The Role of Political Ideology in Dissociative Behavior on Social Networking Websites

by

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(Under the Direction of Audrey Haynes)

Abstract

Social networks have long been studied from a political science perspective. Though the existing literature implies that people are exposed to opposing political views rather often, people also tend to associate with others like themselves. The growth of online social networking sites gives us the chance to analyze this associative and dissociative behavior at work in a digital context. In this thesis I propose a model that rests heavily on ideological extremity as a predictor of dissociative behaviors on social networking websites. The results reveal some evidence that indeed extreme political ideologues are more likely than their moderate cohorts to disassociate themselves from their online peers.

Index words: social networks, social capital, homophily, polarization, political ideology, political networks, cross-cutting, discussion networks, Facebook, Twitter, social networking sites

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Chapter 1

Introduction

According to a study conducted by the Pew Internet & American Life Project, 66% of Internet-connected American adults use social networking sites (Rainie & Smith 2012). Of these individuals, a full 75% report having used them for posting political content. The current president, Barack Obama, has almost 40 million followers on Twitter, to whom he has relayed over 10,000 "tweets".[1] The large number of political discussions facilitated by social networking sites (SNSs) are not static interactions, however. The conversation is dynamic, and sometimes conflicts arise.

In many ways, SNSs reflect properties found in offline social networks. Just as people's social networks tend to be filled with others like themselves, political blogs are likewise the picture of political uniformity (McPherson, Smith-Lovin & Cook 2001; Christakis & Fowler 2012). Sibona & Walczak (2011) discover that this desire for uniformity extends to SNSs, where breaching polarizing topics can lead to dissociative behavior online, such as unfriending or unfollowing. The question I hope to answer in this thesis is: Does political ideology play a role in motivating these dissociative behaviors on SNSs?

Initial research indicates that ideology could matter in these decisions. In fact 18% of SNS users actually *disconnected* from others for political reasons (Rainie & Smith 2012,

[1]Tweets are messages pushed to followers through Twitter. Twitter requires that messages be at or below 240 characters in length. In addition, it is important to note that due to Twitter's global reach, not all of Obama's 40 million followers reside in the United States.

p. 2). If this proportion is close to reality, it has implications for the 1.5 billion combined usership of Facebook[2] and Twitter.[3] Though Rainie and Smith (2012) assert that "many networks are not built with ideological compatibility as a core organizing principle" (p. 2), the mixing of personal and political discussion networks on SNSs may disrupt this pattern. When users utilize an SNS, they open themselves up to the posts of their online friends. These posts often surprise SNS users, and close to 40% of SNS users indicate only learning of other users' political views through SNS posts (Rainie & Smith 2012). Users have several ways to respond. They can ignore the post, they can respond to it, or they can dissociate from the user (either by hiding the user's posts or unfriending altogether). I think that as users' political ideology moves farther from the middle, they are more likely to use the third option.

There are notable barriers to addressing the nature of dissociative behavior on SNSs, however. The sheer size of the data available makes comprehensive analyses difficult. Beyond the volume of data, online social networking sites are also constantly changing in design and structure. This makes comparing across time difficult. In an effort to address these challenges, Gary King (2011) has suggested that legal standards be put in place to facilitate the development of a privacy-focused data sharing protocol. This way, users could safely share their information with social scientists with minimal risk.

Despite King's efforts, surveys currently offer the most cost-effective way to analyze SNS user activity on a broad scale. One of these surveys, conducted by the Pew Research Center's Internet & American Life Project, will allow us to explore the role of ideology on both the magnitude of dissociative behavior on SNSs, and the impact of ideology in various combative situations on these sites.

This thesis is organized as follows: first, I break down past research in political discussions and exposure to cross-cutting perspectives in the context of traditional social networks; next, I put these theories to work in the context of online social networks; I then outline the data utilized in this study and the methods used, and that is followed

[2]See Whittaker 2012
[3]See Shiels 2011

by the model itself. Finally, the thesis concludes with a discussion of the results and a roadmap for further analysis of SNSs.

Chapter 2

Literature Review

2.1 Social Networks

Social networks exist in our society and indeed are, according to some, built into it. "The only successful way to organize human beings in complex institutions is through combinations of small natural groups of people who know each other, see each other every day, and can become adjusted to one another" (Coon 1946, p. 167). The well-known Robbers Cave Experiment, whereby a group of boys creates groups with little stimulation, substantiates this claim (Sherif, Harvey, White, Hood, and Sherif 1961).

But under what conditions do these bonds form? Research indicates that social bonds can form due to a multitude of reasons. Mutual painful experiences were found to bond people with one another (Latane, Eckman and Joy 1966). It may not even require something drastic in order for bonds to form between people. Indeed simply being near one another could facilitate social bonding (Festinger, Schachter and Back 1950). The running theme across experiments on social network formation, however, is frequent contact. People who interact with one another are able to create bonds. Contact can even lead to greater bonds between individuals in different groups (Wilder and Thompson 1980). Wilder and Thompson also found that barriers between individuals in different groups can break down when people in those groups interact with one another. But is

there a systematic nature to this group formation? Researchers have found that to the contrary, even when individuals were placed in experimental groups made completely at random, ingroup bonds trounced those with the outgroup (Locksley, Ortiz, and Hepburn 1980).

2.2 Social Capital

Social networks exist, but what makes them flourish? One of the answers is social capital. Social capital has been studied by different fields, and thus has been defined differently by different researchers. Roughly, social capital represents "the goodwill that is engendered by the fabric of social relations and that can be mobilized to facilitate action" (Adler and Kwon 2002, p. 17). If social networks represent the structure of relationships among people, social capital is the substance that comprises these relationships. Social capital has shown up frequently in economics research, where authors have studied its role in company hiring processes, employee promotions, and people's job search (Fernandez, Castilla & Moore 2000; Gabbay & Zuckerman 1998; Lin & Dumin 1986).

