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SOCIAL NETWORKS: UNDERSTANDING THE BEHAVIOR OF INDIVIDUALS ON FACEBOOK

Shradha Chaulagain

SOCIAL NETWORKS: UNDERSTANDING THE BEHAVIOR OF INDIVIDUALS ON FACEBOOK

by

SHRADHA CHAULAGAIN

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ABSTRACT

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THE BEHAVIOR OF INDIVIDUALS
ON FACEBOOK

Shradha Chaulagain, B.S. Information Systems

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Faculty Mentor: Sridhar Panchapakesan Nerur

Billions of people in today's world utilize social networking sites, including Facebook. This research explores the relationship between the use of Facebook, a popular social networking site, and the formation of social capital. To assess the use of the site, 46 friends (N=46) completed a survey that looked for demographic and behavioral patterns. Facebook provided an opportunity to recognize how people attracted each other and influenced others with whom they communicated. The graphical network analysis revealed who is influential and who is not, while statistical analysis provided a deeper insight into the personalities of the people involved, when relevant. Results indicated that friends use Facebook approximately 58 minutes throughout the day as part of their daily routine. They use Facebook mainly for social interaction, primarily with their close friends, like old high

school friends and current classmates, with whom they had a pre-established relationship offline. Implications of research and practice are also discussed.

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CHAPTER 1

INTRODUCTION

1.1 Motivation for the Study

Media use plays a significant role in many people's lives, especially for the social, emotional, and cognitive development of youth, and it accounts for a large portion of their time (Roberts et al., 2005). In recent years, one type of online application that has grown tremendously is social networking on the Internet. Social networking is a concept that existed even before the creation of "Internet" or mass communication. People have always had the need to be social creatures. It is somehow ingrained in our DNA to work together in groups to evolve; in fact, creating value through joint works is one of our finest assets.

At its fundamental form, a social network comprises three or more entities communicating and sharing information, such as in forms of a university, a church, a club, or a number of other socially constructed relationships. Social network sites such as Facebook, MySpace, Instagram, Twitter, and Bebo are member-based, and they allow individuals, especially teenagers and college students, to establish or maintain connections with others. They also help members share information and articulate their social network. They post profile information, like a username and picture, and communicate with others by using online messaging systems. From prior research, we know that these user groups are using the sites to keep in touch with their friends (Ellison, 2007; Joinson, 2008; Lampe, 2006). We also know that because of rapid advancements in technology, social networks have been increasingly utilized, and it has changed the way people communicate with one

another. In 2013, Shortstack, a social media self-service platform, reported that the growth of social media users increased from 1 million in 2004 to 1.15 billion in 2013. In the spring of 2016, Statista.com reported that there were over 1.79 billion registered users of social network worldwide, and the number of users was only going to keep increasing in the future. These social networking sites also reveal important information about how users are interacting with one another in the digital age.

The primary goal of this study was to examine the nature of Facebook by using my ego network sample and to explore the behavioral factors that influence its use. I wanted to understand the motivation behind the behaviors and personalities of my friends by gathering traces of online data, and I analyzed survey data obtained from my Facebook friends to gain insight into their daily lives and activities.

Forming an understanding of social networks helps to improve not only the quality of communication of the individual but also their partners' communication efforts. My friends' network characteristics have implications for how knowledge flows between different communities in the network. Furthermore, being able to recognize the behaviors and patterns of Facebook users will provide opportunities for businesses to customize and/or personalize their products and market them in a more effective way.

1.2 Research Questions

This study of my Facebook ego network is related to the structures whose nodes represent people embedded in a social context. Critical questions for understanding the use of this application address the time commitment, reasons for using the site, motivation to stay active, the nature of my friends' influence on developing and maintaining friendships and other questions such as how they interact on the site, and how they are attracted to each

other. In this research, we consider these questions with respect to my network on Facebook.

1.3 An Overview of Facebook

Facebook.com was launched in 2004 by Mark Zuckerberg, a Harvard student, as an online version of the Harvard Facebook. Facebook is a computer-mediated Social Networking System that has now become one of the most popular means of communication all over the world. Currently, the company is headquartered in Menlo Park, California. It was originally created to facilitate social interaction exclusively among college students. However, it has changed its course to be a platform to be available for anyone with a valid email address. Facebook operates as a mobile application and through the website that allows its users to share information, post photos and videos, play games, and otherwise connect with each other through online profiles. As of December 31, 2015, Bloomberg.com reported that the site included more than 1.04 billion daily active users (DAUs). The Statistic Brain Research Institute claims that 58% of people in the world use social networks to communicate, and of those, 56% have a profile on Facebook. It also shows that only 25% of users are from the United States, the remaining 75% being users from around the world. As of the first quarter of 2016, Facebook is the number one ranked social networking site in the world (*Statistic Brain*).

CHAPTER 2

LITERATURE REVIEW

2.1 Past Research

Scholarship concerning social networks is evolving in various disciplines, and scholars have addressed a range of topics on computer-mediated communications. This overview of scholarship is not comprehensive because of space restrictions and because much work on social network sites is still in process of being published. So far, a large number of social network sites research have focused primarily on impression management and friendship performance, networks and network structure, online and offline connections, and privacy concerns. Donath and Boyd (2004), for example, suggest that "public displays of connection" are important identity signals that help people navigate the networked social world. They also state that an extended network may serve to authenticate identity information presented in profiles. Similarly, Backstrom, Huttenlocher, Kleinberg, & Lan (2006) have studied the network structures and analyzed what motivates people to join and participate in a particular community. Ellison, Lampe, and Steinfeild (2007) have examined the association between profile elements and the number of Facebook friends. They have noted that 'profile fields' that decrease transaction costs and are harder to falsify are presumably to be associated with higher number of friendship links. Additionally, popular media of social network sites have highlighted possible privacy concerns, primarily regarding the safety of younger people using social networking sites (George, 2006; Kornblum & Marklein, 2006).

2.1.1 Social Capital: Online and Offline

The use of social networks to connect with other users is deeply embedded in many individuals' lives. The existing research indicates that most social network sites predominantly support pre-existing social relations. In this context, Ellison, Steinfeild, and Lampe (2007) state that "Facebook is used to maintain and solidify existing offline connections." They suggest that while relationships between individuals might be weak offline, people generally friend and request a connection with individuals who have common elements, like sharing a common school or work. Boyd (2008) points out that MySpace and Facebook have enabled many U.S youth to rely on online connections to socialize with their friends. She argues that social network sites support sociability, in the same way unmediated public spaces allow people to engage with each other.

2.2 Current Research

2.2.1 Social Capital and Life Satisfaction

Scholarship shows that researchers define the core idea of social capital as resources available to people through their social interactions (Lin, 2001). While people often accrue their social capital as a result of their daily interactions with people around them, it is also possible to make conscious investments in social connections (Joinson, 2008). Through the use of social networking sites, users look to maintain and increase their social networks (Ellison, 2007). Investing in social networks (like participation in collective activities) allows the users to strengthen their bonds and develop mutual trust. It is both relevant and important in your social network interactions to form strong and weak ties. These ties can perform different functions in relationships and can extend your network far beyond your normal reach. A strong tie is someone you know well, like a

friend. You will probably have their number on your phone and will interact with them on social networking sites. When you develop a strong tie, there is a good two-way communication, and information flows well. However, a weak tie is a more tenuous relationship, like an acquaintance. When it comes to this type of tie, you will probably have different interests and not interact much with that person. You are more likely to look up their number or keep their business card in case it comes in handy one day. Some research shows that social networking sites can be used as a tool for individuals who have difficulties forming both strong and weak ties. For instance, the Internet could possibly help individuals with low psychological well-being because of few ties to people around them (Bargh and McKenna, 2004). For these reasons, this study adopts the measure satisfaction with life framework from Ellison et al. (2007) to assess how it is impacted by connections or interactions, along with two types of social capital items.

