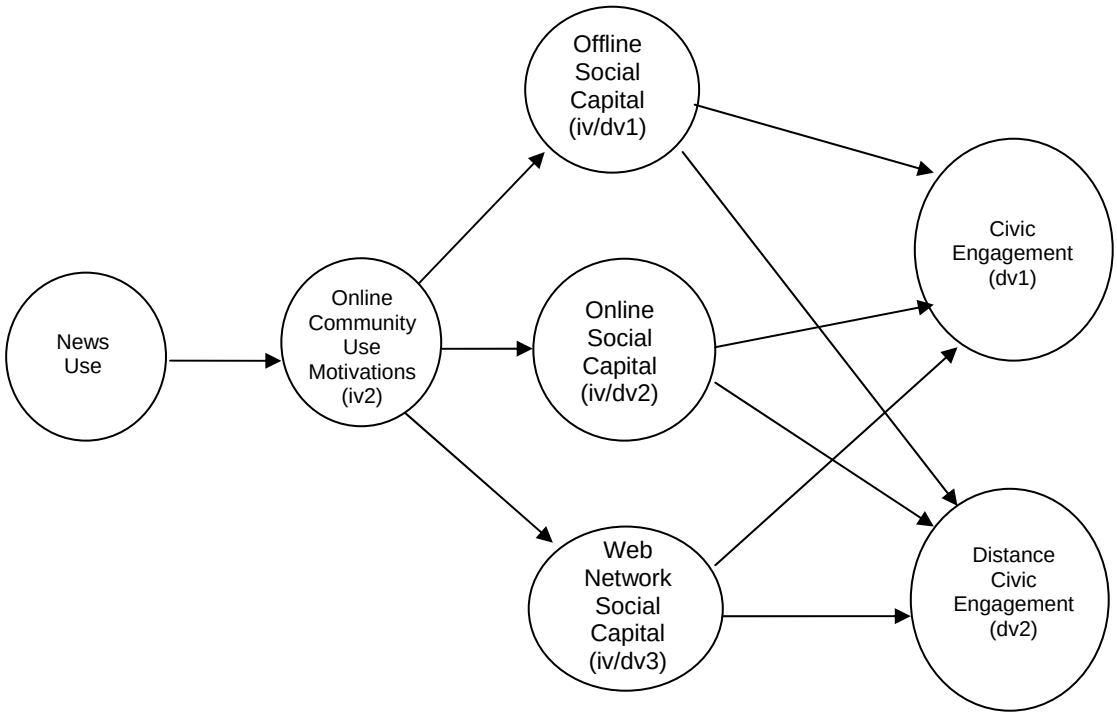
Past research shows strong ties between news use and social capital as well as strong links between people who use media for news and other social media ventures, such as blogging. The communicative and interactive nature of the Web would be likely candidates for the main motivations for any type of media use on the Web, and so given the past relationships between these variables found in other research it would seem they would work together to help predict the creation of social capital in users of Web communities.

Lastly, because this research is proposing to make engagement an outcome variable as a result of social capital rather than a submeasure such as how Putnam conceived it, the model would ultimately be trying to find relationships between the seeds of news use and the two types of engagement measured, and in the end would be most interested in to what extent social capital moderates those relationships.

In this situation, the ways that people use news would be a type of demographic that they bring with them to their online community use at the time it is being measured. While research does show that use of social media, particularly blogging, can be both an indicator of greater news use, this research in particular is more of a snapshot of how people are using media at the time that the survey sample is being taken. The model that will be tested with the following research question, shown in Figure 2, comes with the following question:

RQ_2: How can hierarchical regression predict the impact of demographics, media use, motivations for online community use, local community social capital, Web-local social capital, and Web network social capital on the different forms of local and distance engagement?

Figure 2. Proposed model



METHOD

Survey method

This research employed an online survey method that sampled users from four different online communities. The specific communities used were chosen because they tend to transcend geography, and thus the topic and theme for the site was more important than the location. Past research has shown strong gravitation to topics such as politics, parenting, sports, and religion (Porter, 2004; Preece, 2000, 2001) and this served as the starting point in choosing sites. The next step was picking online communities that are participatory in nature in that they rely solely on contributions from the user base.

The final step was finding sites that fit that criteria and have an active user base. Thus this research sampled users from DailyKos.com (a community devoted to progressive politics), parenting bulletin boards (several communities devoted to parenting), BeliefNet.com (a community devoted to both religion issues and ideals), and MU Tiger Board (a community devoted to discussion about University of Missouri sports). All of the sites used in this study tend to draw mostly users from the United States, according to the sites' Webmasters, but within that context the sites draw users from many parts of the country. The most "local" site is TigerBoard in that it tends to draw more people from Missouri, but even with that the dispersal of users is statewide rather than focused on Columbia, MO, where the University of Missouri is located.

One major methodological problem with online surveys is that they are a convenience sample, and thus not always an accurate look at the population

being studied (F. Williams & Monge, 2001). To mitigate this problem, the method used for this study employed a few techniques in an effort to help mitigate some of those problems.

First, solicitation for survey responses made use of a random sampling technique. The sites were sampled on a rotating basis each day in three-hour time blocks so that no site was sampled at the same time each day or on any given day of the week. For solicitation, the researcher placed a general announcement on open threads or forums inviting users to take the survey. At the same time, during the allotted time block for each site, the researcher kept track of the chronological postings and noted the user names of the user for every 8th post during the time period. This list was compared to survey respondents, and only those who are on the list of sampled posters had their survey responses counted for the purposes of this research. Each of the communities does not allow anonymous posting, and thus requires the use of a person's real name or a handle so that their work can be readily identified. Thus solicitations were tracked according to handle name to ensure that users were not solicited more than once. When users clicked on the link to take the survey, they were asked to provide their handle name in order to help track responses against solicitations. This helped provide a response rate statistic.

Second, content analysis was used to account for how often a person was posting. This simple method involved going into user profiles for each person sampled and noting how many days the user's profile has been active, how many posts they made, and how many comments they have made. From that information, the comments and post totals were added together and divided by

the number of days the account had been active to create the continuous variable "Involvement in Online Community." Data analysis examined this variable within the model being tested as well as a possible covariate.

Participants were offered an inducement for filling out the survey. For BeliefNet, parenting, and Tiger Board, participants were told they would earn an entry in a drawing for a $25 Visa Gift Card for completing the survey, and four gift cards were awarded per site for a total of $100 per site. For DailyKos, the solicitation noted that the community "thank you" would be a donation of $100 (similar to the other sites) to five U.S. Senate candidates of the community's choosing, and thus the final question on the survey asked the respondent to choose a candidate. This method was used rather than gift cards because of advice from the site operators that the political donation was more in line with DailyKos' values and operating principles.

Survey responses and descriptive statistics

Responses to the survey (N=582) were generated from a period of May 7, 2009 to June 2, 2009 across the four sites. The response rate for the four sites, based on using only the randomly selected participants as outlined in the methods section, was 32.1% which represents 582 responses from 1808 selected users. DailyKos (N=159) had a response rate of 41.2% (159 or 386 users sampled), Tiger Board (N=149) had a response rate of 28.7% (149 of 519 users), BeliefNet (N=122) had a response rate of 29.3% (122 of 418 users).

Table 1 presents data for the 10 demographic variables measured (age, gender, U.S. resident, education, household income, marital status, employment

status, ethnicity, hours spent online per day, and posts per day) and also separates each of these demographics out by site. All but the time spent online and posts per day were compared to known data in order to get a general feel for how these online community users compare.

As expected, 94.7% of the users surveyed said they were U.S. residents, and thus the best comparison seemed to be to compare it to United States population averages as gathered by the U.S. Census Bureau. The bureau's American Community Survey gathers data on American life and publishes it every two years, thus providing a rough comparison to the group sampled for this research.[3] It should be stressed that the fact that there are some non-U.S. residents on this sample and that the data gathered has not been updated for two years means that the following comparisons cannot be seen as conclusive but rather a broad look at these sites' users in the search for large differences.

The users sampled were 65.3% female and 34.7% male, while on the whole women make up 50.8% of the U.S. population. Part of this skew might be due to the fact that one of the sites surveyed (parenting) found that women made up 140 of the 152 (92.1%) users surveyed. But women also made up 105 of the 159 users (66.9%) sampled at DailyKos. As expected, TigerBoard, a site devoted to college sports, was dominated by men with 119 of 149 users (79.9%) reported as men. Only BeliefNet (71 women of 122, 58.2%) roughly mirrored the U.S. population numbers. Given the data, it would seem likely that certain topics would skew more toward women and thus the reason for the differences in the parenting and

[3] The Census Bureau gathers this data in survey form to supplement the regular census data that is gathered every 10 years from the entire population in order to provide more accurate data. Visit http://factfinder.census.gov/servlet/ACSSAFFFacts?_submenuId=factsheet_1&_sse=on to view this information

sports sites, but the shift toward women on BeliefNet seems to bolster the case that online community users tend to be female compared to the U.S. population.

Other statistical differences mirror what is known from past research. Of the users sampled, 72.2% reported having at least a college degree compared to 27% of the U.S. population. About 0.7% reported not even having a high school diploma, compared to 16% of the U.S. population as a whole. Given that the mean age of the users was 39.4 years old compared to the U.S. population median of 36.4, it would seem that there is not enough age skewing to say that this would account for the educational differences. The other standout demographic was that 91.6% of these users were Caucasian compared to a national average of 74.1%. The only non-Caucasian group that came in higher than the national average was Multiracial (3.1% compared to 2.1% in the U.S.), although the difference was negligible. The largest gaps were among African-Americans (1.8% compared to 12.4% in the U.S.) and Hispanics (1.4% compared to 14.7% in the U.S.).

Thus it appears that online community users tend to be more educated than the general U.S. population and often are white compared to the populace. These figures are not surprising given research that shows that highly educated whites tend to have more online access and time at their disposal to surf online. As noted in the literature, research on the technology gaps bolsters this point with similar findings.

Descriptive statistics and correlations of all indexed variables

Table 2 presents the descriptive statistics for all of the variables that were

created using scales for Media Use, online community use motivations, social capital, local engagement, and distance engagement. These data, along with the mean differences (see Tables 3-8) and zero-order correlations (see Tables 9-12), are being presented before the variables are defined in the next subsection in order that they can be referenced, and we will return to these results as well in the results section.

Survey respondents reported using the radio news the most out of all their media habits (M = 2.91) followed closely by social media (M = 2.85), online news (M = 2.69), and opinionated news style (M = 2.55). Talk radio was the least used format (M = 1.75). When the professional news variables (Newspaper, TV, radio news, online news) were correlated they were all positive. Social media was positively correlated with radio news, talk radio, and TV news, but negatively with opinionated news style. Talk radio was the only variable to be correlated with all the media use variables, and the relationships were all positive.

For the online community use motivations variable, entertainment (M = 4.29), connectivity (M = 3.52), and information (M = 3.44) were the top three choices, with shopping and survey further down the list. This result makes sense since there are few survey opportunities on these sites other than user polls, and very few opportunities to buy things other than through advertisements. An analysis of variance (ANOVA) found significant differences between the means for connectivity, information, entertainment, and shopping motives ($F(3,1743) = 1016.84$, $p < .01$), with most of the differences coming in relation to the shopping motive (see Tables 3-4),

The motives also were highly intercorrelated, with significant correlations

at p < .01 for all combinations. Motivation for using online communities for connectivity was positively correlated with social media and in fact that was its highest correlation. Use of communities for information was not correlated with any news media. This might indicate that people are using these communities as an alternative source of information. Although the data were gathered, the survey motive was not used in any of the hypothesis tests because the motive was low and did not seem to match any of the activities typically found on the sites surveyed. Shopping also was low, but the presence of advertising on the sites seemed to justify keeping it for the analyses.

The two forms of Web network social capital, bonding (M = 3.68) and bridging (M = 3.50) were among the highest scores in the social capital scales, and this makes sense given the goals of the study because recall that this form of social capital is based on ties that make the online community itself stronger and that these were users of the online community from which the sample was drawn. For the other forms of social capital, bridging was the trait that was strongest. Web-local bridging was the highest type of reported social capital (M = 4.12) and local community bridging also was about the same as the Web network types (M = 3.57). All six of the social capital measures were intercorrelated with one another. local community bonding and bridging were highly intercorrelated ($r(580) = .66$, $p < .01$), as was Web-local bonding and bridging ($r(580) = .45$, $p < .01$).

An ANOVA found significant differences between the means for the six different measures of social capital ($F(5,2905) = 141.11$, $p < .01$). Although the differences between the bridging and bonding was low for the local community

and Web network factors, the highest mean difference in the pairwise comparison was the difference between Web-local bridging and Web-local bonding (see Tables 5-6).

Of the Engagement variables, local community had the highest mean score (M = 3.36) followed by distance helping (M = 2.90). The other types were at or below the midpoint in the 5-point scale used on the survey. These variables were almost all intercorrelated, but the strongest one by far was the relationship between local community Issues and distance activism ($r(580) = .74$, $p < .01$),

An ANOVA found significant differences between the means for the six different measures of engagement ($F(5,2905) = 365.94$, $p < .01$). The smallest pairwise distances between means were typically found between the local engagement means and the distance helping means, indicating there should be some possibility that those variables work the same in some of the upcoming analyses (see Tables 7-8).

Independent variables

Several variables, as outlined in the literature review and the proposed model, were measured in this study, including demographics such as age, gender, education, and income that would be used to account for differences in the regression analyses (see Appendix 1 for demographic survey questions).

For the variables that had several questions that would be made into an index, each variable was sorted by the factor analysis to determine which questions were used to compute the index. Appendix 1 includes information about which questions were not included in the indices after exploratory factor

analysis (EFA) and confirmatory factor analysis (CFA) was performed.

The first independent variable, **Media Use** (IV_1), was defined as how people use media. This was conceived as having two parts: professional media and social media. Professional was operationalized as the degree to which the user reports using various sources of professionally-produced media to get their news and was measured on a 1-5 semantic differential scale that goes from "never" to "regularly." The variable examined use for news across media such as legacy news media, online media, talk radio, satire news shows (See Appendix 1). Social media news was operationalized as the extent to which people get their news via a social networking site such as Facebook or Twitter, and it was measured on a 1-5 semantic differential scale that went from "never" to "regularly." With the expectation that professional media was news-based and would have several factors, while social media news use might factor together because it was not news based and had more in common with each other than the news variables, the factor analyses were conducted separately.

For *Professional Media Use,* EFA was performed using Varimax rotation (Loehlin, 2004). Factors with Eigenvalues over 1.00 were the only ones used, and loadings for each factor were set to only be used at a minimum absolute value of .60. EFA found five factors that met these criteria that accounted for 64.15% of the variance (Table 13). The TV news, print news, and online news items factored into their own separate factors, while news from blogs, satire shows (such as The Daily Show), news magazines, and prime-time cable TV news factored together into one variable. Conceptually, this variable appeared to have in common the fact that news delivery is often opinionated, and thus the variable was labeled

"opinionated news style". Talk radio was the fifth factor, but radio news had a loading too low for consideration. Thus talk radio was made its own single-item variable, but news radio use also was made a separate variable since reliability was not a problem in this procedure. In sum, the EFA gave four factors for Professional Media Use (opinionated news style, TV news, print newspaper, online news) and two other variables (talk radio, and radio news) that would be used as single items in the regression analyses.

It should be noted that Direct Oblimin rotation, which allows the factors to be correlated unlike an orthogonal solution such as Varimax, found that the newspaper use factors loaded with negative values. This presented some problems to work through. The literature shows that newspaper use predicts other uses of media, but it does not go both ways (i.e. TV news use does not predict newspaper use). Thus while there is some evidence to think a correlated factor solution that uses Oblimin would be desirable, it is not entirely clear that there are reasons either theoretically or in the research literature to justify this choice. Thus the analysis used Varimax for the rotation and allowed them to be uncorrelated.

Because the scales created with this variable were not theoretically-based, confirmatory factor analysis was not done in order to strengthen the scales. The final step was to determine reliability scores using Cronbach's alpha for each of the scales created from the Professional Media Use factor, with .70 as the minimum threshold for acceptance of the scale (Williams, 2001). The reliability scores for TV news (α = .84), opinionated news style (α = .78), print newspaper (α = .80), and online news (α = .92) all were acceptable using the .70 threshold.

Appendix 1 has the survey questions sorted for Professional Media Use sorted by the EFA factors and also shows the questions that were excluded from the final scales.

For *social media*, EFA was performed using Varimax rotation. As with media use, there is no reason from the small amount of research literature on social media to think that the factors should be correlated with one another, and thus an orthogonal solution using Varimax which is robust and often used in mass communication research appeared to be the best choice. Factors with Eigenvalues over 1.00 were the only ones used, and loadings for each factor were set to only be used at a minimum absolute value of .60. EFA found three factors, but only one of the factors met the criteria of having .60 minimum loadings. The three factors accounted for 52.07% of the variance, but the one strong factor accounted for 43.79% (Table 14). All of the loadings in the first strong factor, which is being called "social media," were above .70, and thus that was the only factor that would be used.

Because the scales created with this variable were more exploratory in nature given that social media research is just in the beginning stages, confirmatory factor analysis was not done in order to strengthen the scales. The final step was to determine reliability scores using Cronbach's alpha for each of the scales created from the social media factor, with .70 as the minimum threshold for acceptance of the scale (Williams, 2001). The reliability score for social media (α = .76) was acceptable using the .70 threshold. Appendix 1 has the survey questions sorted for social media sorted by the EFA factors and also shows the questions that were excluded from the final scales.

The second independent variable, "**online community use motivations"** (IV_2), was defined as the reasons users report using the particular community from which they were solicited. The variable was measured along several factors outlined in the Web Motivation Inventory scale (Rodgers et al., 2007): exploration, information, community, interaction, news, search, entertainment, survey, and transaction. Responses were measured on a 1-5 semantic differential scale that went from "never" to "regularly." The WMI facets are consistent with other motivations found in U&G literature and use of the scale offered the power of a scale that has been consistently validated in mass communication research. Although all of the questions from the WMI were used, it was expected that some questions might not factor well or be used at all because they were not relevant to community life (transaction, for example, because none of the sites surveyed have a store function).

For online community use motivations, EFA was performed using Varimax rotation. Factors with Eigenvalues over 1.00 were the only ones used, and loadings for each factor required a minimum absolute value of .60 to be used. EFA found five factors that accounted for 64.52% of the variance (Table 15). The entertainment, transaction, and survey variables loaded onto their own factors as predicted by the reliable WMI scale. The questions for information factored together but also picked up a question from the WMI's search subscale. All the questions were related to information, and so the scale created for these questions was information. In addition, variables from the WMI's interaction subscale and one from community loaded together, but the questions all dealt with meeting and talking with friends online and a few of the community

variables did not in hindsight match the interaction on the online communities surveyed, which is a possible explanation for why the variables converged somewhat. Thus, the variable was labeled "connectivity." In sum, the five factors that were tested next using CFA were connectivity, information, shopping, entertainment, and survey.

The next step was to do a confirmatory factor analysis in order to determine whether the theoretical basis for these factors would hold up under more robust factor analysis testing. The CFA was done in AMOS 16.0 using only the loadings that were over .60 in the EFA run beforehand. The model suggested removing nonsignificant questions and questions were removed for conceptual reasons if a better fit could be achieved (see Appendix 1, which notes questions that were removed for each scale after data analysis). The thresholds for acceptable models were a CMIN *p* value greater than 0.05, a GFI value greater than 0.90, and a RMSEA value less than 0.05 (Loehlin, 2004).

The final online community use motivations model presented five different factors (information, connectivity, entertainment, shopping, and survey) and was found to be a good fit after two low-loading questions were dropped for the information factor and another was dropped for connectivity (χ^2 = 96.31, *df* = 87, CMI*N* = 1.11, p > .05; GFI = 0.99; RMSEA = 0.01). See Table 16 for the fit indicators and Table 17 for the unstandardized and standardized loadings for each factor.

The final step was to determine reliability scores using Cronbach's alpha for each of the scales created from the Online Community Use Motivation factors, with .70 as the minimum threshold for acceptance of the scale (Williams, 2001).

Reliability scores for information (α = .81), connectivity (α = .88), shopping (α = .89), entertainment (α = .77), and survey (α = .83) were all acceptable using the .70 threshold. Appendix 1 has the survey questions sorted for online community use motivations sorted by the CFA factors and also shows the questions that were excluded from the final scales.

Variables serving as independent and dependent variables

In addition to the three independent variables previously described, the constructs related to social capital and Web network social capital served as IVs in some of the hypotheses being tested and DVs in others. Because we were dealing with online community users, it was important to measure a person's traditional social capital created both in online and offline settings so that they were distinguished from one another, but also so those two are distinguished from the "Web network" social capital that was built and maintained within the context of their online community. Thus these constructs will be measured as local community social capital, Web-local social capital, and Web network social capital. The local community social capital and Web-local social capital scales come from Williams (2006) and is intended to measure networks of relationships people have and use in a particular community context.

Local community social capital (IV/DV_1) is defined as the degree to which people were connected socially to people in their local community. It had two facets consistent with the literature, "bonding" and "bridging." Local community social capital from bonding comes from the results of relationships that help people find connections with groups or individuals that share common

traits such as ideals, beliefs, or ethnicity. It is typified by such questions as "The people I interact with in my neighborhood or community would be good job references for me" or "The people I interact with in my neighborhood or community would share their last dollar with me." Local community social capital from bridging comes from the result of relationships that expose the person to a set of ideas or people outside their normal community network. It is typified by such questions "Interacting with people in my neighborhood or community gives me new people to talk to" or "In my neighborhood or community, I come in contact with new people all the time." The variable based on this construct was measured using a 5-point Likert scale.

For local community social capital, EFA was performed using Direct Oblimin rotation to allow for the factors to be correlated (Loehlin, 2004). The correlation of these factors has demonstrated in the literature (Williams, 2006) and so the rotation choice was based on theory. Factors with Eigenvalues over 1.00 were the only ones used, and loadings for each factor were set to only be used at a minimum absolute value of .60. EFA found two factors that accounted for 65.03% (Table 18). Two items in the bonding scale, Questions 3 and 9 from the original survey order that used a negative coding structure to measure bonds, were recomputed to reverse the coding before the factor analysis. The local community bonding and local community bridging questions loaded into their respective factors without any switching and thus those factors were named accordingly to match the theoretical labels, although some of the questions had loadings less than 0.60 and thus were dropped for the purposes of the CFA.

The next step was to do a confirmatory factor analysis in order to

determine whether the theoretical basis for these factors would hold up under more robust factor analysis testing. The procedure and threshold for acceptable modeling was the same as it was for the Motivations test. The final local community social capital model presented two different factors (bonding and bridging) and was found to be a good fit after two low-loading questions were dropped from each of the factors (χ^2 = 48.65, df = 35, CMI*N* = 1.39, p > .05; GFI = 0.98; RMSEA = 0.03). See Table 19 for the fit indicators and Table 20 for the unstandardized and standardized loadings for each factor.

The final step was to determine reliability scores using Cronbach's alpha for each of the scales created from the local community social capital factors, with .70 as the minimum threshold for acceptance of the scale (Williams, 2001). Reliability scores for local community bonding (α = .92) and local community bridging (α = .94) were both acceptable using the .70 threshold. Appendix 1 has the survey questions sorted for local community social capital sorted by the CFA factors and also shows the questions that were excluded from the final scales.

Web-local social capital (IV/DV_2) was defined as the degree to which people are connected socially to people in their online community in ways that bring offline benefit. What distinguishes this version from the local community social capital construct is that, while the benefits come to people in terms of improved trust and contentment in the context of their home community, the networks and relationships that facilitate these benefits is created in online contexts similar to what Norris (2002) found.

Consistent with the local community version of this measure, it has two facets found in the literature, "bonding" and "bridging." Web-local social capital

from bonding comes from the results of relationships that help people find connections with groups or individuals that share common traits such as ideals, beliefs, or ethnicity. It is typified by such questions as "When I feel lonely, there are several people on [enter Web community site here] I can talk to" or "The people I interact with on [enter Web community site here] would be good job references for me." Web-local social capital from bridging comes from the result of relationships that expose the person to a set of ideas or people outside their normal community network. It is typified by such questions "Interacting with people on [enter Web community site here] makes me interested in things that happen outside of my town" or "Interacting with people on [enter Web community site here] reminds me that everyone in the world is connected." This variable was measured using a 5-point Likert scale.

For Web-local social capital, EFA was performed using Direct Oblimin rotation to allow for the factors to be correlated, a feature of these constructs that has been demonstrated in the literature. The correlation of these factors has demonstrated in the literature (Williams, 2006) and so the rotation choice was based on theory. Factors with Eigenvalues over 1.00 were the only ones used, and loadings for each factor were set to only be used at a minimum absolute value of .60. Two items in the bonding scale, Questions 3 and 9 from the original survey order that used a negative coding structure to measure bonds, were recomputed to reverse the coding before the factor analysis. EFA found two factors that accounted for 62.67% of the variance (Table 21). The Web-local bonding and Web-local bridging questions loaded respectively into the two strongest factors without any switching and thus those factors were named

accordingly to match the theoretical labels, although some of the questions had loadings less than 0.60 and thus were dropped for the purposes of the CFA. It should be noted that Direct Oblimin rotation, which allows the factors to be correlated unlike an orthogonal solution such as Varimax, found that the bridging factors loaded with negative values. There are theoretical reasons to believe the factors correlate in local community social capital because of past research, but the relationship between Web-local bonding and Web-local bridging is not as well established. Thus the analysis used Varimax for the rotation.