2.3 Social Capital in Political Networks

Political scientists have taken this research on social capital and applied it to the case of voter networks and political engagement. Research undertaken by Robert Putnam (1995a; 1995b) initially suggested that there had been a recent decline in social capital caused by lower levels of participation in community-based civic organizations. The logic followed that lowered participation led to lower engagement by voters and lower overall turnout come Election Day. Research by La Due Lake and Huckfeldt (1998) calls this theory into question, however, as they find that simply being connected to individuals who themselves are involved could be sufficient to drive increased political involvement. Research has found other benefits of participating in community-oriented organization.

Cigler and Joslyn (2002) find that being in these types of organizations can actually increase tolerance toward other groups of people.

2.4 Offline Political Discourse

One cannot mention the idea of discussion networks without acknowledging the literature on the role of homophily in social network formation. Homophily is the idea that "contact between similar people occurs at a higher rate than among dissimilar people" (McPherson, Smith-Lovin & Cook 2001, p. 416). While McPherson et al. acknowledge that people of similar demographic and socioeconomic status group together, they also note that "there is a considerable tendency for adults to associate with those of their own political orientation" (p. 429). This pattern of association tends to lead individuals toward more polarized positions, as noted by Sunstein (2009). He found that when people of a similar political ideology communicated about an issue, they "ended up with more extreme positions" (p. 61) afterwards. A predictable response to this finding is that people may only associate with others who reinforce their existing opinions. However, only 40% of political discussants are "close friends" with their counterparts (Madan, Farrahi, Gatica-Perez & Pentland 2011, p. 222). This indicates that people have a group of political discussants separate from their group of friends.[1]

Further, despite that fact that those with similar political views are presumed to stick with one another, a recent survey found that "fewer than half of the respondents reported networks of association in which everyone shares their preference" (Huckfeldt, Mendez & Osborn 2004, p. 91). These results indicate that people are likely to encounter cross-cutting political views in their day-to-day lives. Regarding candidate evaluations prior to elections, Huckfeldt, et al. argue that because of this regular interaction with contradicting views, people "are more likely to develop an attitude...that incorporates positive and negative assessments" of each candidate (p. 92).

[1]Klofstad, McClurg & Rolfe (2009) confirm that political discussants are less likely to consider one another to be "close" friends.

Discussing candidates and issues with others can have a strong effect on eventual vote choice. Indeed Paul Beck (2002) found in his analysis of group discussion prior to the 1992 presidential election that "defection...from one's own party was enhanced by the support it found within the discussion network" (p. 329). He proceeds to propose that "when challenged by the social environment, party preferences can be overcome" (p. 330). Betsy Sinclair's (2012) book on social pressure in political situations provides very compelling evidence of the impact of social networks. A particularly prescient finding was that neighbors were better at mobilizing voters than strangers. The social pressure associated with this particularly public political act was enough to push people to vote. Online social networks such as Facebook could similarly provide pressure to users.[2]

2.5 Online Political Discourse

Why is it important to acknowledge the Internet in the context of cross-cutting perspectives and political discussions? Simply put, the Internet plays such a crucial role in our lives that it cannot be ignored. Almost 80% of Americans have Internet access (World Bank). Similarly, the Internet has largely supplanted other forms of media in terms of gathering news and following political campaigns. For example, a 2012 Pew Research Center survey found that 47% of respondents utilized the Internet as their main source of 2012 election coverage (Low Marks for the 2012 Election 2012). This represents a 30% jump from the 2008 campaign.

Internet journals, known as blogs, were the subject of many of the initial studies of the Internet's role in politics. Their influence, although acknowledged, was thought to be mostly indirect. The logic was that traditional journalists would visit these blogs and use them in their own pieces. In addition, prominent political commentators would simply post their thoughts on their blog as a suppliment to speaking on TV or radio

[2] A 2001 analysis by Wellman, Haase, Witte, and Hampton found that the Internet's role in facilitating communication and social capital was largely supplemmental and was used in conjunction with traditional forms of communication.

(Farrell and Drezner 2008). So although blogs were thought to be a great way to even the playing field and make it easier for regular people to get thier message out, the results have not necessarily held up. Further, the grassroots nature of blogs could do more harm than good. Iyengar and Hahn's (2009) findings of ideologically-driven media choice could very well carry over into blogs and other new media. True enough, Christakis and Fowler (2009) find this to be the case, and in their network analysis of the political blogosphere find an "extreme separation between liberals and conservatives" (p. 206).

Blogs are not the way for people to discuss their political views on the Web, however. Currently, one of the most popular ways to discuss politics online is through a "social networking site." For the purposes of this thesis, a social networking site is a website that allows 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. (Ellison 2007, p. 211)

But how does information gathering and political discussion take place in online social networks versus offline ones? Although the Internet in general, and online social networking sites specifically, are still new and constantly evolving, there is a burgeoning literature on cross-cutting perspectives in online social networking sites (SNSs). There is some debate over the ability of SNSs to provide cross-cutting perspectives. If people treat SNSs similar to television news, we may witness "political beliefs play[ing] an important role in determining where people turn for political information" (Stroud 2008, p. 360).[3] If this is truly the case, we should not expect SNSs to expose people to alternative views on political issues. Rather, individuals will continuously filter their list of Friends to match their preexisting preferences.[4] However, other research suggests that SNSs

[3] Also see Iyengar and Hahn 2009

[4] "Friend" is capitalized to distinguish between friends offline and connections on SNSs such as Facebook and Twitter. In doing so I follow the precedent set by Ellison (2007).

may actually provide regular access to cross-cutting perspectives. Indeed, Kim (2011) found that "inadvertent exposure to political difference facilitated by SNSs may happen regardless of individuals' political orientations" (p. 976). The key here is that individuals have found bonds through some other connection, and a political discussion came about *inadvertently*, and not as the center of the relationship. Although SNSs largely lack the potential anonymity of other forms of online discourse such as chat rooms or discussion groups, the fact that people still do not have to directly face one another may lead to bolder political statements.