2.2.2 Frequency and Time Spent on Social Networking Sites

Media influences the lives of people enormously. In one study, people on average spent 18 minutes on Facebook per visit (*Statistic Brain*). Yet another study - by *NBC News* - states that the average American spends 40 minutes a day on Facebook. This means that, in a month, users spend about 20 hours using Facebook, which in turn proves that spending time on social networking site is a part of most users' daily activity. The current study adds to this literature by testing the impact of intensity of Facebook use by confirming the time spent on social network and by analyzing how users are attracted to one another on the site.

2.2.3 Why and How Social Networking Sites are Used

Social networking sites are aimed at nurturing social interaction in a virtual environment. In general, on Facebook communication is enabled by information posted in the user's timeline profile, a virtual space in which all the content of the Facebook user is organized and shown. When the information is posted, it shows up in the home page of Facebook called the News Feed. If a user posts and receives a "like" or a "comment" on the post such as posting a photograph or information about his or her hobbies and interests, or initiating a similar exchange, then the user has established a contact. The communication happens when users interact through integrated applications like emails, online message boards, or news feed. Previous research by Statistic Brain shows a couple of major reasons for using social networking sites. As of December 2015, about 67% of users of Facebook stated that they use it to stay in touch with their current friends, 50% said they use it to connect with old friends that they had lost touch with, and only 9% indicated that they use it to make new friends (*Statistic Brain*). Such interactions can potentially help us understand what attracts my friends to use Facebook and to create relationships.

CHAPTER 3

RESEARCH FOCUS

3.1 Purpose and Hypothesis of This Study

The primary objectives of this study were to describe: 1) how much time my friends spend on Facebook, 2) why they use it, 3) what motivates them to stay active, 4) how they interact with each other, and 5) how they are attracted to each other. This study adds to the literature in multiple ways. By using a rich set of responses to close-ended survey items borrowed from Ellison et al. (2007), the study allowed for the analysis of sample demographics. Second, it measured Facebook intensity by evaluating time on Facebook along with other Facebook factors. Third, it checked for Facebook use for prior contact and meeting new people in order to accurately determine behavior. Fourth, it investigated why my friends used Facebook based on the activities they performed. Fifth, it measured and tested the respondents' results for satisfaction to life and social capital. Finally, by cross-checking mutual friends' list of the respondents on Facebook, it gave an opportunity to properly assess the connections and relationship patterns by analyzing the network characteristics. Based primarily on factors items by Ellison et al. 2007, the following hypotheses were made:

H1. Bridging social capital will be positively related to psychological well-being (satisfaction).

H2. Bonding social capital will be positively related to psychological well-being (satisfaction).

H3. High degree centrality will be positively associated with bridging social capital.

H4. Betweenness centrality will be positively associated with bridging social capital.

3.2 Methodology

3.2.1 Participants

Forty-six random sample of friends (27 females, 19 males; mean age = 24.63, SD = 3.99) from my Facebook network participated in this study. The sample was 43% (20 users) Asian, 26% (12 users) White, 9% (4 users) Black, 4% (2 users) Middle Eastern, 11% (5 users) Hispanic American, and 7% (3 users) of an ethnicity other than those listed, or of a mixed background (Table 3.1).

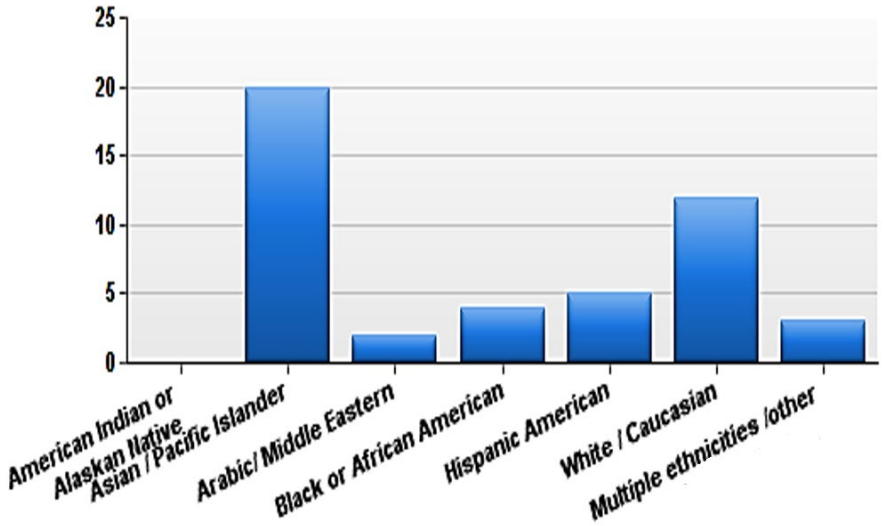


Figure 3.1: Ethnicity Distribution Graph

Only those students who had an active Facebook account and who were connected with my account as a friend received a notice called “Request to Participate in Internet Survey” through their Facebook messaging system. They were given a short description of the study, with information about confidentiality and a unique link to the survey. Once the Facebook user accepted the terms, he or she was able to take part in the study. The survey

was hosted on Qualtrics (https://uta.qualtrics.com/), an online survey hosting site, and was fielded in August 2015. Since it is very difficult to collect data of the entire Facebook network, only my restricted Facebook network was used to analyze the social network. The same participants of the survey were taken into account to construct a social network. The survey, in particular, was sent because of privacy reasons and limited access to friends' Facebook information in order to find out more about them and to assess their personalities, interests, education and Facebook usage, in general. Previous studies have found that more than 91% of millennials use Facebook (*American Press Institute RSS*).

3.2.2 Procedure

After gaining access into the Qualtrics.com portal by inputting a password, and then clicking "Yes" on the informed consent form, participants were provided with a survey containing 45 questions. If they selected "No," they were not allowed to participate or have access to the survey questions. Those who were granted access were given ample time to complete the survey. Participants were recruited in the Fall of 2015. They were given a survey with a couple of open- ended and majority closed- ended questions, asking them about their demographic profile, Facebook use, satisfaction of life, and social capital items. For the network analysis, the surveyors' names were taken into account when trying to find out about the mutual ties between the participants on my Facebook network.

3.3 Measures and Factors

This study involved five broad types of measures and factors, which are discussed in depth below. Instruments like demographic factors, Facebook usage measures of intensity, meeting new people versus connecting with existing offline contacts, measures

of psychological well-being for satisfaction with life items, and the two social capital measures were all included. Social network analysis was also covered in this process.

3.3.1 Demographic Factors

Demographic and other descriptive variables, such as name, gender, age, ethnicity, income,[1] year in school,[2] home residence versus local residence, and member of Greek life were collected.

Sample demographics (N=46)		Mean	S.D.
Gender:	Male	41% (19)	
	Female	59% (27)	
Age		24.63	3.99
Ethnicity:	Asian	43% (20)	
	White	26% (12)	
	Black	9% (4)	
	Middle Eastern	4% (2)	
	Hispanic American	11% (5)	
	Multiple	7% (3)	
Income[1]		3.09	2.35
Year in school[2]		5.41	1.36
Home residence:	In-state	67% (31)	
	Out-of-state	33% (15)	
Local residence:	On campus	26% (12)	
	Off campus	74% (34)	
Member of Greek life		04% (2)	
Facebook Members		4.48	1.13

Table 3.1: Summary Statistics of Sample Demographics

[1] The income represents household income: 1=under $24,999; 2=$25,000-$49,999; 3=$50,000-$74,999; 4 = $75,000-$99,999; 5 =$100,000-$124,999; 6=$125,000-$149,999; 7 = $150,000-$174,999; 8 = $175,000-$199,999, 9 = $200,000 or more.

[2] 1=did not attend school; 2=graduated from high school; 3=freshman; 4=sophomore; 5=junior; 6=graduated from college; 7= some graduate school; 8=completed graduate school; 9=received a PhD.