The next step was to do a confirmatory factor analysis in order to determine whether the theoretical basis for these factors would hold up under more robust factor analysis testing. The procedure and threshold for acceptable modeling was the same as it was for the local community social capital test. The final Web-local social capital model presented two different factors (bonding and bridging) and was found to be a good fit after three low-loading questions were dropped from the bonding factor and all the questions loaded well on the bridging factor (χ^2 = 44.48, df = 32, CMI*N* = 1.39, p > .05; GFI = 0.96; RMSEA = 0.01). See Table 22 for the fit indicators and Table 23 for the unstandardized and standardized loadings for each factor.

The final step was to determine reliability scores using Cronbach's alpha for each of the scales created from the Web-local social capital factors, with .70 as the minimum threshold for acceptance of the scale (Williams, 2001). Reliability scores for Web-local bonding (α = .94) and Web-local bridging (α = .92) were both acceptable using the .70 threshold. Appendix 1 has the survey questions sorted for Web-local social capital sorted by the CFA factors and also shows the

questions that were excluded from the final scales.

The new construct being tested in this research, **Web network social capital** (IV/DV_3), was defined as the degree to which people are connected socially to people in their online community in ways that bring benefit to the online community in which they participate. What distinguishes this Web network social capital from the other two versions being measured in this research is that it examines the networks of relationships that exist within the context of that online community in order to see what "civic" type behaviors exist that might help build and maintain the community.

Consistent with both the Online and local community versions of this measure, Web network social capital maintains two facets consistent with the literature, "bonding" and "bridging." Web network social capital from bonding comes from the results of relationships that help people find connections with groups or individuals that share common traits such as common ideals, beliefs, or interests that form the common reason for their Web community's existence. It is typified by such questions as "There are several people on [enter Web community site here] I trust to help solve problems I have having with the site" or "The people I interact with on [enter Web community site here] would help me work against someone trying to abuse the site." Web-local social capital from bridging comes from the result of relationships that expose the person to a set of ideas or people outside their own Web community and make indicate interest in what other Web communities are doing. It is typified by such questions "Interacting with people on [enter Web community site here] makes me interested in things that are happening in other Web communities" or

"Interacting with people on [enter Web community site here] gives me new people to read about on the Web." This variable was measured using a 5-point Likert scale.

The factor analyses for Web network social capital were more complex as an attempt to answer the study's research question as to whether there is justification for making it its own separate construct. Thus the EFA and the CFA results, as well as the construction of scales and reliability tests, will be dealt with in the results section.

As mentioned before, the best way to keep the various social capital constructs clear is to think about it in terms of how relationships are formed and where the benefits are located. Figure 3 below summarizes the difference:

Figure 3. Three-by-two comparison of local community, Web-local, and Web network social capital

	Local community	Web-local	Web network
Relationships formed ...	Locally	Online	Online
Benefits of formed relationships exist ...	Locally	Locally	Online

Dependent variables

The final two variables are purely dependent variables used to test the hypotheses and the ultimate goal of the model: local engagement and distance engagement. The use of these as DVs for measures of social capital reflects the argument made in the literature review that this research intends to focus more on the Coleman strain of social capital research than the Putnam strain. Whereas Putnam incorporated civic engagement as a sign of social capital, the Coleman branch of research focuses more on the network relationships as measured in the

DV/IVs for this study and looks at specific acts within a given community as an outcome variable. Also, as will be argued shortly, the separation of acts done on a "glocal" level from those done within a community are an attempt to distinguish true civic behaviors from those done on a more aggregate or national level.

Local engagement (DV_1) was defined as action done within a local community that help others or further civic or democratic goals. The measurement in this case would scale different types of democratic or pro-social behaviors and is split among three different facets: participation in community activities, work on community projects, and activism within the community. The variables were built mostly on what Shah et al. (2002) used in their study on the Web and social capital behaviors. This variable was measured using a 5-point Likert scale.

For local engagement, EFA was performed using Direct Oblimin rotation to allow for the factors to be correlated (Loehlin, 2004). The correlation of these factors has demonstrated in the literature (Williams, 2006) and so the rotation choice was based on theory. Factors with Eigenvalues over 1.00 were the only ones used, and loadings for each factor were set to only be used at a minimum absolute value of .60. EFA found four factors that accounted for 64.68% of the variance (Table 24), but almost half of the questions loaded below the 0.60 threshold and even below 0.55 so it made sense to delete those items and re-factor them to see what the fit looked like.

The second factor analysis resulted in three factors with much stronger loadings, accounting for 64.68% of the variance (Table 25). The first factor, called "community issues," grouped questions related to working in local politics

or working to create change in communities using awareness and the political process. The second factor was related to involvement and work in organizations such as churches or charities, and thus the factor was called "service." The third factor grouped questions about helping neighbors or socializing them, and thus this social bonding variable was labeled "neighbors" due to the strength of connections being measured in this index. "voting" loaded as a fourth separate factor as a single-question item. In sum, the CFA that was run based on these results was testing local engagement for the existence of three factors called community issues, service, and neighbors. Voting was not included due to it being a single-question item.

The next step was to do CFA in order to determine whether the theoretical basis for these factors would hold up under more robust factor analysis testing. The procedure and threshold for acceptable modeling was the same as it was for the previous CFA analyses. The final local engagement model had four different factors (community issues, service, neighbors, and voting.) and was found to be a good fit without losing any questions from the EFA (χ^2 = 37.49, df = 23, CMI*N* = 1.63, p > .05; GFI = 0.93; RMSEA = 0.03). See Table 26 for the fit indicators and Table 27 for the unstandardized and standardized loadings for each factor.

The final step was to determine reliability scores using Cronbach's alpha for each of the scales created from the local engagement factors, with .70 as the minimum threshold for acceptance of the scale (Williams, 2001). Reliability scores for community issues (α = .88), service (α = .79), and Community (α = .81) were both acceptable using the .70 threshold. Appendix 1 has the survey questions sorted for local engagement sorted by the CFA factors and also shows

the questions that were excluded from the final scales.

Distance engagement (DV_2) was a variable designed to account for behaviors that are prosocial yet not contained within a local community. Putnam (1995) noted some behaviors such as joining national advocacy organizations are civic in a sense but also disconnected from social relationships, and he called this type of "checkbook democracy" activity weaker in terms of its ability to account for engagement. The creation of the "distance engagement" is intended to account for those types of behaviors in a separate way, but also to include other elements such as giving to national or faraway candidates or helping someone out in faraway places whom you have never met in person. Such "civic" activity would not be captured by traditional measures. Thus distance engagement was defined as action done that help others or further civic or democratic goals in places other than where a person lives. The measurement in this case was split among two different facets: involvement in issues of national interest and giving to national causes or campaigns. The variables were pulled partly from Shah et al. (2002) as well as other work that examines how people are involved in faraway causes (Putnam, 1995). This variable was measured using a 5-point Likert scale.

For distance engagement, EFA was performed using Direct Oblimin rotation to allow for the factors to be correlated. The correlation of these factors has demonstrated in the literature (Williams, 2006) and so the rotation choice was based on theory. Factors with Eigenvalues over 1.00 were the only ones used, and loadings for each factor were set to only be used at a minimum absolute value of .60. EFA found two factors that accounted for 58.00% of the variance

(Table 28). The first factor grouped contributions or work done for national campaigns, issue advocacy, or candidates in regions other than the participants local home, and the factor was named "distance activism" to account for this. The factor makes conceptual sense as it seems to encompass well the notion of "checkbook democracy" found in the literature as well as the work people online are doing for political campaigns in distant locales. The second factor encompassed the aspect of helping others financially or otherwise when the only bond between the helper and the person being helped is that the connection was forged first online. Thus the variable was named "distance helping." In sum, the CFA run based on these results tests distance engagement for the existence of two factors called activism and helping.

The next step was to do a confirmatory factor analysis in order to determine whether the theoretical basis for these factors would hold up under more robust factor analysis testing. The procedure and threshold for acceptable modeling was the same as it was for the previous CFA analyses. The final distance engagement model presented two different factors (activism and helping) and was found to be a good fit without losing any questions from the EFA (χ^2 = 9.94, df = 8, CMI*N* = 1.24, p > .05; GFI = 0.99; RMSEA = 0.02). See Table 29 for the fit indicators and Table 30 for the unstandardized and standardized loadings for each factor.

The final step was to determine reliability scores using Cronbach's alpha for each of the scales created from the distance engagement factors, with .70 as the minimum threshold for acceptance of the scale (Williams, 2001). Reliability scores for distance activism (α = .87) and helping (α = .79) were both acceptable

using the .70 threshold. Appendix 1 has the survey questions sorted for distance engagement sorted by the CFA factors and also shows the excluded questions.

RESULTS

Testing the concept of Web network social capital

RQ_1 asked whether Web network social capital is distinguishable from Web-local social capital. The results indicate there is support for these scales.

Using the questions created for both the bridging and bonding scales for Web network social capital in the survey instrument, the first step was to do exploratory factor analysis on the 20 questions (10 for bonding and 10 for bridging) along with the 40 questions for the local community and Web-local social capital scales. The reason for this was to see if the Web network social capital scales would factor separately in an exploratory factor analysis to lend support to the notion that the new variables are distinct. Because the scales were created using theoretical underpinnings, the method employed exploratory factor analysis using Direct Oblimin rotation in order to allow for correlation between the latent constructs, and only factor loadings above 0.60 were used for the analysis. Two items in the bonding scale, Questions 3 and 9 from the original survey order that used a negative coding structure to measure bonds, were recomputed to reverse the coding before the factor analysis. Six factors that accounted for 64.50% of the variance emerged in the factor analysis (Table 31). The six different social capital factors emerged from the exploratory analysis showed the bridging and bonding factors for local community and Web-local essentially stable, along with new bridging and bonding factors for Web network social capital. Thus as a whole the analysis confirms that Web network social capital factors differently than the other constructs that are well established in

the literature.

The next step was exploratory factor analysis on the Web network bonding and Web network bridging factors to ensure that they represented distinct factors of Web network social capital. Because the scales were created using theoretical underpinnings, the method employed exploratory factor analysis using Direct Oblimin rotation in order to allow for correlation between the factors, and only factor loadings above 0.60 were used for the analysis. Three factors that accounted for 57.32% of the variance emerged in the factor analysis (Table 32). The two main factors representing bridging and bonding factored separately, with a third factor that had two questions that did not conceptually fit well together and thus it was disregarded. Thus there was support for the notion of Web network social capital having bonding and bridging factors through this exploratory factor analysis.

The final step was to do a confirmatory factor analysis in order to determine whether the theoretical basis for these factors would hold up under more robust factor analysis testing. The CFA was done in AMOS 16.0 using only the loadings that were over .60 in the EFA run beforehand. The model suggested removing nonsignificant questions and questions were removed for conceptual reasons if a better fit could be achieved (see Appendix 1, which notes questions that were removed for each scale after data analysis) and the thresholds for acceptable models were a CMIN *p* value greater than 0.05, a GFI value greater than 0.90, and a RMSEA value less than 0.05 (Loehlin, 2004). The final Web network social capital model presented two different factors (bonding and bridging) and was found to be a good fit without losing any questions from the

EFA (χ^2 = 1.85, df = 9, CMI*N* = 0.21, p > .05; GFI = 0.95; RMSEA = 0.01). See Table 33 for the fit indicators and Table 34 for the unstandardized and standardized loadings for each factor.

Thus the result was two Web network social capital scales, one for bonding and another for bridging. The items that loaded in the CFA were used to create indexes for the correlation and regression analyses used in the remaining sections.

Local engagement: local community and Web-local social capital

H_{1a} predicted there is a positive relationship between local community bonding social capital and local engagement among users of virtual communities. This hypothesis was supported (Table 35). Local community bonding (*M* = 3.38, *SD* = .95, *N* = 582) had a highly significant positive relationship with community issues (*M* = 2.25, *SD* = 1.15, *N* = 582; *r*(580) = .21, *p* < .01), service (*M* = 2.59, *SD* = 1.31, *N* = 582; *r*(580) = .26, *p* < .01), neighbors (*M* = 3.36, *SD* = .99, *N* = 582; *r*(580) = .49, *p* < .01), and voting (M = 4.48, SD = 1.08, N = 582; r(580) = .12, p < .01).

H_{1b} predicted there is a positive relationship between local community bridging social capital and local engagement among users of virtual communities. This hypothesis was supported (Table 35). Local community bridging social capital (*M* = 3.57, *SD* = .85, *N* = 582) also had a highly significant positive relationship with community issues (*M* = 2.25, *SD* = 1.15, *N* = 582; *r*(580) = .17, *p* < .01), service (*M* = 2.59, *SD* = 1.31, *N* = 582; *r*(580) = .26, *p* < .01), neighbors (*M* = 3.36, *SD* = .99, *N* = 582; *r*(580) = .33, *p* < .01), and voting (M = 4.48, SD =

1.08, N = 582; r(580) = .13, p < .01).

The results of this hypothesis are in line with the literature that finds a strong relationship between social capital built in local communities and peoples' engagement in those communities. Recall from previous research that high social capital in local communities tends to predict civic activity. The results from these hypotheses stand as face validity for the measurements given that the results are in line with previous research.

H_{2a} predicted a positive relationship between Web-local bonding social capital and local engagement in virtual communities. This hypothesis was partially supported. Web-local bonding social capital (M = 3.07, SD = 1.05, N = 582) was positively associated only with neighbors (r(580) = .08, p < .05) while it was negatively associated with community issues (r(580) = -.04, p < .01). Web-local bonding was not significantly correlated with service or voting, although the relationship was approaching significance (see Table 36).

H_{2b} predicted a positive relationship between Web-local bridging social capital and local engagement in virtual communities. This hypothesis was supported. Web-local bridging (M = 4.12, SD = .65, N = 582) had a significant positive relationship with community issues (r(580) = .12, p < .01), service (r(580) = .08, p < .05), neighbors (r(580) = .16, p < .01), and voting (r(580) = .15, p < .01), although none of the three Pearson correlation figures was above .20 (see Table 36).

The results of this hypothesis are in line with what Norris (2002) found, that the ties created by Web-local bridging are more effective at creating engagement in local community than Web-local bonding. While the literature

review noted that bonding can play a role in creating engagement in communities, it is considered a weaker predictor because it is a more insular form of networking than the weak ties created by bridges.

If we are to think about the different constructs as a step-ladder of engagement based on what past research has shown, association with neighbors is considered the easiest form of civic engagement because you live in the same area and see one another; bonding and bridging were both positively associated with this construct. Next is voting, volunteering, or doing service in community, and while the Web-local bridging still is positively associated with it, bonding is neutral in a sense because there's no correlation. The step that requires the most effort is being involved in activism, which requires a continuous investment of effort and attention to issues in the community. In this case, bonding is a negative predictor and bridging is a positive predictor.

Given that local community bonding was positively associated all the way up this stepladder of engagement, this indicates that even though bonding in general is weaker than bridging, bonds created and nurtured offline have more positive association with local engagement than bonds created online.

Distance engagement and social capital

H_{3a} predicted a relationship between Web-local social capital (bridging and bonding) and distance helping in virtual communities. This hypothesis was supported. Web-local bonding was positively correlated with distance helping ($M = 2.90$, $SD = 1.26$, $N = 582$; $r(580) = .38$, $p < .01$) as was Web-local bridging ($r(580) = .31$, $p < .01$).

H_{3b} predicted a relationship between Web-local social capital (bridging and bonding) and distance activism in virtual communities. This hypothesis was not supported (Table 37). Web-local bonding was negatively correlated with distance activism (M = 2.34, SD = 1.33, N = 582; $r(580) = -.20$, $p < .01$) but Web-local bridging was not associated with the dependent variable.

The stronger correlations were found with distance helping than it was with forms of activism. The hypotheses did not predict a direction because of the nature of the Web-local social capital construct. These are online community users used to making connections online, but it was unclear whether those online ties would lead to online forms of engagement. It should be noted that Web-local bonding and bridging both are highly correlated ($r(580) = .45$, $p < .01$) and thus these factors are working together more with each of the distance engagement variables

H_{4a} predicted a positive relationship between Web network social capital (bridging and bonding) and distance helping in virtual communities. This hypothesis was supported (see Table 38). Web network bonding (M = 3.68, SD = .78, N = 582) was positively correlated with distance helping (M = 2.90, SD = 1.26, N = 582; $r(573) = .34$, $p < .01$) and Web network bridging (M = 3.50, SD = .69, N = 582) also was positively correlated with distance helping ($r(580) = .15$, $p < .01$).

H_{4b} predicted a relationship between Web network social capital (bridging and bonding) and distance activism in virtual communities. This hypothesis was not supported (see Table 38). Web network bonding was negatively correlated with distance activism (M = 2.34, SD = 1.33, N = 582; $r(573) = -.23$, $p < .01$) but

Web network bridging had no relationship with the dependent variable

Taken together, H_3 and H_4 seem to support that activity online is not necessarily strong for political engagement, but it is strongly associated with helping others that one meets online. Just as was the case with Web-local social capital, the stronger correlations were found with helping others that a person meets online. The results indicate that the relationships built offline connect people to resources both within the community and beyond that network and that the result is that users of these communities are more likely to help people they meet online as a result of those connections.

The question, then, is whether ties created offline via local community social capital behave in the same way. An additional analysis, examining the correlation between local community social capital and the distance engagement variables (see Table 39), shows differences. In this analysis, distance activism (M = 2.34, SD = 1.33, N = 582) was positively correlated with local community bonding ($r(580) = .12$, $p < .01$) and local community bridging ($r(580) = .12$, $p < .01$). But for distance helping, it was positively correlated with local community bonding only (M = 2.90, SD = 1.26, N = 582; $r(580) = .14$, $p < .01$)

Regression: Social capital and all engagement variables

Given the results in H_3 and H_4 plus the extra analysis with local community social capital, it seems clear that these six social capital variables are behaving differently depending on whether the form of engagement is local or over distance due to online ties. Regression analysis was used as the next step in order to determine which forms of social capital were having the most impact on the distance engagement variables after accounting for demographics. The

hierarchical regression employed entered demographic variables into the first block, followed by the a block consisting of local community bonding social capital, local community bridging social capital, Web-local bonding social capital, Web-local bridging social capital, Web network bonding social capital, and Web network bridging social capital. A separate regression was run for each of the two distance engagement factors, activism and helping.

The final model (see Table 40) explained a significant proportion of variance distance activism (R^2 = .32, F(16, 553) = 15.95, p < .01). Income (β = .12, t(553) = 3.13, p < .01), age (β = .11, t(553) = 3.05, p < .01), and posts per day (β = -.12, t(553) = -2.95, p < .01) in the online community were the main significant predictors. This makes sense given that the literature shows affluence and age tend to best predict donation to national campaigns or cause. Posts per day is a unique finding and could indicate that the more one becomes involved in their online community in terms of postings, the more their range of connections to others outside the community shrinks and thus they become less involved in causes. Thus all the demographic predictors make sense.

Of the social capital constructs, the strongest predictor in the whole model was local community bonding (β = .42, t(553) = 2.51, p < .01) and Web-local bridging (β = .18, t(553) = 2.51, p < .05) also was a strong predictor. No other social capital indices were significant. The presence of a strong bonding predictor matches some of what Putnam (2000) notes when he talks about how the "checkbook democracy" that comes with giving money to causes rather than doing the harder work in local community is an indicator of insular ties that are

akin to bonding rather than ties created across people groups in local community. Web-local bridging's presence is an indicator that the person is using their online ties to expand their world a bit more, thus they are thinking about getting involved in things outside community. While this might seem contradictory to the local community bonding argument, consider that it might be that these two latent variables work together when it comes to distance activism. That is, an unengaged person in a local community might not thing to be involved locally or by distance even if they have only strong local community bonding in their network of relationships. Web-local bonding, then, might work to spur a person to begin turning their attention outward. If Putnam is right that checkbook democracy is a small step, perhaps Web-local bridging is what spurs that step.

The second regression looked at helping others online. The final model (see Table 41) explained a significant proportion of variance in distance helping (R^2 = .27, $F(16, 553) = 12.79$, $p < .01$). Education (β = .17, $t(553) = 4.28$, $p < .01$) was the strongest positive predictor out of the demographics, while gender was the strongest demographic predictor (β = -.18, $t(553) = -4.42$, $p < .01$). Gender was coded as zero for women and 1 for men, so the results indicate that women are a better predictor for helping others online than are men. Gender did emerge as a strong variable in one of the regressions. A t-test looking at differences between men (M = 2.44, SD = 1.12) and women (M = 3.14, SD = 1.26) confirmed that this difference is statistically significant on distance helping ($t(578) = 6.59$, $p < .01$) but not on distance activism (Table 42).

Of the social capital predictors in the final model, Web network bonding (β = .37, $t(553) = 5.73$, $p < .01$) emerged as the strongest predictor in the whole

model and also got positive prediction from Web network bridging (β = .16, $t(553) = 2.80$, $p < .01$) and local community bonding (β = .18, $t(553) = 3.47$, $p <$ .01). Local community bridging, on the other hand, was a negative predictor (β = -.20, $t(553) = -3.84$, $p < .01$).

Motivations for online community use and social capital production

The next set of hypotheses looked at motivations for using online communities compared with the various types of social capital generated online as measured by this research, recalling that the use of the MCM predicts that motivations will be a determining factor in media use (and this in turn will help determine the argument how motivations for use predict the presence of various forms of social capital) . See Table 46 for the correlations used for testing hypotheses 5 through 9.

H_5 predicted the online community use motivation connectivity would be positively correlated with Web-local social capital in virtual communities. This hypothesis was supported after connectivity (M = 3.52, SD = 1.39, N = 582) was positively correlated with both Web-local bonding ($r(580) = .72$, $p < .01$) and Web-local bridging ($r(580) = .48$, $p < .01$). See Table 43 for the correlation matrix.

H_6 predicted the online community use motivation connectivity would be positively correlated with Web network social capital in virtual communities. This hypothesis also was supported after connectivity was positively correlated with both Web network bonding ($r(580) = .70$, $p < .01$) and Web network bridging ($r(580) = .22$, $p < .01$). See Table 44 for the correlation matrix.

H_7 predicted the web use motivation information would be positively correlated with Web-local social capital in virtual communities. This hypothesis was supported after information (M = 3.44, SD = 1.02, N = 582) was positively correlated with both Web-local bonding ($r(580) = .31$, $p < .01$) and Web-local bridging ((580) = .57, $p < .01$). See Table 43 for the correlation matrix.

H_8 predicted the web use motivation information would be positively correlated with Web network social capital in virtual communities. This hypothesis was supported after information was positively correlated with both Web network bonding ($r(580) = .35$, $p < .01$) and Web network bridging ($r(580) = .42$, $p < .01$). See Table 44 for the correlation matrix.

What stands out about these four hypotheses is that information has stronger correlation with the bridging aspects of these Web-local and Web network social capital variables, while connectivity has stronger correlations with the bonding aspects of these variables. It appears that, at least in the form of zero-order correlations, that bonding with like-minded people in these online communities is driven by a motivation to connect and interact with people like the user. But if people are looking for news, research, or other forms of information, then that is much more a driver of using these sites to bridge to other communities online or offline.

To test whether this observation works out in predictive models, the next step was to use hierarchical regression analysis to see how the different motivations were affecting the outcomes for each of the Web-local and Web network social capital measures. The hierarchical regression employed entered demographic variables into the first block, followed by a block consisting of each

of the four motivation factors. A separate regression was run for all of the social capital latent variables (Web-local bonding, Web-local bridging, Web network bonding, Web network bridging).

The first regression predicting Web-local bonding resulted in a final model (see Table 45) that explained a significant proportion of variance (R^2 = .58, F(14, 555) = 56.11, p < .01). Most of the demographic variables were reduced from the first to the final model, and in the final model connectivity was the overwhelming predictor (β = .66, t(555) = 17.36, p < .01) while entertainment was one of the best negative predictors (β = -.10, t(555) = -3.02, p < .01). The findings are consistent with the literature that show connectivity as positively associated with engagement and entertainment motives as negatively associated with social capital.

The second regression predicting Web-local bridging resulted in a final model (see Table 46) that explained a significant proportion of variance (R^2 = .48, F(14, 555) = 36.33, p < .01). Most of the demographic variables were reduced from the first to the final model, and in the final model information was the overwhelming predictor (β = .41, t(555) = 10.06, p < .01) along with connectivity (β = .29, t(555) = 6.87, p < .01). Entertainment again was a significant negative predictor (β = -.11, t(555) = -3.11, p < .01). Information thus was more strongly associated with Web-local bridging, but it works with the connectivity. This makes sense given that Web-local bridging is essentially the use of online sites to find resources to expand your ties in your local community. The explanation, then, could be that people are using these online communities

to find information, news, and research that allows them to communicate with people on the site in order to help forge those ties offline rather than getting the information and logging off without interacting. The interaction, then, could be the catalyst for how that information is used.

