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Online Social Networks and Their Relationship to Social Capital and Political Attitudes

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Online Social Networks and Their Relationship to Social Capital and Political Attitudes

A thesis submitted in partial fulfillment of the requirement
for the degree of Bachelor of Arts in Government from
The College of William and Mary

by

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Abstract

This study argues that Facebook only generates bridging social capital through driving people to offline events. Other indicators on Facebook such as Facebook friends or Facebook group membership do not appear associated with social capital. Beyond that, political positions posted on Facebook appear to be reasonably accurate but influenced by what the user's Facebook friends have on their profiles.

Introduction

According to Robert Putnam's work in Bowling Alone (Putnam 2001), social capital is on the decline in America. This decline in social capital in America is broad based and has significant ramifications in everything from interest rates to the incidence of crime (Putnam 2001). Some hope that this decline in social capital can be reduced by online interaction (Quan-Haase 2004). I hope to contribute significantly to the dialogue on whether non-traditional interactions like those on Facebook actually contribute to the formation of social capital. To do this, I combined a traditional survey on social capital with an innovative application that captures information from subject's profiles in an easy and extremely precise way. The information gathered in this way will be enlightening on a number of fronts.

If Facebook does in fact create social capital, there may be hope for a revival in American social capital through the use of the internet. However, if social capital is not generated by the use of Facebook, I can say with confidence that it functions more as social entertainment than social capital. Beyond questions of social capital, I will also deal with the question of whether the political information on Facebook is reliable or not. If information present on Facebook is not reliable, then Facebook may not be an honest environment. Given the necessity of honesty for social capital to exist, this would be another possible blow to Facebook's potential to create social capital. To test the honesty of Facebook, I measured political affiliations posted on Facebook over time and compared that to a person's actual political views. Beyond social capital, this research will enable others to go forward confidently or avoid pitfalls associated with making statements on the basis of changes in Facebook political profiles over time.

The results on both the social capital front and the accuracy of Facebook political profiles are mixed. On the social capital front, it does not appear that any variable except for the number of Facebook event invitations has any impact on their level of social capital. In this way, one can view

Facebook as just another communication device. It does not generate social capital by itself; it merely facilitates the creation of social capital. By itself, it offers no solutions to the decline of social capital, only a way to organize people more easily.

On a more positive note, it appears that Facebook political profiles are in fact fairly accurate. It appears that students put down more moderate positions than they actually hold but the likelihood of them adding a political element to their profile is significantly impacted by the level of extremity of their political beliefs. More politically extreme students are more likely to put down a Facebook political identification than those who are not politically extreme. These findings open the door to studying trends in Facebook political patterns and how those political affiliations spread through social networks.

Basic Description of Facebook

Facebook is an internet site that can be accessed by anyone who chooses to create a profile. Users must be over 13 and can come from any country. Facebook currently has over 140 million users worldwide. While the network originally exclusively serviced college students, it has become a network that still services the college market but is no longer exclusively for college students. Now, social networking sites of all kinds (not just Facebook) are in common use by a wide variety of users of many different ages. From a stunning 82% adoption rate among 18-24 year old internet users to a 20% adoption rate among 35-49 year old internet users, online social networking is significant and here to stay.

Figure 1: Social Networking Usage by Age Group

Social Networking Sites Dominated by Young People		
<i>Have a profile on social networking site</i>	General public %	Internet users %
Total	21	32
Men	21	32
Women	21	31
Black	24	44
White	20	29
18-24	65	82
25-29	45	60
30-34	33	41
35-49	15	20
50-64	7	11
65+	1	2
College grad+	21	23
Some college	33	42
HS or less	16	33
Conserv Rep	16	20
Mod/Lib Rep	25	36
Independent	23	33
Conserv/Mod Dem	18	29
Liberal Dem	32	43

Source: [Pew Research](#) (2008)

Typical Facebook profiles contain profile pictures, text descriptions of interests, movies, books, relationship status, and birthdays. Photo albums and videos are also on display for public view. Importantly, a user may limit the viewing of any or all of this information to people that they specifically choose to be able to see it. Additionally, users may add applications which display additional information about them. This information ranges from their Zodiac sign to their high scores on various Facebook-based games. Importantly, Facebook sorts online personal information in a very logical way.

Facebook usage is tied to geography through the use of 'networks'. Users may join up to 5 networks. These networks are often based on physical locations such as colleges or cities. After joining a network, users may view profiles of people in that network more easily and searches on Facebook return more results from networks a user is a part of. Previous research suggests that people prioritize their offline networks over their online networks (Blanchard 2004). Therefore, linking Facebook to geographic networks strengthens its power as an online social network.

Literature Review

Putnam describes social capital as 'features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit' (Putnam 1995, p. 67). Benefits that come from social capital can include, but are not limited to, decreases in interest rates due to a high level of trust that the loan will be repaid and more efficient democratic practices that come from increased participation (Putnam 2001). However, it should be noted that the same group forming that is improved by social capital also increases the ability of negative activities to be propagated through social networks. (Aldridge et al. 2002) Putnam's definition encapsulates what this study attempts to measure regarding social capital: how true of a network Facebook is and how well it actually conveys norms in the form of political affiliations. Among social networks, Facebook is of particular interest for a variety of reasons.

First, Facebook is the second largest online social network in the United States (after MySpace). Second, it has a very high adoption rate among college students. Facebook fits the definition of a social organization because it is a conglomerate of individuals who participate in it primarily for the purpose of social interaction. It also fits the definition of a network because it directly facilitates people connecting with each other.

Answering the question of whether Facebook 'virtual' capital adds something beyond the offline capital it creates is important to the debate about the decline of social capital. Beyond Putnam's thesis on declining American social capital (Putnam 2001), there exists a significant body of research that questions a number of Putnam's conclusions.

First, there is an argument that new forms of social capital have emerged. One form of new social capital is social capital that is drawn from geographically dispersed social networks. This form of social capital can be originated in a face to face context but be maintained by phone calls (Wellm and

Wortley 1990; Wellman and Tindall 1993; Quan-Haase 2004). Beyond that, Wuthnow criticizes the work of Putnam by both indicating that there are a number of kinds of group memberships that he fails to account for in his studies. Including these groups makes the decline less severe. Wuthnow also states that a great deal of the loss of social capital has come from marginalized groups (Wuthnow 2002). A final group of critics state that the loss of social capital is due to a “Movement of community participation to cyberspace.” (Blanchard 2004). If this is true, there may not be nearly the measured decline in recent years because of a dramatic increase in unmeasured social capital in cyberspace. This study specifically addresses this question of cyberspace as an alternative place to form social capital by seeing if measure of Facebook activity correlates with increases in social capital beyond increased group membership. Investigating simple correlations between Facebook use and social capital is a natural starting place.

Ellison finds that people with high levels of social capital tend to use Facebook more. In particular, high Facebook use seemed to be associated with ‘bridging capital’¹—basically the existence of weak, outward facing ties (Ellison 2007). Since people are using Facebook to amplify relationships, people with lots of relationships will have more relationships to amplify and therefore will spend more time on Facebook. If this work is correct, Facebook can act as a mechanism to increase social capital and therefore allow its users to benefit from the social capital created via the site.

Communication patterns observed on Facebook also add to our understanding of social capital generation on Facebook. In a study that covered all Facebook messages sent in North America, 95% of all pokes (a Facebook-specific meaningless communication) were sent to people who were already the user’s friends. Only 5% went to people who were not the user’s friends. (Golder 2007) This shows that Facebook may help to form ‘bonding’ social capital that does not increase social connectivity but rather deepens the relationships between individuals.

¹ In this case, bridging capital was defined as people’s agreement to statements that they felt that their college was a good place to be and that they met new people very often.

An important difference in findings between Golder's and my own is the number of Facebook friends that a person has. Golder finds that the typical user has less than 200 Facebook friends while my research shows the average number of Facebook friends for William and Mary students is over 400. One reason for this might be that my research was conducted years later than Golder's and the Facebook community has grown since then. This increases a user's ability to find people on Facebook who they know in real life. Beyond that, friend acquisition happens much more frequently than friend deletion on Facebook. Therefore, it should be expected that as studies go forward, the average number of groups and friends that a person has will tend to go up. A deviation from this trend might signal a change in Facebook usage and would be of great interest.

The size of a Facebook network would be meaningless if individuals simply accumulated large numbers of "friends" and groups and devoted no effort to them. However, there are incentives to actively manage the size of one's Facebook network. Specifically, a quadratic relationship between number of friends and perceived sociability has been found (Tong 2008). So, there may be an optimal number of connections on Facebook for managing one's reputation. Having too few indicates a lack of sociability while having far too many connections may indicate the lower levels of sociability associated with excessive online social interaction.

Other work has shown that the wall postings on social networking sites impact the way people view others. (Walter 2008) Together, these studies show that there may be good reasons for users to actively manage their Facebook profiles and represent themselves accordingly. These reasons primarily would rest upon social pressures to not have too many ("Facebook stalking") or too few (indicating unpopularity) friends. Having a large network only facilitates making new connections and offers no real negatives outside of social pressures. One additional item that impacts the number of friends that someone has is the effort that they go to in order to find new Facebook friends. Increased effort,

stemming from by any variety of motivations, will almost assuredly result in an increased number of Facebook friends simply because an aggressive Facebook 'stalker' will spam enough people to get positive responses from at least a few.

Having said that, 53% of my sample stated that they only allowed people to be their Facebook friends if they actually remembered meeting them. This indicates that there is some thought but not a great deal of exclusivity involved in the decision to add someone as a Facebook friend. Having considered the question of Facebook friend acquisition, the attention of this study now turns to anything that might inhibit someone from initially joining Facebook.

One important issue to consider when thinking about the decision to join an online network is privacy. Acquisti shows that privacy concerns are only considerations for non-undergraduate students joining Facebook. High levels of privacy concerns did not deter undergraduate users from using Facebook. This partially may stem from the fact that privacy-concerned users actively manage the information that is on their Facebook profiles. Users significantly underestimate who can view their profiles. Also, in terms of their general profile, Facebook users generally know and accurately represent themselves on Facebook (Acquisti, 2006) While there were only 117 participants in the study, the finding that privacy does not affect the decision to use social networking extends to MySpace as well. (Dwyer, 2007) While these studies are not large or definitively conclusive, they are consistent in their findings.

This paper fits into the preceding literature in a few ways. First, I attempt to directly attack the question of how well Facebook represents real social capital. While others have done this by simply regressing Facebook usage on different measures of social capital (Ellison 2007), this study uses actual information from Facebook to see if the level of social capital displayed on Facebook correlate with real world social capital. For the purposes of this study, social capital on Facebook will be defined as the

number of friends a person has, how many networks they are a part of, how many Facebook groups they belong to, and how many Facebook events they have been invited to. Answering this will help us understand if Facebook is a true generator of weak and/or strong ties (and therefore social capital) or simply social entertainment.

Hypotheses

Social Capital

Hypothesis 1a: Facebook does contribute to the creation of social capital through the creation of weak ties via the internet. This will be evidenced by positive correlations between measures of 'Facebook social capital' and measure of offline social capital above and beyond increased group membership.

I believe that Facebook does create social capital, specifically by creating weak ties between individuals. By creating a virtual location where many people are easily accessible, Facebook creates weak ties in a way that e-mail does not. This will occur because the browsing of friend's profiles will lead to online messaging and the formation of digital friendships that have a similar effect to offline interactions. Additionally, Facebook may be used to create offline interactions through groups, messages, and events. If Facebook activity does not correlate with increased bridging social capital beyond group membership, this hypothesis will be shown to be false.

Hypothesis 1b: Facebook does contribute to the creation of offline social capital in the form of 'strong ties' between people. Despite that most communication on Facebook occurs in short bursts, it does act as a mechanism for people to contact those they already know well for face to face interaction.

If this hypothesis is correct, a positive relationship between Facebook use and participation in offline events should exist. Those offline events should then correlate with increased bonding social capital. However, I do not believe that Facebook use in the absence of offline interaction will create bonding social capital because Facebook does not readily provide space for deep and meaningful interaction online. If Facebook activity does not correlate with increased bonding social capital and does not correlate with increased offline interaction, this hypothesis will be shown to be false. In other words, Facebook may closely mirror cell phone based text messaging which has been shown to increase deep relationships through increased face to face meetings (Katz and Aakhus 2002) rather than the direct transmission of personal information.

These measures are important because they measure social capital. Additionally, if the size of a person's social network on Facebook does not match their offline level of social capital, then serious questions would arise concerning whether Facebook really provides social networking or social entertainment. If there is no significant correlation, this research would point towards entertainment while a strong correlation would point to true social networking.

Accuracy of Political Information

Hypothesis 2a: Students will be more inclined to post political profiles if they themselves hold extreme political views. This actual affiliation they put down will be mitigated based on what they think is socially appropriate.