2.6 Dissociative Behavior on SNSs

If you cease to become someone's friend in real life, you might take several actions. You could tell them you are no longer their friend or you could simply stop communicating with them. But what about "online" Facebook friends or Twitter followers? With over 60% of SNS users reporting removing people from their Friends list, the puzzle becomes determining the relevant drivers of unfriending on SNSs (Peña & Brody 2014). Quercia, Bodaghi & Crowcroft (2012) find that online friendships dissolve for much the same reasons they do in real life. More specifically, the likelihood is heightened "between two individuals who: are not embedded in the same social circles; have no common female friends; have large age differences; and are neurotic or introvert[ed]" (p. 4).

However, there is evidence that political factors may, even if only indirectly, drive unfriending behavior on SNSs.[5] Sibona and Walczak (2011) hinted at this possibility when they found that those users who cited online (i.e. SNS-related) reasons for unfriending someone also cited the "breaching of 'polarizing topics and inappropriate topics' as one of their primary reasons" (p. 8) for doing so. Similarly, in online debates over gay marriage, one man found that his stance was particularly unpopular among his Faebook Friends.

[5]Technically, "unfriending" is a word used almost exclusively to describe a user removing a former connection from his Friends list on Facebook. However, for the purpose of this thesis, "unfriending" will be defined as any behavior taken to disconnect from a another user with whom one was previously connected. These behaviors include unfriending or unfollowing.

And they were not afraid to let him know how they felt. He lamented that "back in the day when friends had a beef with you, they'd tell you to your face, or you just knew to avoid political topics with certain people. Now, I'm being defriended left and right" (Petrow 2012). Although it seems clear that people are separating themselves from one another for political reasons, there has yet to be a definitive systematic analysis of the relationship between ideology and unfriending.

2.7 SNSs and Political Discourse

Facebook and Twitter are ideal SNSs to use for any analysis of social media and political discourse. Globally, they are among the largest social networking sites by active usership, with around 500 million users on Twitter and over a billion users on Facebook. These two websites are prototypical SNSs. There are characteristics of Facebook and Twitter that make discourse on these SNSs unlike that found in a typical offline discussion. First, your posts are typically visible either to all your Friends/followers or to the general public depending on one's specifications. Every time you post something—a video, a link to an article, or a statement of your own—it is published to your individual profile page. This individualized, continuosly updated feed could have implications for users. They could use this feature in an effort to maintain a consistent image based on a certain ideology.

Because a user's entire history of posting (status, tweets, messages from friends and followers) is visible, the user might take time to ensure consistency by deleting inconsistent posts so as to present a certain image to external viewers. Further, when you post something to Facebook or Twitter, the SNSs push the post out to their front page (most recent posts on the news feed in Facebook or recent tweets on Twitter) for all your Friends/followers to see. While Facebook recently introduced the ability to choose which friends see the post on an ad hoc basis, there is no evidence to suggest that this regularly affects discussions on the website. It is relatively safe to assume that users would

rather just push posts out to everyone rather than go through one-by-one to determine who they do and do not want seeing the post in question.

Another prominent trait of Facebook and Twitter is that conversations arising from a post are *not* confined to the poster and his Friends/followers. Individuals are notified when a friend comments on a non-Friend's post, for instance. Because of the complex interplay between individuals' privacy settings, it is often possible for two complete strangers to discuss the content of a post without ever knowing one another beyond their profile photos. On Twitter, by comparison, the more open nature of posts makes interaction between strangers even more likely. In addition, the immediacy of modern SNSs makes for interesting dynamics. As news stories break, users can simultaneously post their reactions. Indeed almost 27% of people utilizing Facebook respond to posts they disagree with via a post of their own or a comment on the other poster's page (Pew Internet & American Life Project 2012).

The interesting aspect of online SNSs is that the behavior undertaken on them can translate into offline action. Bond, et al. (2012) conducted an experiment to test the value of online messaging in a political context by showing users which of their Facebook Friends reported voting. They concluded that this online social pressure works, and went on to suggest that "online messages might influence a variety of offline behaviours" (p. 298). Thus, the true value of SNSs in political discourse lies not only in its ability (or inability) to promote political discussions, but also in pushing users to take those discussions and implement them offline.

Chapter 3

Theory

3.1 Political Content on SNSs

Although there is literature on the role of common attitudes in homophily both offline and on the Internet, no one has explored the role of political ideology or partisanship in the decision to unfriend someone on an SNS. I hope to fill this void in the literature and perhaps raise some points of further study in the realm of social network interactions. It is important to acknowledge that SNSs such as Facebook are not inherently political spaces. If this is indeed the case, we should expect that cross-cutting perspectives should be more welcome than in purely political online spaces (Mutz & Wojcieszak 2008). I argue that this is not the case, however. The aforementioned newsfeed function (as well as the Twitter homepage), whereby the feed reflects the content driven by his Friends, allows each user's newsfeed to fluctuate. For instance, a user with an intense passion for baseball is likely to associate with other baseball fans. Hence, his newsfeed will be filled with baseball-related pictures, videos, and articles. The same outcome should occur for users with politically-oriented Friends. If the user's Friends are of a particular ideology, their posts should fill the user's newsfeed with ideological news, images, and video. Time also plays a role. Much like we should expect more discussion of a sport during its season of play, we should expect political discussion to start up near the beginning of a political

race. If presidential or mid-term elections are near, for example, we should expect that the politically-atuned users will begin posting relevant content. Because targeting posts toward different groups of Friends or followers is difficult, there are times where people post images or articles that surprise their Friends. In fact, 38% of SNS users reported that they only learned about their Friends' political beliefs through SNS posts (Rainie & Smith 2012, p. 2).