The third regression predicting Web network bonding resulted in a final model (see Table 47) explained a significant proportion of variance (R^2 = .56, F(14, 555) = 53.39, p < .01). Again, most of the demographic variables were reduced from the first to the final model. Similar to the first regression for Web-local bonding, the vast majority of the variance was accounted for by the connectivity motive (β = .57, t(555) = 14.85, p < .01) followed by the information motive (β = .10, t(551) = 2.78, p < .01). The presence of a strong Posts Per Day demographic variable as a positive predictor (β = .12, t(551) = 2.91, p < .01) reinforces that people are using the site to connect and interact, not just read.

The fourth regression predicting Web network bridging resulted in a final model (see Table 48) explained a significant proportion of variance for Web network bridging social capital (R^2 = .19, F(14, 555) = 10.54, p < .01). The demographics all saw their weights decrease from the first to the final model. In the final model, the only motivation that was significant in the model was information (β = .32, t(555) = 6.28, p < .01).

Figure 4. Motive predictors of different types of social capital

Web-local bonding	Web-local bridging	Web network bonding	Web network bridging
1. Connectivity	1. Information	1. Connectivity	1. Information
2. Information	2. Connectivity	2. Information	
3. Entertainment (-)	3. Entertainment (-)		

Figure 4 on the previous page shows the significant online use motivation predictors for each of the four social capital variables tested in the regressions. The picture that emerges from these hypotheses and then the regressions is that motivations for use are playing a big role in the prediction of different types of social capital. Together, these four models suggest that connectivity and information seeking are the main drivers behind these four facets of social capital. Bonding, whether the Web-local type or the Web network type, is driven by the motivation to interact and connect with others, which means that people are going online to get to know others and that this interaction is leading to strong bonds that help make online communities strong. The information motive plays a small role bonding, but it plays most of its prominence when it comes to bridging. The desire to learn more drives users in online communities to learn about things online that are contained outside their network.

Thus people who use online communities to bridge to other local or online communities are being driven by information, not interaction. The foundation for this type of extension of one's own network is built on knowledge. On the other hand, people who are using to bond are looking more for interaction and connection to like-minded people. This should raise some questions for the next section, which incorporates media use in the prediction of different engagement outcome variables. Certain types of media, as we saw in the literature review, are more oriented toward information-seeking while others are more toward interaction. But if we also view media along the spectrum of bonding to bridging, it would appear that information-oriented sources should pair with bridging agents while interactive sources would pair with bonding agents.

Testing a model for news, motivations, and social capital

The study's final research question asked how regression can be used to predict the impact of demographics, media use, motivations for online community use, local community social capital, Web-local social capital, and Web network social capital on the different forms of local and distance engagement. To answer this question, this test used a hierarchical regression model that examines the role that news use, online community use motivations, and the six facets of social capital have on the different forms of engagement used in this study. The model controls for demographics and starts with a person's news use.

The second model after demographics added use of different types of media (opinionated news style, TV news, print newspaper, online news, radio news, and social media). The third model adds the four motivations (information, connectivity, entertainment, shopping) for using the participant's Web community, then adding each of the bridging and bonding factors for local community, Web-local, and Web network social capital. The predictor variables would be the six engagement variables previously used in the study, including the four local engagement variables (community issues, service, neighbors, voting) and the two distance engagement variables (activism and helping). Thus the following analysis consists of six different hierarchical regressions for each of the six dependent variables.

Model 1: Local community issues

The first regression tested for the prediction of community issues (Table 49). In the second model, which adds news use to the demographics, use of

opinionated news offers the strongest weight but print newspaper use and social media use also are significant predictors. In the third model, which adds online community use motivations, the media use variables remain significant. Information from the motivations enters as a strong weight in the regression, and entertainment is a significant negative predictor.

The final model, which adds the six measures of social capital, explained a significant proportion of the variance for community issues (R^2 = .38, F(27, 535) = 13.85, p < .01). Use of opinionated news (β = .27, t(535) = 5.92, p < .01) and print newspapers (β = .16, t(535) = 4.22, p < .01) were the best predictors of community issues among all the media variables in the final model, although social media also was significant (β = .10, t(535) = 2.43, p < .05). The information motive to use online communities was a strong positive predictor (β = .17, t(535) = 3.44, p < .01), while entertainment was a strong negative predictor (β = -.14, t(535) = -3.35, p < .01). The social capital variables added in the final model saw local community bonding (β = .20, t(535) = 4.07, p < .01) as the only significant predictor, although Web-local bonding (β = .13, t(535) = 1.83, p = .07) was approaching significance

The presence of opinionated news, which includes evening cable TV news, print magazines, and satire news, makes sense as the strongest predictor in the final model. Opinionated news is more likely to be partisan and thus would likely appeal to the most activist part of the base on a particular issue, but users still need the information that comes from printed newspapers as a basis for understanding the day's events. The social capital variables show that creating

bonds in one's community, either in the real-world or online, is also driving community issues.

The user that seems to be pictured in this snapshot of the data is that of a highly partisan user who bonds with others who are like-minded in their communities or online, and then use media that is partisan and perhaps leans toward their views of the world. Those three variables thus connect together logically toward a view that community issues is best predicted by someone so partisan on an issue that they are closed off to people and ideas that they don't share, and perhaps this is a necessary requirement to move someone to campaign or work for an issue. Also, the negative predictor for entertainment confirms much of what research has shown as it relates to engagement in communities (Shah et al., 2002).

Model 2: Local Service

The second regression tested for the prediction of service (Table 50) and used the same order of variable blocks as the previous regression. In the second model, which adds news use to the demographics, use of opinionated news and print newspapers again emerge as strong predictors, but in this case opinionated news is negative compared to the last regression. In the third model, which adds online community use motivations, both news factors remained significant. Connectivity emerged as a strong predictor among the variables added, and indeed was the strongest in this third model, while entertainment was a strong negative predictor.

The final model, which adds the six measures of social capital, explained a significant proportion of the variance for service ($R^2 = .29$, $F(27, 535) = 9.31$, $p <$

.01). Use of online communities for the purpose of connectivity (β = .50, t(529) = 7.37, p < .01) was the dominant predictor in this final model. Use of the print newspaper (β = -.14, t(529) = 3.12, p < .01) was also a strong predictor in addition two social capital variables, local community bridging (β = .14, t(529) = 2.53, p < .05) and Web-local bridging (β = .22, t(529) = 3.57, p < .01). Web network bonding (β = -.38, t(529) = -5.04, p < .01) was a strong negative predictor as was online community use for entertainment (β = -.16, t(529) = -3.42, p < .01) and use of opinionated news style (β = -.18, t(529) = -3.80, p < .01).

What appears to be happening with this model is in some ways the opposite of the first model. Online community users looking to get involved in organizations and associations in their local community use their sites for the purpose of connectivity. They clearly are seeking interaction with many different types of people, and thus it would be logical to assume they are bridge builders. That local community bridging and Web-local bridging for real-world ties are significant in the model only reinforces the analysis here, as does the fact that the user is still using the printed newspaper but getting away from partisan opinionated news that might serve as a hindrance to meeting different types of people. The negative prediction that goes with Web network bonding also serves to note that while users of online communities might be getting to know like-minded people online and strengthening that community, it is not enough to predict work and participation within local civic organizations.

Model 3: Local Neighbors

The third regression tested for the prediction of neighbors (Table 51) and

used the same order of variable blocks as the previous regression. In the second model, which adds news use to the demographics, use of the print newspaper and talk radio were significant predictors. In the third model, which adds online community use motivations, both of the news variables lose significance, although both are close to significance. Of the online community use motivation variables, connectivity and information are strong positive indicators.

The final model, which adds the six measures of social capital, explained a significant proportion of the variance for neighbors (R^2 = .38, F(27, 535) = 13.52, p < .01). The strongest weight was local community bonding (β = .41, t(535) = 8.35, p < .01) in conjunction with information motivation (β = .20, t(535) = 3.93, p < .01). Web network bonding also was a significant predictor (β = .15, t(535) = 2.09, p < .01). Two media variables, talk radio (β = .11, t(535) = 2.70, p < .01) and online news (β = -.11, t(535) = -2.61, p < .01), were significant in the model as well.

As noted earlier, this neighbors outcome variable is the lowest rung on the ladder of engagement. It is the easiest form of participation, which is why bonding might be more at work here than the bridging variables. Like the first model, bonding and information seem to go together again in this particular model. The questions in the Community variable look at helping and socializing with one's neighbors, and so it makes sense given the literature that bonding-type predictors would emerge strongly in this analysis, both locally and in the virtual realm. Local community bonding makes sense because it encapsulates those close ties and layers of trust, and the presence of Web network bonding indicates

that people are looking to replicate that experience online rather than meet new people. Thus it would make sense that the use of online communities for information – not connectivity – would be significant in this model because the latter would indicate an attempt to bridge to people who are different than the user. For the same reason, the presence of talk radio is also a good fit because it is often more partisan than it is diverse in terms of viewpoint.

Model 4: Local Voting

The fourth regression tested for the prediction of voting (Table 52) and used the same order of variable blocks as the previous regression. In the second model, which adds news use to the demographics, use of the print newspaper and opinionated news were significant predictors. In the third model, which adds online community use motivations, both news variables stay and social media gets added. Of the online community use motivation variables, connectivity and information are strong positive indicators.

The final model, which adds the six measures of social capital, explained a significant proportion of the variance for voting ($R^2 = .38$, $F(27, 535) = 13.52$, $p < .01$). The only significant media weight was print newspaper ($\beta = .41$, $t(535) = 8.41$, $p < .01$). Use for information ($\beta = .16$, $t(535) = 2.31$, $p < .01$) was significant, and several social capital variables were significant. All of the bridging variables were significant: local community ($\beta = .31$, $t(535) = 5.89$, $p < .01$). Web-local ($\beta = .25$, $t(535) = 4.67$, $p < .01$) and Web network ($\beta = -.19$, $t(535) = 3.81$, $p < .01$). Local community bonding also was significant ($\beta = -.11$, $t(535) = -2.38$, $p < .01$).

That local community bonding and bridging are predictors of voting is not

surprising, given that it means heavy community ties and involvement and that this relationship is predicted by past research. That bridging comes out for all the variables in conjunction with information also fits, because people are more engaged in all their different forms of community and reaching out while at the same time staying informed. How they do this is clearer by looking at the Media Use variables. They are heavy newspaper users, which squares with the literature that people who use this type of media tend to be bridge builders in their communities.

Model 5: Distance activism

The fifth regression tested for the prediction of distance activism (see Table 53) and used the same order of variable blocks as the previous regression. In the second model, which adds news use to the demographics, opinionated news again emerges as the strongest predictor in the model, while print and online news both offer significant positive prediction. TV news in this version is a negative predictor. In the third model, which adds online community use motivations, opinionated news remains the strongest while the other predictors remain significant, with the added weight from social media as a positive predictor. Of the use motivations, information approached significance as a positive predictor, while entertainment and shopping were negative.

The final model, which adds the six measures of social capital, explained a significant proportion of the variance for distance activism ($R^2 = .52$, $F(27, 535) = 23.065$, $p < .01$). The strongest predictor in the final model by far was the use of opinionated news ($\beta = .39$, $t(535) = 9.78$, $p < .01$) while print news ($\beta = .12$, $t(535) = 3.61$, $p < .01$) and social media ($\beta = .08$, $t(535) = 2.23$, $p < .05$) also were strong

positive predictors. None of the use motivations were positive predictors, but use of online community for connectivity (β = -.14, t(535) = -2.52, p < .05), entertainment (β = -.11, t(535) = -2.96, p < .01), and shopping (β = -.09, t(535) = -2.32, p < .01) were all negative predictors. Of the social capital variables added to the model, local community bonding (β = .20, t(535) = 4.67, p < .01) and Web-local bridging (β = .20, t(535) = 3.91, p < .05) were strong positive predictors, but local community bridging (β = -.11, t(535) = -2.52, p < .05) was a negative predictor.

The high degree of media activity, especially as it relates to reaches beyond the community, fits well with the concept of distance activism. The variable measures peoples' involvement in political causes and issues that are national in focus, but also their work on behalf of candidates and issues that are not in the same geographic locale. Thus a social media presence that includes use of blogs, Facebook, and Twitter would seem to offer the right connection to non-geographic causes, and the high use of opinionated news would fit in with the choice to act on the topic rather than let someone else do the work. In that sense, the variable behaves like community issues, with the difference being that the activism is not contained locally and thus requires media choices help inform people to the point where they know to work for the candidate or issue.

Also, just as we saw in other regressions, use of online community for connectivity and local community bridging are negative predictors because these users are not seeking diversity of opinion or beliefs, but rather trying to work on behalf of their own. Because of that, the presence of local community bonding

makes sense as a positive predictor. Finally, the negative prediction that comes with use for entertainment also makes sense given the literature that shows the negative relationship between entertainment and most types of engagement. It is fair to say that activity in politics over distance behaves in much the same way as it does locally with regards to use of media for entertainment, in this case specifically the use of online communities.

Model 6: Distance helping

The sixth and final regression tested for the prediction of distance helping (see Table 54) and used the same order of variable blocks as the previous regression. In the second model, which adds news use to the demographics, opinionated news use, talk radio news use, and social media are significant predictors. In the third model, which adds online community use motivations, opinionated news and social media are the only ones to remain, while TV news enters as a negative predictor. The strongest weight comes from the motivations, though, as use of online community for connectivity is a strong predictor and the only motivation variable to gain significance.

The final model, which adds the six measures of social capital, explained a significant proportion of the variance for helping (R^2 = .36, F(27, 535) = 12.53, p < .01). The connectivity motive for using online communities (β = .28, t(535) = 4.43, p < .01) was the strongest predictor in the model. Four social capital variables also came into play as strong predictors: local community bonding (β = .24, t(535) = 4.71, p < .01), local community bridging (β = -.28, t(535) = -5.42, p < .01), Web network bonding (β = .15, t(535) = 2.12, p < .05), and Web network

bridging ($\beta = .13$, $t(535) = 2.30$, $p < .05$). From the media variables, social media ($\beta = .19$, $t(535) = 4.39$, $p < .01$) and opinionated news style ($\beta = .19$, $t(535) = 4.12$, $p < .01$) were the only two variables to predict distance helping.

The first point to note with this model is that it confirms some of the basis for this study. Web network social capital, both bridging and bonding, creates the relationships that strengthen online communities (bonding) but also expand networks to people outside that community through virtual ties (bridging). These variables are strong predictors of helping another person from far away when the only tie is an online relationship, and that represents justification for the concept of Web network social capital. One additional fact worth noting is that local community bonding also is a strong predictor, but local community bridging is a negative predictor. Second, in terms of media use, use of opinion news and social media were strong predictors of distance helping just as it was with distance activism. The social media variable as a predictor makes sense because distance helping begins online, so connectedness to online media would seem to play a part. The presence of opinionated news use and local community bonding fits a pattern from the previous four regressions, as those seem to go with outcome variables that rely on engagement involving close-knit networks rather than ones that rely on bridging.

DISCUSSION

Theoretical benefits of using the Media Choice Model

The results in this study add further evidence to the body of research that shows that motivations for using particular types of media do help better predict the outcomes of how people make use of their media choices. By connecting some of the benefits of using online communities, in this case social capital generated in a variety of ways, we are better able to understand what role motivations play in how people use media to build social bonds.

As has been seen in past research, use of online communities for entertainment is not a good predictor of the building of social bonds online. Use for the gathering of information or the desire to connect to others in the community, on the other hand, can be a sound predictor of the ties people form through these media and what they bring with them in terms of offline ties. These two motives match past research that shows information-seeking and social utility (e.g. *Shah et al.*, 2001a).

Where this research differs from other mass media research in social capital is that it treats forms of engagement as dependent variables, not as indicators of the social ties called social capital. Thus the use of the MCM in this research builds upon past research and extends understanding of the MCM. Not only do the motives predict social capital, but they also are powerful predictors of the dependent variables used in this study: involvement in community issues, service to one's community, associations with neighbors, activism in national causes and campaigns, and helping one another online through virtual ties. The

relationship between the motives and social capital and how they work together to predict the outcome variables is fairly complex, as will be discussed shortly, but the most salient point for this part of the results is that the motives people bring to online community use are often as important as how people use the communities of which they are a part.

Web network social capital as an extension of social capital theory

A major goal of this research was to test the notion of a "Web network" form of social capital, a created latent variable which measures social ties within online communities as a way of determining how the formation and function of local geographic communities help predict offline activity unconstrained by the user's local place of residence. The analyses done in the results section indicate there is good reason to think that Web network social capital exists and functions in a way that is different from other types of social capital.

It could be argued that the method used in this study could have tested the models across each of the four sites, but this was not done for several reasons. First, using aggregate data for the Web network social capital variable was a way of testing construct validity so that it was not based on only one type of site. Second, the sites chosen for the study represented topics that have been found to be popular in past research, but they are not representative of online communities as a whole and any individual analysis based on these sites would thus have not been as applicable across the types of sites not tested. Third, given some of the demographic skews with regard to gender, on these sites, such as parenting sites or sports sites, analyzing sites individually would be much

different and perhaps misleading. Given that the main goal of this study was to identify and measure features of online community strength and establish this Web network social capital construct as distinct from local community social capital or Web-local social capital, aggregate analysis seems to be the best choice.

Like the Web-local version of social capital, which is ties created online that extend into one's local community offline, Web network social capital in online communities appears to exist when paired with local community social capital. While the Web network and local community measures are distinct per the analysis in the methods and results sections, it can be said that they work together to help predict many the different types of non-local engagement measured in this research. That is, the extent to which users of online forums have social capital offline in part influences how these users are able to form and make use of these bonds. The fact that the these constructs were distinct in the factor analyses yet correlated via both the factor rotation using Oblimin and within the correlation matrices offers face validity to the Web network social capital construct, because it behaves as social capital measures often have in the literature.

In the six regressions run for the final hypotheses, which took into account use motivations and forms of social capital to help predict three types of local engagement and two types of distance engagement, Web network social capital was most associated with the helping outcome variable, but local community social capital is a stronger predictor. The interpretation of these results appears to be that people who help another person they meet online is predicted best by the fact that the helper is highly bonded to people in their local geographic

community.

What, then, is the role that Web network social capital plays in this context? Recall from the literature discussion that social capital research has generally taken one of two branches. The Putnam branch stresses ties but also compiles that data with a person's engagement, thus diminishing the role that networks play in getting people engaged in their communities. The Bourdieu and Coleman branch of the social capital literature says that the networks built between people *are* social capital, and that those networks are like conduits through which the act of engagement happens.

Because this study takes the Bourdieu/Coleman approach, the role Web network social capital plays could be that conduit role. But these offline ties cannot function in the same way online because offline ties obviously cannot create online ties in order to help each other virtually in ways that mirror the type of reciprocity typically measured in social capital research. Thus a user of these communities enters having the trait of high local community social capital, but the networks and relationships created online via social capital allow the user to extend that trait to people they meet virtually. That a person possesses Web network social capital could be seen then as a trait a user of these online communities has, and it serves as a conduit to online forms of helping that is a natural extension of a user's proclivity toward offline engagement.

It should be noted that this assessment of the distance helping model does not seem to apply when talking about the "checkbook democracy" and online activism tested with the distance activism outcome variable. This particular dependent variable is not about reciprocity, though, but more about using

networks to get involved in issues or campaigns that are outside one's geographic area. Thus it more closely mirrors the local community Issues engagement variable than it does the distance helping variable. The latter comparison shares the geographic lack of focus, but the former is more of a close mirroring of the goals for that type of engagement.

With distance activism, local community bonding social capital again comes into focus as a strong predictor of this type of engagement. But rather than Web network social capital being the conduit for this type of engagement, Web-local bridging social capital is a significant predictor. Because the literature defines Web-local social capital as networks created online for the purpose of local offline action, perhaps in the case of distance activism the Web-local bridging in online communities serves as a bridge to resources online as well. Previous research has not sought to split out local forms of engagement from non-local forms, and thus the results of this study supports a line of research that looks at forms of engagement over distance and as more than merely the "checkbook" democracy items that Putnam suggests.

In a sense, then, local community social capital is a precursor to online forms of engagement (either helping or distance activism). Web network social capital is the conduit that allows people to direct their offline resources toward reciprocity in the form of helping others online, while Web-local social capital is what helps users direct resources in the form of distance activism.

One other thing the results highlight is the link between bridging and bonding forms of social capital. Depending on both the type of engagement and other factors such as motivations or even a person's media use, the role bridging

or bonding plays in the three different types of social capital measured in this research can vary widely. As noted in the literature review, this has been seen in past research. Scholars from different branches of the mass communication literature tend to stress the importance of bridging social capital and its impact of community engagement, but the evidence from other branches such as sociology show the value of bonding social capital and its role in the process of community formation and integration should not be understated. Coleman (1988) notes the importance of bonding social capital in certain types of socioeconomic situations, for example.

Some such as Putnam (2000) have noted that social capital is neither a positive or negative thing, but rather a way of assessing the reach of network relationships. Gangs, for example, can be a menace to a community but still possess high amounts of bonding social capital within their own group. Perhaps it is a scholarly bias toward certain types of prosocial behavior such as voting or community deliberation, but what tends to emerge from scholarship often is an argument that bridging is a superior form of social capital to bonding. The results in this study at least raise the question as to whether the benefits of either type of social capital in terms of engagement outcomes are more a matter of classification than value. Bonding and bridging work different ways and toward different means, but it is a mistake to think that only negative behaviors emerge from bonding social capital ties. Bonding, for example, seems particularly oriented toward types of activism centered on issues in the community. Perhaps these types of networks then are conducive to certain types of essential work related more to action on issues than discussion of issues. Thus rather than

exploring whether bridging or bonding is a "better" form of social capital, it might be better to examine it in terms of how different aspects of networked relationships can work together to promote community goals. The bridging and bonding roles, after all, are correlated with one another and thus it seems plausible that they work together.

A related question that needs more exploration is how bridging and bonding work together. For example, does one need bonding social capital in ample supply before stepping out and associating with others not like themselves? Also, how does the formation of one type of social capital aid in the formation of another type? The answers to these would offer better understanding to both scholars and people interested in building communities both locally and virtually.

Social media as a tool for engagement

As noted in the literature, the interactive tools embodied by Web 2.0 have given academics and activists alike the hope that social media in the form of blogging, Facebook, and Twitter, among others, can lead to a more engaged public and a more participation-oriented democratic discourse. The results from six full-model regressions indicate that there is some reason for optimism, but for now it is limited in scope at least when it comes to online community users. It appears that most of the types of what one might call "engagement" that are predicted by social media use are the type that are created and happen from a distance, with the aid of computer technology. It involves getting involved in national causes or helping online-only friends, but there is no evidence in these

results that this extends to local community.

Figure 5. Significant positive and negative predictors for the five engagement variables using the full hierarchical regression model for comparison purposes.

Community Issues	Service	Neighbors	Local Voting	Distance Activism	Distance Helping
Predictors	**Predictors**	**Predictors**	**Predictors**	**Predictors**	**Predictors**
Opinion news	Opinion news (-)			Opinion news	Opinion news
Print news	Print news		Print news	Print news	
		Talk Radio			
		Online news (-)			
				Social media	Social media
	Connectivity			Connectivity (-)	Connectivity
Information		Information	Information		
Entertainment (-)	Entertainment (-)			Entertainment (-)	
				Shopping (-)	
OFF Bonding		OFF Bonding	OFF Bonding	OFF Bonding	OFF Bonding
	OFF Bridging		OFF Bridging	OFF Bridging (-)	OFF Bridging (-)
ON Bonding					
	ON Bridging		ON Bridging	ON Bridging	
	V Bonding (-)	V Bonding			V Bonding
			V Bridging		V Bridging

The results from Figure 5 show predictors for each of the six engagement dependent variables using the full hierarchical model (Demographics, Media Use, Motivations, social capital). Social media, one of the factors of Media Use, was an index made up of use of blogging, social networking sites such as Facebook, Twitter, photo sharing, and video sharing either as a producer or consumer. The scaled social media variable predicted Distance engagement for both activism and helping, but it was not a significant predictor for any of the local community engagement variables under local engagement. This, of course, does not mean that people are not using these tools for engagement, but it does mean that of the people reporting high amounts of local activity, there are much better predictors of local community engagement and that social media is not a significant one. For now, at least, the use of these tools by online community users for local community engagement is more of a theoretical notion or an episodic one than it is a full-blown part of a person's routine.

It should be reiterated that it is difficult generalizing to an entire population of Web users given that this study surveyed users of online communities. It is arguable though that the group studied here would likely be more likely to use social media for activism offline. First, online community users already are using the Web socially rather than using social media tools. That is, there is a difference between signing up for a Facebook account and checking it once a month compared to someone who is visiting an online community Web site and interacting with people and content. The chance for social interaction for the occasional Facebook user is possible; it would seem that, given that the content of online communities is interaction itself, interaction is unavoidable on these sites. Thus if any group of people would be using social media to create activism online, it would seem to be people who already are doing it.

Still, these results should not be interpreted as saying social media cannot be used as a tool for activism. For one, several of the tools in the index have only been adopted by large amounts of people in the past three years, and thus the services may need more time in the public arena before people begin to use them as tools of engagement. Twitter, in particular, has only truly had the public's attention for about 10 months and latecomers to the technology may not immediately see its potential as a way to organize and take action.