There is a great deal of political information that might be garnered from Facebook profiles. The most ready form of this is the 'political affiliation' tab. I believe that people will tend to offer more 'socially acceptable' positions than what they actually hold but that people with more extreme views will be more likely to post a profile type of some kind. This stems from the fact that extreme partisans will want to express a position but that they will feel social pressures that will influence what position they take. So, someone at a very conservative institution might put down a more conservative bent than their true position while someone in an a-political setting might be more likely to put down a moderate position to avoid offending anyone.

Because I combine surveys with data pulls from the site itself, I will be able to do an actual check of the correlation of these two measures. This is important because if the data here is accurate, future researchers could perform studies measuring changes in political identification as feedback loops within strong social rings within Facebook. One could attempt to identify 'Facebook political identification leaders' whose changes in political profiles preceded others in their social network. These findings also speak to the general accuracy of information present on Facebook.

Hypothesis 2b: Changes in the political affiliation of a subject's Facebook friends will impact a person's choice of Facebook profile by showing the user the social norm.

If Facebook profiles are basically an accurate representation of political attitudes, then it should be expected that student's perceptions of their campus' political affiliation will correlate with changes in Facebook political profile elements. If Facebook is supplying real informational content, then the subjects' choice of a Facebook political profile should correlate with their friends' Facebook political choice even in the presence of a control for what the subject thinks their friend's political positions are.

Methodology

This study used two major methods of data collection. The first was a randomly selected panel survey of sophomores, juniors, and seniors² at William and Mary. The survey hit on a broad range of questions. These questions included topics as diverse as political issues, levels of social capital, political affiliation, candidate evaluations, and personal feelings about the political affiliations of their friends. A full list of all questions used can be found in Appendix I.

Two waves of panel data were collected. The first wave was initially sent out in early September of 2008. Overall, 44% of the 1249 person sample (548 people) filled out at least one half of the online survey. Repeated reminders were critical to the high response rate. Only 256 of the respondents responded after the first request in the first wave. All additional respondents came after the second, third, and fourth reminders to fill out the original questionnaire. The second wave was sent out two months later on Nov 4th, 2008. The number of respondents dropped to 462 during the second wave and the same pattern of the reminders being useful to garner more respondents with decreasing utility as time went on remained. During both waves, after concluding a survey, the subject moved on to the second half of the part of the study.

The second part of the study was a Facebook application³. All students who indicated they had a Facebook profile were asked to add a confidential and invisible application to their profile to collect data about their profile and the profiles of their friends. This was possible because Facebook applications are allowed to process data both from the user who adds the application as well as all of their friends. Applications cannot reach into 'friends of friends' connections that are more than 1 degree of

² Freshman were omitted because the first panel of the study was conducted in the previous year. Unfortunately, this data had to be discarded because technical issues prevented the preservation of the unique id necessary for addition to a panel data set.

³ A reminder e-mail was sent to people who took the survey but didn't add the application. Again, this resulted in an improved response rate.

separation away from the user. Importantly, I did not need to ask permission from the user's friends to gather information from their profiles because I only gathered information about their political affiliation which is not easily individually identifiable when aggregated by the Facebook information gathering application.

In order to pair the survey data with the Facebook application, a unique respondent ID had to be attached to the survey. Due to browser and login issues, it was found that embedding this number in the url is not a reliable delivery method of the number to the Facebook application. Instead, it was found to be much more reliable to have students type in an identifying number to the application. At the end of adding the application, students were presented with a pie chart of the distribution of their friend's political affiliations.

The method of using applications to gather data is superior to crawlers because they can't reach into the profiles of people who have turned their profiles to private. While the application that was used can't get to people who have hidden their profiles from applications, it does provide an alternative for people who have private profiles. This is significant because 19% of Lampe, 2007's sample couldn't be reached by a web crawler because of their privacy setting. Facebook regularly updates their terms of service and it is important to make sure that any application created is compliant with both their general terms of service as well as their developer terms of service.

Operalization

In order to operationalize social capital, I used the following question bank with a rating scale from 1 (strongly disagree) to 5 (strongly agree):

Bridging Social Capital

Please indicate how much you agree or disagree with the following statements.

I feel I am a part of the William and Mary community.

I am interested in what goes on at William and Mary.

William and Mary is a good place to be.

At William and Mary, I come into contact with new people all the time.

Bonding Social Capital

If I needed an emergency loan of \$100, I know someone at William and Mary I could turn to.

There is someone at William and Mary I can turn to for advice about making very important decisions.

I do not know people at William and Mary well enough to get them to do anything important for me.

Being interested in what goes on at William and Mary, a part of William and Mary, feeling William and Mary is a good place to be, and coming into contact with new people are all indicators of having a high number of weak ties. These variables will serve as a proxy for bridging social capital because it is a measure of weak ties to the community as a whole. The 'bonding' social capital questions indicate how much a person is able to use their social network to get items that are of greater value and therefore require more trust. Loan repayment, advice about an important decision, and a general important action all typify the need for strong relationships to get meaningful input and financial help. These are all good examples of bonding social capital. Beyond that, I also collected the total number of

groups that they participated in by using the following organization list and asking if they were non-members, inactive members, active members, or leaders in each of the following organizations:

Club List

Intra-Mural or Club Sports Organizations

Political organizations

Religious organizations

Future job related organizations

Social organizations

Service Organizations

Specific issue advocacy organizations (environment, social issues, etc.)

Varsity Sports Team

Due to the short time between administering the panels, questions about personal feelings on issues of social capital were thought to be likely to change more quickly than actual club membership. To validate that those measure were reasonable, I regressed each of those variables (recoded so that higher numbers indicate more social capital) on total club membership. All of the correlations were positive and, with one exception, significant at the .05 level. This gives us confidence going forward that the question bank used essentially captures social capital in a manner similar to the traditional social capital measure of group membership.

Figure 2: Correlation Between Alternative Measures of Social Capital and Group Membership

	Coefficient	P Value
Part of WM community	1.00	0.000
Interested in what goes on	0.82	0.000
WM is a good place to be	0.36	0.064
Meet new people	0.33	0.016
Could get \$100 loan	0.46	0.000
Can get advice on important matters	0.50	0.011
Can get an important favor	0.36	0.044

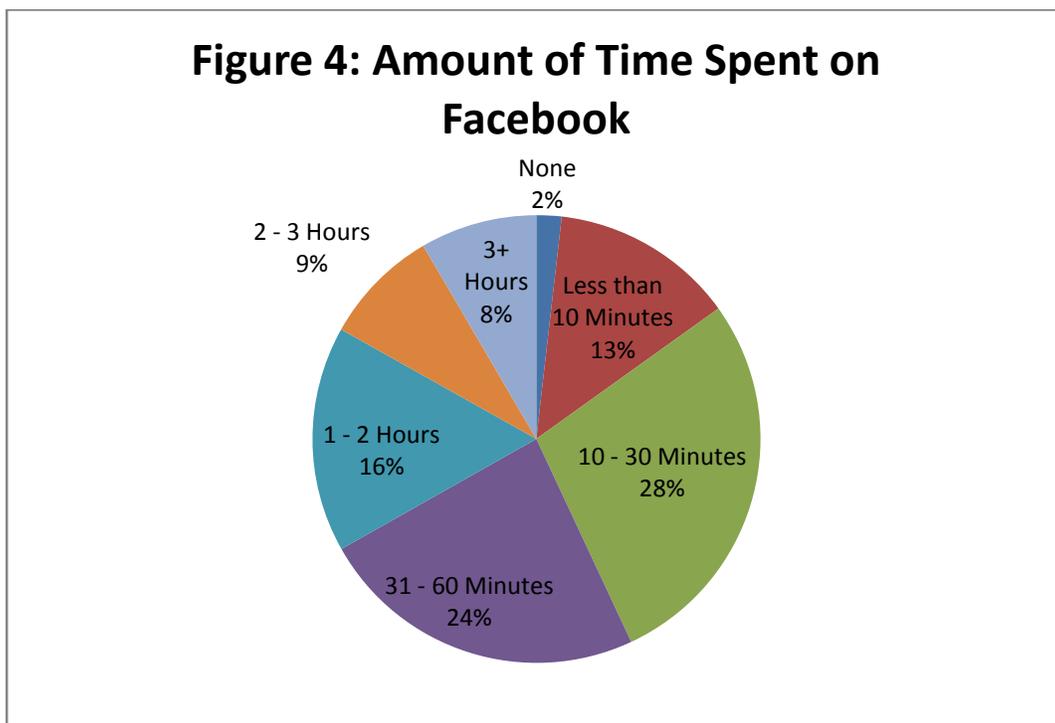
Figure 3: Correlelogram for All Social Capital Variables

	Total Clubs	Community	Interest	Good Place	New People	Loan	Advice	Favor
Total Clubs	1							
Part of WM community	0.35	1						
Interested in what goes on	0.28	0.71	1					
WM is a good place to be	0.13	0.61	0.62	1				
Meet new people	0.16	0.45	0.46	0.52	1			
Could get \$100 loan	0.23	0.3	0.2	0.17	0.15	1		
Can get advice on important matters	0.19	0.34	0.28	0.26	0.18	0.63	1	
Can get an important favor	0.18	0.34	0.25	0.24	0.07	0.38	0.45	1

Analysis

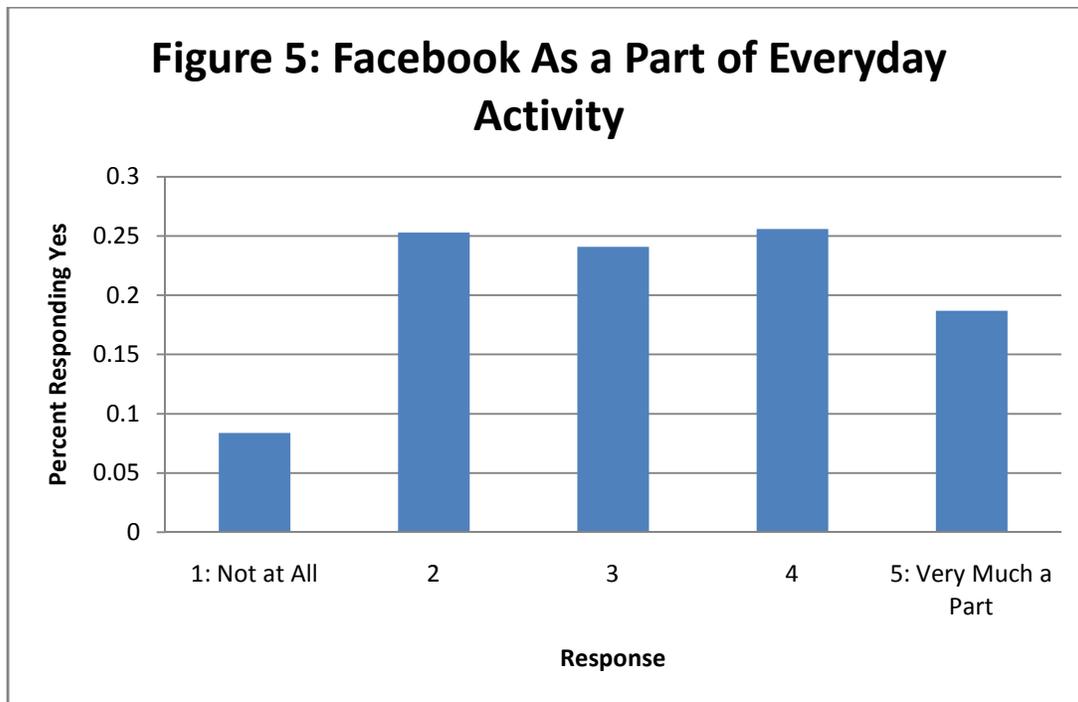
Summary Statistics

In total, 220 students took both survey and added the Facebook application. These students exhibited liberal tendencies normally associated with college students with 68% voting for Barack Obama⁴ and a strong plurality (46%) identifying themselves as liberal. The community also showed a very high level of Facebook usage. A stunning 95% of the population had Facebook at the time of the survey. This contrasts with just 39% of the sample which reports having had a social networking profile in high school. Impressively, 29% of the population reported spending one hour or more per day on Facebook while 52% of the sample spent between 10 minutes and 1 hour on Facebook. 42% of students say that Facebook is part of their everyday activity.



N=864

⁴ This closely mirrored the results of the Flat Hat's (a WM student paper) polling around the election of the general student body. This gives us confidence that our sample is representative of the school as a whole.