Facebook provides another service called "Groups" that warents additional discussion. Although the ease with which one can create a Facebook group allows those with similar interests or ideologies to congregate with one another, Facebook so interconnects its users that they can easily take material (photos, videos, or notes) from the group and blast it to their Friends' newsfeeds. These factors can serve to anger the individual seeing these updates if they are of a politically opposite nature. If this behavior becomes frequent enough, the individual might be driven to hide the particular user's posts, or even unfriend the individual.

However, there are a couple things to keep in mind. First, there is a distinct difference between unfriending someone and hiding their posts. Unfriending someone on an SNS is akin to cutting off digital ties with them. The recipient of the unfriending can no longer see your posts, your photos, or your other content (assuming you have minimal privacy settings enabled). Meanwhile, you are no longer privy to their posts either. Hiding someone's posts, on the other hand, serves essentially the same functional purpose. Doing so keeps Facebook from showing you their posts, while simultaneously allowing you to maintain the friendship facade.

For this thesis, I am interested in the unfriending behavior of ideological moderates versus those at the liberal or conservative extremes. There is a possibility that "although [Facebook] may facilitate diversity in political discussion, [it] could enable individuals to insulate themselves from interaction with those they disagree with" (Kushin and Kitchener 2009). This might indicate that beyond joining ideologically-charged Facebook groups, individuals may winnow out Friends who they deem too politically incom-

patible. Because of this, we should expect those at ideological extremes to unfriend people at a higher rate than those in the middle of the spectrum. This leads to my primary hypothesis:

H_A: As an individual SNS user's distance from the ideological center increases, unfriending behavior due to political/ideological reasons is more likely to occur.

If online "social" networks are not really as connective as their name implies, it could have negative consequences for exposure to cross-cutting perspectives and the frequency with which people come across different opinions from their own.

3.2 Other Factors to Consider

There are several other factors that could affect unfriending behavior to different degrees. First, we should expect that time spent on SNSs would have an impact. Those individuals spending more time on SNSs will be more likely to encounter provocative or disagreeable statements or re-posts that may encourage the user to unfriend the other individual.

Similarly, the amount of politically-related posts the user's Friends write should play a role in dissociative behavior on SNSs. If the respondent's Friends do not post a significant amount of political material to SNSs, we should expect that the respondent will be less likely to see potentially offensive posts.[1]

It is possible that education level also plays a roll. Kim (2011) finds that higher educated individuals were less likely than their less educated counterparts to be exposed to cross-cutting perspectives on SNSs. However, there are reasons to suspect that education might augment as well as depress politically-motivated unfriending behavior. On one hand, it is possible that the more erudite among us might be self-sorted into homogeneous groups. If this is the case, we should expect to witness fewer instances of unfriending for political reasons.

[1]This is tricky, however. While certain SNSs like Twitter show posts in chronological order, others like Facebook can show posts chronologically or in order of descending activity. Political posts tend to elicit discussion, so a user might find his feed filled with politically-minded posts made at a multitude of different times.

However, an argument could be made that because the more educated individuals self-segregate, cross-cutting perspectives will be more glaring on the newsfeed of their SNSs. This indicates that we should expect to see *more*, not less, unfriending activity at higher levels of education. Marsden's (1987) analysis of the relationship between demographics and social network size finds support for this theory. He finds that the average network size for college graduates is 1.8 times larger than that of those who failed to complete high school. Educated individuals could be prone to encounter others with undesirable opinions, whereas less educated people could be surrounded entirely by those with a similar ideological outlook.

In addition, it is possible that a Friend's reaction to a users's post may trigger him to unfriend the individual. Thus we should expect a positive relationship between the receipt of a negative response to a post and political unfriending.

Chapter 4

Data

The data for this analysis come from a survey conducted by the Pew Internet & American Life Project. The Project surveys Americans on a range of topics relevant to the Internet. This particular survey was conducted via telephone between January and February 2012 with an initial sample size of 2253. The survey was conducted to track general behavior across Internet search engines and SNSs. The Pew Center is one of the few research centers regularly collecting data and conducting studies on social media use in the United States.

Chapter 5

Model

The dependent variable in this analysis is the level of politically-charged unfriending behavior. Unfortunately, the only data available on political unfriending via SNSs were collected as a series of yes-no questions regarding a user's unfriending behavior. To better understand the effect of ideology on the magnitude of dissociative behavior on SNSs, I will first run an ordered probit model with the dependent variable being the sum of the answers to the four yes-no questions of interest.

Then, in order to understand how ideological extremity affects politically-charged unfriending behavior on social networks in different situations, I will run separate probit models to predict the answer to each question. However, you can see from the information provided by Table 5.1 that the questions are correlated relatively highly with one another.

Table 5.1: Correlations between Questions

Variable	Q1	Q2	Q3	Q4
Q1	1.00			
Q2	.55	1.00		
Q3	.50	.44	1.00	
Q4	.40	.40	.29	1.00

Because these questions correlate so highly, it would not normally be appropriate to run these models independently with identical predictor variables, as the errors would

correlate as well. To account for this, I chose to utilize a model for seemingly unrelated regressions. Essentially, the models will be run separately but inside a larger overall model that accounts for this potential correlation among error terms.[1] The answer to each question is represented by either a "1" for yes, or "0" for no. Each question will be a separate dependent variables and will be tested against the same set of independent variables. The questions are listed below.

When using social networking sites, have you ever blocked, unfriended or hidden someone because he or she:

1. Posted something about politics or political issues that you disagreed with or found offensive?
2. Argued about political issues on the site with you or someone you know?
3. Disagreed with something you posted about politics or political issues?
4. Posted something related to politics or political issues that you worried would offend your other friends or people who follow you?