If using social media is something that requires being attached to a computer, it might be that the most active users of these services are passive when it comes to real-world activity, and thus being engaged locally in one's community requires more effort or motivation than being involved with online

activism or helping of others, because one doesn't even need to leave the computer to take action on the material they are consuming. One avenue for further research, then, might be to look at differences in local engagement among people who use social media from a mobile device such as a smart phone (e.g. iPhone, BlackBerry) compared to a desktop or laptop computer that relies on an Internet or Wi-Fi connection. Perhaps people who use social media in an untethered way are more agile in their ability to respond to what they consume on social media in a way that lets them be more active locally.

The role of news in engagement

A third finding that stands out from the results is the role that different types of news presentation plays in these predictive models. Figure 5 shows that opinionated news style, typified by blogs, cable TV pundit shows and satire news shows such as *The Daily Show*, plays a significant predictive role in four of the five types of engagement tested. It plays a positive role in local community Issues, distance activism, and distance helping, while it plays a negative role in engagement with local service. Print newspaper use also were a positive driver for local community Issues and distance activism, and they also were a positive predictor of local service.

If print news is considered the factual and authoritative view of the news, while cable TV punditry and blogs are the opinionated take, then perhaps these variables work together to drive people toward forms of activism. Community issues and distance activism, for example, would seem to require that a person not only possesses a set of beliefs about a political issue or candidate but also has

the motivation necessary to act on those beliefs by doing work on behalf of a cause. Viewed that way, perhaps the link the literature consistently shows between newspapers and political knowledge would serve to give the activist the information needed to get involved. At the same time, opinionated news style could either spur the person to act on that information in a way that is causal or the presence of high consumption of opinionated news would serve as a second necessary marker to predict these types of engagement.

This notion of opinionated news style is an area of the literature worth exploring more in terms of looking at news presentation style. Recent research found that adolescents report a greater sense of political efficacy toward activism when they consume opinionated news style styles compared to the authoritative style that comes from professional legacy media such as newspapers, television news, and online news (Littau, Gardner & Thorson, 2009). For the results in this study, one could argue that TV, radio, print newspaper, and online news would comprise an authoritative style of presentation while the blogs, prime-time cable TV news, satire news, and talk radio would be more of an opinionated take on the world.

One way of assessing this could be found in the fact that bonding social capital roles consistently show up when these variables are paired together as positive predictors of activism, because it would seem that to get involved in issues one cares about then a person would have to have the social networks connecting them with like-minded individuals in order to act on their belief system. Activism, then, either through distance or locally (the community issues variable) could be construed as more of a “bonding type” of activity that is best

served by the use of certain types of media. When the variables are at odds, as they are in predicting local service when opinionated news style is negative and newspapers are positive, bridging social capital is more associated with this type of pairing and this type of engagement might be best understood as a "bridging" type of activity that requires different types of media choice. This makes intuitive sense in that performing service within organizations through volunteering and such would seem to require that a person have more social ties than what exists in their close-knit group of friends or neighbors.

In terms of the link between print newspaper and opinionated news style and how they work together to predict bonding or bridging types of activities in either the local or glocal community, further research in this area could help determine whether the relationship is causal or whether it is a case of the combined influence of these two variables, and the key in that case would seem to be the establishing of some type of temporal priority.

Figure 6 on the following page offers an initial look at how such a model might be constructed using structural equation modeling (SEM). It uses direct paths from print newspaper use to local community bonding social capital, opinionated news use, and local community Issues. The model also has direct paths from local community bonding and opinionated news style to local community Issues in order to model the line path from Newspapers with other variables in between.

The results of this model (see Tables 55-56) show the potential of testing this model more fully in the context of a field experimental design, for example, as it was significant (χ^2 = .14, *df* = 1, *CMIN* = 0.14, p > .70; *GFI* = .99; *RMSEA* <

.01) in terms of fit. The model, then, offers some new ways of thinking about the role media use, message features, and social capital can work together in creating different types of engagement.

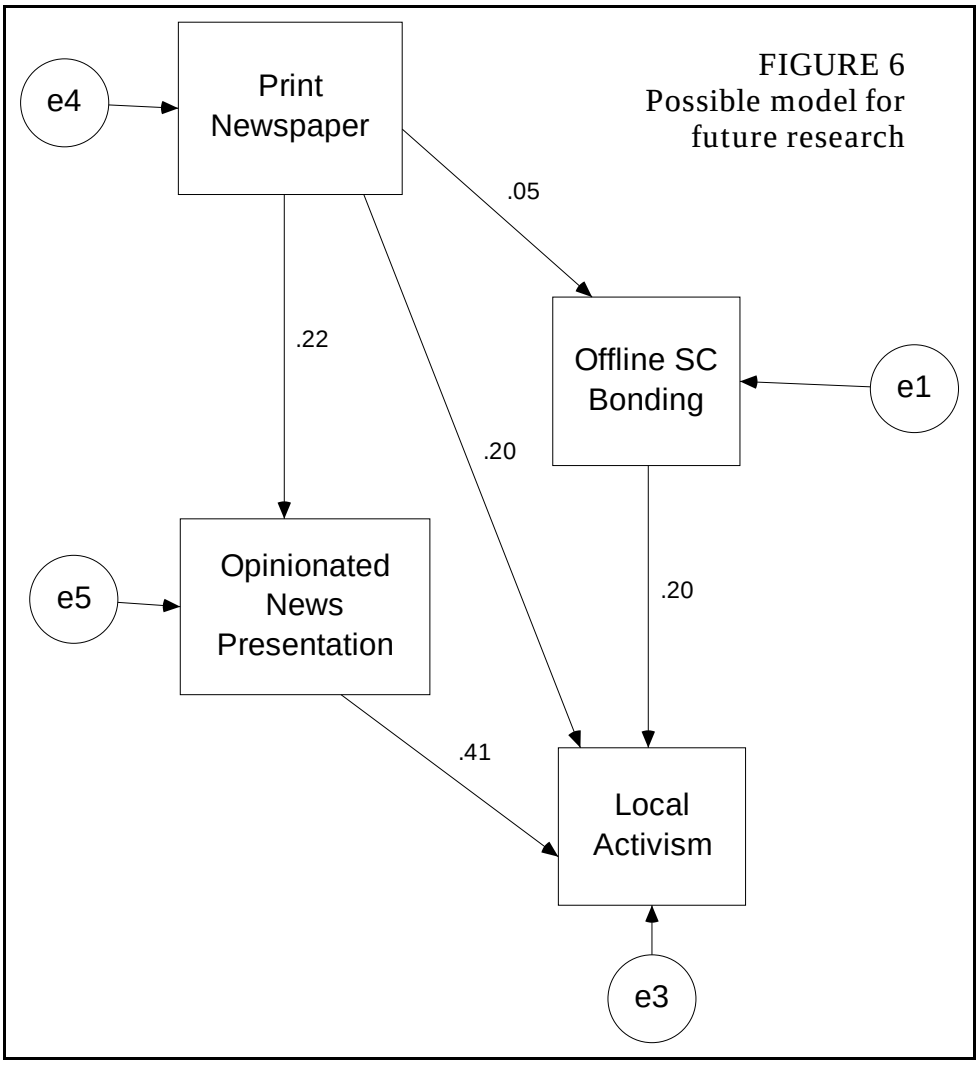


FIGURE 6
Possible model for future research

While the use of structural equation modeling of survey data gathered with no regard to temporal priority cannot definitively make an argument for causality, the basic analysis shown here appears to offer some justification for answering some of the questions coming out of these results in the form of an experimental method that looks at these different variables in terms of change over time.

Of equal importance in terms of future research directions is to determine whether there are certain message features of news that are more conducive to generating social ties in communities, online or otherwise. It could be that characteristics of news presentation, such as an authoritative facts-driven style of delivery, is more useful for the creating of bonding ties or bridging ties. With the rise of more opinionated news formats such as cable TV news and blogs, it is a direction for research that is well worth exploring given news' traditional role in shaping community connectedness and civic engagement.

Synthesis of results for full regression models

The fact that these models behave differently for each of the six dependent variables is in essence a form of concept validity, showing that these are indeed different outcomes that have been measured. That different combinations of social capital, media use, and motivations are working together for each of these variables is a good indicator that they differ in significant ways.

The models tested in this research indicate that predicting these different types of engagement is a complex combination of media use and community motivations that combine with different types of social capital to predict online or offline types of engagement. The argument here is that those two independent variables are feeding toward the generation of different types of social capital in these online environments, and that different types of social capital play different roles in engagement.

Still, the argument from these results is that there is not a simple way to parse out either social capital or the effects of social capital upon engagement. In

an attempt to answer Putnam's criticisms about media, researchers have gone to great lengths to demonstrate that the motivations for using media clearly impact how social capital can be built through that media (such as watching television for informational vs. entertainment purposes). This study extends that research by further splitting out bridging and bonding for each latent variable in contrast to not only motivations for using online communities that can help generate social capital but also the media habits that these users bring to the process.

The regressions in these data tests also provide further evidence that the way Putnam conceived social capital does not offer enough detail about the complexity of this construct. Recall that a hallmark of the Coleman/Bourdieu branch was that social capital is a network of relationships that lead to engagement outcomes whereas the Putnam branch of the literature measures outcomes and presents it as evidence of social capital. This research took the latter view and made social capital a predictor of engagement, and the results offer face validity to that theoretical argument.

For example, information predicts Web network bridging and Web network bonding, so if social capital and engagement were truly the same as Putnam suggested then information should directly predict distance helping in regression. But in the third model of the full-model regression for distance helping, where it is allowed to have a direct effect on the outcome variable, information is not a significant predictor and in fact connectivity is the chief predictor.

What these results suggest is that the relationship between motivations for using online communities predicts social capital of various forms, and that these

two variables work together to predict engagement that is different than what the two independent variables predict on their own. Distance helping in the full regression model is predicted by one online community use motive, connectivity, but the significant social capital latent variables that predict this variable (Web network bridging and bonding, local community bonding) are themselves predicted by a combination of the Media Choice Model's variables for media use motivations (connectivity, information as positive, entertainment as negative).

This builds the argument that what is going on in these communities with regards to their levels of engagement, either locally or over distance, is more complex than simply what types of social capital they are creating either on or offline. The results are similar to what Shah (2001a) found in that motivations for use have a significant influence on not only the generation of social capital but what in turn people do with that social capital.

The hypotheses related to motivations for community use as a predictor of social capital, for example, found that bonding and use for connectivity were linked, as were information and bridging. The link was fairly strong, but adding media use to the equation changed those relationships somewhat. For example, would newspaper users come to communities looking for information or ways to interact with what they already know from the news? The presence of the media variables knocks out the earlier setup that in part assumes that knowledge acquisition begins the minute someone logs on to an online community for information-seeking purposes.

One part of the motivations that was not part of this research instrument but could serve as a direction for future research might be to look at the

information motivation more closely vis a vis the bonding role of social capital. Interactivity as a motivation for use is a natural fit for the patterns of bridging social capital because both seem based in the area of extension of one's own network. Information was more apparent in bonding roles but also showed up in some of the bridging roles depending on the model. Perhaps the information motive needs to be more closely examined in terms of information-browsing or information-seeking with relation to the models run in this study. Information-browsing, while still an active form of consumption, is more directionless and might have more opportunity for users to learn about new people or ideas. Information-seeking, on the other hand, is about directed search and might be based on people finding information to either support or refute their own views, and thus that might have a different role in prediction. Past research shows that there are distinct roles that browsing vs. seeking plays when it comes to using forms of social media (Alhabash *et al.*, 2009). Exploring this avenue with respect to social ties and forms of engagement would seem a worthwhile next step in this research.

Another way of looking at the results would be to ask to what extent different forms of media help enhance the creation of bonds and bridges. opinionated news and talk radio came up in predictions of classic bonding forms of engagement, such as socializing and helping neighbors, but might those forms of media be more attractive to people who don't want to think about any ideas other than the ones that they agree with? Newspapers, on the other hand, continue to be associated with many forms of engagement all the way up the ladder that was discussed earlier. For all of the interesting online tools that have

come to the forefront in the past few years, such as rich content sites and social media, very little prediction of these engagement behaviors came from those types of tools. They are not necessarily tools for disengagement, as some such as Putnam have argued, but they aren't necessarily tools to get people engaged either.

Going back to Figure 5, there are patterns. Local community bonding and local community bridging show up in both local and distance activism along with the presence of Print and opinionated news use. But the use of communities for information is a driver of local community Issues, while it is not significant for distance activism. Instead, the Distance variable is being driven strongly by the use of social media. Envisioning these community members as highly connected both on their sites and extended outward using social media is a useful way of picturing what is happening here.

What seems clear is that the role of local community social capital is a common thread through most of these predictions. Whether it acts as a precursor to forming the other types of social capital that enable these types of engagement, particularly the online kinds, or they form a necessary-but-not-sufficient condition for any of these types of engagement to take place is still in question. As suggested before, not enough is known about causality in these instances to say for certain, but it is a next step worth exploring as an extension of these findings.

One of the most prominent findings of the six models when taken together is the role opinionated news such as cable TV shows, news magazines, and satire news play in predicting how online community users get involved both online

and offline. In particular, this variable seems to pair well with local community bonding to predict working for causes, either locally or by distance, as well as helping other people. This combination also seems to generally have a positive relationship with use of online communities for information-seeking, but a negative relationship with use for connectivity.

One way of thinking about this information, then, might be to view these variables as working together to incubate the types of engagement being measured. Local activism or glocal work for political candidates or causes might best be understood as emerging from a sense of understanding about the users' beliefs about the issue or candidate, but also their connectedness to other people who are like-minded in their approach to the issue or candidate. Connectivity, which is more about talking and communicating with others than it is about research and information, might lead to interactions with people who are not like-minded on the issue and thus it makes sense that it might be a negative predictor for the types of activism described.

This analysis gets further credence when you look at the two regression models where connectivity played a positive role in predicting a form of engagement (service and distance helping). In both situations, the engagement is based on working to help other people and is usually divorced from political candidates or causes. Thus having the networks to try to help other people might be the product of people who use online communities for interaction either as a step to encourage them to meet other people or to meet people online that need help.

What is surprising from these two types of helping engagement is the role

bridging and bonding plays. When it is offline (service), both local community bridging and Web-local bridging are significant predictors, but in the context of the online realm where relationships and means for helping others are forged entirely through electronic networks, local community bonding is a strong predictor rather than local community bridging. The requirement in this case is the need to bond with fellow users online in order to find people to help, not build bridges to people in other communities or on other online sites. But even in the case of distance helping, the local community bonding Variable is perhaps influenced by the Web network bonding and Web network bridging latent variables. Web network social capital was envisioned at the start of this research as way of measuring the strength of online communities. One possible conclusion of the regression results for distance helping, then, might be that strong online community provides the conditions needed for people to want to help another person that they meet online. That trust that leads to reciprocity is built online.

Adding motives to this analysis adds another layer to understanding what is happening in these online communities. Connectivity and information-seeking seem to be the two motives most likely to predict these users' level of engagement. Connectivity predicted involvement in local organizations and glocal helping, and surprisingly it negatively predicted political involvement over distance. Information-seeking as a motivation to use online communities predicted local activism and local community connections among people. It would seem that information seekers in communities might be connected enough in their real-world communities that they don't have as much of a need for

connectivity online, and that frees up energy to get involved locally, whereas those who are seeking connectivity are either trying to find resources that let them get engaged locally (via service) or act as a substitute for missing real-world interaction (distance helping).

In that sense, because these variables were validated for general Web use it might be useful to explore information vs. connectivity as a motivation with a social context when it is applied to online communities. Connectivity was a strong positive predictor of interpersonal types of engagement, such as work in organizations that requires teamwork and interdependence on others or distance helping that requires some interaction to build the trust needed to spur this type of reciprocity. But the variable was a negative predictor of distance activism. If we think of connectivity based on the questions used in the scale, it was focused on using the online community to communicate and talk with people online. Perhaps activism is better understood as talking at another person in an effort to convince a person on an issue rather than with them, and thus the type of person suited for this type of engagement would not have as much need for an interactive Web community. While connectivity could thus be viewed as a motivation that would go with interpersonal engagement types, the motivation information could be viewed as more of an antisocial variable fit more for activism, possibly the opposite side of the argument just made for connectivity. An activist might use communities thus to gather information from like-minded people in an effort to improve upon their work in communities, but the offline engagement they experience might be fulfilling enough that they don't need to use these communities to fill a gap in their offline ties.

On the other hand the motives for using these communities alone, whether it be for information or connectivity, is not enough to predict action with these different outcome variables.

Future research directions

As mentioned before, one extension of this research could be to test the influence that mobile computing would have on these findings. In the past two years since the launch of the iPhone, the ability surf the Web and participate online has become easier due to advances in technology tools. The MCM notes that portability, long an advantage for print media such as newspapers and magazines, is rapidly becoming a strong feature of the Web as well, and thus some the ability to participate using social networking tools through a mobile smart phone could account for more variance in these findings as the tools progress.

Another potential research direction based on these findings would be to look more closely at the content these users are producing and incorporate that into the models that have been tested. On any of these communities the users have the option of posting many different types of content, from long personal diary-style blog posts to news links, while others might lurk more in the comments section and get their interaction by talking about others' posts. While this study accounted for posts-per-day as a user-based demographic in the regressions, the types of postings the users are producing were not examined. It might be that certain types of posts, such as political posts, might be a good predictor of activism but might alienate users of the community in some contexts

such that it limits the type of distance helping we have seen in this study.

In addition, understanding the content in terms of how information is being passed would also give context to some of these results. While users were asked about their news use, no content was studied in terms of how much news material was being referenced in posts, whether it be by simple linking or by the use of quoting material from various media. The literature shows that bloggers rely heavily on the professional news media for source material that seeds their efforts online. Little research has been done to see how this extends into popular online communities, but the more salient question for this research is to what extent different types of news media use predict the kind of community that exists on these sites.

APPENDIX

Survey questions

IV1: Media use (Measurement: 1-5 semantic differential scale, Never to Regularly)

For the following questions, answer based on how often you read, listen to, or watch the following sources in order to get your news:

- **FACTOR 1: TV News**
  - Network nightly news (ABC News, NBC News, CBS News)
  - Local television news
  - News magazine shows on television (examples: 60 Minutes, Dateline)
- **FACTOR 2: Opinionated News**
  - Prime-time cable news shows (examples: Keith Olbermann, Sean Hannity, Anderson Cooper)
  - News magazines (examples: American Spectator, Newsweek, The New Yorker)
  - Satire news shows (examples: The Daily Show, The ½ Hour News Hour)
- **FACTOR 3: Print Newspaper**
  - The printed version of my local newspaper
  - The printed version of a newspaper that serves my state or region
  - A national newspaper (examples: The New York Times, USA Today)
- **FACTOR 4: Online news**
  - The online version of my local newspaper
  - The online version of a newspaper that serves my state or region
  - The online version of a national newspaper
- **FACTOR 5: Talk Radio**
  - Talk radio (examples: Rush Limbaugh, Laura Ingraham, Air America)
- **FACTOR 6: Radio News**
  - Local radio news broadcasts
- **FACTOR 7: Social media**
  - A social networking site (examples: Facebook, MySpace, LinkedIn)
  - A video sharing site (examples: YouTube, Google Video)
  - A blogging site (examples: Blogger, Live Journal, TypePad, WordPress)
  - A photo sharing site (examples: Flickr, Picasa, Snapfish)
  - A microblogging site (examples: Twitter, Loopt)
- **MEASURED BUT NOT INCLUDED IN SCALES AFTER FACTOR ANALYSIS**
  - Morning shows (examples: Good Morning America, The Today Show)
  - A social news bookmarking site: (examples: Digg, Reddit,

Newsvine)
    - A virtual community (examples: Second Life, gaming worlds such as World of Warcraft)
    - A e-mail discussion group (examples: A listserv, Yahoo Groups site)

IV2: Online Community Use Motivations (Measurement: 1-5 semantic differential scale, Never to Regularly)

In the past 30 days, how often have you used the [enter Web community site here] to do the following?

- **FACTOR 1: Information**
    - Do research (WMI: Information)
    - Find information I can trust (WMI: Search)
    - Get information I need (WMI: Information)
    - Search for information I need (WMI: Information)
- **FACTOR 2: Connectivity**
    - Get to know other people (WMI: Community)
    - Connect with my friends (WMI: Interaction)
    - Communicate with others (WMI: Interaction)
- **FACTOR 3: Shopping**
    - Make a purchase (WMI: Transaction)
    - Buy things (WMI: Transaction)
    - Purchase a product I've heard about (WMI: Transaction)
- **FACTOR 4: Entertainment**
    - Amuse myself (WMI: Entertainment)
    - Entertain myself (WMI: Entertainment)
    - Find information to entertain myself (WMI: Entertainment)
- **FACTOR 5: Survey**
    - Take a survey on a topic I care about (WMI: Survey)
    - Fill out an online survey (WMI: Survey)
    - Give my opinion on a survey (WMI: Survey)
- **MEASURED BUT NOT INCLUDED IN SCALES AFTER FACTOR ANALYSIS**
    - Find interesting web pages (WMI: Explore)
    - Explore new sites (WMI: Explore)
    - Surf for fun (WMI: Explore)
    - Participate in an online chat (WMI: Community)
    - Join a group (WMI: Community)
    - Instant message others I know (WMI: Interaction)
    - Read about current events and news (WMI: News)
    - Read entertainment news (WMI: News)
    - Get answers to specific questions (WMI: Search)

IV/DV1: Local community social capital (Measurement: 5-point Likert scale)

*Thinking about **the neighborhood or community that you live in**, please answer the following questions.*

- **FACTOR 1: LOCAL COMMUNITY BRIDGING**
  - There is someone in my neighborhood or community I can turn to for advice about making very important decisions.
  - There is no one in my neighborhood or community that I feel comfortable talking to about intimate personal problems. (reversed)
  - When I feel lonely, there are several people in my neighborhood or community I can talk to.
  - If I needed an emergency loan of $100, I know someone in my neighborhood or community I can turn to.
  - The people I interact with in my neighborhood or community would put their reputation on the line for me.
  - The people I interact with in my neighborhood or community would be good job references for me.
  - The people I interact with in my neighborhood or community would share their last dollar with me.
  - I do not know people in my neighborhood or community well enough to get them to do anything important. (reversed)
- **FACTOR 2: LOCAL COMMUNITY BRIDGING**
  - Interacting with people in my neighborhood or community makes me interested in things that happen outside of my town.
  - Interacting with people in my neighborhood or community makes me want to try new things.
  - Interacting with people in my neighborhood or community makes me interested in what people unlike me are thinking.
  - Talking with people in my neighborhood or community makes me curious about other places in the world.
  - Interacting with people in my neighborhood or community makes me feel like part of a larger community.
  - Interacting with people in my neighborhood or community makes me feel connected to the bigger picture.
  - Interacting with people in my neighborhood or community reminds me that everyone in the world is connected.
  - Interacting with people in my neighborhood or community gives me new people to talk to.
- **MEASURED BUT NOT INCLUDED IN SCALES AFTER FACTOR ANALYSIS**
  - There are several people in my neighborhood or community I trust to help solve my problems. (Bonding)
  - The people I interact with in my neighborhood or community would help me fight an injustice. (Bonding)
  - I am willing to spend time to support general neighborhood or community activities. (Bridging)
  - In my neighborhood or community, I come in contact with new people all the time. (Bridging)

IV/DV2: Web-local social capital (Measurement: 5-point Likert scale)
Thinking about your involvement in [enter Web community site here], please answer the following questions.

- **FACTOR 1: WEB-LOCAL BONDING**
  - There are several people on [enter Web community site here] I trust to help solve my problems.
    - There is someone on [enter Web community site here] I can turn to for advice about making very important decisions.
    - When I feel lonely, there are several people on [enter Web community site here] I can talk to.
    - If I needed an emergency loan of $500, I know someone on [enter Web community site here] I can turn to.
    - The people I interact with on [enter Web community site here] would put their reputation on the line for me.
    - The people I interact with on [enter Web community site here] would be good job references for me.
    - The people I interact with on [enter Web community site here] would share their last dollar with me.
  - **FACTOR 2: WEB-LOCAL BRIDGING**
    - Interacting with people on [enter Web community site here] makes me interested in things that happen outside of my town.
    - Interacting with people on [enter Web community site here] makes me want to try new things.
    - Interacting with people on [enter Web community site here] makes me interested in what people unlike me are thinking.
    - Talking with people on [enter Web community site here] makes me curious about other places in the world.
    - Interacting with people on [enter Web community site here] makes me feel like part of a larger community.
    - Interacting with people on [enter Web community site here] makes me feel connected to the bigger picture.
    - Interacting with people on [enter Web community site here] reminds me that everyone in the world is connected.
    - I am willing to spend time to support general [enter Web community site here] activities.
    - Interacting with people on [enter Web community site here] gives me new people to talk to.
    - On [enter Web community site here], I come in contact with new people all the time.
  - **MEASURED BUT NOT INCLUDED IN SCALES AFTER FACTOR ANALYSIS**
    - There is no one on [enter Web community site here] that I feel comfortable talking to about intimate personal problems. (reversed)
    - I do not know people on [enter Web community site here] well enough to get them to do anything important. (reversed)

- The people I interact with on [enter Web community site here] would help me fight an injustice.