N=835

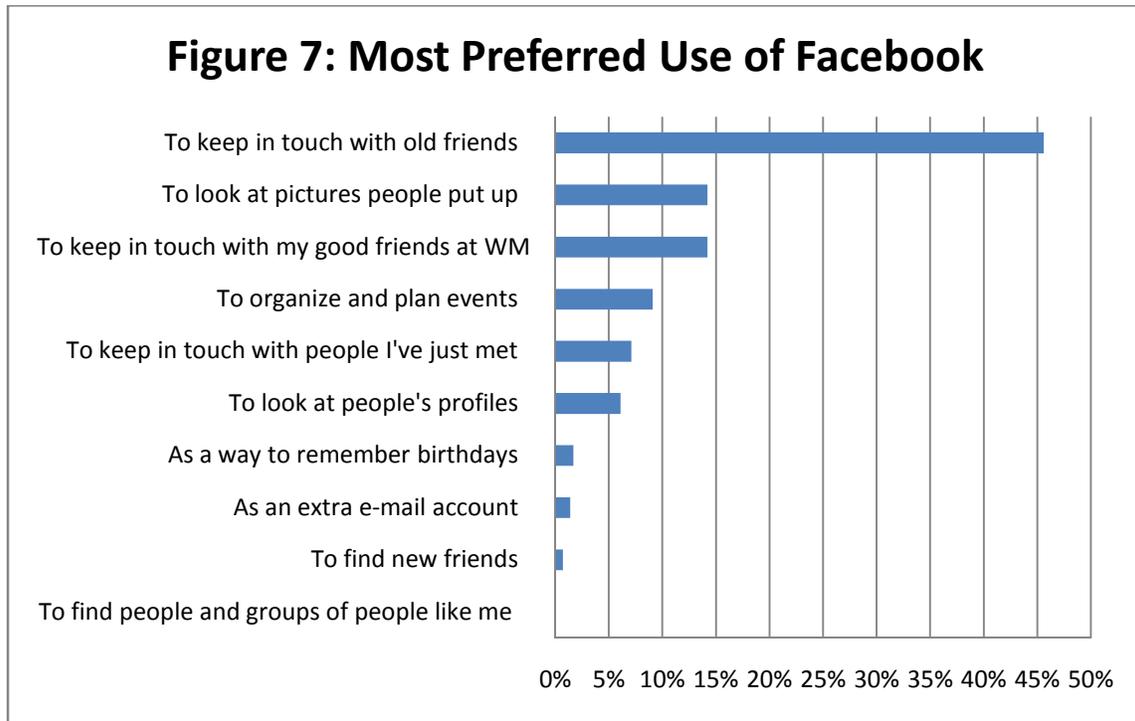
William and Mary Facebook members had an average of 466 friends, are in 45 groups, are in one or two networks, and have 450.8 characters in their Facebook profile. Ninety two percent also post their birthdays. Birthdays are significant on Facebook because when a person posts their birthday, they commonly receive a very significant number of wall posts on the day of their birthday. It essentially serves as an invitation to post on someone’s wall on their birthday.

Figure 6: Summary Statistics for Facebook Profiles

Variable	Observations	Mean	Std. Dev.	Min	Max
Number of FB Friends	482	466.84	254.84	1	1311
Number of FB Networks	482	1.64	.70	0	4
Number of FB Groups	482	45.39	37.56	1	244
Total Characters in FB profile	444	450.8	328.05	0	2256

Students stated that keeping up with old friends (46%) was the most important reason that they used Facebook. Looking at posted pictures and keeping up with good friends tied for second at 14%.

Students do a wide variety of activities on Facebook. Students actively send Facebook messages, write on other people’s walls, and update the information on their own profile regularly. More active networking activities like inviting others to join events or groups are much less frequent and are commonly done by less than 1/3 of the Facebook population.



N=296

Figure 8: Most Common Sorts of Facebook Activity

	Quite Frequently	Very Often	Sometimes	Not Very Often	Never
Write on others walls	11.61%	30.03%	47.59%	9.35%	1.42%
Send FB Messages	11.90%	21.25%	45.04%	19.55%	2.27%
Invite others to FB events	4.25%	7.93%	28.33%	36.83%	22.66%
FB "Poke" others	3.68%	7.65%	12.18%	28.05%	48.44%
Edit your own FB information	2.27%	5.95%	33.99%	47.31%	10.48%
Invite others to FB groups	0.57%	1.98%	17.00%	39.09%	41.36%
Invite others to use FB applications	0.28%	0.85%	4.82%	21.25%	72.80%

N=265

In order to fully understand Facebook use, it's important to know who Facebook users think are watching them. Facebook users generally believe that it is primarily people from their classes and old friends (over 50%) that will view their Facebook profile. However, a full 1/3 think that it is quite likely that an employer will view their profile. Twenty five percent believe that the police or administrators might look at their Facebook profile. So, while most users think that these groups are unlikely to look at their profiles, there is a significant minority that worries about authority figures looking at their profiles.

Figure 9: Perceived Likelihood of Groups Viewing One's Profile

	5--Very Likely	4	3	2	1--Very Unlikely
Other friends	29%	41%	24%	4%	1%
High school friends	30%	35%	21%	10%	4%
People in my classes	15%	36%	29%	16%	4%
Family	12%	23%	24%	22%	20%
Someone I met at a party	7%	27%	31%	17%	17%
Prospective Employers	11%	23%	27%	19%	21%
Total stranger at WM	3%	9%	21%	37%	30%
Law Enforcement	3%	8%	18%	29%	43%
Administrators	2%	7%	19%	31%	41%
My professors	1%	6%	18%	34%	41%
Total stranger at another campus	1%	2%	8%	19%	70%

N = 823

Facebook events are central to organizing on Facebook and are very active during the entire year. While not that many students actually invite others to events on a regular basis, students on average receive 4 Facebook event invitations per week. Of these, they respond positively (yes) to 20% of the invitations. Interestingly, while the number of invitations does go down during school holidays (to one invite per week), the percent of people who accept Facebook invitations to events actually goes up very slightly during this time. This shows that Facebook is not just used by college students to contact other students in their immediate vicinity but is used by a variety of people to continue to organize

meetings over school breaks. This finding indicates Facebook as an organizing tool for a person's entire network, not just their network at college.

Privacy Concerns

Additionally, I was concerned that privacy issues would prevent people from wanting to add the application. To deal with this issue, I constructed a probit model designed to see if general trust of others, amount of time spent on Facebook, level of social capital of any sort, privacy concerns nationally (Patriot Act), or personal privacy concerns regarding information on their profile impacted the likelihood of them adding the application. My results showed that the variables were insignificant as a group ($p=.54$) and therefore the part of the sample that added the application appeared to do it without regard to privacy concerns. This is important because it means the sample is not self selecting on the basis of privacy. It also gives future researchers confidence in their ability to use this collection mechanism for their own analysis.

Additionally, future researchers should note that 67% of users actively manage what others can see on their profile using privacy controls and 39% of respondents said that they had content they didn't want others to see on their profile. This means that any appeals for Facebook information must be couched in the strongest privacy protection language possible. My appeals are in Appendix II.

**Figure 10: Marginal Effects of Binomial Probit Model Describing
Decision to Add Survey Application**

	dF/dx	P>z	x-bar
Trust	-0.062	0.041	2.85
Bridging Capital	-0.010	0.37	16.6
Bonding Capital	-0.0043	0.741	12.8
Residual HS Capital	-0.009	0.712	3.65
Patriot Act Privacy Concern	-0.004	0.864	3.36
Has Inappropriate FB Content	-0.004	0.876	2.94
Actively Manage Privacy Settings	-0.03	0.216	3.75
Selectively Add FB Friends	0.05	0.242	2.51
Time Spent on FB Time	-0.015	0.528	2.97
Everyday FB use	0.05	0.227	3.19
Feel Out of Touch Without FB	-5.8E-05	0.998	2.70
Observed Probability	0.56		
Predicted Probability	0.56		

N=338

Prob > chi2 = 0.5410

Bridging Social Capital

Executive Summary

The only element of Facebook that appears to positively impact social capital are Facebook events. However, Facebook events only positively impact social capital because they push people to offline clubs. Facebook by itself does not create social capital but is a facilitator for its creation.

Additionally, Facebook driven measures of social capital, outside of events, were not good indicators of offline social capital.

Detailed Analysis

After determining that the decision to add the application appears to be random, I can now confidently use the information from the application to determine whether or not Facebook use is associated with the generation of social capital. To attack this problem, a composite index of bridging capital was created by adding up the responses to the previously delineated questions on bridging social capital⁵.

The analysis of bridging capital begins with a justification of the variables in the model. Facebook might increase bridging social capital in a number of ways. First, during Facebook browsing, people can come upon the profiles of other people that are like them but that they are not friends with. They can then add that person as a friend or send them a message. Additionally, Facebook members can join Facebook groups and events that connect them with people they might not otherwise know. All of these activities are dependent on the amount of time that a person spends on Facebook and the number of these sorts of Facebook activities that they participate in.

For this reason, the amount of time a person spent on Facebook, how much they like using Facebook, and measures of Facebook friends, Facebook group membership, and Facebook event attendance were included as variables in the model. Being busy with classes or having a long commute time to campus might negatively impact how much time a person spends socializing and therefore their level of social capital. Therefore, whether or not a person lives on campus and the amount of time they spend in class were included as control variables. Their gender, their race, their level of extroversion⁶, and their year in school were included as demographic control variables. How likely they thought it was that authority figures or people they didn't know would view their profile was included because those

⁵ In relevant cases, the direction of the addition was reversed so that all positive movement in the index points to higher social capital.

⁶ This was assumed to be constant from one survey to the next. This is a weak assumption but it is eventually excluded from the model.

considerations might affect which Facebook groups (like [Beerpong is a way of life](#)) a person chooses to include on their Facebook profile. To test if Facebook is generating social capital above and beyond traditional social capital, their church involvement and the total number of clubs they were in were included in the model.

I did this because the random effects model best fits the nature of the data.⁷ Individuals are likely to have very different baseline levels of social capital. Additionally, many important variables, such as year of school or class load may impact a person's level of social capital but don't vary over the course of this study. A random effects model allows us to measure the impact of these variables while a fixed effects model does not⁸.

⁷ Additionally, a Breusch Pagan Lagrangian multiple test for random effects showed that random effects contained information that OLS did not.

⁸ All of the insignificant control variables as well as some variables that are of interest can safely be removed (p value of .37). A successful Hausman test (p value of .3569) lets us know that it is ok to use a random effects model rather than a fixed effects model.

Figure 11: Extended Random Effects Model of Causes of Bridging Social Capital

	Coefficient	z	P>z
Lives On Campus	1.01	2.10	0.036
Used Social Networking in High School	.306	0.92	0.359
Time Spent on Facebook	-.124	-1.00	0.319
Feel Part of Facebook Community	.008	0.05	0.963
Facebook Part of Everyday Activity	.319	1.71	0.088
Feel out of Touch Without Facebook	-.010	-0.07	0.948
Weekends Spent Away	-.215	-2.91	0.004
Hours Studied on Weekday	-.026	-0.44	0.661
Club Hours on Weekday	-.047	-0.37	0.713
Social Hours on Weekday	.058	0.46	0.648
Weekend Study Hours	.040	0.71	0.481
Weekend Club Hours	-.035	-0.52	0.600
Weekend Social Hours	-.013	-0.21	0.837
Weekly Class Hours	.028	0.27	0.785
Year in College	.148	0.60	0.551
Gender	-.372	-0.98	0.325
Race	-.308	-0.67	0.500
Number of Facebook Friends	-.0005	-0.52	0.601
Facebook: Profile Status: Seeking Friendship	.340	0.87	0.382
Facebook: Total Profile Characters	.0006	1.05	0.293
Facebook: Total Number of Wall Posts	-.0005	-1.40	0.160
Facebook: Number of Network Memberships	.313	1.17	0.243
Facebook: Number of Group Memberships	-.004	-0.84	0.401
Facebook: Likelihood of Non-Admin Viewing Profile	.094	2.55	0.011
Facebook: Likelihood of Admin Viewing Profile	-.035	-0.76	0.448
Facebook: Event Invitations Received	1.36	3.10	0.002
Facebook: Event Invitations Accepted	-.445	-0.37	0.714
Church Attendance	.227	2.15	0.031
Total Club Membership	.170	2.49	0.013
Extroversion	.236	1.38	0.168
Constant	9.52	4.06	0.000
sigma_u	1.76		
sigma_e	1.53		
rho	.569		

Number of Observations = 291 Number of Groups = 185

R² within = .137 R² between = .314 R² overall = .345

Prob > chi² = .0000

Figure 12: Reduced Form Random Effects Model of Causes of Bridging Social Capital

	Coefficient	z	P>z
Lives On Campus	.845	2.01	0.044
Facebook Part of Everyday Activity	.324	2.89	0.004
Weekends Spent Away	-.212	-3.34	0.001
Facebook: Event Invitations Received	.850	2.89	0.004
Church Attendance	.168	1.84	0.066
Total Club Membership	.209	3.60	0.000
Constant	11.8	13.1	0.000
sigma_u	1.98		
sigma_e	1.59		
rho	.607		

Number of observations = 354 Number of groups = 221

R² within = .117 R² between = .202 R² overall = .233

Prob > chi² = .0000

These results show that being on campus, using Facebook consistently, being invited to Facebook events, attending church (at the .1 level), and being in clubs are associated with increased levels of bridging social capital. The number of weekends spent away from campus is negatively correlated with bridging social capital. This indicates that only the elements of Facebook that lead to offline interaction, namely events, actually lead to an increase in social capital.