Although these questions are related, they represent somewhat different actions and reactions. First, Questions 1, 2 & 4 represent an unwanted action initiated by the recipient of the unfriend or unfollow. In contrast, Question 3 indicates that the initial action was taken by the individual who did the unfriending. In addition, while Questions 1-3 represent a direct conflict between the sender and recipient of the unfriend, Question 4 represents a proxy conflict involving a third person.

In order to properly account for ideological extremity, the model will include the main term, labeled **Liberal**, as well. Values range from "1," "2," "3," "4," and "5," with higher values representing increasingly liberal ideology. Because liberal ideology is associated with novelty-seeking and openness, we should expect the value of this variable to be negative across all sub-models (Cornelis et al. 2009; Jost et al. 2003)

[1] I actually ran the model inside the "cmp" (conditional mixed process) Stata command initially deveoped by David Roodman. The process was designed to deal with the challenges of comparing models with different structures. However, in this case the model acts as a model for seemingly unrelated regressions. This accounts for the presence of correlated error terms.

Ideological Extremity, the main independent variable of interest, is represented by a factor of "0" to "2.". "0" will represent those who self-identified as moderates, while "1" will represent liberals and conservatives and "2" will represent those who consider themselves very liberal or very conservative. If there truly is a relationship between extremity and politically-charged unfriending behavior, we should expect the coefficient for this variable to be positive as the user seeks to shift his online SNS experience toward his own ideology.

The control for **Education** is represented by a 7-point scale. Categories are defined as: None through 8th grade, some high school, high school graduate, some college, college graduate, graduate/post-graduate/professional school. Although the measure is potentially less accurate than a measure for total *years* of education, there is precedence for utilizing an ordinal measure for education in recent literature addressing SNSs (Kim 2011).

Friends' Political Posting Proportion is the self-reported amount of the respondent's Friends' posts that are political in nature in comparison to the that Friends' total number of posts on the SNS. The responses ranged from none, just a little, some, most, or (almost) all. We should expect the coefficient of this variable to be positive. As mentioned previously, the front-page of an individual's SNS consists of his own posts, along with those of his Friends. Thus, as his Friends post more about politics, the likelihood of friction between the respondent and other users should increase.

The data from the **Negative Reaction** variable are drawn from a simple yes-no question asking whether or not a post made by the respondent triggered a negative reaction from his Friends. We should expect that if this answer is "yes" the respondent will be more likely to disconnect himself from the Friend as the respondent seeks to avoid the conflict.

Finally, the **SNS Usage** variable accounts for different usage patterns among users. The variable ranges from "Several times a day," to "About once a day," "3 to 5 days a

week," "1 to 2 days a week," "Every few weeks," and "Less often." We should expect that higher usage should be positively related to higher probabilities of engaging in dissociative behavior on SNSs. Because a prominent feature of SNSs is that they change from day to day, or even minute by minute, we should expect that a user will encounter more unsavory views.

Chapter 6

Results and Analysis

The first model is an ordered probit with the index of dissengagement as the dependent variable. The results, presented below, indicate moderate support for the hypothesis that ideology and ideological extremity are good predictors of dissociative behavior.

Table 6.1: Effect of Ideology on Magnitude of Dissociative Behavior on SNSs

Variable		Coefficient	Std. Error	Z	P
Liberal		.171	.066	2.59	.010
Extremity:[1]					
	1	.159	.173	.92	.358
	2	.450	.212	2.12	.034
Education		-.031	.047	-.65	.513
Friends' Pol. Posts		.201	.087	2.32	.020
Negative Reaction		.465	.150	3.11	.002
SNS Usage		.059	.057	1.05	.295

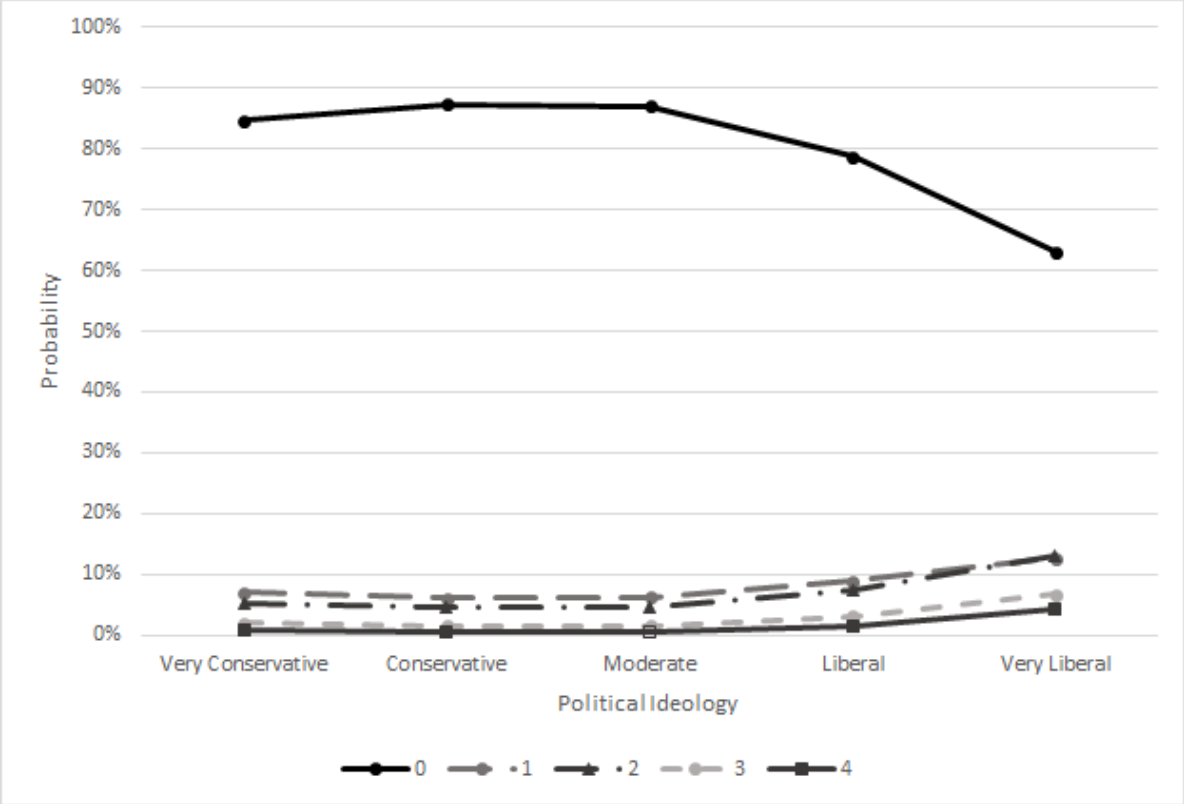
Log Likelihood: -268.086
$\chi^2 = 37.29$; P<.001
N=359