IV/DV3: Web network social capital (Measurement: 5-point Likert scale)

Thinking about your involvement in [enter Web community site here], please answer the following questions.

- **FACTOR 1: WEB-LOCAL BONDING**
  - There are several people on [enter Web community site here] I trust to help solve problems I have having with the site.
  - There is someone on [enter Web community site here] I can turn to for advice about the site
  - There is no one on [enter Web community site here] that I feel comfortable talking to about intimate personal problems. (reversed)
  - The people I interact with on [enter Web community site here] would put their reputation on the line for me if I was involved in a dispute on the site.
  - The people I interact with on [enter Web community site here] would help me freely if I had any questions.
- **FACTOR 2: WEB-LOCAL BRIDGING**
  - Interacting with people on [enter Web community site here] makes me interested in things that are happening in other Web communities.
  - Interacting with people on [enter Web community site here] makes me want to be a part of other Web communities.
  - Interacting with people on [enter Web community site here] makes me interested in other Web communities are talking about.
  - Interacting with people on [enter Web community site here] makes me feel like part of a larger network of Web communities.
  - Interacting with people on [enter Web community site here] reminds me that everyone on the Web is connected.
- **MEASURED BUT NOT INCLUDED IN SCALES AFTER FACTOR ANALYSIS**
  - People on [enter Web community site here] care about the issues that I care about. (Bonding)
  - I do not know people on [enter Web community site here] well enough to get them to do anything important. (reversed) (Bonding)
  - The people I interact with on [enter Web community site here] would help me work against someone trying to abuse the site. (Bonding)
  - [enter Web community site here] users try to maintain the site's operating values. (Bonding)

- Beyond the [enter Web community site here] administrators and staff, there are users who I would consider to be community leaders that help uphold the site's values. (Bonding)
- Talking with people on [enter Web community site here] makes me curious about other Web communities. (Bridging)
- Interacting with people on [enter Web community site here] makes me feel connected to what people are talking about on the Web. (Bridging)
- I am willing to spend time to support efforts [enter Web community site here] promotes on other sites. (Bridging)
- Interacting with people on [enter Web community site here] gives me new people to read about on the Web. (Bridging)
- On [enter Web community site here], I come in contact with new ideas all the time. (Bridging)

DV1: Local Engagement
Please answer the following questions about activities in your home neighborhood or community **(Measurement: 1-5 semantic differential scale, Never to Regularly)**

- **FACTOR 1: Community Issues**
  - I work for local political campaigns
  - I help with local efforts to get petition signatures
  - I work to help raise awareness on important issues in my community
- **FACTOR 2: Service**
  - I volunteer or work for a local charity.
  - I work on activities through my local church or service organization.
  - I attend religious services.
- **FACTOR 3: Neighbors**
  - I help neighbors when they are in need.
  - I take care of my neighbors' children when the need arises.
  - I host or attend dinner parties with friends or neighbors
- **MEASURED BUT NOT INCLUDED IN SCALES AFTER FACTOR ANALYSIS**
  - I attend meetings for local community associations such as the PTA
  - I speak up at meetings centered around a topic of interest.
  - I vote in local elections.
  - I give away items to those in need within my community as part of local drives.
  - I donate time to work for a community organization.
  - I volunteer on projects which beautify my neighborhood.
  - I use my unique skills or talents in a way that helps people in my neighborhood.

DV2: "Distance" Civic Engagement
Please answer the following questions about activities (Measurement: 1-5 semantic differential scale, Never to Regularly)

- **FACTOR 1: Distance Activism**
    - I have contributed money to candidates running in areas outside my community even though I cannot vote for them
    - I donate to national or state political campaigns
    - I have campaigned for candidates running in areas outside my community even though I cannot vote for them
    - I am a member of a national issue-advocacy organization (such as the NRA or Sierra Club)
    - I donate money to national causes that I care about

- **FACTOR 2: Helping**
    - I have helped out someone that I have never met in-person via the Internet
    - I have given money to help out someone I first met online
- **MEASURED BUT NOT INCLUDED IN SCALES AFTER FACTOR ANALYSIS**
    - I have joined a Facebook or social networking group to raise awareness on an issue
    - I follow important issues in other communities even if they don't directly affect me
    - I have signed online petitions related to causes I care about.

Demographics

In this section, this final section, I am looking for some information about your background. Check or fill in the appropriate box to answer the question

- **What is your age?** Fill in box
- **What is your gender?** Male; Female
- **I am:** (Living in the United States; Living in a place outside the United States)
- **Where do you live?** (If U.S. resident, list your state; If international resident, list your country)
- **Which of the following best describes your ethnic group?:** (White; Latino/Hispanic; African American; Asian American; American Indian; Multiracial; Other; Don't know/Not sure)
- **What is your highest level of education completed:** Less than high school; High school/GED; Some college; 2-year college degree (Associates); 4-year college degree (B.A. or B.S.); Master's degree; Doctoral degree; Professional degree (M.D. or J.D.)
- **What is your employment status?:** (Full-time; Part-time; Self-employed; Unemployed; Retired; Student; Homemaker; Disabled; Don't know/Not sure)
- **Which income category best estimates your total household income for the past year?:** (Less than 10,000; $10,000-$19,999; $20,000-$29,999; $30,000-$49,999; $50,000-$59,999; $100,000-$149,999; $150,000 or more; Don't know/Not sure; Decline to state)
- **What is your marital status:** Single, never married; Married;

Separated; Divorced; Widowed

- **How many hours per day would you estimate you spend online?**

TABLES

Table 1

Descriptive statistics for all demographic variables (N = 582)

Continuous variables	*N*	*Range*	*Min*	*Max*	*Mean*	*SE*	*SD*	S^2
Age	582	56.00	16.00	72.00	39.38	.47	11.38	36.72
Hours spent online per day	582	34.00	1.00	35.00	4.63	.14	3.38	11.45
Posts per day on online community	582	28.43	0.14	28.57	4.66	.25	6.06	36.73

Categorical variables	*Frequency*	*Percent*	*Cumulative Percent*
Gender			
Female	380	65.3%	65.3%
Male	202	34.7%	100%
Residency			
U.S. Resident	551	94.7%	94.7%
International Resident	31	5.3%	100%
Education			
Less than high school	4	0.7%	0.7%
High school / GED	39	6.7%	7.4%
Some college	94	16.2%	23.7%
2-year college degree (Associates)	24	4.1%	27.8%
4-year college degree (B.A. or B.S.)	232	39.9%	67.4%
Master's degree	108	18.6%	86.0%
Doctoral degree	44	7.6%	93.6%
Professional degree (M.D. or J.D.)	37	6.4%	100%
Household income			
Less than $10,000	12	2.1%	2.1%
$10,000 to $19,999	25	4.3%	6.4%
$20,000 to $29,999	36	6.2%	12.5%
$30,000 to $44,999	87	14.9%	27.5%
$45,000 to $59,999	73	12.5%	40.4%
$60,000 to $74,999	92	15.8%	55.8%
$75,000 to $89,999	53	9.1%	64.9%
$90,000 to $104,999	46	7.9%	72.9%
$105,000 to $150,999	64	11.0%	83.8%
$150,000 or more	69	11.9%	95.7%
Don't know or not sure	7	1.2%	96.9%
Decline to state	18	3.1%	100%
Marital Status			
Single, never married	112	19.4%	19.2%
Married	414	71.1%	90.5%
Separated	9	1.5%	92.0%
Divorced	45	7.7%	99.7%
Widowed	2	.3%	100%

Employment status			
Full-time	250	43%	43%
Part-time	56	9.6%	52.6%
Self-employed	40	6.9%	59.5%
Unemployed	24	4.1%	63.6%
Retired	20	3.4%	67.0%
Student	44	7.6%	74.6%
Homemaker	116	19.9%	94.5%
Disabled and not working	24	4.1%	98.6%
Don't know or not sure	8	1.4%	100%
Ethnicity			
African-American	11	1.8%	1.8%
Asian-American or Pacific Islander	13	2.1%	3.9%
Hispanic/Latino	8	1.4%	5.3%
Caucasian	533	91.6%	96.9%
Multiracial	18	3.1%	100%

Continuous variables by site	*N*	*Range*	*Min*	*Max*	*Mean*	*SE*	*SD*	*S²*
Age								
DailyKos	159	54	18	72	46.28	.932	11.76	138.20
TigerBoard	149	43	19	62	37.32	.871	10.63	113.06
Parenting	152	36	20	56	34.55	.670	8.26	68.21
BeliefNet	122	38	25	63	38.92	.995	10.99	120.83
Aggregate	**582**	**56.00**	**16.00**	**72.00**	**39.38**	**.471**	**11.38**	**36.72**
Hours spent online per day								
DailyKos	159	16	1	17	4.91	.308	3.89	15.10
TigerBoard	149	14	1	15	4.42	.208	2.55	6.47
Parenting	152	14	1	15	4.08	.228	2.81	7.91
BeliefNet	122	24	1	25	5.23	.37	4.07	16.55
Aggregate	**582**	**34.00**	**1.00**	**35.00**	**4.63**	**.14**	**3.38**	**11.45**
Posts per day on online community								
DailyKos	159	31.60	0.11	31.71	3.04	.31	3.92	15.39
TigerBoard	149	29.27	0.17	29.44	5.07	.57	6.95	48.37
Parenting	152	35.98	.13	36.11	5.32	.49	5.99	35.90
BeliefNet	122	28.43	0.14	28.57	5.47	.62	6.89	47.43
Aggregate	**582**	**28.43**	**0.14**	**28.57**	**4.66**	**.25**	**6.06**	**36.73**

Categorical variables by site	*Frequency*	*Percent within variable*
Gender		
Female		
DailyKos	105	66.0%
TigerBoard	30	20.1%
Parenting	140	92.1%
BeliefNet	71	58.2%
Aggregate	**380**	**65.3%**
Male		
DailyKos	52	34.0%
TigerBoard	119	79.9%
Parenting	12	7.9%
BeliefNet	51	41.8%
Aggregate	**202**	**34.7%**
Residency		
U.S. Resident		
DailyKos	153	96.2%
TigerBoard	142	95.3%
Parenting	139	91.4%
BeliefNet	117	96.0%
Aggregate	**551**	**94.7%**
International Resident		
DailyKos	4	3.8%
TigerBoard	7	4.7%
Parenting	13	8.6%
BeliefNet	5	4.0%
Aggregate	**31**	**5.3%**
Education		
Less than high school		
DailyKos	1	0.6%
TigerBoard	0	0.0%
Parenting	2	3.3%
BeliefNet	1	0.9%
Aggregate	**4**	**0.7%**
High school / GED		
DailyKos	2	1.3%
TigerBoard	9	6.0%
Parenting	20	13.2%
BeliefNet	8	6.6%
Aggregate	**39**	**6.7%**
Some college		
DailyKos	33	20.7%
TigerBoard	26	17.4%
Parenting	19	12.5%
BeliefNet	16	13.1%
Aggregate	**94**	**16.2%**

2-year college degree (Associates)		
DailyKos	2	1.3%
TigerBoard	7	4.7%
Parenting	10	6.6%
BeliefNet	5	4.1%
Aggregate	**24**	**4.1%**
4-year college degree (B.A. or B.S.)		
DailyKos	53	33.3%
TigerBoard	63	42.3%
Parenting	62	40.8%
BeliefNet	51	41.8%
Aggregate	**232**	**39.9%**
Master's degree		
DailyKos	37	23.2%
TigerBoard	25	16.8%
Parenting	24	15.8%
BeliefNet	22	18.0%
Aggregate	**108**	**18.6%**
Doctoral degree		
DailyKos	13	8.2%
TigerBoard	9	6.0%
Parenting	13	8.6%
BeliefNet	9	7.4%
Aggregate	**44**	**7.6%**
Professional degree (M.D. or J.D.)		
DailyKos	18	11.3%
TigerBoard	8	5.3%
Parenting	2	1.3%
BeliefNet	9	7.4%
Aggregate	**37**	**6.4%**
Household income		
Less than $10,000		
DailyKos	5	3.1%
TigerBoard	3	2.0%
Parenting	2	1.3%
BeliefNet	2	1.6%
Aggregate	**12**	**2.1%**
$10,000 to $19,999		
DailyKos	13	8.2%
TigerBoard	6	4.0%
Parenting	0	0.0%
BeliefNet	6	4.9%
Aggregate	**25**	**4.3%**

$20,000 to $29,999		
DailyKos	7	4.4%
TigerBoard	10	6.7%
Parenting	10	6.6%
BeliefNet	9	7.4%
Aggregate	**36**	**6.2%**
$30,000 to $44,999		
DailyKos	20	12.6%
TigerBoard	20	13.4%
Parenting	29	19.1%
BeliefNet	18	14.8%
Aggregate	**87**	**14.9%**
$45,000 to $59,999		
DailyKos	20	12.6%
TigerBoard	17	11.4%
Parenting	24	15.8%
BeliefNet	12	9.8%
Aggregate	**73**	**12.5%**
$60,000 to $74,999		
DailyKos	14	8.8%
TigerBoard	23	15.4%
Parenting	33	21.7%
BeliefNet	22	18.0%
Aggregate	**92**	**15.8%**
$75,000 to $89,999		
DailyKos	12	7.5%
TigerBoard	17	11.4%
Parenting	13	8.6%
BeliefNet	11	9.0%
Aggregate	**53**	**9.1%**
$90,000 to $104,999		
DailyKos	16	10.1%
TigerBoard	8	5.4%
Parenting	10	6.6%
BeliefNet	12	9.8%
Aggregate	**46**	**7.9%**
$105,000 to $150,999		
DailyKos	16	10.1%
TigerBoard	18	12.1%
Parenting	19	12.5%
BeliefNet	11	9.0%
Aggregate	**64**	**11.0%**
$150,000 or more		
DailyKos	23	14.5%
TigerBoard	24	16.1%
Parenting	6	3.9%
BeliefNet	16	13.1%
Aggregate	**69**	**11.9%**

Don't know or not sure		
DailyKos	6	3.8%
TigerBoard	0	0.0%
Parenting	0	0.0%
BeliefNet	1	0.9%
Aggregate	**7**	**1.2%**
Decline to state		
DailyKos	7	4.4%
TigerBoard	3	2.0%
Parenting	6	3.9%
BeliefNet	2	1.7%
Aggregate	**18**	**3.1%**
Marital Status		
Single, never married		
DailyKos	44	27.7%
TigerBoard	35	23.5%
Parenting	10	6.6%
BeliefNet	24	19.7%
Aggregate	**114**	**19.4%**
Married		
DailyKos	89	56.0%
TigerBoard	103	69.1%
Parenting	135	88.9%
BeliefNet	86	70.5%
Aggregate	**414**	**71.1%**
Separated		
DailyKos	2	1.3%
TigerBoard	3	2.0%
Parenting	2	3.3%
BeliefNet	2	1.7%
Aggregate	**9**	**1.5%**
Divorced		
DailyKos	22	13.8%
TigerBoard	9	6.0%
Parenting	5	3.3%
BeliefNet	9	7.4%
Aggregate	**45**	**7.7%**
Widowed		
DailyKos	2	1.3%
TigerBoard	0	0.0%
Parenting	0	0.0%
BeliefNet	0	0.0%
Aggregate	**2**	**0.3%**

Employment status		
Full-time		
DailyKos	64	40.3%
TigerBoard	83	55.7%
Parenting	46	30.3%
BeliefNet	57	46.7%
Aggregate	**250**	**43%**
Part-time		
DailyKos	13	8.2%
TigerBoard	7	4.7%
Parenting	24	15.8%
BeliefNet	12	9.8%
Aggregate	**56**	**9.6%**
Self-employed		
DailyKos	12	7.5%
TigerBoard	12	8.1%
Parenting	9	5.9%
BeliefNet	7	5.7%
Aggregate	**40**	**6.9%**
Unemployed		
DailyKos	13	8.2%
TigerBoard	2	1.3%
Parenting	6	3.9%
BeliefNet	3	2.5%
Aggregate	**24**	**4.1%**
Retired		
DailyKos	13	8.8%
TigerBoard	3	2.0%
Parenting	0	0.0%
BeliefNet	4	3.3%
Aggregate	**20**	**3.4%**
Student		
DailyKos	14	8.9%
TigerBoard	15	10.1%
Parenting	5	3.3%
BeliefNet	10	6.6%
Aggregate	**44**	**7.6%**
Homemaker		
DailyKos	15	9.4%
TigerBoard	22	14.8%
Parenting	57	37.5%
BeliefNet	22	18.0%
Aggregate	**116**	**19.9%**
Disabled and not working		
DailyKos	13	8.2%
TigerBoard	2	1.3%
Parenting	3	2.0%
BeliefNet	6	4.9%
Aggregate	**24**	**4.1%**

Don't know or not sure		
DailyKos	2	1.3%
TigerBoard	3	2.0%
Parenting	2	1.3%
BeliefNet	1	0.9%
Aggregate	**8**	**1.4%**
Ethnicity		
African-American		
DailyKos	6	3.8%
TigerBoard	2	1.3%
Parenting	1	0.7%
BeliefNet	2	1.7%
Aggregate	**11**	**1.8%**
Asian-American or Pacific Islander		
DailyKos	6	3.8%
TigerBoard	1	0.6%
Parenting	3	2.0%
BeliefNet	2	1.7%
Aggregate	**12**	**2.1%**
Hispanic/Latino		
DailyKos	3	1.9%
TigerBoard	2	1.3%
Parenting	2	1.3%
BeliefNet	1	0.9%
Aggregate	**8**	**1.4%**
Caucasian		
DailyKos	133	83.7%
TigerBoard	143	96.0%
Parenting	143	94.1%
BeliefNet	114	93.4%
Aggregate	**533**	**91.6%**
Multiracial		
DailyKos	12	7.5%
TigerBoard	0	0.0%
Parenting	3	2.0%
BeliefNet	3	2.5%
Aggregate	**18**	**3.1%**

Table 2

Descriptive statistics for all indexed variables

	N	*Range*	*Min*	*Max*	*Mean*	*SE*	*SD*	S^2
Media Use (IV)								
Opinionated News	582	4.00	1.00	5.00	2.55	.05	1.16	1.34
TV News	582	3.75	1.00	4.75	2.32	.04	.93	.87
Print Newspaper	582	4.00	1.00	5.00	2.15	.04	1.05	1.10
Online News	582	4.00	1.00	5.00	2.69	.05	1.15	1.33
Radio News	582	4.00	1.00	5.00	2.91	.06	1.47	2.16
Talk Radio	582	4.00	1.00	5.00	1.75	.05	1.14	1.30
Social Media	582	4.00	1.00	5.00	2.85	.04	.98	.96
Online Community Use Motivation (IV)								
Connectivity	582	4.00	1.00	5.00	3.52	.06	1.39	1.94
Information	582	4.00	1.00	5.00	3.44	.04	1.02	1.04
Entertainment	582	4.00	1.00	5.00	4.29	.04	.88	.77
Shopping	582	4.00	1.00	5.00	1.60	.04	.88	.77
Survey	582	4.00	1.00	5.00	2.28	.04	1.03	1.06
Social Capital variables (IV/DV)								
Local Community Bonding	582	4.00	1.00	5.00	3.38	.04	.95	.90
Local Community Bridging	582	4.00	1.00	5.00	3.57	.04	.85	.72
Web-Local Bonding	582	4.00	1.00	5.00	3.07	.04	1.05	1.11
Web-Local Bridging	582	4.00	1.00	5.00	4.12	.03	.65	.42
Web Network Bonding	582	3.60	1.40	5.00	3.68	.03	.78	.61
Web Network Bridging	582	4.00	1.00	5.00	3.50	.03	.69	.48
Civic Engagement variables (DV)								
Local Activism	582	4.00	1.00	5.00	2.25	.05	1.15	1.33
Local Organizations	582	4.00	1.00	5.00	2.59	.05	1.31	1.71
Local Community	582	3.67	1.33	5.00	3.36	.04	.99	.97
Local Voting	582	4.00	1.00	5.00	4.48	.05	1.08	1.17
Distance Activism	582	4.00	1.00	5.00	2.34	.06	1.33	1.77
Distance Helping	582	4.00	1.00	5.00	2.90	.05	1.26	1.58

Table 3

Analysis of variance for means of measures for Online Community Use Motivations

Source	*SS*	*df*	*MS*	*F*
Between Groups	2284.50	3	761.50	1016.84**
Within Groups	1305.31	1743	.749	
Total	3589.81	1746		

** $p < .01$

Table 4

Pairwise mean differences for means of measures for Online Community Use Motivations

	Connectivity	*Information*	*Entertainment*	*Shopping*
Connectivity	0	.08	-.78**	1.92**
Information		0	-.86*	1.84**
Entertainment			0	2.70**
Shopping				0

** $p < .01$

* $p < .05$

Table 5

Analysis of variance for means of measures for Social Capital variables

Source	*SS*	*df*	*MS*	*F*
Between Groups	349.17	5	69.83	141.11**
Within Groups	1434.61	2905	.49	
Total	1783.78	2910		

** $p < .01$

Table 6

Pairwise mean differences for means of measures for social capital variables

	Local Community		*Web-Local*		*Web Network*	
	Bonding	*Bridging*	*Bonding*	*Bridging*	*Bonding*	*Bridging*
Local Community Bonding	0	-.19**	.31**	-.74**	-.30**	-.13**
Local Community Bridging		0	.50**	-.55**	-.11*	.07
Web-Local Bonding			0	-1.05**	-.61**	-.43**
Web-Local Bridging				0	.44**	.62**
Web Network Bonding					0	.18**
Web Network Bridging						0

** $p < .01$

* $p < .05$

Table 7

Analysis of variance for means of measures for Local and Distance engagement

Source	*SS*	*df*	*MS*	*F*
Between Groups	2035.79	5	407.16	365.94**
Within Groups	3232.20	2905	1.11	
Total	5267.99	2910		

** $p < .01$

Table 8

Pairwise mean differences for means of measures for Local and Distance engagement

		Local Community			*Distance*	
	Community Issues	*Service*	*Neighbors*	*Voting*	*Activism*	*Helping*
Community Issues	0	-.34**	-1.12**	-2.23**	-.09*	-.65**
Service		0	-.77**	-1.89**	.25**	-.31**
Neighbors			0	-1.11**	1.03**	.47**
Voting				0	2.14**	1.58**
Distance Activism					0	-.56**
Distance Helping						0

** $p < .01$; * $p < .05$

Table 9

Correlation matrix for all indexed variables with Media Use variables (N = 582)

	Opinion News	*TV News*	*Print News*	*Online News*	*Radio News*	*Talk Radio*	*Social Media*
Media: Opinionated News	1.00	-.08	.22**	.38**	-.14**	.19**	-.12**
Media: TV News	-.08	1.00	.17**	-.02	.26**	.12**	.15**
Media: Print Newspaper	.22**	.17**	1.00	.23**	.17**	.09*	-.03
Media: Online News	.38**	-.02	.23**	1.00	.07	.10*	.06
Media: Radio News	-.14**	.26**	.17**	.07	1.00	.23**	.13**
Media: Talk Radio	.19**	.12**	.09*	.10*	.23**	1.00	.11**
Media: Social Media	-.12**	.15**	-.03	.06	.13**	.11**	1.00
Motives: Connectivity	-.31**	.20**	-.16**	.16**	.16**	.14**	.45**
Motives: Information	.08	.04	.02	.01	-.02	.08	.12**
Motives: Entertainment	-.07	.17**	-.08*	.06	.14**	.15**	.30**
Motives: Shopping	-.21**	.14**	-.08*	-.16**	.07	.12**	.20**
SC: Local Community Bonding	-.00	.01	.05	.10*	.12**	.05	.18**
SC: Local Community Bridging	.12**	.04	.08	.13**	.03	.04	.20**
SC: Web-Local Bonding	-.20**	.09*	-.11**	-.14**	.10*	.20**	.37**
SC: Web-Local Bridging	.09*	-.05	-.14**	.07	-.07	.03	.20**
SC: Web Network Bonding	-.16**	-.11*	-.10*	-.09*	.08	.06	.34**
SC: Web Network Bridging	.16**	.02	-.01	.17**	.04	-.02	.26**
Local Community Issues	.46**	-.04	.30**	.29**	-.00	.04	-.01
Local Service	-.15**	.13**	.14**	-.04	.14**	.04	.04
Local Neighbors	.04	.08*	.10*	.07	.13**	.11**	.04
Local Voting	.22**	-.01	.09*	.15**	.06	.12**	.02
Distance Activism	.61**	-.13**	.28**	.34**	-.07	.07	-.11**
Distance Helping	.06	.01	-.02	.01	.11**	.18**	.32**

** $p < 0.01$

* $p < 0.05$

Table 10

Correlation matrix for remaining variables with Motivations for Online Community Use variables. (N = 582)

	Connectivity	*Information*	*Entertainment*	*Shopping*
Motives: Connectivity	1.00	.38**	.41**	.34**
Motives: Information	.38**	1.00	.31**	.41**
Motives: Entertainment	.41**	.31**	1.00	.23**
Motives: Shopping	.34**	.41**	.23**	1.00
SC: Local Community Bonding	.20**	.13**	.17**	.07
SC: Local Community Bridging	.17**	.13**	.07	.04
SC: Web-Local Bonding	.71**	.39**	.26**	.37**
SC: Web-Local Bridging	.47**	.58**	.37**	.24**
SC: Web Network Bonding	.71**	.40**	.37**	.30**
SC: Web Network Bridging	.19**	.39**	.20**	.19**
Local Community Issues	-.16**	.18**	-.09*	-.11**
Local Service	.22**	.06	-.01	.06
Local Neighbors	.14**	.20**	.17**	.11**
Local Voting	-.00	.18**	.10**	.06
Distance Activism	-.35**	.04	-.17**	-.22**
Distance Helping	.40**	.26**	.19**	.19**