Different elements of this model had significant differences in terms of their net impact. If strength of a coefficient is defined as the impact of moving one standard deviation of the variable itself multiplied by its coefficient⁹, all of the variables fell within a range of .2-.5. The weakest of these was church attendance (.2) and the strongest was total club membership (.54). Moving up one point on the club scale was associated with a move up of .2 on the social capital scale. Notably, receiving one Facebook invitation per day was associated with moving up .85 on the bridging social capital scale. Moving from the min to the max on the Facebook events invitation index would be associated (assuming a constant coefficient) with a one standard deviation increase in bridging social capital. This is a strong

⁹ Taking the absolute value is also necessary to standardize the results.

effect and bears consideration in future research on social capital. Other elements like the negative effect of weekends spent away and the positive effect of living on campus reassuringly point to the need for face to face contact in the formation of bridging social capital.

A weaker test of the ability of Facebook’s ability to create social capital is generated by running the previous regression while excluding the level of group participation that a person takes part in. The following regression is the result of taking the original large model, excluding total group membership and church attendance, and then taking out all variables that can be taken out safely as a group.¹⁰

**Figure 13: Reduced Form Random Effects Model of Causes of Bridging Social Capital
(Omitting Club Membership)**

	Coefficient	z	P>z
Lives On Campus	1.52	5.17	0.000
Facebook Part of Everyday Activity	.346	3.74	0.000
Weekends Spent Away	-.197	-4.12	0.000
Extroversion	.382	3.44	0.001
Constant	14.0	26.17	0.000
sigma_u	1.88		
sigma_e	1.80		
rho	.523		

Number of observations = 591 Number of Groups = 357

R² within = .053 R² between = .183 R² overall = .170

Prob chi² = .0000

These results show that there is no direct relationship between bridging social capital and anything except for general Facebook use. In the absence of the control variable of total group membership and church attendance, it appears that the social capital metrics within Facebook do not show a relationship to bridging social capital. To answer the question of why this may occur, a model

¹⁰ Also, the random effects passes the Hausman test when compared against an identical fixed effects model with p=.57.

showing the relationship between total group membership and Facebook activity was generated. In this model, whether a student was on campus was included because that affects a student's ability to attend clubs. General Facebook use as well as Facebook capital indicators were included to test the hypothesis that Facebook contributes to student's likelihood to attend clubs. Other controls, such as the likelihood of being seen by an administrator on Facebook were included for the previously mentioned impact on Facebook group membership. Extroversion, gender, year, and race were included as standard control variables.

Figure 14: Extended Random Effects Model of Causes of Club Membership

	Coefficient	z	P>z
Lives On Campus	.302	0.64	0.525
Used Social Networking in High School	-.031	-0.10	0.922
Time Spent on Facebook	-.211	-1.93	0.054
Feel Part of Facebook Community	.114	0.77	0.442
Facebook Part of Everyday Activity	-.221	-1.37	0.171
Feel out of Touch Without Facebook	.086	0.64	0.521
Weekly Class Hours	-.0293	-0.34	0.734
Year in College	-.170	-0.67	0.501
Gender	-.480	-1.25	0.211
Race	-.250	-0.57	0.569
Number of Facebook Friends	.0007	0.69	0.490
Facebook: Seeking Friendship	-.240	-0.62	0.535
Facebook: Total Profile Characters	.0005	0.84	0.401
Facebook: Total Number of Wall Posts	-.0001	-0.37	0.709
Facebook: Number of Network Memberships	-.517	-1.90	0.057
Facebook: Number of Group Memberships	-.007	-1.39	0.164
Facebook: Likelihood of Non-Admin Viewing Profile	.063	1.94	0.052
Facebook: Likelihood of Admin Viewing Profile	.046	1.12	0.264
Facebook: Event Invitations Received	1.55	3.59	0.000
Facebook: Event Invitations Accepted	.864	0.70	0.487
Extroversion	.153	0.89	0.375
Constant	12.02	6.29	0.000
sigma_u	2.07		
sigma_e	1.23		
rho	.740		

Number of observations = 294 Number of Groups = 186

R² within = .102 R² between = .187 R² overall = .179

Prob > chi² = .004

Figure 15: Reduced Form Random Effects Model of Causes of Club Membership

	Coefficient	z	P>z
Facebook: Event Invitations Received	1.55	5.80	0.000
Facebook: Likelihood of Admin Viewing Profile	.069	2.13	0.034
Constant	11.1	28.16	0.000
sigma_u	2.11		
sigma_e	1.24		
rho	.742		

Number of observations = 362 Number of groups = 223

R² within = .037 R² between = .139 R² overall = .121

Prob > chi² = .0000

In the end, almost all of the variables could be safely removed as a group. Only the number of invitations recently received and the likelihood of an administrator to view a person’s profile were significant. The effect of Facebook invitations in this model is twice as strong as it was in the previous model. This indicates that the number of Facebook invitations that a person received is picking up a great deal of the impact that was previously felt in the model by group membership. This indicates the two are correlated with each other. Transitively, this means that excluding total Facebook invitations from future models of social capital may cause a serious omitted variable problem for college-age students.

The likelihood of an administrator viewing your profile having an impact is difficult to interpret. In a paper with this many regressions, 1 in 20 coefficients will randomly show up falsely as being significant so it is possible that it is random. The significance of events being positively correlated with group membership but not friends is extremely important.

If events were just the result of people Facebook spamming their friends, then events and friends should be correlated but events would not be correlated with group membership. However, since event invitations are in fact correlated with increased offline group membership but friends are not it would appear that Facebook events (and no other Facebook indicator) do in fact drive people to join clubs or attend meetings. This relationship indicates that Facebook events do in fact present an opportunity to act as a normal communication device such as a telephone. The device or site itself does not act as a generator of social capital but rather allows for increased face to face activity. Independent of Facebook's ability to drive people to offline events, there appears to be no benefit to Facebook use with respect to social capital.

These results can be essentially replicated with the total number of clubs as the dependent variable as well as without it as a control. This shows that regularity of Facebook usage as well as the number of event invitation that someone has recently received do in fact significantly impact a person's level of social capital positively. What does not show up is the total amount of time that person spends on Facebook, the number of groups they are in, or the number of friends they have correlate with higher levels of social capital. This indicates that Facebook usage does not serve as a good measure for a person's true social network nor does acquiring 'Facebook capital' increase other social capital. What Facebook does do is facilitate interaction through event invitation to real world off-line events. Further understanding of the impact of different kinds of Facebook events and social capital is a rich field for future research.

Bonding Social Capital

To examine bonding social capital, I use the same model as before for the same previously listed reasons. This is reasonable because, fundamentally, small and relatively meaningless interactions must precede the formation of strong ties. Therefore, including all of the same variables makes sense but significantly different results should be expected.

The following models show that bonding social capital exhibits a similar pattern as bridging social capital but with even less impact from Facebook. Here, not even Facebook usage or event invitations make a difference to the level of bonding social capital. Again, all insignificant variables can be removed as a group. This logically continues the picture painted before. While Facebook does a good job of connecting people offline, it has little to do with the formation of close relationships.

Figure 16: Extended Random Effects Model of Causes of Bonding Social Capital

	Coefficient	z	P>z
Lives On Campus	-.577	-1.38	0.166
Used Social Networking in High School	-.123	-0.44	0.662
Time Spent on Facebook	-.043	-0.44	0.660
Feel Part of Facebook Community	.036	0.27	0.784
Facebook Part of Everyday Activity	.140	0.98	0.325
Feel out of Touch Without Facebook	-.102	-0.87	0.386
Weekends Spent Away	.007	0.11	0.913
Weekly Class Hours	.138	1.80	0.072
Year in College	.544	2.43	0.015
Gender	.080	0.23	0.814
Race	-.170	-0.43	0.665
Number of Facebook Friends	.0005	0.57	0.571
Facebook: Seeking Friendship	.158	0.46	0.643
Facebook: Total Profile Characters	-.0003	-0.58	0.565
Facebook: Total Number of Wall Posts	.0001	0.39	0.694
Facebook: Number of Network Memberships	.087	0.36	0.717
Facebook: Number of Group Memberships	-.0006	-0.14	0.890
Facebook: Likelihood of Non-Admin Viewing Profile	.0275	0.95	0.340
Facebook: Likelihood of Admin Viewing Profile	-.0972	-2.61	0.009
Facebook: Event Invitations Received	.480	1.23	0.219
Facebook: Event Invitations Accepted	-.391	-0.36	0.720
Church Attendance	.048	0.54	0.589
Total Club Membership	.148	2.76	0.006
Extroversion	.476	3.15	0.002
Constant	5.87	3.17	0.002
sigma_u	1.83		
sigma_e	1.09		
rho	.739		

Number of observations = 294 Number of groups = 186

R² within = .172 R² between = .202 R² overall = .183

Prob > chi² = .0001

Figure 17: Reduced Form Random Effects Model of Causes of Bonding Social Capital

	Coefficient	z	P>z
Year in College	.316	2.40	0.016
Total Club Membership	.117	3.50	0.000
Extroversion	.339	3.54	0.000
Constant	9.26	14.14	0.000
sigma_u	1.80		
sigma_e	1.16		
rho	.705		

Number of observations = 603 Number of groups = 364

R² within = .002 R² between = .087 R² overall = .082

Prob > chi² = .0000

These coefficients show that aging through college, joining clubs, and being extroverted are associated with an increase in bonding social capital. All of these are in the expected direction. It makes sense that as people go through college they make lasting friendships. Similarly, being in clubs and being extroverted gives a person more opportunities to make weak ties that can be turned into strong ties.

Significantly, this random effects model does not pass the Hausman test ($p=.004$) when matched with a fixed effects model. This is probably due to the fact that year is not a variable that the fixed effects model can handle because it doesn't exhibit change over time. However, when a fixed effects version of the previously described general, unreduced form model of bonding social capital was run, all Facebook related variables could safely be removed as a group ($p=.678$). In this way, the fixed effects model confirms the irrelevance of Facebook with respect to the generation of bonding social capital. It goes beyond the findings on bridging capital because Facebook events no longer hold any significance.

For this reason, I hesitate to accept the random effects bonding social capital generation model. The final results of the bonding social capital regression are also highly suspect. Given the low level of variation present in a large number of these variables over this short time span, a fixed effects model

does not yield results that can be cast as meaningful given the time constraints of the study. As a whole, these findings are the most suspect in the paper because questions concerning the deep social ties bonding capital is concerned with are unlikely to have varied greatly over a few months. Panels with greater times between waves would be necessary to measure this effect more fully.

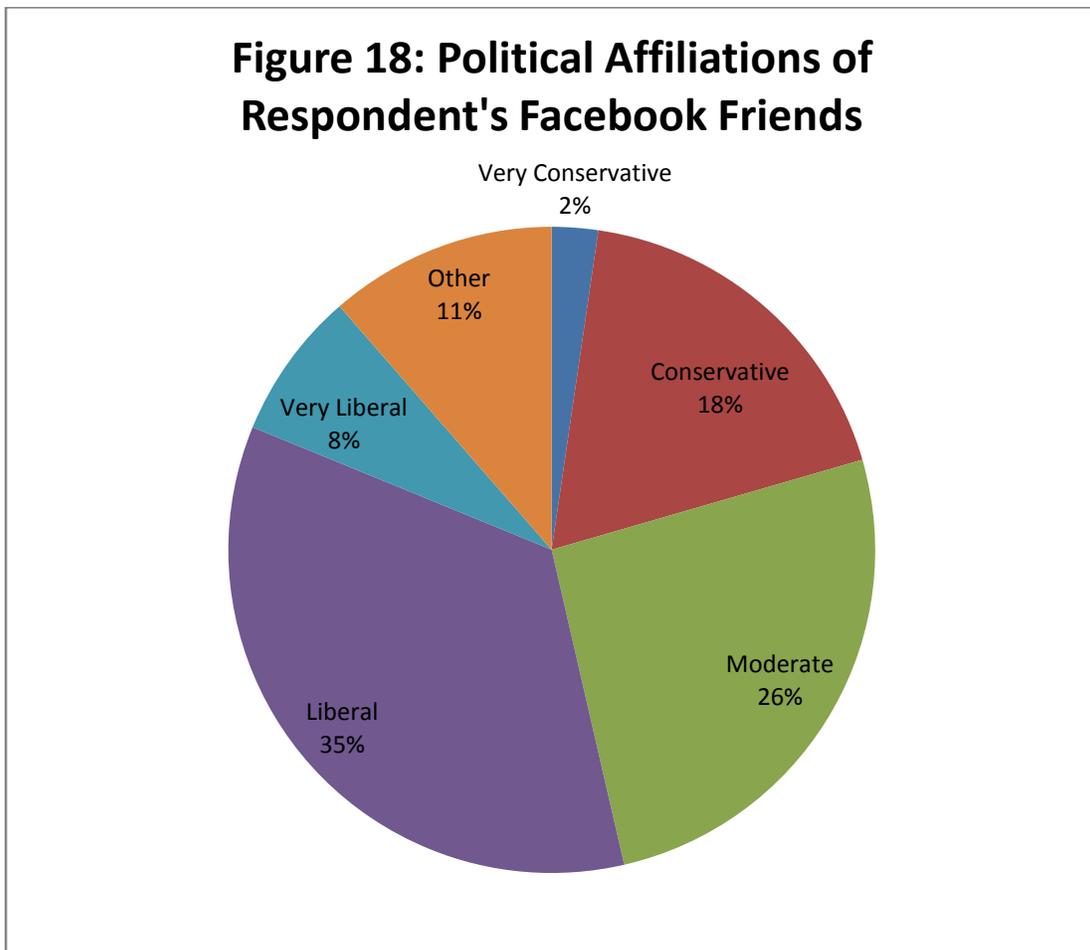
Nature of Facebook Political Profiles

Facebook users put a wide variety of items on Facebook. The official Facebook categories for information on Facebook profiles is as follows: sex, birthday, relationship status, sexual orientation, political views, religious views, activities, interests, favorite music, favorite TV shows, favorite movies, favorite books, favorite quotations, about me, email address, mobile phone, current address, AIM, website, education background, work experience, group membership, and 'fan' pages. Adding a 'fan' section just shows a list of bands, politicians, and causes a person is a fan of.