3.3.2 Measures of Facebook Usage – Facebook Intensity

The Facebook intensity scale (Cronbach's alpha = .76) was created in order to accurately measure Facebook usage. The items were first standardized before taking the average to create a scale because of buffering item scale ranges. The time spent on Facebook, along with other line items which checked to see if participants were emotionally invested on Facebook, was created to assess the concentration of Facebook. This measure used Likert-scale attitudinal questions. Response categories ranged from 1 = strongly disagree to 5 = strongly agree.

	Mean	S.D.
Individual Items and Scale (Cronbach's Alpha= .76)	3.58	1.87
Approximately how many hours do you spend on Facebook account each week?[3]	6.76	4.43
Facebook is part of my daily activity	4.09	0.89
I'm proud to tell people I am on Facebook	3.28	0.78
I feel out of touch when I haven't logged onto Facebook for a while	3.13	1.00
I feel that I am part of the Facebook community	3.15	1.28
I consider Facebook a waste of time	1.66	0.48
I would be sorry if Facebook shut down	3.22	1.07

Table 3.2: Summary Statistics of Facebook Intensity

3.3.2.1 Meeting New People through the Use of Facebook versus Connecting with Existing Offline Contacts

Further investigation was done to see if a user was motivated by prior existing contacts or new online contacts. Several items were established in order to form an understanding of their motivation for Facebook use. In the former case, it measured to see if the responders used Facebook to look up someone with whom they shared an offline connection (Cronbach's alpha = .55), for example with an old friend or a classmate. In the latter case, it evaluated to see if the responders used Facebook to make new friends without the mention of offline ties.

	Mean	S.D.
Off to Online: I use Facebook to connect with offline contacts (Cronbach's Alpha= .46)	3.85	2.63
I use Facebook to check someone I met socially	3.65	1.23
I use Facebook to learn more about classmates and colleagues	3.91	0.96
I use Facebook to keep in touch with old friends	4.30	0.87
I use Facebook to learn more about other people living near me	3.56	1.14
On to Offline: I use Facebook to meet new people (single item measure)	2.20	0.88

Table 3.3: Summary Statistics of Facebook Use for Meeting New People and Connecting with Existing Offline Contacts

3.3.3 Measures of Psychological Well-Being – Satisfaction with Life

The scale of satisfaction with life was adapted from Satisfaction with MSU Life Scale (Ellison et al., 2007). The answers to the questions were reported on a 5-point Likert scale that exhibited moderate reliability.

	Mean	S.D.
Satisfaction with Life scale (Cronbach's Alpha= .77)	3.41	0.26
In most ways, my life is close to my ideal	3.37	0.97
The conditions of my life are excellent	3.76	0.92
I am satisfied with my life	3.74	0.95
So far, I have gotten the important things done in my life	3.33	1.06
If I could live my time over, I would change nothing	2.87	1.22

Table 3.4: Summary Statistics Results for Satisfaction with Life Items

3.3.4 Measures of Social Capital

The two measures of social capital – bridging and bonding social capital – were created by adapting existing scales with slight changes in wording to reflect the context of the study (Ellison 2007). The bridging measure assessed linkage to "external assets" and information distribution. Bridging networks usually have weak ties, but have a larger footprint with people with a broad range of backgrounds. The five items measured created my network's bridging capital scale (Crobach's alpha = .72.) To assess bonding social capital, three other items were adapted to my Facebook social network context (Cronbach's alpha = .79). Bonding social capital looks at social ties within closed groups (e.g., family, close friends and church groups). Responses were reported on a five-point Likert scale with items that ranged from 1 = strongly disagree to 5 = strongly agree. The scales shown on tables were constructed by taking means of items. For analysis, the means of the items for each individual was taken for measuring the two instances of social capital.

	Mean	S.D.
Bridging Social Capital (Cronbach's Alpha= .72)	3.83	0.14
I feel I am part of the college/workplace community	3.82	0.87
I am interested in what goes on at my university/workplace	3.73	0.82
Interacting with people at my college/workplace makes me want to try new things	3.93	0.73
At my college/workplace, I come into contact with new people all the time	3.89	0.87
Interacting with people at my college/workplace reminds me that everyone in the world is connected	3.8	0.95
Bonding Social Capital (Cronbach's Alpha= .79)	3.63	0.44
If I needed a loan of $100, I know someone at my college/workplace I can turn to	3.55	1.34
There are several people at my college/workplace I trust to solve my problems	3.63	1.02
There is someone at my college/workplace I can turn to for advice about making very important decisions	3.84	1.04

Table 3.5: Summary Statistics Results for Social Capital Items

3.3.5 Social Network Construction

For social network analysis, UCINET software was utilized. In UCINET, a tool called NetDraw was used for network construction. NetDraw is a Windows program primarily used to visualize social network data. The data chart with the list of mutual connections was gathered. Participants with no ties were given '0,' and the ones with a mutual tie received a '1.' This study used this tool to assess the connections and relationship patterns by looking at the complete and partial network while also trying to understand the density, clustering coefficient, geodesic distance, degree of centralization and betweenness centrality.

1		Me	JH	FH	PP	TD	NL	SG	CR	MH	CB	RL
2	Me	0	1	1	1	1	1	1	1	1	1	1
3	JH	1	0	0	0	0	0	0	0	0	0	0
4	FH	1	0	0	0	0	0	0	0	0	0	0
5	PP	1	0	0	0	0	0	0	0	0	0	0
6	TD	1	0	0	0	0	0	0	0	0	0	0
7	NL	1	0	0	0	0	0	1	0	0	0	0
8	SG	1	0	0	0	0	1	0	0	0	0	0
9	CR	1	0	0	0	0	0	0	0	0	0	0
10	MH	1	0	0	0	0	0	0	0	0	0	0
11	CB	1	0	0	0	0	0	0	0	0	0	0
12	RL	1	0	0	0	0	0	0	0	0	0	0
13	GN	1	0	0	0	1	0	0	0	0	0	0
14	EC	1	0	0	0	1	0	0	0	0	0	0
15	AG	1	0	0	0	0	0	0	0	0	0	0
16	SC	1	0	0	0	0	0	0	0	0	0	0
17	BP	1	0	0	0	0	0	0	0	0	0	0
18	VT	1	0	1	0	0	0	0	0	0	0	0
19	RR	1	0	0	0	0	0	0	0	0	0	0
20	AS	1	0	0	0	0	0	0	0	0	0	0
21	PT	1	0	0	0	0	0	0	0	0	0	0
22	RN	1	0	0	0	1	0	0	0	0	0	0
23	JF	1	0	0	0	0	0	0	0	0	0	1
24	VM	1	1	0	0	0	0	0	0	0	0	0
25	AP	1	0	0	0	0	0	0	0	0	0	1
26	AC	1	0	0	0	1	0	0	0	0	0	0
27	CI	1	0	1	0	0	0	0	0	0	0	0
28	NT	1	0	0	0	0	0	0	0	0	0	0
29	SZ	1	0	0	0	0	0	0	0	0	0	0

Figure 3.2: Sample of My Network Matrix

CHAPTER 4

RESULTS AND DISCUSSIONS

4.1 Introduction

The purpose of this study was to examine the nature of Facebook and explore social factors that influence its use. Consistent with previous research (e.g., Ellison et al., 2007), the descriptive data are shown first to characterize Facebook users. I was then able to gain more insight into the Facebook use and intensity. I evaluated Facebook use for prior contacts and for meeting new people in order to understand more clearly their behaviors and personalities. I also investigated why Facebook was used by basing it on the activities they performed. The study also measured to see if users were satisfied with their life and checked for the formation of social capital. Finally, the mutual friends' list was compiled to analyze the connections and ties patterns by looking at various network characteristics (centralities, cliques, distance and density).