Note: Correlations of motivations and media use variables are in Table 3

*** p < 0.01*

** p < 0.05*

Table 11

Correlation matrix for all indexed variables with Social Capital variables (N = 582)

	Local Community		*Web-Local*		*Web Network*	
	Bonding	*Bridging*	*Bonding*	*Bridging*	*Bonding*	*Bridging*
SC: Local Community Bonding	1.00	.66**	.13**	.14**	.12**	.09*
SC: Local Community Bridging	.66**	1.00	.13**	.28**	.13**	.27**
SC: Web-Local Bonding	.13**	.13**	1.00	.45**	.81**	.21**
SC: Web-Local Bridging	.14**	.28**	.45**	1.00	.56**	.57**
SC: Web Network Bonding	.12**	.13**	.81**	.56**	1.00	.23**
SC: Web Network Bridging	.09*	.27**	.21**	.57**	.23**	1.00
Local Community Issues	.21**	.17**	-.04	.12**	-.07	.15**
Local Service	.26**	.26**	.03	.08*	-.04	.03
Local Neighbors	.49**	.33**	.08*	.16**	.12**	.09*
Local Voting	.12**	.13**	-.03	.15**	-.05	.07
Distance Activism	.12**	.12**	-.20**	.05	-.23**	.08
Distance Helping	.14**	.03	.38**	.31**	.34**	.15**

Note: Correlations of social capital variables with both media use variables and online community use motivations variables are in Table 3

*** p < 0.01*

** p < 0.05*

Table 12

Correlation matrix for all indexed variables with Engagement variables (N = 582)

		Local				*Distance*
	Community Issues	*Service*	*Neighbors*	*Voting*	*Activism*	*Helping*
Local Community Issues	1.00	.12**	.23**	.27**	.74**	.20**
Local Service	.12**	1.00	.30**	.19**	.02	.21**
Local Neighbors	.23**	.30**	1.00	.17**	.12**	.20**
Local Voting	.27**	.19**	.17**	1.00	.26**	.10**
Distance Activism	.74**	.02	.12**	.26**	1.00	.19**
Distance Helping	.20**	.21**	.20**	.10**	.19**	1.00

Note: Correlations of engagement variables with both media use variables, online community use motivations variables, and social capital variables are in Table 3

*** p < 0.01*

p < 0.01

Table 13

Factor loadings based on Principal Component Analysis with Varimax rotation for 16 items involving Professional Media Use (N = 582)

	Opinionated News[a]	*TV News*[b]	*Print Newspaper*[c]	*Online Newspaper*[d]	*Talk Radio*[e]
Prime-time cable news shows	.79				
Satire news shows	.78				
News blogs	.77				
News magazines	.63				
Local television news		.82			
Network nightly news		.81			
Morning news shows		.72			
News magazine shows on television		.55			
State/regional print newspaper			.82		
Local print newspaper			.77		
National print newspaper			.73		
Local online newspaper				.83	
State/regional online newspaper				.80	
National online newspaper	.53			.61	
Talk radio					.84
Local radio news broadcasts					.51

Note: Factor loadings with an absolute value < .30 are suppressed in this matrix

[a]Factor Eigenvalue = 3.49; Percent of Variance = 21.81

[b]Factor Eigenvalue = 2.73; Percent of Variance = 17.09

[c]Factor Eigenvalue = 1.57; Percent of Variance = 9.80

[d]Factor Eigenvalue = 1.37; Percent of Variance = 8.57

[e]Factor Eigenvalue = 1.10; Percent of Variance = 6.87

Table 14

Factor loadings based on Principal Component Analysis with Varimax rotation for eight items involving Social Media Use (N = 582)

	Social Media[a]	*Factor 2*[b]	*Factor 3*[c]
Photo-sharing sites (Flickr, etc.)	.75		
Video-sharing sites (YouTube, etc.)	.72		
Social-networking sites (Facebook, etc.)	.67		
Blogging sites	.65	.44	
Microblogging tools (Twitter, etc.)	.62		
E-mail listservs	.42	.39	
Social news bookmarking (Digg, etc.)		.37	
Virtual worlds (Second Life, etc.)			.31

Note: Factor loadings with an absolute value < .30 are suppressed in this matrix

[a]Factor Eigenvalue = 3.30; Percent of Variance = 43.79

[b]Factor Eigenvalue = 1.12; Percent of Variance = 3.96

[c]Factor Eigenvalue = 1.07; Percent of Variance = 4.32

Table 15

Factor loadings based on Principal Component Analysis with Varimax rotation for 23 items involving Motivations for Online Community Use (N = 582)

	Connectivity[a]	*Information*[b]	*Entertainment*[c]	*Shop*[d]	*Survey*[e]
Connect with my friends	.86				
Get to know other people	.85				
Communicate with others	.65				
Get answers to specific questions	.47	.34			
Join a group	.44			.32	
Find interesting Web pages		.77			
Do research	.34	.75			
Read about current events and news	-.41	.69			
Find information I can trust		.63			
Search for information I need		.60			
Get information I need		.60			
Explore new sites		.42			.32
Amuse myself			.83		
Entertain myself	.53		.82		
Find information to entertain myself			.73		
Surf for fun			.58		
Read entertainment news					
Buy things				.96	
Make a purchase				.94	
Purchase a product I've heard about				.80	
Fill out an online survey					.91
Give my opinion on a survey					.87
Take a survey on a topic I care about					.83

Note: Factor loadings with an absolute value < .30 are suppressed in this matrix

[a]Factor Eigenvalue = 8.12; Percent of Variance = 32.48

[b]Factor Eigenvalue = 2.74; Percent of Variance = 10.96

[c]Factor Eigenvalue = 2.11; Percent of Variance = 8.44

[d]Factor Eigenvalue = 1.69; Percent of Variance = 6.76

[e]Factor Eigenvalue = 1.47; Percent of Variance = 5.88

Table 16

Goodness-of-Fit indicators of models for Motivations for Online Community Use confirmatory factor analysis (N = 582)

Model	χ^2	*df*	χ^2/df[a]	*GFI*[b]	*RMSEA*[c]
5-factor solution	96.31	87	1.11	.988	.014

[a]*Model for χ^2/df determined to be a good fit if p > .05.*

[b]*Model determined to be a good fit if GFI > .90*

[c]*Model determined to be a good fit if RMSEA < .05.*

Table 17

Unstandardized loadings (Standard Errors) and Standardized loadings for confirmatory factor analysis model for Motivations for Online Community Use factors (N = 582)

	Unstandardized	*Standardized*
Information		
Do research	0.78**	0.58**
Find information I can trust	0.72**	0.64**
Get information I need	1.00	0.86**
Search for information I need	0.94**	0.81**
Connectivity		
Get to know other people	0.87**	0.89**
Connect with my friends	1.00	0.92**
Communicate with others	0.64**	0.73**
Shopping		
Buy things	1.00	0.92**
Make a purchase	0.98**	0.92**
Purchase a product I've heard about	0.85**	0.73**
Entertainment		
Amuse myself	0.85**	0.85**
Entertain myself	1.00	0.69**
Find information to entertain myself	0.78**	0.71**
Survey		
Fill out an online survey	0.87**	0.80**
Give my opinion on a survey	0.95**	0.79**
Take a survey on a topic I care about	1.00	0.79**

** *p < 0.01*

Table 18

Factor loadings based on Principal Component Analysis with Direct Oblimin rotation for 20 items involving Local Community social capital (N = 582)

	Bridging[a]	*Bonding*[b]
Interacting with people in my community ...		
makes me feel connected to the bigger picture	.95	
reminds me that everyone in the world is connected	.89	
makes me curious about other places in the world	.87	
makes me feel like part of a larger community	.86	
makes me interested in what people unlike me are thinking	.83	
makes me interested in things that happen outside of my town	.82	
gives me new people to talk to	.75	
makes me want to try new things	.73	
In my neighborhood or community, I come in contact with new people all the time	.57	
I am willing to spend time to support general neighborhood or community activities	.51	
If I needed an emergency loan of $100, I know someone in my neighborhood or community I can turn to.		.92
The people I interact with in my neighborhood or community would share their last dollar with me.		.85
The people I interact with in my neighborhood or community would put their reputation on the line for me.		.82
When I feel lonely, there are several people in my neighborhood or community I can talk to.		.75
I do not know people in my neighborhood or community well enough to get them to do anything important. (reversed)		.73
There is someone in my neighborhood or community I can turn to for advice about making very important decisions.		.73
There is no one in my neighborhood or community that I feel comfortable talking to about intimate personal problems. (reversed)		.73
The people I interact with in my neighborhood or community would be good job references for me.		.70
There are several people in my neighborhood or community I trust to help solve my problems.		.66
The people I interact with in my neighborhood or community would help me fight an injustice.		.60

Note: Factor loadings with an absolute value < .30 are suppressed in this matrix

[a]Factor Eigenvalue = 11.05; Percent of Variance = 55.22

[b]Factor Eigenvalue = 1.96; Percent of Variance = 9.81

Table 19

Goodness-of-Fit indicators of models for Local Community social capital (N = 582)

Model	χ^2	*df*	χ^2/df[a]	*GFI*[b]	*RMSEA*[c]
2-factor solution	48.65	35	1.39	.984	.026

[a]*Model for χ^2/df determined to be a good fit if $p > .05$.*

[b]*Model determined to be a good fit if GFI > .90*

[c]*Model determined to be a good fit if RMSEA < .05.*

Table 20

Unstandardized loadings (Standard Errors) and Standardized loadings for confirmatory model for Local Community social capital factors (N=582)

	Unstandardized	*Standardized*
Bonding		
Advice about decisions	0.87**	0.80**
Trust someone to share intimate problems with	0.78**	0.60**
People to talk to when I'm lonely	0.92**	0.82**
Emergency loan of $100	1.00	0.78**
People would put reputation on the line for me	0.87**	0.87**
People would be good job references	0.79**	0.74**
People would share their last dollar with me	0.89**	0.74**
People would work on something important for me	0.88**	0.79**
Bridging		
Interested in what's going on outside my town	0.85**	0.81**
Want to try new things	0.97**	0.87**
Interested in what people unlike me think	1.00	0.89**
Interaction makes me interested in other places	0.97**	0.88**
Feel like part of larger community	0.92**	0.85**
Interaction makes me feel part of bigger picture	0.62**	0.69**
Interaction reminds me everything is connected	0.78**	0.78**
Interaction gives me new people to talk to	0.80**	0.76**

** $p < 0.01$

Table 21

Factor loadings based on Principal Component Analysis with Varimax rotation for 20 items involving Web-Local social capital (N = 582)

	Bridging[a]	*Bonding*[b]
Interacting with people in my community …		
makes me feel like part of a larger community	.85	
makes me feel connected to the bigger picture	.83	
makes me interested in things that happen outside of my town	.82	
reminds me that everyone in the world is connected	.77	
makes me curious about other places in the world	.74	
makes me want to try new things	.71	
makes me interested in what people unlike me are thinking	.67	
gives me new people to talk to	.65	.32
I am willing to spend time to support general this Web site's activities	.74	
On this Web site, I come in contact with new people all the time	.62	
The people I interact with on this site …		
would help me fight an injustice	.62	.43
would put their reputation on the line for me		.89
would share their last dollar with me		.87
would be good job references for me		.84
If I needed an emergency loan of $100, I know someone on this Web site I can turn to		.85
There is someone on this Web site I can turn to for advice about making very important decisions		.77

There are several people on this Web site I trust to help solve my problems		.76
When I feel lonely, there are several people on this Web site I can talk to		.71
I do not know people on this Web site well enough to get them to do anything important (reversed)	.57	.52
There is no one on this Web site that I feel comfortable talking to about intimate personal problems (reversed)		.41

Note: Factor loadings with an absolute value < .30 are suppressed in this matrix

[a]Factor Eigenvalue = 9.28; Percent of Variance = 46.40

[b]Factor Eigenvalue = 3.26; Percent of Variance = 16.27

Table 22

Goodness-of-Fit indicators of models for Web-Local social capital (N = 582)

Model	χ^2	*df*	χ^2/df[a]	*GFI*[b]	*RMSEA*[c]
2-factor solution	44.48	32	1.39	.984	.026

[a]*Model for χ^2/df determined to be a good fit if p > .05.*

[b]*Model determined to be a good fit if GFI > .90*

[c]*Model determined to be a good fit if RMSEA < .05.*

Table 23

Unstandardized loadings (Standard Errors) and Standardized loadings for confirmatory model for Web-Local social capital factors (N=582)

	Unstandardized	*Standardized*
Bonding		
People I can trust to help solve my problems	0.97**	0.81**
Advice available for making important decisions	0.96**	0.79**
People to talk to when I'm lonely	0.90**	0.75**
Emergency loan of $100	0.98**	0.81**
People would put reputation on the line for me	1.00	0.93**
People would be good job references	0.95**	0.83**
People would share their last dollar with me	0.90**	0.81**
Bridging		
Interested in what's going on outside my town	0.99**	0.79**
Want to try new things	0.96**	0.76**
Interested in what people unlike me think	0.87**	0.65**
Interaction makes me interested in other places	0.96**	0.74**
Feel like part of larger community	0.99**	0.87**
Interaction makes me feel part of bigger picture	0.96**	0.88**
Interaction reminds me everything is connected	0.94**	0.78**
I am willing to support the activities of the group	0.97**	0.77**
Interaction gives me new people to talk to	0.91**	0.66**
I come into contact with new people all the time	0.82**	0.82**

** *p < 0.01*

Table 24

Factor loadings based on Principal Component Analysis with Direct Oblimin rotation for 16 items involving local civic engagement (N = 582)

	Community Issues[a]	*Service*[b]	*Neighbors*[c]	*Voting*[d]
Help with local efforts to get petition signatures	.80			
Help raise awareness about issues in community	.79			
Work for local political campaigns	.77			
Use skills to help people in neighborhood	.56			
Donate time to work in community organizations	.52	.47		
Speak up at meetings	.45			
Volunteer on projects that beautify neighborhood	.41			
Attend meetings for local associations	.37			
Work on activities through church or service org.		.92		
Attend religious services	-.31	.85		
Volunteer or work for local charity	.47	.67		
Help neighbors when they are in need			.79	
Take care of neighbors' children when need arises			.79	
Attend dinner parties with friends or neighbors			.72	
Vote in local elections				.86
Give away items as part of local drives				.47

Note: Factor loadings with an absolute value < .30 are suppressed in this matrix

[a]Factor Eigenvalue = 5.77; Percent of Variance = 36.06

[b]Factor Eigenvalue = 2.12; Percent of Variance = 13.25

[c]Factor Eigenvalue = 1.39; Percent of Variance = 8.65

[d]Factor Eigenvalue = 1.07; Percent of Variance = 6.72

Table 25

Re-factored loadings based on Principal Component Analysis with Direct Oblimin rotation for 10 items involving local civic engagement after low-loading items were deleted (N = 582)

	Community Issues[a]	*Service*[b]	*Neighbors*[c]	*Voting*[d]
Work for local political campaigns	.86			
Help with local efforts to get petition signatures	.84			
Help raise awareness about issues in community	.77			
Work on activities through church or service org.		.93		
Attend religious services		.88		
Volunteer or work for local charity	.47	.77		
Help neighbors when they are in need			.82	
Take care of neighbors' children when need arises			.78	
Attend dinner parties with friends or neighbors			.75	
Vote in local elections	.38			.86

Note: Factor loadings with an absolute value < .30 are suppressed in this matrix

[a]Factor Eigenvalue = 3.14; Percent of Variance = 31.37

[b]Factor Eigenvalue = 2.04; Percent of Variance = 20.43

[c]Factor Eigenvalue = 1.32; Percent of Variance = 13.23

[d]Factor Eigenvalue = 1.01; Percent of Variance = 9.05

Table 26

Goodness-of-Fit indicators of models for Local Engagement items (N = 582)

Model	χ^2	*df*	χ^2/df[a]	*GFI*[b]	*RMSEA*[c]
4-factor solution	37.49	23	1.63	.927	.031

[a]*Model for χ^2/df determined to be a good fit if p > .05.*

[b]*Model determined to be a good fit if GFI > .90*

[c]*Model determined to be a good fit if RMSEA < .05.*

Table 27

Unstandardized loadings (Standard Errors) and Standardized loadings for confirmatory model for Local Engagement factors (N=582)

	Unstandardized	*Standardized*
Community Issues		
Work for local political campaigns	1.00	0.77**
Help with local efforts to get petition signatures	0.91**	0.87**
Work to raise awareness on community issues	0.74**	0.61**
Services		
Work on activities through church or service org.	0.61**	0.66**
Attend religious services	0.77**	0.72**
Volunteer or work for a local charity	1.00	0.88**
Neighbors		
Help neighbors when they are in need	0.87**	0.82**
Take care of neighbors children when need arises	1.00	0.61**
Host or attend dinner parties with friends, neighbors.	0.77**	0.64**

** *p < 0.01*

Table 28

Factor loadings based on Principal Component Analysis with Direct Oblimin rotation for 10 items involving Distance Engagement (N = 582)

	Activism[a]	*Helping*[b]
Contributed money to candidates outside voting area	.91	
Donate to state or national political campaigns	.91	
Campaigned for candidates outside voting area	.80	
Member of national issue-advocacy organization	.70	
Donate money to national causes	.67	
I have joined a Facebook or social networking group to raise awareness on an issue	.47	
I have signed an online petition for a cause I care about	.31	
Follow important issues in other communities that don't affect me		
I have given money to help out someone I first met online		.84
I have helped out someone that I have never met in person via the Internet		.78

Note: Factor loadings with an absolute value < .30 are suppressed in this matrix

[a]Factor Eigenvalue = 3.95; Percent of Variance = 39.53

[b]Factor Eigenvalue = 1.85; Percent of Variance = 18.47

Table 29

Goodness-of-Fit indicators of models for Distance Engagement items (N = 582)

Model	χ^2	*df*	χ^2/df[a]	*GFI*[b]	*RMSEA*[c]
3-factor solution	9.94	8	1.24	.997	.020

[a]*Model for χ^2/df determined to be a good fit if p > .05.*

[b]*Model determined to be a good fit if GFI > .90*

[c]*Model determined to be a good fit if RMSEA < .05.*

Table 30

Unstandardized loadings (Standard Errors) and Standardized loadings for confirmatory model for Distance Engagement (N=582)

	Unstandardized	*Standardized*
Activism		
Contributed money to candidates outside area	1.00	0.96**
Donate to national/state political campaigns	0.91**	0.83**
Campaigned for non-local candidates	0.77**	0.76**
Member of national issue-advocacy organization	0.68**	0.81**
Helping		
I've given money to someone I first met online	1.00	0.85**
I've helped out someone I have only met online	0.87**	0.76**

** *p < 0.01*

Table 31

Factor loadings based on Principal Component Analysis with Direct Oblimin rotation for 60 items involving Local Community, Web-Local, and Web Network social capital (N = 582)

	(Real-world networks, Real-world benefits)		*(Online networks, Real-world benefits)*		*(Online networks, Online benefits)*	
	Local Community		*Web-Local*		*Web Network*	
	Bridging[a]	*Bonding*[b]	*Bridging*[a]	*Bonding*[b]	*Bridging*[a]	*Bonding*[b]
There are several people in my neighborhood or community I trust to help solve my problems.	.67					
There is someone in my neighborhood or community I can turn to for advice about making very important decisions.	.70					.52
There is no one in my neighborhood or community that I feel comfortable talking to about intimate personal problems. (reversed)	.68					
When I feel lonely, there are several people in my neighborhood or community I can talk to.	.72					

If I needed an emergency loan of $100, I know someone in my neighborhood or community I can turn to.	.88	-.51
The people I interact with in my neighborhood or community would put their reputation on the line for me.	.79	
The people I interact with in my neighborhood or community would be good job references for me.	.72	
The people I interact with in my neighborhood or community would share their last dollar with me.	,82	
I do not know people in my neighborhood or community well enough to get them to do anything important. (reversed)	.74	-.55
The people I interact with in my neighborhood or community would help me fight an injustice	.61	
Interacting with people in my community makes me interested in things that happen outside of my town		.84
Interacting with people in my community makes me want to try new things		.71
Interacting with people in my community makes me interested in what people unlike me are thinking		.80
Interacting with people in my community makes me curious about other places in the world		.83
Interacting with people in my community makes me feel like part of a larger community		.86
Interacting with people in my community makes me feel connected to the bigger picture		.90
Interacting with people in my community reminds me that everyone in the world is connected		.78
I am willing to spend time to support general		

neighborhood or community activities	.72			
Interacting with people in my community gives me new people to talk to	.62			
In my neighborhood or community, I come in contact with new people all the time	.83			
There are several people on this Web site I trust to help solve my problems		.67		
There is someone on this Web site I can turn to for advice about making very important decisions		.69		
There is no one on this Web site that I feel comfortable talking to about intimate personal problems				-.77
When I feel lonely, there are several people on this Web site I can talk to		.62		
If I needed an emergency loan of $100, I know someone on this Web site I can turn to		.82		
The people I interact with on this site would put their reputation on the line for me		.91		
The people I interact with on this site would be good job references for me		.85		
The people I interact with on this site would share their last dollar with me		.86		
I do not know people on this Web site well enough to get them to do anything important (reversed)		.71		
The people I interact with on this site would help me fight an injustice			.58	
Interacting with people in my online community makes me interested in things that happen outside of my town			.53	
Interacting with people in my online community makes me want to try new things		.51	.67	
Interacting with people in my online community makes me interested in what people unlike me are thinking			.83	

Interacting with people in my online community makes me curious about other places in the world		.76		
Interacting with people in my online community makes me feel like part of a larger community		.79		
Interacting with people in my online community makes me feel connected to the bigger picture	-.53	.68		
Interacting with people in my online community reminds me that everyone in the world is connected		.71		
I am willing to spend time to support general this Web site's activities in my local community		.83		
Interacting with people in my online community gives me new people to talk to in my local community		.67		
On this Web site, I come in contact with new people all the time who live in my local community		.90		
There are several people on this online community site I trust to help solve problems I have having with the site			.60	
There is someone on this online community site I can turn to for advice about the site			.66	
There is no one on this online community site that I feel comfortable talking to about intimate personal problems. (reversed)			.74	
People on this online community site care about the issues that I care about on this site				-.64
The people I interact with on this online community site would put their reputation on the line for me if I was involved in a dispute on the site			.66	
The people I interact with on this online community site would help me freely if I had any questions about the site			.82	

I do not know people on this online community site well enough to get them to do anything important on the site. (reversed)			.72	
The people I interact with on this online community site would help me work against someone trying to abuse the site.			.59	
This online community site's users try to maintain the site's operating values.			.83	
Beyond the this online community site administrators and staff, there are users who I would consider to be community leaders that help uphold the site's values.			.83	.50
Interacting with people on this online community site makes me interested in things that are happening in other Web communities				.77
Interacting with people on this online community site makes me want to be a part of other Web communities				.91
Interacting with people on this online community site makes me interested in other Web communities are talking about				.90
Interacting with people on this online community site makes me feel like part of a larger network of Web communities				.94
Talking with people on this online community site makes me curious about other Web communities				.63
Interacting with people on this online community site makes me feel connected to what people are talking about on the Web				.55
Interacting with people on this online community site reminds me that everyone on the Web is connected	.52			.74
I am willing to spend time to support efforts this online				

community site promotes on other sites	.57
Interacting with people on this online community site gives me new people to read about on the Web	.56
On this online community site, I come in contact with new ideas all the time	.61

Note: Factor loadings with an absolute value < .50 are suppressed in this matrix

[a]Factor Eigenvalue = 17.08; Percent of Variance = 28.47

[b]Factor Eigenvalue = 9.72; Percent of Variance = 16.20

[c]Factor Eigenvalue = 6.87; Percent of Variance = 9.44

[d]Factor Eigenvalue = 3.87; Percent of Variance = 4.62

[e]Factor Eigenvalue = 1.98; Percent of Variance = 3.30

[f]Factor Eigenvalue = 1.34; Percent of Variance = 2.47

Table 32

Factor loadings based on Principal Component Analysis with Direct Oblimin rotation for 20 items involving Web Network social capital (N = 582)