People add information for a variety of reasons. Self expression is an obvious reason to add information. Also, adding information about your sexual orientation and status can act as a signal that you are open to a relationship. Additionally, people may add information for 'image management' in an attempt to project a particular image into their social group. This study is interested specifically in political information on Facebook. This is because it lends itself most easily to quantitative analysis. Additionally, the body of literature surrounding choices of political affiliation is much more established than other alternatives, like choice of TV shows.

Given the ease of collecting political information from a Facebook profile and the real world importance of politics, it is of great interest if students are honestly identifying their political affiliation or if they are censoring themselves to suit what they think is the social norm. If people are changing their political profiles to fit the norm, this will undermine the confidence in the information on Facebook

and reduce the formation of trust necessary to form social capital. Beyond that, it would be interesting to know how, if at all, students interpret changes in their friend's political profile in relation to local and national political trends. First, there are some simple summary statistics regarding political identifiers within Facebook. Among people who have Facebook political profiles, the Facebook political affiliation was almost uniformly liberal or moderate. Only 20% of the respondent's Facebook friends (not the subjects themselves) were 'very conservative' (2%) or 'conservative' (18%). Twenty six percent were moderate, 35% were liberal, and 8% were very liberal while 11% were 'other'¹¹.



N = 481

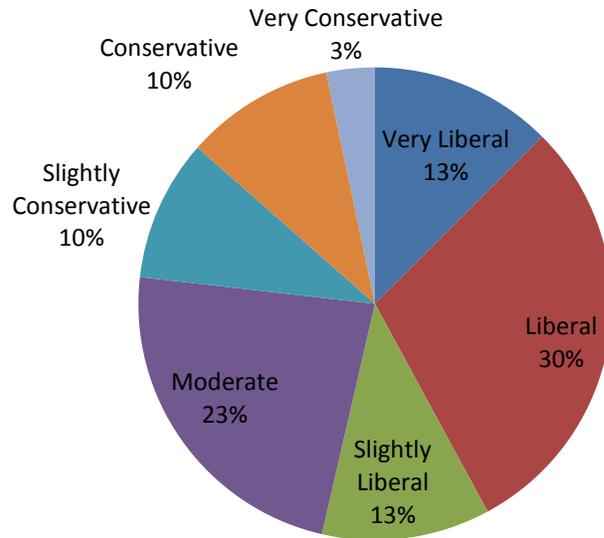
¹¹ This number is much higher than previous averages because essentially all application participants had at least one friend with a political affiliation while only part of our sample had a political affiliation on their profile.

Fifty-five percent of the respondents had a Facebook political affiliation. However, only 40% of people's friends had political affiliations on their Facebook profiles¹². Significantly, this includes a lot of non-William and Mary students. This may indicate either that the sample that took the survey was more politically interested than the general William and Mary population or that William and Mary students as a whole are more likely to post Facebook political profiles than their non-William and Mary Facebook friends.

Overall people represented themselves as less extreme and less conservative than they are in real life but overall were fairly true to their own political affiliation. While 13% of respondents said they were 'very liberal' in the confidential survey, only 7% posted that affiliation on their profile. Similarly, 23% of the population stated they were at least 'slightly conservative' on the confidential survey but only 17% of respondents stated they were 'conservative' or 'very conservative' on Facebook. All groups were viewed as either essentially moderate or slightly liberal. William and Mary students, the respondent's friends, and oneself were viewed as slightly liberal. The respondent's father, mother, and the US were essentially viewed as moderate with a very slight conservative tendency.

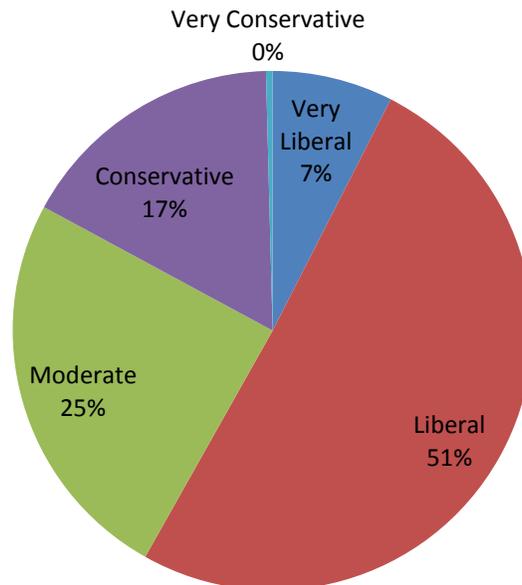
¹² The lowest (relevant) percent of friends with a Facebook political profile was 25% and the highest percent was 75%.

Figure 19: True Political Affiliations of Facebook Application Participants

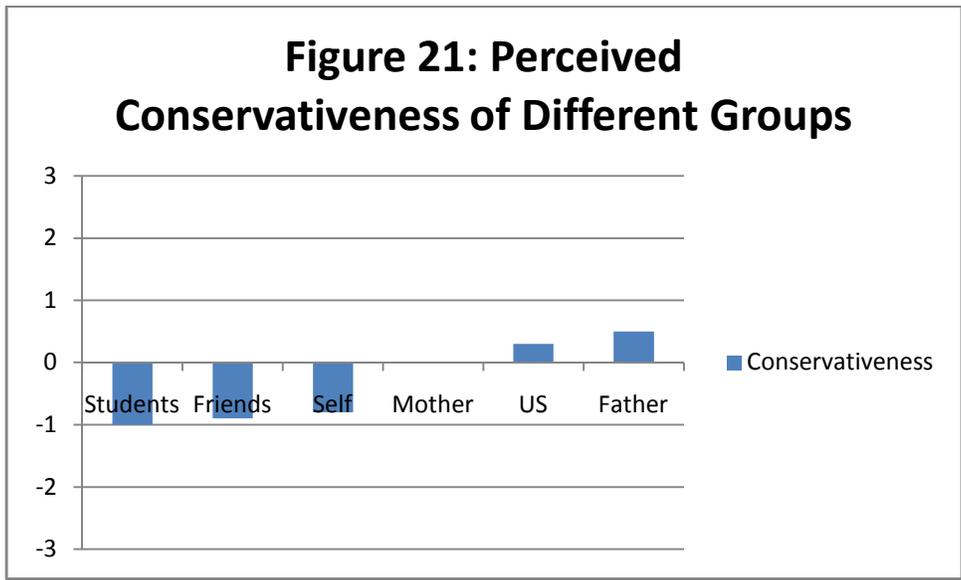


N = 392

Figure 20: Facebook Political Profiles



N=239



N=777

Likelihood of Posting Facebook Political Profile

Next, I will tackle the problem of why people put up a political profile on Facebook. My hypothesis is that the strength of their own partisan identity and how conservative they believe their friends are influences their decision concerning what (not if) kind of political attitudes to post. If they believe their friends are very liberal, they may be inclined to put down a more liberal affiliation. This would come from a desire to not stand out in a crowd as having an odd political affiliation despite views on various issues or preferences of parties. Increased extremity in political views is likely to be correlated with an increased likelihood of putting down a Facebook affiliation because the subject feelings are stronger.

Very interestingly, the percent of students with a Facebook political affiliation actually declined as the election approached. 51% of the sample had Facebook political profiles after Election Day while 60% had political profiles before the election. The question of who took their political profile down is an

interesting and important one. To attempt to address this question a fixed effects panel model was used to examine only those participants who changed their political affiliation after the election was over.

This model addresses the likelihood of someone having a political affiliation on their Facebook profile. This model differs from the previously discussed models because previous models attempted to identify what made people take or put up profiles after the election. These models do not have a time series component and attempt to identify the rationale behind posting a political profile in the first place. These questions are different but are tied up together. In order to address the question of why people add any political profile, a number of variables were included.

First, the percent of their Facebook friends that had political profiles up was considered as a control for group norms regarding Facebook. The net political position of their friends was also included as a control as was the net extremity of their friends Facebook political affiliations. How often students discuss politics was included because it may counteract or amplify the impact of group norms on Facebook through conversations the subject has. Similarly, the amount of news that person intakes (from all sources) was included because it might be an alternative source of knowledge about group norms. The standard Facebook usage and measures of Facebook activity were added as controls. The amount of trust a person has was also included because people might be less likely to put down an unpopular opinion if they feel they will be judged for it. The extremity of the subjects' political affiliation as well as their absolute political affiliation were also included. Given that it was a well known fact that Barack Obama enjoyed a great deal of support from college students, the intent to vote for him was included because conservatives might feel pressure to not put up a profile that indicated they might vote against him. Race and gender were included as standard controls. The same probit model was run for students before and after the election. The results of those models are below.

Figure 22: Extended Form Pre-Election Binomial Marginal Effects Probit Model for Adding a Political Profile

	dF/dx	z	P>z	x-bar
Facebook: Percent of Friends with Political Profiles	1.21	1.54	0.122	.456
Facebook: Net Political Position of Friends	.267	1.28	0.201	.0008
Don't Discuss Politics With Friends	-.0027	-0.07	0.948	2.23
Facebook: Part of Everyday Activity	-.011	-0.33	0.741	3.14
Facebook: Total Group Membership	.0001	0.08	0.937	44.7
Facebook: Total Wall Posts	.00003	0.33	0.742	817
Facebook: Total Friends	-.00003	-0.14	0.892	444
Facebook: Total Profile Characters	.0002	1.46	0.144	430
Trust of Others	-.053	-1.31	0.190	2.64
Gender	.0507	0.60	0.551	.405
Race	-.0789	-0.79	0.432	.815
Extremity of Political Affiliation	.115	2.56	0.010	1.68
Self Political Identification	-.0027	-0.06	0.953	3.20
Diff. Between Self and Friend Political Identification	-.055	-1.51	0.132	.191
Voted Against Obama	.075	0.60	0.551	.301
Total Amount of News Consumed	.0104	1.25	0.211	13.1
obs. P	.671			
pred. P	.694	(at x-bar)		

Number of Observations = 173

Prob > chi² = .015

Figure 23: Reduced Form Pre-Election Binomial Marginal Effects Probit Model for Adding a Political Profile

	dF/dx	z	P>z	x-bar
Extremity of Political Affiliation	.159	4.67	0.000	1.51163
obs. P	.628			
pred. P	.639	(at x-bar)		

Number of Observations = 215

Prob > chi² = .0000

Figure 24: Extended Form Post-Election Binomial Marginal Effects Probit Model for Adding a Political Profile

	dF/dx	z	P>z	x-bar
Facebook: Percent of Friends with Political Profiles	.979	1.03	0.304	.354
Facebook: Net Political Position of Friends	.279	1.26	0.209	-.0118
Don't Discuss Politics With Friends	-.133	-3.12	0.002	2.28
Facebook: Part of Everyday Activity	.0202	0.58	0.560	3.27
Facebook: Total Group Membership	.0015	1.31	0.189	48.2
Facebook: Total Wall Posts	3.85e-06	0.04	0.968	900
Facebook: Total Friends	-.0006	-2.50	0.012	468
Facebook: Total Profile Characters	.00001	0.09	0.929	448
Trust of Others	-.0325	-0.66	0.510	2.82
Gender	.106	1.13	0.260	.390
Race	-.173	-1.51	0.130	.841
Extremity of Political Affiliation	.152	3.14	0.002	1.5
Self Political Identification	.0493	0.96	0.337	3.32
Diff. Between Self and Friend Political Identification	-.0049	-0.13	0.897	.201
Voted Against Obama	-.288	-1.98	0.048	.329
Total Amount of News Consumed	-.0045	-0.51	0.610	13.4
obs. P	.598			
pred. P	.619	(at x-bar)		

Number of observations = 164

Prob > chi^2 = .0002

Figure 25: Reduced Form Post-Election Binomial Marginal Effects Probit Model for Adding a Political Profile

	dF/dx	z	P>z	x-bar
Facebook: Net Political Position of Friends	.341	1.81	0.070	-.008
Don't Discuss Politics With Friends	-.0996	-2.79	0.005	2.30
Number of Facebook Friends	-.0005	-3.17	0.002	480
Extremity of Political Affiliation	.119	3.02	0.003	1.49
Voted Against Obama	-.222	-2.32	0.020	.32
obs. P	.594			
pred. P	.611	(at x-bar)		

Number of Observations = 175

Prob > chi² = .0000

In the first wave¹³, students were more likely to put up a profile if they were more extreme in their political affiliation. In the second wave, the relationship changed significantly. After the election, students who discussed politics with their friends often, had a low number of Facebook friends, had extreme political opinions, and voted for Barack Obama were more likely to keep their Facebook profiles up. Within these results, the most notable coefficient comes from voting against Barack Obama. Voting against Barack Obama was associated with a 22% increased likelihood of taking their political profile component down.