4.2 General Descriptive Observations

In my sample, 46 Facebook members (N=46) were surveyed. Of those, 59% of users were female and 41% were male (Table 3.1). This statistic was also similar to the one presented by the Huffington Post on social networking sites which displayed that, on Facebook, 58% users were female and 42% were male, which confirmed the true gender distribution of users on this site (*The Huffington Post)*. In the past, I had examined out of curiosity my total Facebook population to check gender differences in terms of Facebook

use, and it was also consistent with the statistics presented above. The research showed that majority of people using Facebook were females.

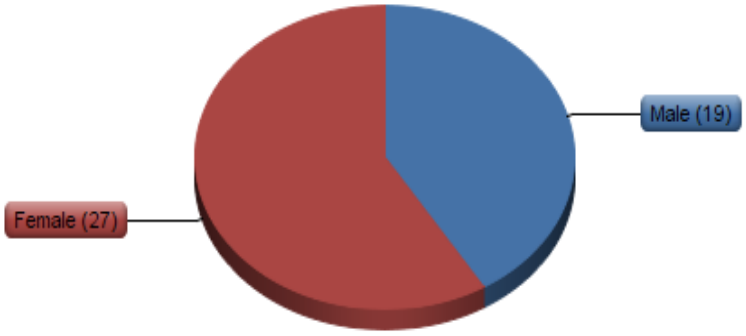


Figure 4.1: Gender Distribution Graph

Not surprisingly, because this is my ego network, I found that majority of my friends were, on average, 24 years old (M = 24.63, S.D. = 3.99), which correlated with the year in school (Table 3.1). Analyzing the friends' list, I realized that while I have plenty of friends in my age group, I was also geared toward being friends with people who are older than me than befriending people younger than me.

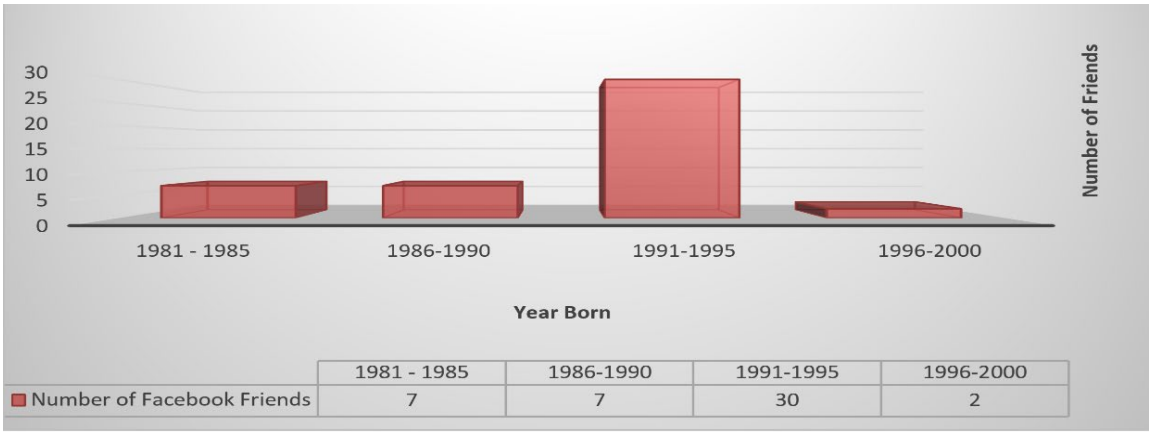


Figure 4.2: Number of Facebook Friends versus Birthdate Graph

Looking at the education level of my friends, many (about 58.7% or M = 5.41, S.D. = 1.36) had junior/senior level standing in their undergraduate education at the time of the survey (Table 3.1). The second largest group of friends had already graduated college (about 15.2%), and third largest group (10.8%) had completed graduate school. The data showed that the education level of my friends is consistent with age.

Answer 1	Answer 2	Answer 3	Answer 4	Answer 5	Answer 6	Answer 7	Answer 8	Answer 9	Total Responses
Did not attend college	Graduated from high school	1 year of college	2 years of college	3 years of college	Graduated from college	Some graduate school	Completed graduate school	Received a PhD	46

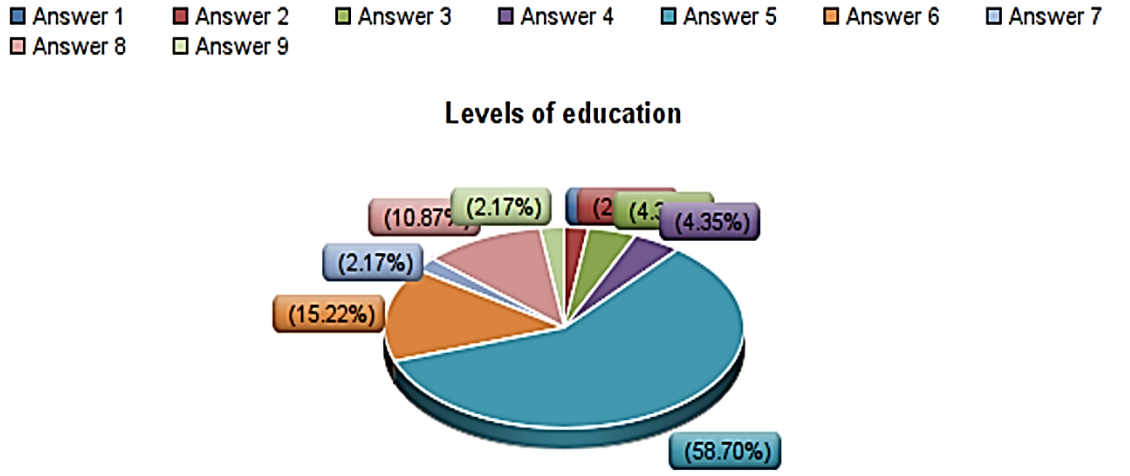


Figure 4.3: Diagram for Year in School

This study also investigated their income level, home residence, local residence and whether or not they were part of Greek life (Table 3.1). It showed that, on average, my friends had a yearly income of $50,000 to $74,999 (M = 3.09, S.D. = 2.35). Other descriptive data about the survey participants was that a majority of them lived in-state (67%) than out-of-state (33%). For example, out of three friends, one friend went out-of-state to get his or her education while the other two friends stayed in the same state they resided in. When it came to staying on-campus and off-campus, my Facebook friends, for most part, lived off campus. Only 26% lived on campus while they received their

education. Also, when it came to being part of Greek life, only two out of 46 people stated that they went Greek. Finally, I asked my friends, "How many friends do you have on Facebook?" The study statistics provided that 79.5% of my friends (M = 4.48, S.D. = 1.13) had on average 200 or more friends on Facebook.