	Bridging[a]	*Bonding*[b]	*3*[c]
There are several people on this online community site I trust to help solve problems I have having with the site		.85	
There is someone on this online community site I can turn to for advice about the site		.91	
There is no one on this online community site that I feel comfortable talking to about intimate personal problems. (reversed)		.67	
People on this online community site care about the issues that I care about on this site			-.83
The people I interact with on this online community site would put their reputation on the line for me if I was involved in a dispute on the site		.81	
The people I interact with on this online community site would help me freely if I had any questions about the site		.51	
I do not know people on this online community site well enough to get them to do anything important on the site. (reversed)		.80	
The people I interact with on this online community site would help me work against someone trying to abuse the site.		.51	
This online community site's users try to maintain the site's operating values.		.75	
Beyond the this online community site administrators and staff, there are users who I would consider to be community leaders that help uphold the site's values.		.76	
Interacting with people on this online community site makes me interested in things that are happening in other Web communities	.77		
Interacting with people on this online community site makes me want to be a part of other Web communities	.89		
Interacting with people on this online community site makes me interested in other Web communities are talking about	.91		
Interacting with people on this online community site makes me feel like part of a larger network of Web communities	.96		
Talking with people on this online community site makes me curious about other Web communities	.70		
Interacting with people on this online community site makes me feel connected to what people are talking about on the Web	.65		
Interacting with people on this online community site reminds me that everyone on the Web is connected	.51		
I am willing to spend time to support efforts this online community site promotes on other sites	.54		
Interacting with people on this online community site gives me new people to read about on the Web	.62		
On this online community site, I come in contact with new ideas all the time			-.79

Note: Factor loadings with an absolute value < .50 are suppressed in this matrix

[a]Factor Eigenvalue = 7.46; Percent of Variance = 37.29

[b]Factor Eigenvalue = 3.55; Percent of Variance = 17.73

[c]Factor Eigenvalue = 1.26; Percent of Variance = 2.30

Table 33

Goodness-of-Fit indicators of models for Web Network social capital items (N = 582)

Model	χ^2	*df*	χ^2/df[a]	*GFI*[b]	*RMSEA*[c]
2-factor solution	1.85	9	.206	.95	.011

[a]*Model for χ^2/df determined to be a good fit if p > .05.*

[b]*Model determined to be a good fit if GFI > .90*

[c]*Model determined to be a good fit if RMSEA < .05.*

Table 34

Unstandardized loadings (Standard Errors) and Standardized loadings for confirmatory model for Web Network Bonding and Web Network Bridging social capital (N=582)

	Unstandardized	*Standardized*
Web Network Bonding Social Capital		
Trust people to help solve problems with site	1.00	0.91**
People I can turn to about advice about the site	0.99**	0.93**
People here I can talk to about intimate problems	0.84**	0.67**
People here would put reputation on line for me	0.63**	0.58**
People on the site would help me if I had questions	0.47**	0.61**
Web Network Bridging Social Capital		
Makes me interested in other communities	0.79**	0.75**
Makes me want to be part of other communities.	0.90**	0.83**
Feel interested in what other communities discuss	1.00	0.85**
Feel like a larger network of Web communities	0.78**	0.68**
Reminds me that everyone connected on Web	0.59**	0.53**

** *p < 0.01*

Table 35

Correlations between the measures of Local Community social capital and the measures of Local Engagement (N = 582)

Measure	*1*	*2*	*3*	*4*	*5*	*6*
1. Local Community Bonding	1.00	.66**	.21**	.26**	.49**	.12**
2. Local Community Bridging		1.00	.17**	.26**	.33**	.13**
3. Local: Community Issues			1.00	.12**	.23**	.27**
4. Local: Service				1.00	.30**	.19**
5. Local: Neighbors					1.00	.17**
6. Local: Voting						1.00

** *p < 0.01*

Table 36

Correlations between the measures of Web-Local social capital and the measures of Local Engagement (N = 582)

Measure	*1*	*2*	*3*	*4*	*5*	*6*
1. Web-Local Bonding social capital	1.00	.45**	-.04**	.03	.08*	-.03
2. Web-Local Bridging social capital		1.00	.12**	.08*	.16**	.15**
3. Local: Community Issues			1.00	.12**	.23**	.27**
4. Local: Service				1.00	.30**	.19**
5. Local: Neighbors					1.00	.17**
6. Local: Voting						1.00

*** p < 0.01 ; * p < 0.05*

Table 37

Correlations between the measures of Web-Local social capital and the measures of Distance Engagement (N = 582)

Measure	*1*	*2*	*3*	*4*
1. Web-Local Bonding social capital	1.00	.45**	-.20**	.38**
2. Web-Local Bridging social capital		1.00	.05	.31**
3. Distance: Activism			1.00	.19**
4. Distance: Helping				1.00

*** p < 0.01*

Table 38

Correlations between the measures of Web Network social capital and the measures of Distance Engagement (N = 582)

Measure	*1*	*2*	*3*	*4*
1. Web Network Bonding Social Capital	1.00	.23**	-.23**	.34**
2. Web Network Bridging Social Capital		1.00	.08	.15**
3. Distance: Activism			1.00	.19**
4. Distance: Helping				1.00

*** p < 0.01*

Table 39

Correlations between the measures of Local Community social capital and the measures of Distance Engagement (N = 582)

Measure	*1*	*2*	*3*	*4*
1. Local Community Bonding	1.00	.66**	.12**	.14**
2. Local Community Bridging		1.00	.12**	.03
3. Distance: Activism			1.00	.19**
4. Distance: Helping				1.00

*** p < 0.01*

Table 40

Summary of hierarchical regression analysis for Demographics and Social Capital variables predicting the measures of Distance Activism (N = 582)

	Model 1 Demographics			*Model 2 Social Capital*		
	B	*SE*	*β*	*B*	*SE*	*β*
Demographics						
Gender (Female = 0, Male = 1)	.20	.11	.07	.23	.11	.08*
U.S. Citizen? (No = 0, Yes = 1)	-.45	.21	-.08*	-.52	.21	-.09*
Education	.10	.03	.11**	.08	.03	.09*
Employment	.04	.02	.07	.03	.02	.07
Income	.06	.02	.12**	.06	.02	.12**
Marital (Unmarried = 0, Married = 1)	-.03	.08	-.02	-.08	.08	-.04
Ethnicity	.11	.07	.06	.04	.07	.02
Time Online (Hours per day)	.01	.01	.02	.01	.01	.02
Posts per day	-.03	.01	-.12**	-.03	.01	-.12**
Age	.05	.01	.44**	.05	.01	.11**
Social Capital						
Local Community Bonding				.17	.07	.42**
Local Community Bridging				-.01	.08	-.01
Web-Local Bonding social capital				-.07	.08	-.05
Web-Local Bridging social capital				.28	.11	.12*
Web Network Bonding Social Capital				-.14	.12	-.08
Web Network Bridging Social Capital				.05	.09	.03
R^2	.53			.56		
Adjusted R^2	.29			.32		
F for R^2 change	22.31 ($p < .01$)			15.95 ($p < .01$)		

* $p < .05$

** $p < .01$

Table 41

Summary of hierarchical regression analysis for Demographics and Social Capital variables predicting the measures of Distance Helping among online community users (N = 582)

	Model 1 *Demographics*			Model 2 *Social Capital*		
	B	*SE*	*β*	*B*	*SE*	*β*
Demographics						
Gender (Female = 0, Male = 1)	-.73	.11	-.27**	-.49	.11	-.18**
U.S. Citizen? (No = 0, Yes = 1)	.50	.22	.09*	.41	.21	.07
Education	.11	.03	.14**	.14	.03	.17**
Employment	.03	.02	.06	-.01	.02	-.01
Income	-.05	.02	-.10*	-.04	.02	-.08*
Marital (Unmarried = 0, Married = 1)	-.00	.08	-.00	-.01	.07	-.01
Ethnicity	.20	.07	.12**	.06	.07	.04
Time Online (Hours per day)	.02	.02	.05	.00	.01	.01
Posts per day	.04	.01	.19**	.02	.01	.08*
Age	-.04	.01	-.04	-.00	.00	-.03
Social Capital						
Local Community Bonding				.24	.07	.18**
Local Community Bridging				-.30	.08	-.20**
Web-Local Bonding social capital				-.19	.12	-.12
Web-Local Bridging social capital				.04	.08	.02
Web Network Bonding Social Capital				.45	.08	.37**
Web Network Bridging Social Capital				.31	.11	.16**
R^2	.39			.52		
Adjusted R^2	.15			.27		
F for R^2 change	10.15 ($p < .01$)			12.79 ($p < .01$)		

** $p < .01$
* $p < .05$

Table 42

Summary of t-test results for differences between men and women for the measures of Distance Activism and the measures of Distance Helping (N = 582)

	N	*Mean*	*df*	*t*	*F*
Distance Activism					
Female	380	2.27	580	-1.36	1.22
Male	202	2.43			
Distance Helping					
Female	380	3.13	580	6.59	5.36**
Male	202	2.44			

** $p < .01$

Table 43

Correlations between the measures of Web-Local social capital and the measures of Online Community Use Motivations (N = 582)

Measure	*1*	*2*	*3*	*4*	*5*	*6*
1. Web-Local Bonding	1.00	.45**	.71**	.39**	.26**	.37**
2. Web-Local Bridging		1.00	.47**	.58**	.37**	.24*
3. Motive: Connectivity			1.00	.38**	.41**	.34**
4. Motive: Information				1.00	.31**	.41**
5. Motive: Entertainment					1.00	.23**
6. Motive: Shopping						1.00

** $p < 0.01$

Table 44

Correlations between the measures of Web Network social capital and the measures of Online Community Use Motivations (N = 582)

Measure	*1*	*2*	*3*	*4*	*5*	*6*
1. Web Network Bonding	1.00	.23**	.71**	.40**	.37**	.30**
2. Web Network Bridging		1.00	.19**	.39**	.20**	.19**
3. Motive: Connectivity			1.00	.38**	.41**	.34**
4. Motive: Information				1.00	.31**	.41**
5. Motive: Entertainment					1.00	.23**
6. Motive: Shopping						1.00

** $p < 0.01$

Table 45

Summary of hierarchical regression analysis for Demographics and Online Community Use Motivations variables predicting the measures of Web-Local Bonding social capital (N = 582)

	Model 1 *Demographics*			*Model 2* *Motivations*		
	B	*SE*	*β*	*B*	*SE*	*β*
Demographics						
Gender (Female = 0, Male = 1)	-.49	.09	-.22**	-.01	.07	-.00
U.S. Citizen? (No = 0, Yes = 1)	-.02	.17	-.01	-.29	.13	-.06*
Education	.07	.03	-.11**	-.03	.02	-.05
Employment	.07	.02	.19**	.03	.01	.07*
Income	-.03	.02	-.08*	-.01	.01	-.02
Marital (Unmarried = 0, Married = 1)	-.06	.06	-.04	-.05	.04	-.04
Ethnicity	.17	.05	.13**	.15	.04	.11**
Time Online (Hours per day)	.02	.01	.07	.01	.01	.02
Posts per day	.04	.01	.26**	.01	.01	.08**
Age	-.01	.00	-.10*	.01	.00	.12**
Online Community Use Motivations						
Connectivity				.50	.03	.66**
Information				.07	.04	.06
Entertainment				-.12	.04	-.10**
Shopping				.06	.04	.06
R^2	.27			.59		
Adjusted R^2	.25			.58		
F for R^2 change	20.69 (p < .01)			56.11 (p < .01)		

* p < .05

** p < .01

Table 46

Summary of hierarchical regression analysis for Demographics and Online Community Use Motivations variables predicting the measures of Web-Local Bridging social capital (N = 582)

	Model 1 *Demographics*			*Model 2* *Motivations*		
	B	*SE*	*β*	*B*	*SE*	*β*
Demographics						
Gender (Female = 0, Male = 1)	-.31	.05	-.23**	-.06	.05	-.05
U.S. Citizen? (No = 0, Yes = 1)	.27	.11	.09*	.14	.09	.05
Education	.03	.02	.07	.06	.01	.14**
Employment	.04	.01	.18**	.02	.01	.06
Income	-.04	.01	-.17**	-.02	.01	-.09**
Marital (Unmarried = 0, Married = 1)	.06	.04	.06	.02	.03	.02
Ethnicity	.16	.03	.19**	.08	.03	.10**
Time Online (Hours per day)	.02	.03	.09*	.01	.01	.06
Posts per day	.03	.01	.24**	.01	.00	.07*
Age	.01	.01	.12**	.01	.00	.11**
Online Community Use Motivations						
Connectivity				.13	.02	.29**
Information				.26	.03	.41**
Entertainment				-.08	.03	-.11**
Shopping				-.05	.03	-.06
R^2	.25			.49		
Adjusted R^2	.23			.48		
F for R^2 change	18.33 (p < .01)			36.33 (p < .01)		

* p < .05

** p < .01

Table 47

Summary of hierarchical regression analysis for Demographics and Online Community Use Motivations variables predicting the measures of Web Network Bonding Social Capital (N = 582)

	Model 1 Demographics			*Model 2 Motivations*		
	B	*SE*	*β*	*B*	*SE*	*β*
Demographics						
Gender (Female = 0, Male = 1)	-.45	.06	-.27**	-.15	.06	-.09**
U.S. Citizen? (No = 0, Yes = 1)	.27	.12	.08*	.07	.10	.02
Education	-.02	.02	-.05	.00	.02	.01
Employment	.03	.01	.11**	.00	.01	.01
Income	-.05	.01	-.18**	-.03	.01	-.10**
Marital (Unmarried = 0, Married = 1)	-.04	.04	-.04	-.12	.04	-.11**
Ethnicity	.14	.04	.13**	.09	.03	.09**
Time Online (Hours per day)	-.01	.01	-.02	-.01	.01	-.06*
Posts per day	.04	.01	.32**	.02	.00	.12**
Age	-.01	.00	-.12**	.00	.00	.05
Online Community Use Motivations						
Connectivity				.33	.02	.57**
Information				.08	.03	.10**
Entertainment				-.03	.03	-.03
Shopping				.04	.03	.04
R^2	.32			.57		
Adjusted R^2	.30			.56		
F for R^2 change	25.68 (p < .01)			53.39 (p < .01)		

* p < .05

** p < .01

Table 48

Summary of hierarchical regression analysis for Demographics and Online Community Use Motivations variables predicting the measures of Web Network Bridging Social Capital (N = 582)

	Model 1 Demographics			*Model 2 Motivations*		
	B	*SE*	*β*	*B*	*SE*	*β*
Demographics						
Gender (Female = 0, Male = 1)	-.13	.06	-.09*	.05	.07	.03
U.S. Citizen? (No = 0, Yes = 1)	.08	.12	.03	.02	.12	.01
Education	-.01	.02	-.03	.01	.02	.02
Employment	.01	.01	.04	-.01	.01	-.04
Income	-.05	.01	-.20**	-.04	.01	-.16**
Marital (Unmarried = 0, Married = 1)	.01	.04	.01	-.01	.04	-.01
Ethnicity	.16	.04	.18**	.11	.04	.13**
Time Online (Hours per day)	.01	.01	.06	.01	.01	.04
Posts per day	.02	.01	.14**	.01	.01	.07
Age	.01	.00	.19**	.01	.00	.14**
Online Community Use Motivations						
Connectivity				.03	.03	.07
Information				.21	.03	.32**
Entertainment				.02	.04	.02
Shopping				.02	.04	.03
R^2	.12			.21		
Adjusted R^2	.10			.19		
F for R^2 change	7.40 ($p < .01$)			10.54 ($p < .01$)		

* $p < .05$

** $p < .01$

Table 49

Summary of hierarchical regression analysis for Demographics, Media Use, Motivation, and Social Capital variables predicting the measures of Local Community Issues involvement among online community users (N = 582)

	Model 1 Demographics			*Model 2 Media Use*			*Model 3 Motivations*			*Model 4 Social Capital*		
	B	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*
Demographics												
Gender	-.07	.10	-.03	-.10	.09	-.04	.07	.10	.03	.08	.10	.03
U.S. Citizen?	.15	.21	.03	.04	.20	.01	.12	.19	.02	.17	.19	.03
Education	-.00	.03	-.00	-.04	.03	-.05	-.01	.03	-.02	-.02	.03	-.02
Employment	-.01	.02	-.03	-.02	.02	-.05	-.04	.02	-.10*	-.05	.02	-.11**
Income	.04	.02	.10*	.04	.02	.10**	.04	.02	.09*	.03	.02	.07
Marital	-.01	.07	-.00	.02	.06	.01	.01	.06	.00	-.01	.06	-.00
Ethnicity	.19	.06	.12**	.17	.06	.11**	.15	.06	.09*	.07	.06	.05
Time Online	-.01	.01	-.02	-.00	.01	-.01	-.01	.01	-.02	-.00	.01	-.01
Posts per day	-.01	.01	-.04	-.00	.01	-.02	-.01	.01	-.03	-.01	.01	-.03
Age	.04	.01	.42**	.03	.01	.29**	.03	.01	.26**	.03	.01	.24**
Media Use												
Opinionated News				.27	.04	.27**	.26	.04	.26**	.26	.04	.27**
TV News				-.04	.05	-.03	-.02	.05	-.01	.01	.05	.01
Print Newspaper				.20	.04	.19**	.18	.04	.16**	.18	.04	.16**
Online News				.07	.04	.07	.06	.04	.06	.05	.04	.05
Radio News				.01	.03	.01	.01	.03	.02	.00	.03	.00
Talk Radio				-.03	.04	-.04	-.02	.04	-.02	-.03	.04	-.03
Social Media				.14	.05	.12**	.14	.05	.12**	.12	.05	.10*
Motivations for Online Community Use												
Connectivity							-.05	.04	.06	-.03	.05	-.03
Information							.23	.05	.20**	.19	.06	.17**
Entertainment							-.18	.05	-.14**	-.19	.06	-.14**
Shopping							-.09	.06	-.07	-.11	.06	-.09*
Social Capital variables												
Local Community Bonding										.24	.06	.20**
Local Community Bridging										-.08	.07	-.06
Web-Local Bonding										.14	.08	.13
Web-Local Bridging										.16	.10	.09
Web Network Bonding										-.09	.10	-.06
Web Network Bridging										-.02	.07	-.01
R^2	.21			.35			.38			.41		
Adjusted R^2	.20			.33			.36			.38		
F for R^2 change	14.78 (p < .01)			17.26 (p < .01)			15.82 (p < .01)			13.85 (p < .01)		

* p < .05

** p < .01

Table 50

Summary of hierarchical regression analysis for Demographics, Media Use, Motivation, and Social Capital variables predicting the measures of Service among online community users (N = 582)

	Model 1 *Demographics*			*Model 2* *Media Use*			*Model 3* *Motivations*			*Model 4* *Social Capital*		
	B	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*
Demographics												
Gender	-.12	.12	-.04	.02	.12	.01	.20	.13	.07	.16	.12	.06
U.S. Citizen?	-.09	.27	-.16**	-.09	.26	-.19**	-.09	.25	.20**	-.09	.24	-.19**
Education	.00	.04	.00	.04	.04	.05	.05	.04	.06	.02	.04	.02
Employment	-.06	.02	-.12**	-.04	.02	-.08	-.07	.02	-.14**	-.08	.02	-.16**
Income	.02	.02	.03	.00	.02	.00	-.00	.02	-.00	-.02	.02	-.04
Marital	.26	.09	.14**	.27	.09	.15**	.20	.08	.11*	.08	.08	.05
Ethnicity	.06	.08	.03	.09	.08	.05	.10	.08	.06	.10	.07	.06
Time Online	-.03	.02	-.09*	-.02	.02	-.06	-.03	.02	-.08	-.03	.02	-.08*
Posts per day	-.01	.01	-.03	-.01	.01	-.03	-.02	.01	-.10*	-.01	.01	-.03
Age	-.01	.01	-.07	.00	.01	.02	.01	.01	.09	.01	.01	.10
Media Use												
Opinionated News				-.24	.06	-.21**	-.20	.06	-.18**	-.21	.06	-.18**
TV News				.11	.06	.07	.10	.06	.07	.10	.06	.07
Print Newspaper				.24	.06	.19**	.25	.05	.20**	.27	.05	.21**
Online News				-.09	.06	-.07	-.05	.05	-.04	-.07	.05	-.07
Radio News				.04	.04	.05	.01	.04	.01	.02	.04	.03
Talk Radio				.08	.05	.07	.06	.05	.05	.04	.05	.03
Social Media				.03	.06	.02	-.07	.06	-.05	-.06	.06	-.04
Motivations for Online Community Use												
Connectivity							.36	.06	.38**	.476	.07	.50**
Information							.01	.07	.01	-.02	.07	-.02
Entertainment							-.21	.07	-.14**	-.24	.07	-.16**
Shopping							-.02	.07	-.01	.05	.07	.03
Social Capital variables												
Local Community Bonding										.11	.07	.08
Local Community Bridging										.21	.08	.14*
Web-Local Bonding										-.03	.10	-.02
Web-Local Bridging										.45	.13	.22**
Web Network Bonding										-.64	.13	-.38**
Web Network Bridging										-.15	.09	-.08
R^2	.06			.15			.22			.32		
Adjusted R^2	.05			.12			.19			.29		
F for R^2 change	3.79 (p < .01)			5.55 (p < .01)			7.08 (p < .01)			9.31 (p < .01)		

* p < .05

** p < .01

Table 51

Summary of hierarchical regression analysis for Demographics, Media Use, Motivation, and Social Capital variables predicting the measures of Neighbors involvement among online community users (N = 582)

	Model 1 Demographics			*Model 2 Media Use*			*Model 3 Motivations*			*Model 4 Social Capital*		
	B	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*
Demographics												
Gender	.03	.09	.02	.11	.09	.05	.28	.10	.14**	.33	.09	.16**
U.S. Citizen?	-.18	.19	-.04	-.26	.19	-.06	-.31	.19	-.07	-.17	.17	-.03
Education	.03	.03	.05	.05	.03	.08	.06	.03	.10*	.06	.02	.09 *
Employment	-.05	.02	-.14**	-.05	.02	-.15**	-.08	.02	-.22**	-.09	.02	-.24**
Income	.05	.02	.12**	.05	.02	.12**	.06	.02	.16**	.05	.01	.12**
Marital	.36	.06	.26**	.38	.06	.28**	.35	.06	.25**	.31	.06	.23**
Ethnicity	.16	.06	.12**	.15	.06	.11**	.09	.06	.07	-.05	.05	-.03
Time Online	-.03	.01	-.11**	-.03	.01	-.09*	-.03	.01	-.10**	-.01	.01	-.03
Posts per day	-.00	.01	-.01	.00	.01	-.00	-.01	.01	-.08	-.01	.01	-.06
Age	-.01	.00	-.05	-.01	.01	-.06	-.01	.01	-.08	-.01	.00	-.07
Media Use												
Opinionated News				.03	.04	.03	.05	.04	.06	.04	.04	.05
TV News				.05	.05	.05	.03	.04	.03	.05	.04	.05
Print Newspaper				.08	.04	.08	.07	.04	.08	.04	.04	.04
Online News				-.07	.04	-.08	-.07	.04	-.08	-.09	.04	-.11**
Radio News				.04	.03	.06	.03	.03	.04	.00	.03	.00
Talk Radio				.09	.04	.11*	.07	.04	.08	.09	.03	.11**
Social Media				.06	.05	.06	-.02	.05	.05	-.07	.04	-.07
Motivations for Online Community Use												
Connectivity							.11	.04	.15**	.01	.05	.01
Information							.19	.05	.19**	.19	.05	.20**
Entertainment							.07	.05	.07	.04	.05	.04
Shopping							-.02	.05	-.02	.03	.05	.03
Social Capital variables												
Local Community Bonding										.43	.05	.41**
Local Community Bridging										.05	.06	.04
Web-Local Bonding										-.02	.07	-.02
Web-Local Bridging										-.03	.09	-.02
Web Network Bonding										.19	.09	.15 *
Web Network Bridging										-.01	.06	-.01
R^2	.13			.17			.24			.41		
Adjusted R^2	.12			.15			.21			.38		
F for R^2 change	8.51 (p < .01)			6.61 (p < .01)			8.18 (p < .01)			13.52 (p < .01)		

* p < .05

** p < .01

Table 52

Summary of hierarchical regression analysis for Demographics, Media Use, Motivation, and Social Capital variables predicting the measures of Local Voting among online community users (N = 582)

	Model 1 Demographics			*Model 2 Media Use*			*Model 3 Motivations*			*Model 4 Social Capital*		
	B	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*
Demographics												
Gender	.25	.07	.21**	.23	.07	.20**	.21	.07	.20**	.18	.08	.15**
U.S. Citizen?	-.10	.14	-.03	-.09	.12	-.03	-.08	.12	-.02	-.08	.10	-.03
Education	-.01	.05	-.02	.00	.05	.01	.02	.05	.03	-.01	.06	-.02
Employment	-.01	.03	-.03	-.01	.03	-.03	-.03	.04	-.07	-.04	.04	-.10
Income	.02	.03	.05	.02	.03	.05	.01	.03	.03	.02	.03	.06
Marital	.16	.09	.16	.17	.10	.14	.17	.10	.14	.21	.10	.16
Ethnicity	-.09	.08	-.09	-.14	.09	-.13	-.18	.09	-.17*	-.22	.10	-.18 *
Time Online	.03	.02	.10	.03	.03	.10	.04	.03	.11	.03	.03	.09
Posts per day	.02	.02	.07	.01	.02	.05	.01	.02	.02	.00	.02	-.00
Age	.03	.01	.18**	.04	.01	.16**	.03	.01	.16**	.03	.01	.11**
Media Use												
Opinionated News				.10	.07	.12**	.11	.06	.12**	.08	.09	.09
TV News				-.02	.10	-.02	-.02	.10	-.02	-.04	.10	-.04
Print Newspaper				.43	.09	.33**	.50	.08	.44**	.46	.07	.41**
Online News				-.07	.09	-.08	-.07	.09	-.08	-.06	.09	-.07
Radio News				.05	.06	.08	.05	.06	.08	.06	.06	.09
Talk Radio				.07	.07	.08	.07	.07	.08	.09	.07	.12
Social Media				.04	.03	.06	.13	.07	.10**	.15	.07	.11
.												
Motivations for Online Community Use												
Connectivity							.04	.08	.06	.01	.09	.01
Information							.11	.02	.15**	.12	.04	.16**
Entertainment							-.03	.09	-.03	-.08	.10	-.07
Shopping							.12	.16	.06	.09	.14	.04
Social Capital variables												
Local Community Bonding										.17	.02	.11**
Local Community Bridging										.38	.04	.31**
Web-Local Bonding										.07	.08	.05
Web-Local Bridging										.21	.04	.25**
Web Network Bonding										.07	.07	.05
Web Network Bridging										.16	.03	.19**
R^2	.16			.20			.28			.35		
Adjusted R^2	.11			.18			.25			.31		
F for R^2 change	4.96 (p < .01)			7.62 (p < .01)			9.11 (p < .01)			12.12 (p < .01)		