Examining these results in conjunction with the results on changing political profiles over time, this study argues that people do not shade what they put up very much but that they do pick and choose what they pick up quite a bit based on what they think is appropriate. This indicates that, at least with respect to political choices, not deviating from the 'norm' is more important than accurate self representation. The correlation to increased number of Facebook friends is not easy to interpret.

¹³ The n's observed here are smaller than in previous regressions because previous regressions included both waves while these regressions were just done on one wave at a time.

However, it makes sense that those who talked a lot with their friends about politics would be more likely to keep their profiles up. Similarly, supporters of a losing candidate would also be more likely to take their political affiliation down.

The notion of norms being important is most clearly highlighted by splitting the post election sample based on whether the student voted for Barack Obama. When the split occurs, the finding that the net position of a student's Facebook friends has no effect remains the same for those who supported Barack Obama. However, among people who did not support Barack Obama, the conservativeness of the student's Facebook friends does in fact make it more likely they the student will retain his/her previous Facebook political profile selection. This shows that, at least for people holding a minority view, having others publicly express that view makes the student more likely to keep expressing that view.

The relative size of the coefficients on the discussion variable is very interesting. Students who voted against Barack Obama were 4 times as impacted by discussing politics with their friends as their counterparts were. It may be that students who voted against Barack Obama and discussed politics a lot felt committed to their position and so kept their positions public even after the loss. However, the general decline in political profiles among people who voted against Barack Obama shows that this was not the standard experience.

Figure 26: Extended Form Post-Election Binomial Marginal Effects Probit Model for Having a Political Profile For People Voting For Barack Obama

	dF/dx	z	P>z	x-bar
Facebook: Percent of Friends with Political Profiles	2.95	2.38	0.017	.352
Facebook: Net Political Position of Friends	.0976	0.34	0.737	-.353
Don't Discuss Politics With Friends	-.117	-2.11	0.035	2.25
Facebook: Part of Everyday Activity	.0092	0.21	0.831	3.23
Facebook: Total Group Membership	.00182	1.23	0.218	50.3
Facebook: Total Wall Posts	-.00008	-0.75	0.453	964
Facebook: Total Friends	-.0003	-0.85	0.395	484
Facebook: Total Profile Characters	-.00008	-0.44	0.661	417
Trust of Others	-.0305	-0.49	0.626	2.68
Gender	.224	2.02	0.043	.364
Race	-.182	-1.51	0.131	.8
Extremity of Political Affiliation	.189	1.01	0.313	1.61
Self Political Identification	.080	0.46	0.642	2.46
Diff. Between Self and Friend Political Identification	-.0422	-0.76	0.447	-.291
Total News Consumed	-.013	-1.09	0.276	12.6
obs. P	.645			
pred. P	.690	(at x-bar)		

Number of observations = 110

Prob > chi^2 = .0049

Figure 27: Extended Form Post-Election Binomial Marginal Effects Probit Model for Having a Political Profile For People Voting Against Barack Obama

	dF/dx	z	P>z	x-bar
Facebook: Percent of Friends with Political Profiles	-2.04	-0.90	0.368	.357
Facebook: Net Political Position of Friends	2.05	2.40	0.016	-.120
Don't Discuss Politics With Friends	-.474	-2.94	0.003	2.33
Facebook: Part of Everyday Activity	-.0570	-0.67	0.502	3.35
Facebook: Total Group Membership	-.00504	-1.64	0.100	44
Facebook: Total Wall Posts	.00027	0.99	0.321	770
Facebook: Total Friends	-.0027	-2.85	0.004	436
Facebook: Total Profile Characters	-.0004	-0.78	0.437	510
Trust of Others	-.031	-0.27	0.791	3.11
Gender	-.252	-0.90	0.366	.444
Race	-.475	-1.39	0.164	.926
Extremity of Political Affiliation	.055	0.23	0.815	1.28
Self Political Identification	.189	0.89	0.375	5.06
Diff. Between Self and Friend Political Identification	.091	1.10	0.269	1.20
Total Amount of News Consumed	-.028	-1.18	0.239	15
obs. P	.5			
pred. P	.509	(at x-bar)		

Number of Observations = 54

Prob > chi^2 = .0009

The following model is a fixed effects model that addresses having a political affiliation on a Facebook profile. Unlike the random effects model, the fixed effects model only measures change from time to time. This model directly addresses the question the previous discussion has led us to: what are the characteristics of someone who changes their political profile? In order to study this, a slightly different model was used.

Self political identification was included because it was thought that conservatives might be more likely to take their identification off. Perceived political identification of one's friends was included

as a measure of social appropriateness of a given political view. The extremity of one’s own political identification was included because it is significant in the decision to post a profile at all. A vote against Barack Obama was included as a measure of being part of the ‘out’ political crowd. Similarly a gauge of approval of McCain was included to address the same effect. The net position a student’s Facebook friend network as well as the percent of them with a political identification was included as a control for the impact of their virtual community. Friend counts, group counts, Facebook usage, and the total number of characters used in a Facebook profile were included as controls for how actively a person keeps up their Facebook profile.

Figure 28: Extended Model for Removing or Adding a Facebook Profile After the Election

	Coefficient	t	P>t
Self Political Identification	.0177	0.35	0.728
Estimated Political Identification of Friends	-.0116	-0.39	0.696
Extremity of Political Affiliation	-.0097	-0.19	0.847
Voted Against Obama	-.599	-2.91	0.005
Evaluation of McCain	-.0081	-0.31	0.754
Facebook: Net Position of Friends	-.146	-0.27	0.786
Facebook: Percent of Friends with Political Profiles	.00071	0.00	0.999
Number of Facebook Friends	.0024	1.57	0.120
Facebook: Number of Group Memberships	-.0109	-3.86	0.000
Facebook Part of Everyday Activity	-.0574	-1.84	0.070
Facebook: Total Profile Characters	.00008	0.09	0.932
Constant	.366	0.37	0.712
sigma_u	.931		
sigma_e	.196		
rho	.957		

Number of observations = 344 Number of groups = 254

R² within = .238 R² between = .0255 R² overall = .0193

Prob > F = .0195

The dominating force, with a coefficient of -.599, in this model is a vote against Barack Obama. According to this model, voting against Barack Obama decreased the probability of having a political

affiliation after the election by 59.9%. It is clear that people who voted against Obama took down their profile affiliations in relatively great numbers. The relationship between being a part of more groups and taking down your profile is not clear. It may generally point to more active profile management. Alternatively, it may have been that the most active conservatives on Facebook joined many Facebook groups to show their opposition to Obama before the election. At any rate, it is clear that there is 'loser's shame' that leads to people taking down their profile statuses after the election. However, that is not the end of the story.

Factors Contributing to Choice of Facebook Political Position

Having examined the decision to put up or take down a Facebook profile, attention now turns to the question of whether or not the net position of a student's Facebook friends impacts what they put down as their own political profile. In order to assess this, I include the non-Facebook self political identification of the subject, their mother and father, their friends, and the identification of the US. These were included because it's important to know where they felt every major group was. I then included the net position of their Facebook friends to get the desired Facebook impact. Beyond that, I included their opinions of John McCain, Barack Obama, and if they voted for Barack Obama in the election. The amount of time they spent on Facebook was included because it will influence how much their friend's political profiles mattered. If their friends are very liberal but their profiles are never viewed, there can't be a direct effect. Additionally, I included how much they discussed politics and total news so that mitigating sources of information were included. Finally, the likelihood of being viewed by administrators was included because it was thought that might influence people to put views more in

line with authority figures. As usual, the class year, race, and gender were included as controls. The results are below¹⁴.

Figure 29: Extended Model of Choice of Facebook Political Profile

	Coefficient	z	P>z
Self Political Identification	.308	7.19	0.000
Estimated Political Identification of Subject's Mother	.0618	1.90	0.057
Estimated Political Identification of Friends	-.0234	-0.71	0.480
Estimated Political Identification of Subject's Father	-.0334	-1.09	0.276
Estimated Political Identification of WM Students	-.0630	-1.91	0.056
Estimated Political Identification of the US	.0114	0.32	0.750
Facebook: Net Position of Friends	.131	0.58	0.561
Evaluation of Obama as a Politician	-.0260	-0.86	0.392
Evaluation of McCain	-.0162	-0.63	0.529
Voted Against Obama	.409	2.48	0.013
Total News Consumed	.00266	0.36	0.716
Time Spent on Facebook	-.0042	-0.17	0.868
Feel Part of Facebook Community	.0880	2.75	0.006
Facebook Part of Everyday Activity	-.127	-3.65	0.000
Feel out of Touch Without Facebook	.0619	1.96	0.050
Don't Discuss Politics with Friends	.005	0.15	0.879
Facebook: Likelihood of Admin Viewing Profile	.008	1.03	0.302
Gender	.044	0.48	0.630
Year in College	.0612	1.13	0.258
Race	-.021	-0.19	0.851
Constant	1.45	4.09	0.000
sigma_u	.365		
sigma_e	.125		
rho	.894		

Number of observations = 164 Number of groups = 127

R² within = .0025 R² between = .808 R² overall = .812

Prob > chi² = .0000

¹⁴ A Hausman test was performed to see if a random effects model was appropriate. Unfortunately, our model failed to meet the asymptotic properties required by the Hausman test. For this reason, these results cannot be discarded but should be viewed with some caution. Also, we can safely move from the extended to reduced form ($\rho = .92$).

Figure 30: Reduced Form Model of Choice of Facebook Political Profile

	Coefficient	z	P>z
Self Political Identification	.283	9.04	0.000
Estimated Political Identification of Subject's Mother	.050	2.36	0.018
Estimated Political Identification of WM Students	-.056	-2.04	0.041
Voted Against Obama	.442	3.30	0.001
Feel Part of Facebook Community	.0435	1.74	0.082
Facebook Part of Everyday Activity	-.0818	-3.29	0.001
Feel out of Touch Without Facebook	.0421	1.81	0.070
Constant	1.558	9.83	0.000
sigma_u	.361		
sigma_e	.134		
rho	.878		

Number of observations = 191 Number of groups = 143

R² within = .0178 R² between = .808 R² overall = .803

Prob > chi² = .0000

These results show that the perceived political affiliation of themselves, their mother's and the students are all significant in the selection of which Facebook political affiliation to have. While significant, the coefficient on the effect of the mother's political affiliation is fairly weak. The negative coefficient on the affiliation of the student body is puzzling. Its p value is only .04 so it only barely clears the threshold of significance. Beyond that, there doesn't seem to be a readily apparent rational reason for this result. The result that voting against Barack Obama is correlated with conservativeness on Facebook is no surprise. High levels of Facebook usage were associated with a slightly more liberal profile choice. It may be that this study's measure of the subject's political affiliation was somewhat blunt because it only took an un-weighted average of the subject's Facebook friend network's political affiliation. In the future, weighting the political affiliation of a friend by the number of Facebook friends that they share may result in a weighted average that more accurately reflects an individual's viewing patterns. This result may be indirectly showing that only heavy Facebook users actually make the rounds

to enough of their Facebook friends' profiles to accurately assess the political affiliations of their Facebook community.

Conclusion

Overall, this research paints a picture of Facebook as a tool to communicate but not to form new relationships. Most of the surfing associated with Facebook is just social entertainment. In this way, this study firmly disagrees with any sentiment that the internet is the solution to the decline of social capital in America.

Additionally, Facebook does accurately reflect the political views at least of college students and will offer rich political and social data for researchers for future studies. This gives us general confidence that students accurately portray their political as well as personal preferences, at least to a degree, on their Facebook profiles. Our attention now turns to the explicit testing of the hypotheses set out at the beginning of the study.

Hypothesis 1a: Facebook does contribute to the creation of social capital through the creation of weak ties via the internet. This will be evidenced by positive correlations between measures of 'Facebook social capital' and measure of offline social capital above and beyond increased group membership.

This hypothesis proved to be mostly false. While the impact of events on bridging social capital was significant, general Facebook use and 'Facebook capital' did not appear to create true bridging social capital online or offline. Future efforts to create true social capital should focus their efforts on using the internet to drive people offline, not do more online activity simply for its own sake. Beyond that, it does not appear that the internet is a gateway to a fundamentally different society, just one in which it is easier to communicate.