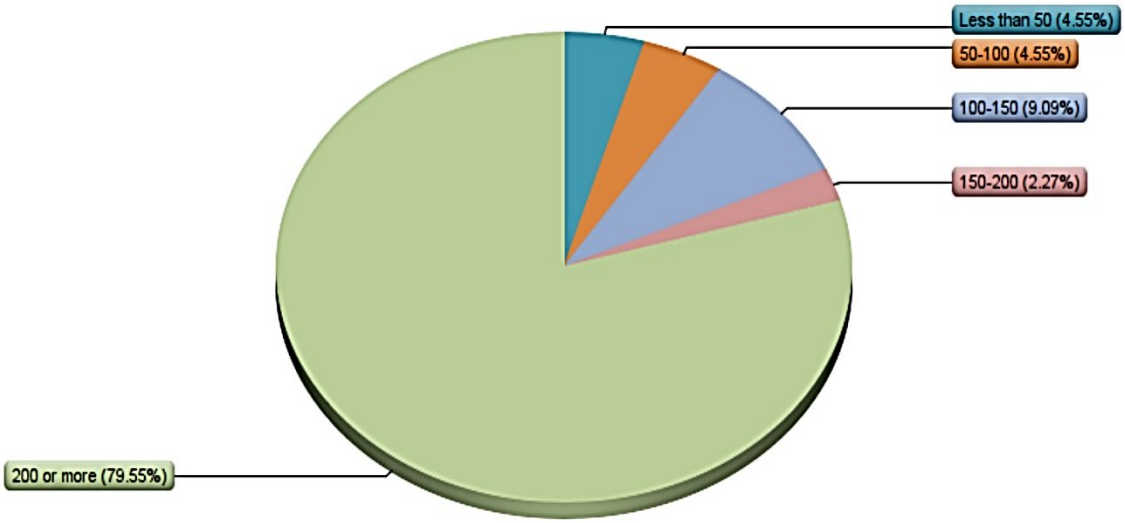


Figure 4.4: Diagram of Facebook Members

4.3 Use of Facebook

4.3.1 Time Spent on Facebook

According to the data, most members stated that Facebook was part of their daily activity. Facebook members report spending 6.76 hours on average using Facebook per week. To estimate the daily average, the data were standardized. For example, anyone who spent "3 – 6 hours per week" on the survey was given a median of 4.5 hours. Therefore, on average the participants report that they use Facebook for about 58 minutes on a daily basis. When measuring the items for Facebook intensity, the scale proved that it was reliable and the items had internal consistency ($\alpha = .76$, M = 3.58, S.D. = 1.87). A majority of my friends were proud to tell others that they were on Facebook. They also stated that they feel like

they are part of the Facebook community, would feel out of touch if they do not log on to Facebook for a while, and would be sorry if it shut down. On average, they disagreed that Facebook was a waste of time (M = 1.66).

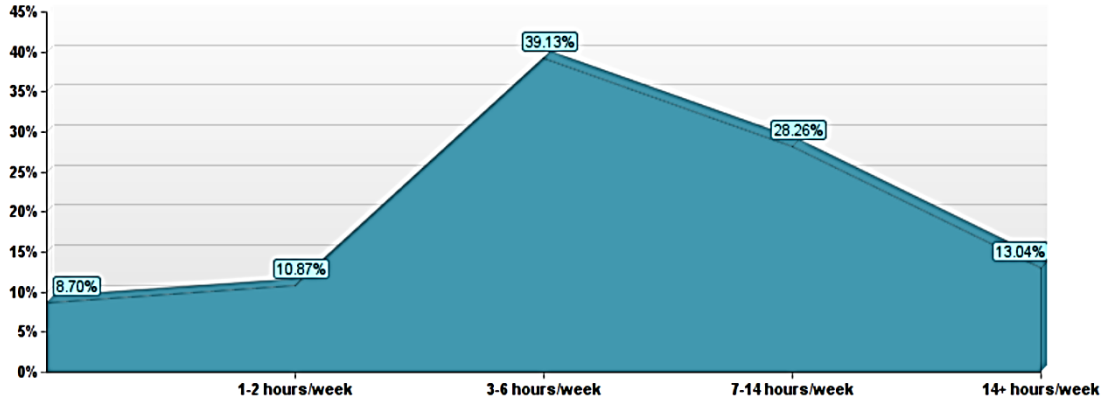


Figure 4.5: Diagram of Time Spent on Facebook

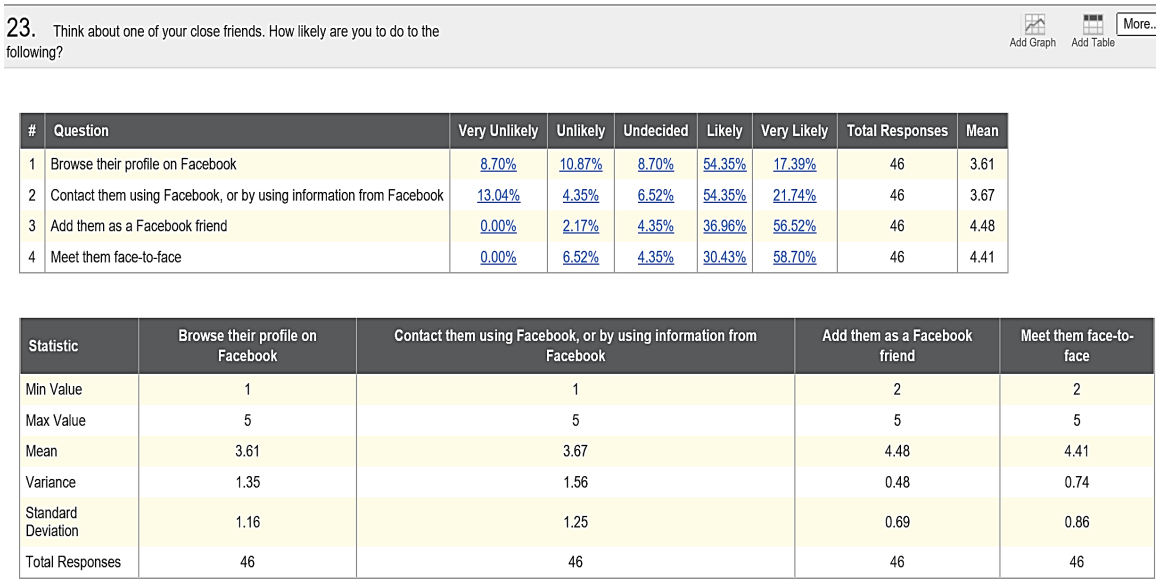
4.3.2 Use between Prior Contacts versus Meeting New People

Communication online and offline is part of everyday culture, and Facebook has enabled many people to interact digitally. From Table 3.3, we can see that respondents report significantly more Facebook use with people with whom they share an offline connection – a existing friend, a classmate or colleague, an old friends, someone living near them, or someone they met socially (M = 3.85) – than use involving meeting new people (M = 2.20). On a single item measure, the strongest reason for using Facebook was to stay in touch with old friends (M = 4.3, S.D. = 0.87). More respondents wanted to stay connected to old friends than meet new friends. From prior studies by Ellison et al. (2007), I borrowed and developed all of the items in order to capture reliability. However, the Cronbach's Alpha was not reliable (α = .46). A good indicator of the factors should be at least .70 on the scale. This approach did not accurately capture all the data needed to make

a correct analysis because it was only able to measure and analyze single items. Further analyses beyond the scope of my current knowledge need to be done to yield accurate results for all the items.

4.3.3 Facebook Use between Close Friends versus Someone Whom They Recognize but Have Never Met Before

When it came to how the respondents used Facebook, it depended on who they were trying to connect with. I compared two groups, close friends (Figure 4.6) and someone they recognize but have never spoken to before (Figure 4.7).



23. Think about one of your close friends. How likely are you to do to the following?

Add Graph | Add Table | More..

#	Question	Very Unlikely	Unlikely	Undecided	Likely	Very Likely	Total Responses	Mean
1	Browse their profile on Facebook	8.70%	10.87%	8.70%	54.35%	17.39%	46	3.61
2	Contact them using Facebook, or by using information from Facebook	13.04%	4.35%	6.52%	54.35%	21.74%	46	3.67
3	Add them as a Facebook friend	0.00%	2.17%	4.35%	36.96%	56.52%	46	4.48
4	Meet them face-to-face	0.00%	6.52%	4.35%	30.43%	58.70%	46	4.41

Statistic	Browse their profile on Facebook	Contact them using Facebook, or by using information from Facebook	Add them as a Facebook friend	Meet them face-to-face
Min Value	1	1	2	2
Max Value	5	5	5	5
Mean	3.61	3.67	4.48	4.41
Variance	1.35	1.56	0.48	0.74
Standard Deviation	1.16	1.25	0.69	0.86
Total Responses	46	46	46	46

Figure 4.6: Statistics of Close Friends

Analyses revealed that respondents were very likely to add their close friends on Facebook (M = 4.48) and meet those friends face to face (M= 4.41) even more than browsing them on Facebook or contacting them through Facebook, though they would still do the latter. In comparison, when it came to someone they recognized but whom they have never met before, the analyses showed that respondents would primarily browse their profile on Facebook (M= 3.27) and meet them face to face (M = 3.17), rather than add

them as a friend or contacting them on Facebook. This shows that they are cautious because they turn to Facebook to see information about them, but are willing to confront them since they recognize them.