* p < .05

** p < .01

Table 53

Summary of hierarchical regression analysis for Demographics, Media Use, Motivation, and Social Capital variables predicting the measures of Distance Activism among online community Users (N = 582)

	Model 1 Demographics			*Model 2 Media Use*			*Model 3 Motivations*			*Model 4 Social Capital*		
	B	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*
Demographics												
Gender	-.19	.11	.07	.05	.10	.02	.08	.10	.03	.12	.10	.04
U.S. Citizen?	-.31	.24	-.05	-.38	.20	-.06	-.29	.20	-.05	-.30	.20	-.05
Education	.10	.03	.11**	.04	.03	.04	.05	.03	.06	.03	.03	.04
Employment	.03	.02	.07	.01	.02	.01	.01	.02	.01	.00	.02	.01
Income	.05	.02	.10**	.05	.02	.11**	.05	.02	.09**	.04	.02	.07 *
Marital	-.04	.08	-.02	.02	.07	.01	.03	.07	.02	.00	.07	.00
Ethnicity	.08	.07	.05	.04	.06	.02	.03	.06	.02	-.05	.06	-.03
Time Online	.01	.01	.02	.01	.01	.02	.01	.01	.02	.01	.01	.02
Posts per day	-.02	.01	-.11**	-.02	.01	-.09*	-.01	.01	-.06	-.02	.01	-.07
Age	.05	.01	.45**	.03	.01	.23**	.02	.01	.20**	.02	.01	.19**
Media Use												
Opinionated News				.48	.05	.23**	.45	.05	.39**	.45	.05	.39**
TV News				-.12	.05	-.09**	-.10	.05	-.07	-.05	.05	-.04
Print Newspaper				.16	.04	.13**	.14	.04	.11**	.15	.04	.12**
Online News				.11	.04	.09*	.09	.04	.08*	.08	.04	.07
Radio News				-.03	.03	-.03	-.01	.03	-.01	-.01	.03	-.02
Talk Radio				-.02	.04	-.01	.01	.04	.01	.01	.04	.01
Social Media				.07	.05	.05	.11	.05	.08*	.11	.05	.08 *
Motivations for Online Community Use												
Connectivity							-.05	.04	-.06	-.14	.05	-.14*
Information							.10	.06	.08	.03	.06	.02
Entertainment							-.12	.06	-.08*	-.17	.06	-.11**
Shopping							-.12	.06	-.08*	-.13	.06	-.09*
Social Capital variables												
Local Community Bonding										.29	.06	.20**
Local Community Bridging										-.17	.07	-.11*
Web-Local Bonding										.09	.08	.07
Web-Local Bridging										.41	.11	.20**
Web Network Bonding										-.09	.11	-.05
Web Network Bridging										-.07	.08	-.04
R^2	.28			.49			.51			.54		
Adjusted R^2	.27			.48			.49			.52		
F for R^2 change	21.87 (p < .01)			31.20 (p < .01)			26.27 (p < .01)			23.07 (p < .01)		

* p < .05

** p < .01

Table 54

Summary of hierarchical regression analysis for Demographics, Media Use, Motivation, and Social Capital variables predicting the measures of Distance Helping among online community users (N = 582)

	Model 1 Demographics			*Model 2 Media Use*			*Model 3 Motivations*			*Model 4 Social Capital*		
	B	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*	*B*	*SE*	*β*
Demographics												
Gender	-.78	.11	-.29**	-.64	.11	-.24**	-.41	.11	-.15**	-.41	.11	-.15**
U.S. Citizen?	1.01	.24	.16**	1.03	.23	.17**	.97	.22	.16**	.95	.22	.16**
Education	.11	.03	.14**	.11	.03	.14**	.12	.03	.16**	.13	.03	.16**
Employment	.02	.02	.04**	.01	.02	.02	-.03	.02	-.06	-.03	.02	-.06
Income	-.07	.02	-.14	-.05	.02	-.11**	-.04	.02	-.09	-.06	.02	-.12**
Marital	-.04	.08	-.02**	-.06	.08	-.03	-.13	.07	-.07	-.14	.07	-.08
Ethnicity	.13	.07	.07	.04	.07	.02	.00	.07	.01	-.07	.07	-.04
Time Online	.02	.01	.05	.01	.01	.02	.00	.01	.01	-.01	.01	-.01
Posts per day	.05	.01	.22**	.05	.01	.22**	.03	.01	.13**	.02	.01	.11
Age	.00	.01	.00	.01	.01	.05	.01	.01	.09	.01	.01	.08
Media Use												
Opinionated News				.14	.05	.13**	.19	.05	.17**	.21	.05	.19**
TV News				-.09	.06	-.07	-.11	.05	-.08*	-.07	.05	-.05
Print Newspaper				-.06	.05	-.05	-.05	.05	-.04	-.04	.05	-.03
Online News				-.06	.05	-.05	-.03	.05	-.03	-.03	.05	-.02
Radio News				.06	.04	.07	.03	.03	.03	.02	.03	.02
Talk Radio				.10	.04	.09*	.06	.04	.06	.04	.04	.04
Social Media				.35	.05	.27**	.23	.06	.18**	.24	.06	.19**
Motivations for Online Community Use												
Connectivity							.31	.05	.34**	.26	.06	.28**
Information							.11	.06	.09	.05	.06	.04
Entertainment							-.07	.06	-.05	-.09	.06	-.07
Shopping							.03	.06	.02	-.01	.06	-.01
Social Capital Variables												
Local Community Bonding										.31	.07	.24**
Local Community Bridging										-.41	.08	-.28**
Web-Local Bonding										-.16	-.12	-.10
Web-Local Bridging										-.01	.08	-.01
Web Network Bonding										.18	.09	.15*
Web Network Bridging										.27	.12	.13*
R^2	.43			.52			.59			.62		
Adjusted R^2	.17			.25			.32			.36		
F for R^2 change	12.33 (p < .01)			11.87 (p < .01)			13.46 (p < .01)			12.53 (p < .01)		

* p < .05

** p < .01

Table 55

Goodness-of-Fit indicators of models for Local Activism with Print Newspaper, Opinionated News, and the measures of Local Community Bonding Social Capital as predictors (N = 582)

	χ^2	*df*	χ^2/df[a]	*GFI*[b]	*RMSEA*[c]
Model	0.14	1	0.14	.994	.010

[a]*Model for χ^2/df determined to be a good fit if p > .05.*

[b]*Model determined to be a good fit if GFI > .90*

[c]*Model determined to be a good fit if RMSEA < .05.*

Table 56

Unstandardized loadings (Standard Errors) and Standardized loadings for confirmatory model for Online Community Use Motivation factors (N=582)

	Unstandardized	Standardized
Printed News > Local Community Bonding Social Capital	.07	.05
Printed News > Opinionated News	.25**	.22**
Printed News > Local Activism	.24**	.20**
Local Community Bonding Social Capital > Local Activism	.18**	.20**
Opinionated News > Local Activism	.46**	.41**

** *p < 0.01*

REFERENCES

Alhabash, S., Littau, J., Wise, K., Eckler, P., & Kononova, A. (2009). The "face" of Facebook: Emotional responses during social networking. International Communication Association. Chicago, IL.

Althaus, S. L., & Tewksbury, D. (2000). Patterns of Internet and traditional news media use in a networked community. *Political Communication, 17,* 21-45.

Ball-Rokeach, S., & DeFleur, M. (1976). A dependency model of mass media effects. *Communication Research, 3*(1), 3-21.

Banks, A. (2009). On the ground in the NY-20. Retrieved April 5, 2009, from http://www.mydd.com/story/2009/3/29/23320/1298

Beaudoin, C., & Thorson, E. (2004). Social capital in rural and urban communities: Testing differences in media effects and models. *Journalism and Mass Communication Quarterly, 81*(2), 378-399.

Beaudoin, C., Thorson, E., & Hong, T. (2006). Promoting youth health by social empowerment: A media campaign targeting social capital. *Health Communication, 19*(2), 175-182.

Becker, B., & Mark, G. (1999). Constructing social systems through computer-mediated communication. *Virtual Reality*, 4(1), 60-73.

Becker, L. B., & Dunwoody, S. (1982). Media use, public affairs knowledge and voting in a local election. *Journalism Quarterly, 59*(2), 212-218.

Blanchard, A. & Horan, T. (1998). Virtual communities and social capital. *Social Science Computer Review*, 16(3), 293-307.

Blumler, J., & Katz, E. (1974). Utilization of mass communication by the individual. In J. Blumler & E. Katz (Eds.), *The uses of mass communication*. Newbury Park, CA: Sage.

BMG. (2009). NY-20: Stick it to the GOP. Retrieved April 14, 2009, from http://www.bluemassgroup.com/showDiary.do?diaryId=15231

Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *The handbook of theory and research for the sociology of education*. New York: Greenwood Press.

Boyd, D., & Ellison, N. (2008). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13(1), 210-230.

Briggs, M. (2007). *Journalism 2.0: How to thrive and survive*. College Park, MD: Knight Foundation.

Brint, S. (2001). Gemeinschaft revisited: A critique and reconstruction of the community concept. *Sociological Theory, 19*(1), 1-23.

Bruns, A. (2005). *Gatewatching: Collaborative online news production*. New York, NY: Peter Lang Publishing.

Center for the Digital Future (2007). Online world as important to Internet users as real world?. Retrieved June 1, 2009 from http://www.digitalcenter.org

Center for the Digital Future (2009). Highlights: The 2009 digital future project – year eight. Retrieved June 1, 2009 from http://www.digitalcenter.org

Coleman, J. (1988). Social capital in the creation of human capital. *American Journal of Sociology, 94*(Supplement), S95-S120.

Donath, J., & Boyd, D. (2004). Public displays of connection. *BT Technology Journal*, 22(4), 71.

Ducheneaut, N., Yee, N., Nickell, E. & Moore, R. (2006). "Alone together?": Exploring the social dynamics of massively multiplayer online games. Presented to Conference on Human Factors in Computing Systems, Montreal, Canada

Edwards, B., & Foley, M. W. (1988). Civil society and social capital beyond Putnam. *American Behavioral Scientist, 42*(1), 124-139.

Eighmey, J., & McCord, L. (1998). Adding value in the information age: Uses and gratifications of sites on the world wide web. *Journal of Business Research, 41*(3), 187-194.

Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, 12(4) 434-445.

Flanagin, A. J., & Metzger, M. J. (2001). Internet use in the contemporary media environment. *Human Communication Research, 27*(1), 153-181.

Flink, S. E. (1997). *Sentinel under siege: The triumphs and troubles of America's free press*. Boulder, Colorado: Westview Press.

Foley, M. W., & Edwards, B. (1999). Is it time to disinvest in social capital? *Journal of Public Policy, 19*, 141-173.

Fulkerson, G., & Thompson, G. (2004). *Fifteen years of social capital (1988-2002): An analysis of definitions and trends in sociological journal articles*. Paper presented at the American Sociological Association, San Francisco, CA.

Gillmor, D. (2004). *We the media: Grassroots journalism by the people, for the people*. Sebastopol, CA: O'Reilly Media, Inc.

Granovetter, M. (1973). The strength of weak ties. *American Journal of Sociology, 78*, 1360-1380.

Ha, L., & James, E. L. (1998). Interactivity reexamined: A baseline analysis of early business web sites. *Journal of Broadcasting and Electronic Media, 42*, 457-474.

Haas, T. (2005). From “public journalism” to the “public's journalism”? Rhetoric and reality in the discourse on weblogs. Journalism Studies, 6(3), 387-396.

Habermas, J. (1991). The structural transformation of the public sphere: An inquiry into a category of bourgeois society. Cambridge, MA: The MIT Press.

Hampton, K., & Wellman, B. (2003). Neighboring in Netville: How the Internet supports community and social capital in a wired suburb. *City & Community*, 2 (4), 277-311.

Hasselbring, T. & Glaser, C. (2000). Use of computer technology to help students with special needs. *The Future of Children: Children and Computer Technology*, 10(2), 102–122.

Haythornthwaite, C., & Wellman, B. (1998). Work, friendship, and media use for information exchange in a networked organization. *Journal of the American Society for Information Science, 49*(12), 1101-1114.

Huang, C., Shen, Y., Lin, H., & Chang, S. (2007). Bloggers' motivations and behaviors: A model. *Journal of Advertising Research, 47*(4), 472-484.

Hutchins, R. (1947). *A free and responsible press: A general report on mass communication*. Chicago, Illinois: University of Chicago Press.

Innis, H. (1950). *Empire and communications*. London, England: Oxford University Press.

Innis, H. (1951). The bias of communication. Toronto, Canada: University of Toronto Press.

Johnson, T., & Kaye, B. (2000). Using is believing: The influence of reliance on the credibility of online political information among politically interested Internet users. *Journalism and Mass Communication Quarterly, 77*(4), 865-879.

Karau, S. & Williams, K. (1993). Social loafing: A meta-analytic review and theoretical integration. Journal of Personality and Social Psychology, 65(4), 681-706.

Katz, E. (1959). Mass communication research and the study of popular culture: An editorial note on a possible future for this journal. *Studies in Public Communication, 2*, 1-6.

Katz, E., Gurevitch, M., & Haas, H. (1973). On the use of the mass media for important things. *American Sociological Review, 38*, 164-181.

Kavanaugh, A., Carroll, J. M., Rosson, M. B., Zin, T. T., & Reese, D. D. (2005). Community networks: Where offline communities meet online. *Journal of Computer-Mediated Communication*, 10 (4)

Kaye, B. K., & Johnson, T. J. (2002). Online and in the know: Uses and gratifications of the web for political information. *Journal of Broadcasting and Electronic Media, 46*(1), 54-71.

Kirkpatrick, M. (2009). Twitter puts a muzzle on your friends: Goodbye people I never knew. Retrieved May 15, 2009 from http://www.readwriteweb.com/archives/twitter_puts_a_muzzle_on_your_friends_goodbye_peop.php

Kollock, P. & Smith, M. (1996). Managing the virtual commons: Cooperation and conflict in computer communities. In S. Herring (ed.) *Computer-Mediated Communication*. Amsterdam: John Benjamins

Kovach, B., Rosenstiel, T. (2004). *The elements of journalism: What news people should know and the public should expect*. New York, NY: Three Rivers Press.

Lambeth, E., Meyer, P., Thorson, E. (1998). *Assessing public journalism*. Columbia, MO: University of Missouri Press.

Lampe, C., Ellison, N., & Steinfield, C., (2006). A Face(book) in the crowd: Social searching vs. social browsing. Proceedings of the 2006 20th Anniversary Conference on Computer Supported Cooperative Work. New York: ACM Press.

LaRose, R., Mastro, D., & Eastin, M. (2001). Understanding Internet usage: A social-cognitive approach to uses and gratifications. *Social Science Computer Review, 19*(4), 395-413.

Lin, C. (2001). Audience attributes, media supplementation, and likely online service adoption. *Mass Communication & Society, 4*(1), 19-38.

Lin, N. (2001). Building a network theory of social capital." In N. Lin, K. Cook & R. Burt (eds.). *Social Capital: Theory and Research*. Hawthorn, NY: Aldine de Gruyter.

Littau, J., Gardner, E., Thorson, E. (2009). The impact of news "voice" on adolescent political efficacy. Association for Education in Journalism and Mass Communication convention. Boston, MA.

McCombs, M., & Pointdexter, P. M. (1983). The duty to keep informed: News exposure and civic obligation. *Journal of Communication*, 33(2 (Spring)), 88-96.

McLuhan, M. (1994). *Understanding media: The extensions of man*. Cambridge, MA: MIT Press.

McQuail, D. (1994). *Mass communication: An introduction* (3rd ed.). London: Sage.

McQuail, D., Blumler, J. G., & Brown, J. (1972). The television audience: A revised perspective. In D. McQuail (Ed.), *Sociology of mass communications* (4th ed.). Harmondsworth, England: Penguin.

Merrill, J. C., Gade, P. J., & Blevens, F. R. (2001). *Twilight of press freedom: The rise of people's journalism*. Mahwah, New Jersey: Lawrence Erlbaum Associates.

Moy, P., Scheufele, D., Holbert, R. L. (1999). Television use and social capital: Testing Putnam's time displacement hypothesis. *Mass Communication & Society*, 2(1), 27-45.

Ng, B. & Wiemer-Hastings, P. (2005). Addiction to the Internet and online gaming. *CyberPsychology & Behavior*, 8(2), 110-113.

Nie, N. H. (2001). Sociability, interpersonal relations, and the Internet: Reconciling conflicting findings. *American Behavioral Scientist*, 45 (3), 420-35.

Norris, P. (2002). The bridging and bonding role of online communities. *The Harvard International Journal of Press/Politics, 7*(3), 3-13.

O'Keefe, G., & Sulanowski, B. (1995). More than just talk: Uses, gratifications, and the telephone. *Journalism & Mass Communication Quarterly, 72*(4), 922-934.

Overholser, G., Jamieson, K. (2005). *The press*. New York, NY: Oxford.

Palmgreen, P., & Rayburn, J. (1979). Uses and gratifications and exposure to public television: A discrepancy approach. *Communication Research, 6*, 155-180.

Papacharissi, Z., & Rubin, A. M. (2000). Predictors of Internet use. *Journal of Broadcasting and Electronic Media, 44*(2), 175-196.

Parker, B., & Plank, R. (2000). A uses and gratifications perspective on the Internet as a new information source. *American Business Review, 18*(6), 43-49.

Parks, M., & Floyd, K. (1996). Making friends in cyberspace. *Journal of Computer-Mediated Communication*, 1 (4).

Payne, G., Severn, J., & Dozier, D. (1988). Uses and gratifications motives as indicators of magazine readership. *Journalism and Mass Communication Quarterly, Winter*, 909-913.

Perlmutter, D. (2007). *Blogwars: The new political battleground*. New York, NY: Oxford University Press.

Porter, E. (2004). A typology of virtual communities: A multi-disciplinary foundation for future research. *Journal of Computer-Mediated Communication, 10*(1).

Preece, J. (2000). *Online communities: Designing usability, supporting sociability*. Chichester, UK: John Wiley & Sons, Ltd.

Preece, J. (2001). Sociability and usability in online communities: Determining and measuring success. *Behaviour & Information Technology, 20*(5), 347-356.

Putnam, R. (1995). Bowling alone, revisited. *The Responsive Community, 5*(2), 18-33.

Putnam, R. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon & Schuster.

Rafaeli, S., & LaRose, R. (1993). Electronic bulletin boards and "public goods" explanations of collaborative mass media. *Communication Research, 20*(2), 277-297.

Rheingold, H. (1994). A slice of life in my virtual community. In L. M. Harasim (Ed.), *Global networks: Computers and international communication* (pp. 57-80). Cambridge: MA: MIT Press.

Rodgers, S., Jin, Y., Rettie, R., Alpert, F., & Yoon, D. (2005). Internet motives of users in the United States, United Kingdom, Australia, and Korea: A cross-cultural replication of the WMI. *Journal of Interactive Advertising, 6*(1).

Rodgers, S., Wang, Y., Rettie, R., & Alpert, F. (2007). The web motivation inventory: Replication, extension and application to Internet advertising. *International Journal of Advertising, 26*(4), 447–476.

Rodgers, z. (2007). Facebook launches social ads, starring your friends. Retrieved May 18, 2009 from http://www.clickz.com/3627527

Rodzvilla, J. (Ed.). (2002). *We've got blog: How weblogs are changing our culture*. Cambridge, MA: Perseus Publishing.

Rosen, J., & Merritt, D. (1994). *Public journalism: Theory and practice*. Dayton: Kettering Foundation.

Ruggiero, T. (2000). Uses and gratifications theory in the 21st century. *Mass Communication & Society, 3*(1), 3-37.

Saul, M. (2009). Democrat Scott Murphy wins Kirsten Gillibrand's Albany-area seat; Republican James Tedisco concedes. Retrieved May 27, 2009 from http://www.nydailynews.com/news/politics/2009/04/25/2009-04-25_democrat_scott_murphy_wins_kirsten_gillibrands_albanyarea_seat_republican_james_.html

Severin, W., & Tankard, J. (1997). Uses of mass media. In W. J. Severin & J. W. Tankard (Eds.), *Communication theories: Origins, methods, and uses in the mass media* (4th ed.). New York, NY: Longman.

Shah, D. V., Kwak, N., & Holbert, R. L. (2001a). Connecting and disconnecting with civic life: Patterns of Internet use and the production of social capital. *Political Communication, 18*, 141-162.

Shah, D. V., McLeod, J. M., & Yoon, S.-H. (2001b). Communication, context, and community: An exploration of print, broadcast, and Internet influences. *Communication Research, 28*(4), 464-506.

Shah, D. V., Schmierbach, M., Hawkins, J., Espino, R., & Donavan, J. (2002). Nonrecursive models of Internet use and community engagement: Questioning whether time spent online erodes social capital. *Journalism & Mass Communication Quarterly, 79*(4), 964-987.

Siebert, F., Peterson, T., Schramm, W. (1956). *Four theories of the press*. Chicago, IL: University of Illinois Press.

Smedley, B. (2000). *Promoting health: Intervention strategies from social and behavioral research*. Washington, D.C.: National Academies Press.

Stafford, T. F., Stafford, M. R., & Schkade, L. L. (2004). Determining uses and gratifications for the Internet. *Decision Sciences, 35*(2), 259-288.

Steinfield, C., Ellison, N. & Lampe, C. (2008). Social capital, self-esteem, and use of online social network sites: A longitudinal analysis. *Journal of Applied Developmental Psychology,* 29(6).

Thorson, E., & Duffy, M. (2006). Newspapers in the new media environment: A needs-based theory of the revolution in news use and its implications for the newspaper business, *NAA Marketing Conference*. Orlando, FL.

Tremayne, M. (Ed.). (2006). *Blogging, citizenship and the future of media*. New York, NY: Routledge.

Uslaner, E. M. (2004). Trust, civic engagement, and the Internet. *Political Communication, 21,* 223-242.

Vincent, R., & Basil, M. (1997). College students' news gratifications, media use, and current events knowledge. *Journal of Broadcasting & Electronic Media, 41,* 380-392.

Wellman, B. (1982). Studying personal communities. In P. Lin (Ed.), *Social structure and network analysis*. Beverly Hills, CA: Sage.

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, 213-238.

Wellman, B. (1997). An electronic group is virtually a social network. In S. Kiesler (Ed.), *Culture of the Internet* (pp. 179-205). Mahwah, N.J.: Lawrence Erlbaum Associates.

Wellman, B., & Hampton, K. (1999). Living networked on and offline. *Contemporary Sociology, 28*, 648-654.

Wellman, B., Haase, A. Q., Witte, J., & Hampton, K. (2001). Does Internet increase, decrease, or supplement social capital? *American Behavioral Scientist, 45*, 436-455.

Whiteley, P. F. (2000). Economic growth and social capital. *Political Studies, 48*, 443-466.

Williams, D. (2006). On and off the 'net: Scales for social capital in an online era. *Journal of Computer-Mediated Communication, 11*(2).

Williams, F., & Monge, P. (2001). *Reasoning with statistics*. Fort Worth, TX: Harcourt Publishers.

Wilson, S. M., & Peterson, L. C. (2002). The anthropology of online communities. *Annual Review of Anthropology, 31*(1), 449-467.

Woolcock, M. (1998). Social capital and economic development: Toward a theoretical synthesis and policy framework. *Theory and Society, 27*(2), 151-208.

Yang, S., Lee, H., & Kurnia, S. (2007). Understanding the relationship between information and communication technology (ICT) and social capital: A conceptual framework. *Proceedings of the 13th Asia Pacific Management Conference*. Melbourne, Australia, 231-241

VITA

Jeremy Littau was born in 1975 in Los Angeles. He grew up in San Jose, CA and graduated from high school in Fremont, CA in 1993. He did his undergraduate work at Biola University in La Mirada, CA and graduated in 1997 with a bachelor of arts degree in communication (journalism emphasis). He worked at newspapers in California and Nevada before returning to school at the Missouri School of Journalism in 2004. He completed his master's degree in journalism at Missouri in 2007 and his Ph.D. in 2009.

Littau's research focuses on social media, specifically its impact on both online and real-world communities, as well as the motivations and outcomes of virtual community use.