Hypothesis 1b: Facebook does contribute to the creation of offline social capital in the form of 'strong ties' between people. Despite that most communication on Facebook occurs in short bursts, it does act as a mechanism for people to contact those they already know well for face to face interaction.

There is no evidence from this study that Facebook generates bonding social capital. Future studies may draw different conclusions if they are able to follow college students over years rather than just a few months. It may also be that the sort of interaction that occurs on Facebook simply doesn't lend itself to the generation of bonding social capital.

Hypothesis 2a: Students will be more inclined to post political profiles if they themselves hold extreme political views. This actual affiliation they put down will be mitigated based on what they think is socially appropriate.

There is good evidence to support both the thesis that students post essentially accurate political profile information and that what they put can be colored by what they think is socially appropriate. What does seem to happen is that students self-censor their information if they feel that they are in the minority (as was the case for conservative students with the election of Barack Obama). This is heartening because it means that Facebook can be used to an extent to monitor the social diffusion of changes in political attitudes as long as researchers understand minority views are less likely to be expressed in the presence of strong social pressures and/or norms.

Hypothesis 2b: Changes in the political affiliation of a subject's Facebook friends will impact a person's choice of Facebook profile by showing the user the social norm.

This finding was only found to be correct for people who are in the minority. Having Facebook friends who share the student's position makes the student more likely to keep a minority political view posted. It may also be that these students do not feel (in the offline world) as though they are in the minority because more of their friends agree with them.

Future Research

Future research should replicate this study for a variety of social networking sites and significantly expand the sample to non-college students. Replicating this research on other networks like LinkedIn and meetup.com would answer the question of what kind, if any, of social networking sites actually lead to the creation of social capital. Additionally, more questions about the use of privacy controls on Facebook and other sites would greatly enhance our understanding of the level of trust people have on Facebook and how that affects their online behavior.

Additionally, a study done in direct partnership with Facebook would allow researchers to track the habits of early adopters of everything from Facebook applications to political profile stances. This study would allow for the easy collection of large amounts of panel data that would not only identify the characteristics of early adopters of Facebook trends but political trends as well. Answering the question of whether or not these early adopters are the same people or change over time is important. Perhaps most excitingly, this study would be able to be easily updated over time to give a continually refreshed understanding of Facebook and its trends that is useful to both academics and businesspeople. The possible uses for this sort of information are limitless.

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Appendix I

First Survey

1. Are you over the age of 18 and do you agree to the terms of the survey as listed above?

2. During the fall semester of this year, are you living on campus or off?

On Campus

Off Campus

3. Are you studying abroad this semester?

Yes, I am studying abroad this semester

No, I am attending William and Mary

4. Please indicate how favorable or unfavorable you are towards each of the following people and groups.

Very Favorable Favorable Slightly Favorable Neutral Slightly Unfavorable Unfavorable Very Unfavorable

Republicans

Democrats

George W. Bush

Hillary Clinton

Barack Obama

John McCain

The United Nations

Labor Unions

Google

Large Corporations

Immigrants

Microsoft

5. How would you rate the following political figures compared to other political figures?

Outstanding Clearly Above Average Slightly Above Average Average Slightly Below Average Clearly Below Average Poor

George Bush

Dick Cheney

Barack Obama

Joe Biden

John McCain

Sarah Palin

6. How would you rate the following political figures compared to other political figures?

Outstanding Clearly Above Average Slightly Above Average Average Slightly Below Average Clearly Below Average Poor

Hillary Clinton

Harry Reid

Nancy Pelosi

Mitt Romney

Mike Huckabee

7. How well do the following adjectives describe students as a whole at William and Mary: (scale of 1 to 7)

Very Well

Not at all

Have a good social life

Socially conservative

Religious

Open-minded

8. How well do the following adjectives describe your circle of friends at William and Mary: (scale of 1 to 7)

Very Well

Not at all

Have a good social life

Socially conservative

Religious

Open-minded

9. Please indicate how favorable or unfavorable you are towards each of the following groups.

Very Favorable Favorable Slightly Favorable Neutral Slightly Unfavorable Unfavorable Very Unfavorable

Pot Smokers

Christian Fundamentalists

African-Americans

Hispanics

Whites

Jews

William and Mary students in general

10. Please indicate how much you agree or disagree with each of the following statements:

Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree

Government sponsored national health insurance should be available to all Americans.

Marijuana should be legalized.

Racial diversity should be an important goal in college admissions.

Most people would take advantage of you if they got the chance.

Some liberties need to be curtailed for security.

11. Please indicate how much you agree or disagree with each of the following statements:

Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree

The drinking age should be kept at 21.

Homosexuals should not be allowed to teach elementary school.

Redistributing wealth and income is a proper role for the federal government.

Abortion should be prohibited (except where mother's life is endangered or in cases of rape).

US troops should stay in Iraq until situation is stabilized even if that means a commitment of over 2 years.

Trying to stop global warming is a worthwhile goal even if it means slower economic growth.

12. Please indicate whether you strongly agree or disagree with each of the following statements.

Strongly Agree Somewhat Agree Neither Agree Nor Disagree Somewhat Disagree Strongly Disagree

I often discuss politics with friends.

I often feel that I have little influence over the things that happen to me.

Realistically, an individual can do little to bring about changes in our society.

On any sort of exam or competition I like to know how well I do relative to everyone else.

Sometimes politics and government seems so complicated that a person like me can't understand what's going on.

When I make plans I am almost certain to make them work.

I am not interested in politics.

13. Please indicate whether you strongly agree or disagree with each of the following statements.

Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree

Affirmative action programs are needed to increase minority representation in jobs and higher education.

Most people who don't get ahead just don't have enough will power.

An insult to your honor should not be forgotten.

Men should bear equal responsibility for child rearing in a family.

In general, most people can be trusted.

14. How many days a week (0-7) do you do the following?

0 1 2 3 4 5 6 7

Read a newspaper

Watch the news on TV

Listen to the news on the radio

Read political news on the internet

Read non-political news on the internet (pop culture, etc.)

15. Barack Obama is the Democratic nominee for President and John McCain is the Republican nominee for President. Who do you plan to vote for in November?

John McCain

Barack Obama

Third Party

Not sure who I will vote for

Don't plan on voting

16. How often do you attend religious services?

More than once a week

Once a week

Almost every week

Once a month

A few times a year

Never

17. Please indicate your level of membership in the following organizations.

Not a member Member but not active Active Member Leader

Inter-Mural or Club Sports Organizations

Political organizations

Religious organizations

Future job related organizations

Social organizations

Service Organizations

Specific issue advocacy organizations (environment, social issues, etc.)

Varsity Sports Team

18. Did you have any kind of non-Facebook social networking account (myspace, etc.) before you came to college?

Yes

No

19. Do you have a Facebook account?

Yes

No

20. When did you create your facebook account?

In middle school

In high school (not including your senior summer)

The summer before coming to college

Within the first few months of being at college

Sometime later during college

21. Approximately how much time have you spent on Facebook per day during the last week?

None

Less than 10 minutes

10 - 30 minutes

31 - 60 minutes

More than one hour but less than two

More than two hours but less than three

3 or more hours

22. How much do you feel you are a part of the Facebook community?

Very much a part

Not a part at all

1

2

3

4

5

23. How much is Facebook part of your everyday activity?

Very much a part Not a part at all

1 2 3 4 5

24. How much do you feel out of touch when you have not logged onto Facebook in a few days?

Very out of touch Not at all out of touch

1 2 3 4 5

25. On a scale of 1 (very unlikely) to 5 (very likely), how likely do you think it is that someone from the following groups would view your Facebook profile?

Very Unlikely Very Likely

1 2 3 4 5

High school friends

People in my classes

Other friends

Total stranger at WM

Someone I met at a party

Family

Total stranger at another campus

My professors

Administrators

Law Enforcement

Prospective Employers

26. Please indicate how much you agree or disagree with the following statements.

Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree

I feel I am a part of the William and Mary community.

I am interested in what goes on at William and Mary.

William and Mary is a good place to be.

At William and Mary, I come into contact with new people all the time.

27. Please indicate how much you agree or disagree with the following statements.

Strongly Agree Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree

If I needed an emergency loan of \$100, I know someone at William and Mary I could turn to.

There is someone at William and Mary I can turn to for advice about making very important decisions.

I do not know people at William and Mary well enough to get them to do anything important for me.

I stay in touch with my friends from high school.

28. How many times do you spend weekends away from William and Mary in an average semester?

29. How many close friendships have you maintained back home outside of your family?

30. What year are you currently?

Freshman

Sophomore

Junior

Senior

31. Gender:

Male

Female

32. Are you:

African-American

Asian

Hispanic

White

Other

33. Are your parents

Both alive and living with each other

Both alive, but divorced or living apart

One or both deceased

34. How would you describe the political affiliation of the following individuals or groups?

Strong Republican Republican Lean Republican Independent Lean Democrat Democrat Strong Democrat Not Sure

Yourself

Your mother

Your father

Your friends

William and Mary students

The United States as a whole

35. Politically, how would you place the following individuals or groups:

Extremely Liberal Liberal Slightly Liberal Moderate Slightly Conservative Conservative Very Conservative Not Sure

Yourself

Your mother

Your father

Your friends

William and Mary students

The United States as a whole

36. Please list the first names of your three best friends at William and Mary and what you think they are politically. As your results are confidential, we will not attempt to contact the friends you list in any way. (We asked students to list the first name of their friends so they'd be thinking of specific people instead of just re-generalizing.)

Strong Republican Republican Lean Republican Independent Lean Democrat Democrat Strong Democrat Not Sure

Name of Friend:

Best Friend

Second Best Friend

Third Best Friend

37. To the best of your recollection, in high school what was the political orientation of your best friend in high school?

Extremely Conservative

Conservative

Slightly Conservative

Moderate

Slightly Liberal

Liberal

Extremely Liberal

I don't know what their political orientation was

38. On the average weekday, how many hours do you spend studying?

39. On the average weekday, how many hours do you spend in extra-curricular activities?

40. On the average weekday, how many hours do you spend socializing outside of extra-curricular activities?

41. On the average weekend, how many hours do you spend studying?

42. On the average weekend, how many hours do you spend in extra-curricular activities?

43. On the average weekend, how many hours do you spend socializing outside of extra-curricular activities?

44. On average, how many hours a week do you spend attending class/labs?

New Page

The most important part of this survey is following this link (url) . To follow the link, copy and paste it into your browser's address bar and then press enter. Doing this will take you to a page

where you add an invisible Facebook application that will allow us to collect information about Facebook and how it is used by students.

We will make the results of our findings available at the end of our survey and would very much appreciate it if you would follow this link (url) if you have not already.

New Page

Were you able to copy and paste the link (url) into your browser? If you did not, please try again.

Thank you so much for doing this!

Second Survey

2. During the fall semester of this year, are you living on campus or off?

On Campus

Off Campus

3. Are you studying abroad this semester?

Yes, I am studying abroad this semester

No, I am attending William and Mary

4. How would you rate the following political figures compared to other political figures?

Outstanding Clearly Above Average Slightly Above Average Average Slightly Below Average Clearly Below Average Poor

George Bush

Dick Cheney

Barack Obama

Joe Biden

John McCain

Sarah Palin

Hillary Clinton

5. How well do the following adjectives describe students as a whole at William and Mary: (scale of 1 to 7)

Very Well

Not at all

Have a good social life

Socially conservative

Religious

Open-minded

6. How well do the following adjectives describe your circle of friends at William and Mary: (scale of 1 to 7)

Very Well

Not at all

Have a good social life

Socially conservative

Religious

Open-minded

7. Please indicate how favorable or unfavorable you are towards each of the following groups.

Very Favorable

Favorable

Slightly Favorable

Neutral

Slightly Unfavorable

Unfavorable

Very Unfavorable

Liberals

Conservatives

Democrats

Republicans

8. Please indicate how favorable or unfavorable you are towards each of the following groups.

Very Favorable

Favorable

Slightly Favorable

Neutral

Slightly Unfavorable

Unfavorable

Very Unfavorable

Pot Smokers

Christian Fundamentalists

African-Americans

Hispanics

Whites

Jews

William and Mary students in general

9. Please indicate whether you strongly you agree or disagree with each of the following statements.

Strongly Agree Somewhat Agree Neither Agree Nor Disagree Somewhat Disagree Strongly Disagree

I often discuss politics with friends.

I often feel that I have little influence over the things that happen to me.

Realistically, an individual can do little to bring about changes in our society.

On any sort of exam or competition I like to know how well I do relative to everyone else.

Sometimes politics and government seems so complicated that a person like me can't understand what's going on.

When I make plans I am almost certain to make them work.

I am not interested in politics.

In the run-up to the Presidential election, I asked my friends who know a lot about politics what they thought of the candidates.

10. Please indicate whether you strongly you agree or disagree with each of the following statements.

Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree

Affirmative action programs are needed to increase minority representation in jobs and higher education.

Most people who don't get ahead just don't have enough will power.