We can see by the results in Table 6.1 that as users become more liberal, they are more likely to engage in dissociative behavior on social networks. In addition, it is interesting to note that ideologues are no more likely to disengage than their moderate counterparts. Extreme ideologues on both sides, however, are more prone to disengage than their less ideological counterparts. In order to get a better sense for the effect

[1]Self-identified moderates act as the baseline category against which the others are compared.

of ideology combined with extremity, it is important to map the probabilities across ideological levels. This has been done in Figure 6.1 below.

Figure 6.1: Probability of Participating in Dissociative Behavior on SNSs (by Magnitude)



We can see in Figure 6.1 above that the probability of disengaging for political reasons increases as ideology becomes more liberal. There is also a slight extremity effect. The probability of *not* disengaging goes up as you move from "Very Conservative" to "Moderate" but then declines as you move to "Very Liberal."

Marginal probabilities can give us further insight into how ideology affects probability of dissociative behavior. Ceteris paribus, for people who consider themselves "Very Liberal," there is a 15 percentage point increase in the probability that they will disengage at least once on SNSs for political reasons versus moderates. For people calling themselves "Very Conservative," the number is a smaller but still significant 8 percentage point increase.

The results paint a mixed picture regarding the influence of an extreme ideological viewpoint on unfriending for political reasons. Unfortunately, due to the small number of people who reported a high level of dissociative behavior, these results are inconclusive.

In order to flesh out the effect of ideology in different situations, the components of the index are broken down and used as dependent variables in separate probit models. Below, the results for each question are presented, with overall model statistics reported beneath each table of results.

Table 6.2: Effect of Ideology on Dissociative Behavior on SNSs (Question 1)

Variable	**Coefficient**	**Std. Error**	**Z**	**P**
Friend posted something about politics you disagreed with				
Liberal	.208	.078	2.66	.008
Ideo. Extremity:				
1	.258	.206	1.25	.212
2	.359	.255	1.41	.160
Education	.006	.056	.10	.916
Friends' Pol. Posts	.136	.105	1.30	.195
Negative Reaction	.551	.175	3.15	.002
SNS Usage	.110	.069	1.58	.113
Intercept	-3.164	.579	-5.47	<.001

Overall model statistics-
Log Likelihood: -352.013
$\chi^2 = 61.52$; P<.001
N=359

We can see in Table 6.2 that the main variable of interest, Ideology, exercises no effect on unfriending when a Friend posts something disagreeable. However, receiving a negative reaction toward one of *your* posts does have an impact on likelihood to disconnect. This could be due to an aggregated effect. Perhaps users do not mind disagreeing with a Friend's post in itself. But when confronted with a negative reaction to his own post(s) as well, he may be pushed to disconnect.

Table 6.3: Effect of Ideology on Dissociative Behavior on SNSs (Question 2)

Variable		Coefficient	Std. Error	Z	P
Friend argued about Politics with you or someone you know					
Liberal		.100	.078	1.28	.199
Ideo. Extremity:					
	1	.026	.202	.13	.899
	2	.314	.245	1.28	.200
Education		-.018	.056	-.33	.744
Friends' Pol. Posts		.184	.102	1.80	.072
Negative Reaction		.408	.175	2.33	.020
SNS Usage		.097	.069	1.40	.161
Intercept		-2.625	.564	-4.65	<.001

Overall model statistics-
Log Likelihood: -352.013
$\chi^2 = 61.52$; P<.001
N=359

Table 6.3 reveals a similar trend to Table 6.2. Receiving a negative response has discernable effect in the anticipated direction. Once again, the effects could be aggregated. Arguing about politics with you or someone you know online could be fine in itself, but in combination with a negative reaction to your post, could mean ending an online connection.

Table 6.4: Effect of Ideology on Dissociative Behavior on SNSs (Question 3)

Variable		Coefficient	Std. Error	Z	P
Friend disagreed with something you posted about politics					
Liberal		.248	.093	2.67	.008
Ideo. Extremity:					
	1	.262	.288	.91	.363
	2	.750	.320	2.34	.019
Education		-.061	.068	-.89	.376
Friends' Pol. Posts		.359	.123	2.91	.004
Negative Reaction		.514	.215	2.39	.017
SNS Usage		-.012	.079	-.15	.881
Intercept		-3.530	.680	-5.19	<.001

Overall model statistics-
Log Likelihood: -352.013
$\chi^2 = 61.52$; P<.001
N=359

Table 6.4 shows that ideological extremity does matter for at least one facet of disconnecting for political reasons. Once again, recieving a negative reaction is a significant

predictor of likelihood to disconnect for political reasons. However, we find that ideology and ideological extremity have an impact as well. As the user becomes more liberal, he is actually more likely to disconnect for political reasons. This contradicts prior literature that suggests that those with a liberal ideology are more open than their conservative counterparts.