24. Imagine someone at youruniversity/workplace who lives in your resident hall/apartment complex who...

Add Graph Add Table More..

#	Question	Very Unlikely	Unlikely	Undecided	Likely	Very Likely	Total Responses	Mean
1	Browse their profile on Facebook	13.04%	17.39%	13.04%	45.65%	10.87%	46	3.24
2	Contact them using Facebook, or by using information from Facebook	15.22%	39.13%	23.91%	19.57%	2.17%	46	2.54
3	Add them as a Facebook friend	19.57%	32.61%	15.22%	28.26%	4.35%	46	2.65
4	Meet them face-to-face	8.70%	21.74%	17.39%	47.83%	4.35%	46	3.17

Statistic	Browse their profile on Facebook	Contact them using Facebook, or by using information from Facebook	Add them as a Facebook friend	Meet them face-to-face
Min Value	1	1	1	1
Max Value	5	5	5	5
Mean	3.24	2.54	2.65	3.17
Variance	1.56	1.10	1.48	1.21
Standard Deviation	1.25	1.05	1.22	1.10
Total Responses	46	46	46	46

Figure 4.7: Statistics of Someone Recognized but Never Met Before

4.3.4 Activities Performed

The information about why people used Facebook came from survey responses. Using a five-point Likert scale with responses ranging from “Very Unlikely” (1) to “Very Likely” (5), my friends rated five different reasons for which they use this site. They reported that the main reason for using Facebook was to see what people are up to, and this is about 86%. This allows them to stay current with what is happening in their friends’ lives. The second reason was to look at and share pictures. By updating information about themselves on their timeline, users are able to share the updates from their life. Checking out videos was another reason. Additional reasons were provided via open-ended comments section. Some stated that they wanted to use Facebook to connect with new friends who share mutual interests, to view current events such as latest news and trends,

as well as to read memes, and to network. Some just wanted to use features like Group which assists in helping students form study groups and Chat which enables interaction online, or to use the messaging system to connect with people they are have not established an offline relationship with.

40. What features of Facebook attracts you the most?

#	Answer		Response	%
1	See what people are up to		38	86%
2	Look at/share pictures		34	77%
3	Check out advertisements		1	2%
4	Browse for videos		16	36%
5	Other (please specify)		8	18%

Other (please specify)
Connecting new friends who share mutual interests
Recent developments
Groups to assist students
Networking
funny memes
news
Groups
facebook chat/message if I need to contact someone that I don't have in my phone book.

Figure 4.8: Attraction to Facebook Features

4.4 Satisfaction with Life and Social Capital

In this section, I provide my descriptions and conclusions for the hypotheses concerning satisfaction and social capital.

For satisfaction, I examined five items (Table 3.4) using the Likert scale which were borrowed from Ellison et al. (2007). Respondents reported that they were fairly satisfied with their life ($\alpha = .77$, $M = 3.41$, $S.D. = 0.26$). They stated that, for most part, their life was close to ideal ($M = 3.37$) and that the conditions of their life were excellent ($M = 3.76$). Generally, they are satisfied with their life and thought they have gotten the

important things done in their life. In lieu of the context, on average, my friends did not want to change their past.

For bridging social capital, the data provided that my friends did have social capital influence. The items were reliable when evaluating their data (α = .72, M = 3.83, S.D. = 0.14). Bridging social capital shows the relationships with dissimilar persons at the same level of hierarchy, in other words social ties that link people together across a cleavage that divides society. The averaged measure of all items of bridging social capital showed that my friends are people who feel that they are a part of and interested in their community. They are willing to try new things (M = 3.93) and meet new people (M = 3.89). Results also show that they are positive because they believe that interacting with people reminds them that everyone is connected (M = 3.8). It also provided that my friends are of diverse groups in society and are able to handle and interact with dissimilar people well. For bridging social capital, the items reliability showed as α = .72; this also confirmed that the data are reliable for analysis. According to prior research, bonding social capital is generally easier to build than bridging social capital.

Bonding social capital allows us to create ties with similar types of people. Using three factors, Cronbach's alpha (α = .79) proved that bonding social capital was more influential with my friends than bridging social capital. These friends believed that they could rely on someone at their college or workplace to loan them money, to solve their problems or to give them advice on important decisions. On average, their bonding social capital was of M = 3.63. This showed that they can count on people at their college or workplace to help them and support them.

In terms of the hypothesis testing, hypothesis 1 (H1) asked to test if bridging social capital was positively related to psychological well-being (satisfaction). All of the hypotheses were tested using the QAP-Correlation, regression analysis tool in UCINET. The one-tailed probability (p-value of 0.992,) indicated that the relationship was statistically insignificant; therefore, the null hypothesis was rejected.

```
Number of observations: 46

CORRELATION MATRIX

                                    1      2
                                Bridgi Satisf
                                ------ ------
    1  Bridging_social-capital   1.000  0.001
    2             Satisfaction   0.001  1.000

Determinant = 1.00000000

NOTE: All probabilities based on randomization tests.


MODEL FIT

        Adjusted                 One-Tailed
R-square R-square    F Value   Probability
-----------------    -------   -----------
   0.000   -0.044      0.000         0.992


REGRESSION COEFFICIENTS

                 Un-stdized    St'dized  Proportion  Proportion  Proportion
 Independent    Coefficient Coefficient    As Large    As Small  As Extreme
 ----------- -------------- ----------- ----------- ----------- -----------
   Intercept       3.409551    0.000000       1.000       0.000       1.000
Bridging_social-capital       0.000953    0.001263       0.492       0.508       0.992
```

Figure 4.9: Bridging Social Capital – Satisfaction Statistics

Hypothesis 2 (H2) looked to test if bonding social capital was positively related to psychological well-being (satisfaction). The one-tailed probability (p-value of 0.284) exposed that the relationship was statistically insignificant.

Number of observations: 46

CORRELATION MATRIX

		1 Bondin	2 Satisf
1	Bonding_Social-capital	1.000	0.161
2	Satisfaction	0.161	1.000

Determinant = 1.00000000

NOTE: All probabilities based on randomization tests.

MODEL FIT

R-square	Adjusted R-square	F Value	One-Tailed Probability
0.026	-0.017	1.174	0.284

REGRESSION COEFFICIENTS

Independent	Un-stdized Coefficient	St'dized Coefficient	Proportion As Large	Proportion As Small	Proportion As Extreme	
Intercept	3.067815	0.000000	1.000	0.000	1.000	
Bonding_Social-capital	0.097927	0.161220	0.146	0.854	0.284	

Figure 4.10: Bonding Social Capital – Satisfaction Statistics

Hypothesis 3 (H3) checked to see if high degree centrality will be positively associated with bridging social capital. Degree centrality deals with how well connected each individual is to others in the network. The p-value of 0.31 also showed that the relationship was statistically insignificant.

Number of observations: 46

CORRELATION MATRIX

		1 Degree	2 Bridgi
1	Degree	1.000	0.158
2	Bridging_social-capital	0.158	1.000

Determinant = 1.00000000

NOTE: All probabilities based on randomization tests.