An insult to your honor should not be forgotten.

Men should bear equal responsibility for child rearing in a family.

In general, most people can be trusted.

11. How many days a week (0-7) do you do the following?

0 1 2 3 4 5 6 7

Read a newspaper

Watch the news on TV

Listen to the news on the radio

Read political news on the internet

Read non-political news on the internet (pop culture, etc.)

12. Barack Obama is the Democratic nominee for President and John McCain is the Republican nominee for President. Who do you plan to vote for in November?

John McCain

Barack Obama

Third Party

Not sure who I will vote for

Don't plan on voting

13. How often do you attend religious services?

More than once a week

Once a week

Almost every week

Once a month

A few times a year

Never

14. Please indicate your level of membership in the following organizations.

Not a member Member but not active Active Member Leader

Inter-Mural or Club Sports Organizations

Political organizations

Religious organizations

Future job related organizations

Social organizations

Service Organizations

Specific issue advocacy organizations (environment, social issues, etc.)

Varsity Sports Team

15. Did you have any kind of non-Facebook social networking account (myspace, etc.) before you came to college?

Yes

No

16. Do you have a Facebook account?

Yes

No

17. When did you create your Facebook account?

In middle school

In high school (not including your senior summer)

The summer before coming to college

Within the first few months of being at college

Sometime later during college

18. Approximately how much time have you spent on Facebook per day during the last week?

None

Less than 10 minutes

10 - 30 minutes

31 - 60 minutes

More than one hour but less than two

More than two hours but less than three

3 or more hours

19. How much do you feel you are a part of the Facebook community?

Very much a part

Not a part at all

Administrators

Law Enforcement

Prospective Employers

27. How often do you do the following things on Facebook?

Never Not Very Often Sometimes Very Often Quite Frequently

Send Facebook messages

Invite friends to join a Facebook group

Invite friends to a Facebook event

Post on a friend's wall

Facebook "poke" a friend

Invite my friends to add a Facebook application

Update information on my Facebook profile

28. Without looking at your Facebook profile, about how many total Facebook friends do you think that you have?

0 - 200

200 - 400

400 - 600

600 - 800

800 - 1000

Over 1000

29. Please indicate how much you agree or disagree with the following statements.

Strongly Agree Somewhat Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree

I feel I am a part of the William and Mary community.

I am interested in what goes on at William and Mary.

William and Mary is a good place to be.

At William and Mary, I come into contact with new people all the time.

30. Please indicate how much you agree or disagree with the following statements.

Strongly Agree Agree Neither Agree nor Disagree Somewhat Disagree Strongly Disagree

If I needed an emergency loan of \$100, I know someone at William and Mary I could turn to.

There is someone at William and Mary I can turn to for advice about making very important decisions.

I do not know people at William and Mary well enough to get them to do anything important for me.

I stay in touch with my friends from high school.

I enjoy spending long stretches of time with large groups of people

31. How many times do you spend weekends away from William and Mary in an average semester?

32. How many close friendships have you maintained back home outside of your family?

33. What year are you currently?

Freshman

Sophomore

Junior

Senior

34. Gender:

Male

Female

35. Are you:

African-American

Asian

Hispanic

White

Other

36. Are your parents

Both alive and living with each other

Both alive, but divorced or living apart

One or both deceased

37. How would you describe the political affiliation of the following individuals or groups?

Strong Republican Republican Lean Republican Independent Lean Democrat Democrat Strong Democrat Not Sure

Yourself

Your mother

Your father

Your friends

William and Mary students

The United States as a whole

38. Politically, how would you place the following individuals or groups:

Extremely Liberal Liberal Slightly Liberal Moderate Slightly Conservative Conservative Very Conservative Not Sure

Yourself

Your mother

Your father

Your friends

William and Mary students

The United States as a whole

39. Please list the first names of your three best friends at William and Mary and what you think they are politically. As your results are confidential, we will not attempt to contact the friends you list in any way.

Friend's First Name

Strong Republican Republican Lean Republican Independent Lean Democrat Democrat Strong Democrat Not Sure

Best Friend

Second Best Friend

Third Best Friend

40. To the best of your recollection, in high school what was the political orientation of your best friend in high school?

Extremely Conservative

Conservative

Slightly Conservative

Moderate

Slightly Liberal

Liberal

Extremely Liberal

I don't know what their political orientation was

41. On the average weekday, how many hours do you spend studying?
42. On the average weekday, how many hours do you spend in extra-curricular activities?
43. On the average weekday, how many hours do you spend socializing outside of extra-curricular activities?
44. On the average weekend, how many hours do you spend studying?
45. On the average weekend, how many hours do you spend in extra-curricular activities?
46. On the average weekend, how many hours do you spend socializing outside of extra-curricular activities?
47. On average, how many hours a week do you spend attending class/labs?

New Page

Over 40% of William and Mary students who responded to this survey added our Facebook application. Whether you added the application before or not, we need you to go to the site again so we can get updated information on you. Doing this is critical to our research and we really need your help.

To get to the application, follow the following steps:

- 1) Log onto Facebook
- 2) Go to (url) by copying and pasting it into your browser.
- 3) Enter this number (id) into the box if the website requests one.
- 4) Check the consent box and then click 'submit'.

Doing this will take you to a page where you add an invisible Facebook application that will allow us to collect information about Facebook and how it is used by students. If you have already added the application, it will just take updated information from your profile.

Your information will never be released on an individual level and will be kept under lock and key.

New Page

Were you able to copy and paste the link (url) into your browser? If you did not manage to add the application, please try again.

To get to the application, follow the following steps:

- 1) Log onto Facebook
- 2) Go to (url) by copying and pasting it into your browser.
- 3) Enter this number (id) into the box if the website requests one.
- 4) Check the consent box and then click 'submit'.

Doing this will take you to a page where you add an invisible Facebook application that will allow us to collect information about Facebook and how it is used by students. If you have already added the application, it will just take updated information from your profile.

Your information will never be released on an individual level and will be kept under lock and key.

If you have any technical issues, please feel free to e-mail me back at dmbyle@wm.edu.

Appendix II- Appeals

Wave 1

Email 1

Subject: Important WM Survey

Dear [NAME],

2008 has been a momentous and tumultuous year in American politics. Things will never be the same. We want to be able to observe the impact of this year on William and Mary students, so we are coming back to you and asking you to fill out a follow up survey. Some of the questions are similar to last time and some are different, but we very much appreciate your taking 10 minutes to fill it out. Only in this way can we really understand how national forces have impacted students here.

To take the survey, just click on the following link:

[https://opinio.wm.edu/opinio//s?s=1392&i=\[ID\]&k=\[KEY\]&ro=\[REOPEN\]](https://opinio.wm.edu/opinio//s?s=1392&i=[ID]&k=[KEY]&ro=[REOPEN])

Thanks for your time!

Daniel Byler

PS We will share the results of our research with you as soon as they are available. Thanks again for your time!

Reminder E-mail

Subject: WM Survey

Dear [NAME],

A few days ago, we e-mailed you an invitation to take a brief survey on your political and social attitudes. We're e-mailing you an additional request to fill out the survey because it is important to us that we get a full cross section of William and Mary students. This includes students who are not interested in politics as well as those who are. Again, we want to reiterate that you are part of a

specifically selected group of William and Mary students that we think will be especially helpful in understanding the political and social nature of college students in general.

We hope you'll take 10 minutes to help us with this very important research. You may skip any questions you don't want to answer.

Thank you so much for your time. We really appreciate it.

To take the survey, just click on the following link:

[https://opinio.wm.edu/opinio//s?s=1392&i=\[ID\]&k=\[KEY\]&ro=\[REOPEN\]](https://opinio.wm.edu/opinio//s?s=1392&i=[ID]&k=[KEY]&ro=[REOPEN])

Daniel Byler

PS We thought you would want to know that we will share the results of our research with everyone who participates. Thanks again for your time!

Final Email

Subject: Last Chance: WM Survey

Dear [NAME],

2008 has been a momentous and tumultuous year in American politics. Things will never be the same. We want to be able to observe the impact of this year on William and Mary students, so we are coming back to you and asking you to fill out a follow up survey. Some of the questions are similar to last time and some are different, but we very much appreciate your taking 10 minutes to fill it out. Only in this way can we really understand how national forces have impacted students here. We will send you the results of this research as soon as they are available.

To take the survey, just click on the following link:

[https://opinio.wm.edu/opinio//s?s=1392&i=\[ID\]&k=\[KEY\]&ro=\[REOPEN\]](https://opinio.wm.edu/opinio//s?s=1392&i=[ID]&k=[KEY]&ro=[REOPEN])

Thanks for your time!

Daniel Byler

Wave 2

Email 1

Subject: WM Election Day Survey

Dear [NAME],

No matter what the result, this election has already had an historic impact on this country. We want to be able to observe its impact on William and Mary students in particular. As a result we are coming back to ask you to fill out one final survey. Some of the questions are similar to last time because we want to observe change, and some are different, but in both cases your answers are crucial to my project and to understanding how national forces have impacted students here. I really appreciate your taking 10 minutes to fill it out, and I will make the results available to you as soon as possible.

Please go to the following web address to respond to the survey:

[https://opinio.wm.edu/opinio//s?s=1955&i=\[ID\]&k=\[KEY\]&ro=\[REOPEN\]](https://opinio.wm.edu/opinio//s?s=1955&i=[ID]&k=[KEY]&ro=[REOPEN])

Thanks so much for your time and help in this regard.

Daniel Byler

PS We will share the results of our research when we are finished. Thanks again for all of your help!

Reminder E-mail

Subject: WM Election Survey

Dear [NAME],

No matter what the result, this election has already had an historic impact on this country. We want to be able to observe its impact on William and Mary students in particular. As a result we are coming back to ask you to fill out one final survey. Some of the questions are similar to last time because we want to observe change, and some are different, but in both cases your answers are crucial to my project and to understanding how national forces have impacted students here. I really appreciate your taking 10 minutes to fill it out, and I will make the results available to you as soon as possible.

Please go to the following web address to respond to the survey:

[https://opinio.wm.edu/opinio//s?s=1955&i=\[ID\]&k=\[KEY\]&ro=\[REOPEN\]](https://opinio.wm.edu/opinio//s?s=1955&i=[ID]&k=[KEY]&ro=[REOPEN])

Thanks so much for your time and help in this regard.

Daniel Byler

PS We will share the results of our research when we are finished. Thanks again for all of your help!

Final Email

Subject: Last Chance for WM Election Survey

Dear [NAME],

Your opinion is extremely important to me. I've come back to you for a fourth time because the opinions of people like you matter a great deal to me. I need this data to complete my honors thesis and you filling this out would really help me out. Thanks in advance for your time.

[https://opinio.wm.edu/opinio//s?s=1955&i=\[ID\]&k=\[KEY\]&ro=\[REOPEN\]](https://opinio.wm.edu/opinio//s?s=1955&i=[ID]&k=[KEY]&ro=[REOPEN])

Daniel Byler

PS We will share the results of our research when we are finished. Thanks again for all of your help!

Facebook Application Request

Request 1

Hey--

Thanks again for filling out my survey on your political attitudes. Although the survey came through fine, the part where I asked you to add the Facebook application did not, so I really need your help again.

It would really help me out if you could add an invisible facebook application to your profile by following three quick and easy steps. First, log into facebook. Then, go to <http://apps.new.facebook.com/wmsocial/> and put in «ID» in the ##### box. After doing that, just click that you agree and press submit.

ALL of your information is totally confidential. The application will not track your movements on Facebook or copy pictures from Facebook. No personal identifying information from your profile will ever be publicly matched to your name.

I am asking for your help because this information is crucial for my honors thesis project and if I don't get it, I will be in an extremely difficult position with regard to being able to finish my research.

Thank you so much for doing this. You're really doing me a significant favor.

Daniel

PS Over 150 William and Mary students have already added this application and the results of their contributions are already working to cast this campaign in a new light.

Request 2

Hey Amelia--

Thanks again for filling out all of my surveys on your political attitudes. Although the survey came through fine, the part where I asked you to add the Facebook application did not, so I really need your help one last time. (If you added the Facebook application before, I still need you to quickly revisit the site so we can get new and important information from Facebook.)

It would really help me out if you could add an invisible Facebook application to your profile by following three quick and easy steps. First, log into Facebook. Then, go to <http://apps.new.facebook.com/wmsocial/>. If you see a request for a number, put in 1 in the ##### box. After doing that, just click that you agree and press submit.

ALL of your information is totally confidential. The application will not track your movements on Facebook or copy pictures from Facebook. No personal identifying information from your profile will ever be publicly matched to your name.

I am asking for your help because this information is crucial for my honors thesis project and if I don't get it, I will be in an extremely difficult position with regard to being able to finish my research.

Thank you so much for doing this. You're really doing me a significant favor.

Daniel

PS Over 200 William and Mary students have already added this application and the results of their contributions are already working to cast the political process in a new light.

PSS I know I've sent you a lot of e-mails and I promise this will be the last one that I send you that asks for anything. Thank you so much for your time.