Table 6.5: Effect of Ideology on Dissociative Behavior on SNSs (Question 4)

Variable	**Coefficient**	**Std. Error**	**Z**	**P**
Friend posted something you thought would offend your Friends				
Liberal	.137	.088	1.56	.120
Ideo. Extremity:				
1	.131	.234	.56	.574
2	.323	.284	1.14	.254
Education	-.077	.062	-1.24	.217
Friends' Pol. Posts	.134	.111	1.20	.228
Negative Reaction	.288	.199	1.45	.147
SNS Usage	-.013	.072	-.18	.856
Intercept	-2.038	.590	-3.45	.001

Overall model statistics-
Log Likelihood: -352.013
$\chi^2 = 61.52$; P<.001
N=359

Table 6.5 reveals that the impact of ideological extremity on unfriending lacks an observable surrogate effect. In other words, there is minimal concern over what could offend the user's Friends, even if the content is not political palatable.

Overall, the results indicate that the likelihood to disconnect largely depends on which situation the SNS user is in. The strongest evidence for the impact of ideological extremity lies in the presence of a post by the user. Interestingly, ideological extremity has no impact if the user argues with a Friend on the Friend's controversial post. But if that Friend were to argue over the user's post, the result might by to unfriend that individual.

Possibly the most interesting takeaway is the linear effect of ideology on dissociative behavior, which indicates almost across the board that more liberal users disengage at a higher rate than their conservative Friends. Why could this be, considering that it

was established that people with a liberal outlook enjoy novel experiences more than conservative individuals? It could be that liberal users are merely less informed about conservatives than conservatives about liberals. Support for this notion comes from Graham, Nosek and Haidt (2012), who find that although liberals and conservatives misjudge the other side's capacity for moral concern, liberals misjudged the other side more than conservatives. These results indicate that this trend could continue online.

Also, as was partially anticipated, education shows substantively no effect on unfriending behavior, and the resulting coefficient is not discernible from zero. This could indicate that education truly has no effect on the dependent variable. However, I think it is possible that rather, there is simply another relationship that I am failing to account for in my model.

The proportion of a Friend's posts that were of a political nature has no discernible effect outside of one scenario. Similarly, SNS usage has no statistically-significant effect. The triggering of a negative reaction by a respondent's post, however, consistently has a significant effect on unfriending across questions.

The question best predicted by the model is Question 3, which asked "Have you ever blocked, unfriended or hidden someone on a social networking site because they disagreed with something you posted about politics or political issues?" Interestingly, this question does not imply the existence of a direct argument, but just a disagreement. More research should be done to identify the consistency of this result.

Although the results of the model are promising, they are far from conclusive. While for some questions ideological extremity appears to matter, it does not matter for all of them.

Chapter 7

Barriers to Interpretation and Generalizability

There are several important things to note regarding the generalizability and interpretation of these results. First, the small number of cases to analyze makes it defficult to make solid conclusions outside the data. In addition, these data were collected between January and February, 2012. This was during the time of the Republican primaries and caucuses. As such, news sources were shifting their focus from other topics to those related to the Republican campaigns and upcoming general election. Because of this, my model could be overestimating the true weight ideology has on unfriending for political reasons. In that sense, these results might be time-bound.

Because survey respondents were asked about their behavior across multiple SNSs (including Twitter), these results cannot be attributed solely to actions taken on any single SNS. In addition to the previous problem, there is a problem with the question phrasing. The survey questions refer not just to unfriending, but also "block[ing] or hid[ing]" users. This makes interpretation even more difficult, as you can both block and hide users on Facebook. Also, you can hide individual posts. This could have confused the survey respondents.

There are several controls which, due to data limitations, I was unable to include in my model. First, I was unable to account for the ideological orientation of the Friend being unfriended. It is possible that it is really ideological *distance* that is causing the disconnect between Friends, and not that anyone who is ideologically extreme is automatically unfriending everyone due to a mild disagreement. Finally, another control which would be wise to include in further analysis is one for Facebook group or fan-page membership. Because transaction costs on Facebook and other SNSs are so low, it takes literally only seconds to push a politically-charged comment, picture, or link out to the entirety of one's Friends right from the group. Similarly, number of group memberships could act as an instrument to measure ideological extremity.

Another point to consider is that due to the ease with which people can unfriend one another on Facebook and other SNSs, it is possible that people do so during election season merely as a statement. They then "re-friend" the individual after the election ends. This analysis does not address the permanence of the broken Friendship nor the after-effects of the act.

Chapter 8

Implications and Doors to Future Research

These results have potentially far-reaching implications on several levels. Regarding homophily and political discourse, the results point to some amount of ideological self-sorting on SNSs. If people are truly taking advantage of SNSs to further separate themselves from one another, the dream of the Internet taking power from the polarizing elites and handing it to the masses may turn out to be more wishful thinking than rock-hard reality. Because "evidence suggests that the value of democratic deliberation across lines of political difference is to moderate partisan feelings," cutting off SNSs as a discussion source might do long-run harm to the prospect of a less polarized society (Parsons 2010, p. 199).

Future research in this area should probably be experiment-based as opposed to relying on self-reported survey data. In the complex world of SNSs, experiments would allow researchers to pinpoint causality much easier. In addition, experiments would mediate the problem of incorrect self-reports, due either to outright lying, but also potentially caused by low transaction costs. If one can do an action online with the click of a mouse, how likely is it that he remembers how many posts he's "liked," or how many Friends he's unfriended? Indeed, the availability of the Facebook API would actually facilitate large-

scale longitudinal studies, where activity could be systematically recorded with little or no user interaction.[1] This would help alleviate the problem of inaccurate self-reports and move closer to Gary King's dream of big-data based research studies.