MODEL FIT

Adjusted R-square	R-square	F Value	One-Tailed Probability
0.025	-0.018	1.129	0.310

REGRESSION COEFFICIENTS

Independent	Un-stdized Coefficient	St'dized Coefficient	Proportion As Large	Proportion As Small	Proportion As Extreme
Intercept	3.492123	0.000000	1.000	0.000	1.000
Degree	0.053082	0.158193	0.155	0.845	0.310

Figure 4.11: Degree – Bridging Social Capital Statistics

Hypothesis 4 (H4) checked to see if betweenness centrality was positively associated with bridging social capital. Betweenness centrality tells us the extent to which individuals lie along short paths. There was no support for H4. A plausible explanation for the lack of support may be the size of network as well as the fact that we looked only at an ego network.

```
Number of observations: 46

CORRELATION MATRIX

                                     1      2
                                  Betwee Bridgi
                                  ------ ------
    1              Betweenness    1.000  0.263
    2  Bridging_social-capital    0.263  1.000

Determinant = 1.00000000

NOTE: All probabilities based on randomization tests.


MODEL FIT

        Adjusted                 One-Tailed
R-square R-square     F Value    Probability
-----------------     -------    -----------
   0.069    0.028       3.257          0.076


REGRESSION COEFFICIENTS

                 Un-stdized    St'dized  Proportion  Proportion  Proportion
 Independent    Coefficient Coefficient    As Large    As Small  As Extreme
 ----------- -------------- ----------- ----------- ----------- -----------
   Intercept       3.546822    0.000000       1.000       0.000       1.000
 Betweenness       0.015128    0.262518       0.010       0.990       0.076
```

Figure 4.12: Betweenness – Bridging Social Capital Statistics

4.5 Social Network Analysis

4.5.1 Complete Social Network of Participants

Social Network analysis (SNA) is the process of investigating social structures through the use of a network graph. It characterizes network structures in terms of nodes (people, individual actors, etc.) and the ties (relationship or interactions) that connect them. Social structures of my Facebook network are visualized in this study through the use of a sociogram in which the nodes are represented as points and ties are represented as lines. The analysis of the network shows that it is symmetrical because the arrows are pointed both ways within the nodes (undirected). Facebook is a networking site that enables people to send and accept friend requests. It also permits you to view the mutual friends' list before accepting a person to become a part of their Facebook network. I am an ego of this whole network on Figure 4.13. An ego is an individual actor or node that is at the center of the network. My ego network consists of "me" and my immediate contacts or ties. I am the actor who occupies the central position in the network. The size of this network consists of 46 alters. As shown in Figure 4.13, my social network sample of Facebook network shows that there are two major networks that I am associated with, network A and network B. Others, about 13 have dyadic relationship with me; they do not have ties with the other alters in the network. Dyads consists of two actors and the ties linking them together. In this case, the dyads have a mutual state. For example, JH and VM have a dyadic connection. They are stable, and in terms of strength of the tie, the connection is strong. In addition, the larger network would also be divided into two sub-networks if it were not for 'CI' and 'RM' holding a bridging power in the network. Those two nodes hold significant power in terms of information flow.

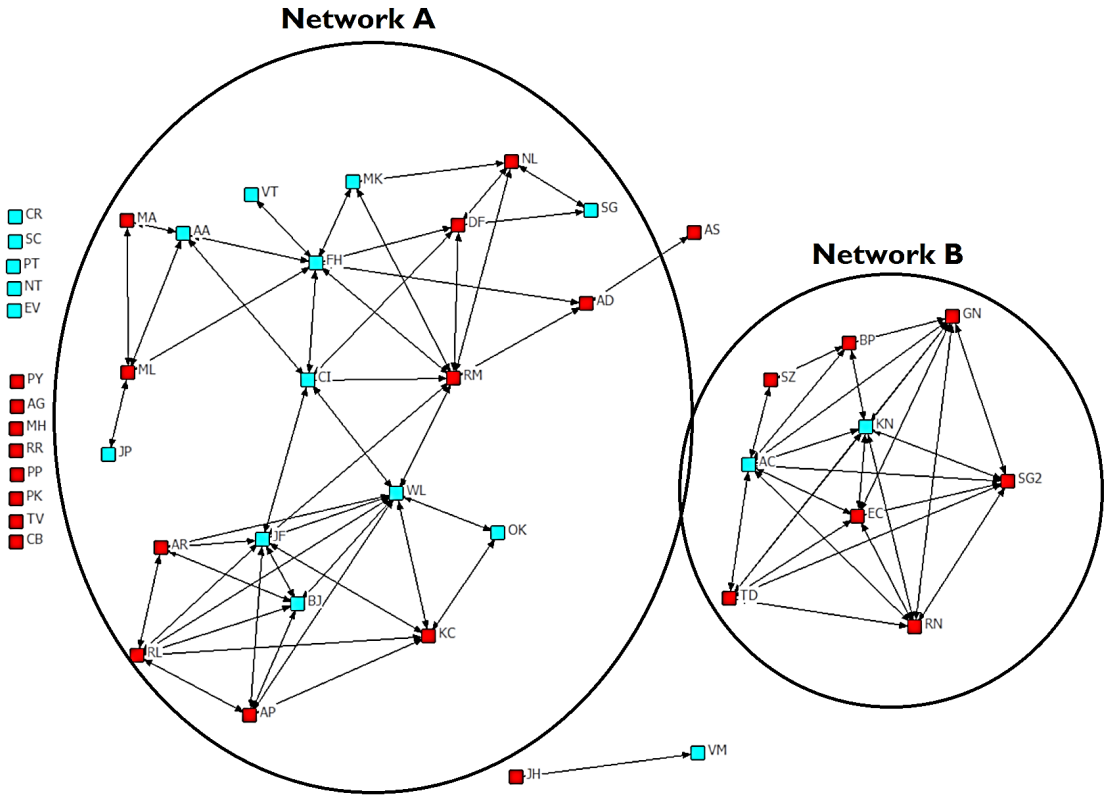


Figure 4.13: Complete Network of the Research Participants

Figure 4.14 presents the relationship between my networks of female friends. It shows that they are not completely disbanded if I were to disappear from the network. Looking at the relationship between 'MA' and 'ML,' they have a dyadic relationship. 'AP,' 'RL,' and 'AR' have a triadic relationship. They have a triadic census of 201. The first digit represents the number of mutual, the second shows the number of asymmetric ties, and the last digit indicates the number of null dyads. Also, if you look at the kite-type network, it shows that most of them (5 nodes) are equally tied to one another, but 'BP' is the bridge for 'SZ' to connect with 'GN' or the rest of that network. The observation shows that both males and females are able to maintain a healthy network. The observation from the figures below (Figure 4.14 and 4.15) suggests that about half of the men and women

are completely disconnected when I am not in the network. The other half are still able to keep the communication and interactions.