In addition, researchers should look into unfriending versus hiding behavior. While unfriending is a decidedly public action, hiding is able to be kept private, such that the only user aware of the behavior is the one initiating the action. Researchers[2] have already noted this difference but it would be interesting to see if the opportunity to hide rather than outright unfriend another user would change the way people react to overtly political posts.

Although I attempted to answer an important question here, there are numerous others that deserve the attention of researchers as well. For example, what role does the offline relationship play in the likelihood of unfriending online due to political reasons. Also, is an individual judged by what their Friends post? And how well does the composition of one's Facebook profile accurately reflect the individual's partisanship or ideology? We have just scratched the surface of the quagmire that is the worldwide web. Going forward, I am excited to see what researchers will bring to light.

[1] Application Programming Interface - a distinct protocal allowing application developers to interact with application-specific capabilities/functions. In this case: the user's Friend list, interests, photos, and other potentially relevant content.

[2] See Peña & Brody 2014

Chapter 9

Technical Appendix

Table 9.1: Summary Statistics

Variable	Mean	σ	Min.	Max.
Disengagement Index	.43	.94	0	4
Question 1	.14	.35	0	1
Question 2	.13	.34	0	1
Question 3	.08	.27	0	1
Question 4	.08	.27	0	1
Liberal	3.04	1.11	1	5
Ideological Extremity	.86	.71	0	2
Education	4.94	1.58	1	7
Friends' Political Posts	2.74	.86	2	5
Negative Reaction	.38	.49	0	1
SNS Usage	4.91	1.37	1	6

N=359

Below is the Stata code I used to get my results.

```
* Load data *
insheet using "http://pewinternet.org/~/media/Files/Data%20Sets/2012/
February_2012_csv.csv", comma clear

destring, replace

* Generate social media account dummy *
replace activ87 = 1 if yest1nw == 1 & activ87 == 2
replace activ87 = 0 if yest1nw == 1 & activ87 == 3
replace activ87 = 0 if yest1nw == 1 & activ87 > 1
replace activ87 = 0 if yest1nw > 1 & activ87 > 1

replace activ112 = 1 if yest1nw == 1 & activ112 == 2
replace activ112 = 0 if yest1nw == 1 & activ112 == 3
replace activ112 = 0 if yest1nw == 1 & activ112 > 1
```

```
replace activ112 = 0 if yest1nw > 1 & activ112 > 1

*Less than 2% of respondants report not using social media

* Generate twitter user dummy *
generate twitter_user = 0
replace twitter_user = 1 if (q17m1 == 5 | q17m2 == 5 | q17m3 == 5 |
q17m4 == 5 | q17m5 == 5)

* Generate facebook user dummy *
generate fb_user = 0
replace fb_user = 1 if (q17m1 == 1 | q17m2 == 1 | q17m3 == 1 | q17m4 == 1 |
q17m5 == 1)

* Do analysis of who unfriends who *
* Stupid strings. I need intergers! Oh, and let's account for missing values. *
replace q27b=0 if q27b==2
drop if q27b>1

replace q27c=0 if q27c==2
drop if q27c>1

replace q27d=0 if q27d==2
drop if q27d>1

replace q27e=0 if q27e==2
drop if q27e>1

* Create Factor Term for Ideology *
compress
generate ideo2=ideo
recode ideo2 (1=2) (2=1) (3=0) (4=1) (5=2)
drop if ideo>5

* Clean up Education Stuff *
compress
drop if educ>7
generate educ2=educ^2

* Recode Overall Social Network Usage Variable *
recode q18 (1=6) (2=5) (3=4) (4=3) (5=2) (6=1)
rename q18 usage
drop if usage>6

* Recode Friend Election Posts Variable *
recode q22 (1=5) (2=4) (3=3) (4=2) (5=1)
```

```
rename q22 friendpost
drop if friendpost>5

* Recode Negative Reaction Variable *
recode q26 (2=0)
rename q26 negative
drop if negative>1

* Create Disengagement Index *
generate disengage = q27b + q27c + q27d + q27e

* Run ordered probit *
oprobit disengage ideo i.ideo2 educ friendpost negative usage

* Do probability calculation *
margins ideo2, at(ideo=(1 2 3 4 5) negative=0 (median) educ friendpost usage)
predict(outcome(0))
margins ideo2, at(ideo=(1 2 3 4 5) negative=0 (median) educ friendpost usage)
predict(outcome(1))
margins ideo2, at(ideo=(1 2 3 4 5) negative=0 (median) educ friendpost usage)
predict(outcome(2))
margins ideo2, at(ideo=(1 2 3 4 5) negative=0 (median) educ friendpost usage)
predict(outcome(3))
margins ideo2, at(ideo=(1 2 3 4 5) negative=0 (median) educ friendpost usage)
predict(outcome(4))

* Do margin calculation *
margins, dydx(ideo2) at(ideo=(1 2 3 4 5) negative=0 (median) educ friendpost
usage) predict(outcome(0))
*margins, dydx(ideo2) at(ideo=(1 2 3 4 5) negative=0 (median) educ friendpost
usage) predict(outcome(1))
*margins, dydx(ideo2) at(ideo=(1 2 3 4 5) negative=0 (median) educ friendpost
usage) predict(outcome(2))
*margins, dydx(ideo2) at(ideo=(1 2 3 4 5) negative=0 (median) educ friendpost
usage) predict(outcome(3))
*margins, dydx(ideo2) at(ideo=(1 2 3 4 5) negative=0 (median) educ friendpost
usage) predict(outcome(4))

* CMP *
cmp setup

cmp (q27b=ideo i.ideo2 educ friendpost negative usage) ///
(q27c=ideo i.ideo2 educ friendpost negative usage) ///
(q27d=ideo i.ideo2 educ friendpost negative usage) ///
(q27e=ideo i.ideo2 educ friendpost negative usage), ///
ind($cmp_probit $cmp_probit $cmp_probit $cmp_probit)
```

Chapter 10

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