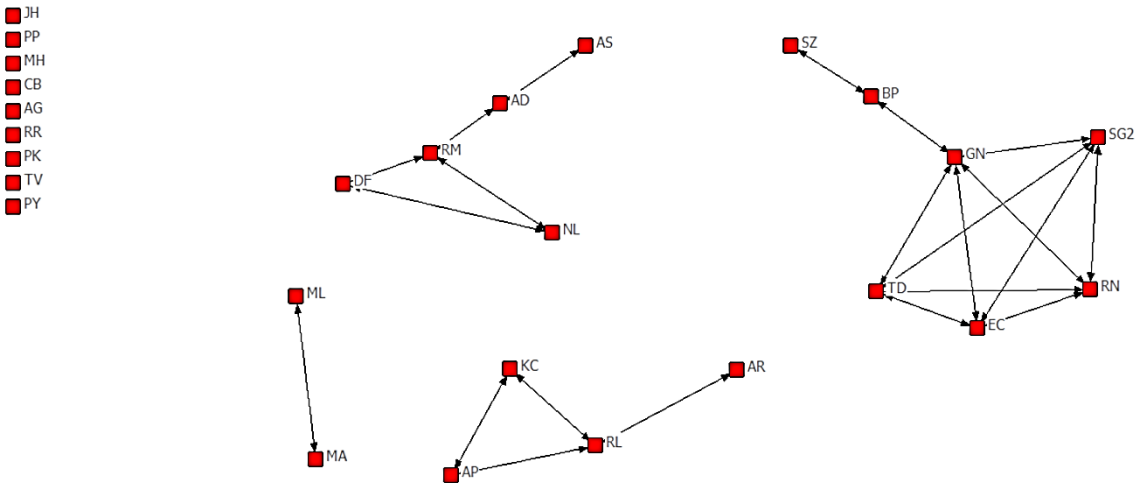


Figure 4.14: Female Network

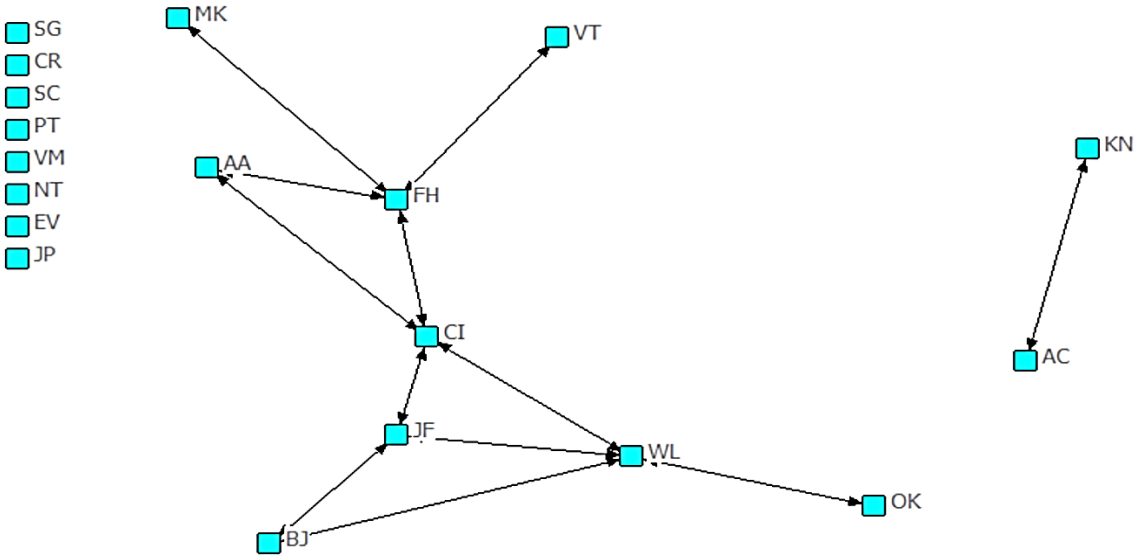


Figure 4.15: Male Network

4.5.1.1 Degree Centrality

Degree Centrality shows how well each individual is connected. A measure of an actor's centrality and power potential says that actors who have more connections are more likely to be powerful because they can directly affect more other actors. The degree is based on the number of ties each individual has. For example, the node, "WL" has a rounded square, a degree of 9. For a thorough hierarchical degree list, please refer to Figure 4.16. In terms of network centralization, it is relatively low at 13.33% (Figure 4.17).

The graph below shows that there are 46 nodes that show the ties among friends and in total network has 150 ties.

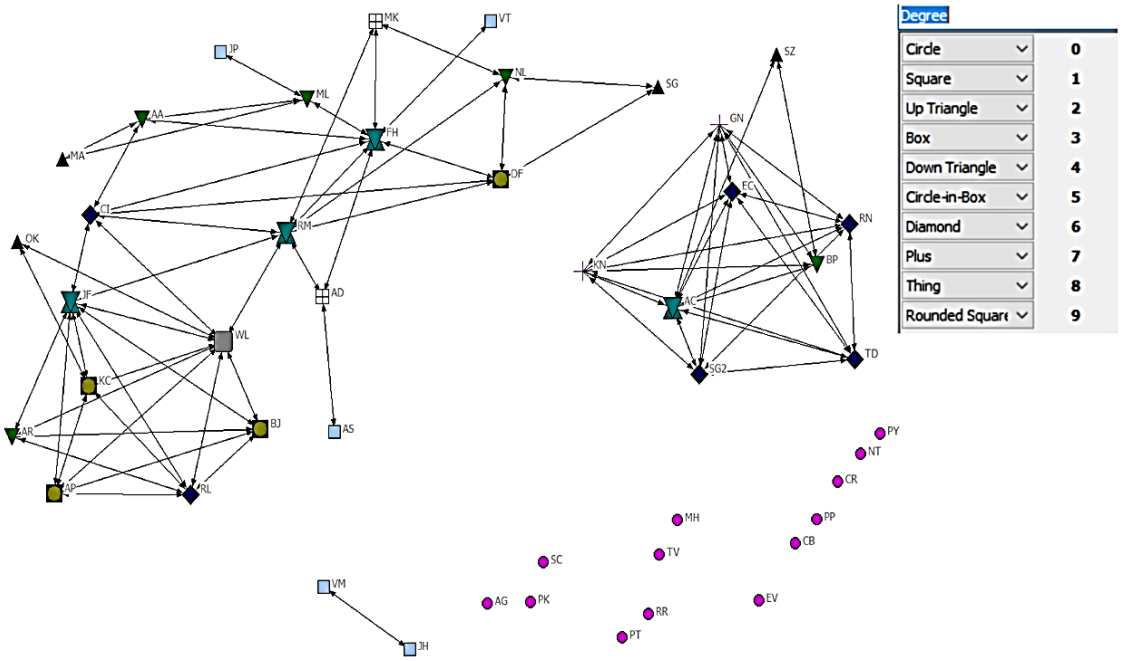


Figure 4.16: Degree Centrality Graph

		1 Degree	2 NrmDegree	3 Share
43	WL	9.000	20.000	0.060
24	AC	8.000	17.778	0.053
21	JF	8.000	17.778	0.053
2	FH	8.000	17.778	0.053
44	RM	8.000	17.778	0.053
41	KN	7.000	15.556	0.047
11	GN	7.000	15.556	0.047
25	CI	6.000	13.333	0.040
4	TD	6.000	13.333	0.040
32	SG2	6.000	13.333	0.040
10	RL	6.000	13.333	0.040
20	RN	6.000	13.333	0.040
12	EC	6.000	13.333	0.040
31	DF	5.000	11.111	0.033
30	BJ	5.000	11.111	0.033
23	AP	5.000	11.111	0.033
38	KC	5.000	11.111	0.033
42	AA	4.000	8.889	0.027
34	AR	4.000	8.889	0.027
39	ML	4.000	8.889	0.027
15	BP	4.000	8.889	0.027
5	NL	4.000	8.889	0.027
36	AD	3.000	6.667	0.020
46	MK	3.000	6.667	0.020
6	SG	2.000	4.444	0.013
27	SZ	2.000	4.444	0.013
35	OK	2.000	4.444	0.013
40	MA	2.000	4.444	0.013
37	JP	1.000	2.222	0.007
1	JH	1.000	2.222	0.007
16	VT	1.000	2.222	0.007
18	AS	1.000	2.222	0.007
22	VM	1.000	2.222	0.007
26	NT	0.000	0.000	0.000

DESCRIPTIVE STATISTICS

		1 Degree	2 NrmDegree	3 Share
1	Mean	3.261	7.246	0.022
2	Std Dev	2.877	6.394	0.019
3	Sum	150.000	333.333	1.000
4	Variance	8.280	40.888	0.000
5	SSQ	870.000	4296.296	0.039
6	MCSSQ	380.870	1880.837	0.017
7	Euc Norm	29.496	65.546	0.197
8	Minimum	0.000	0.000	0.000
9	Maximum	9.000	20.000	0.060
10	N of Obs	46.000	46.000	46.000

Network Centralization = 13.33%
Blau Heterogeneity = 3.87%. Normalized (IQV) = 1.73%

Figure 4.17: Degree Centrality Statistics

4.5.1.2 Betweenness Centrality

Betweenness Centrality shows an actor as being in an ideal position to the extent that the actor falls on the geodesic paths between other pairs of actors in the network. For example, the more people depend on me to make connections with other people, the more power I have. Another way to think about this is which relations are more central. For a centrality list, starting with the most central actor to the least central actor, please refer to Figure 4.18. This shows who the leaders are in the network. In terms of network centralization, it is extremely low at 5.85%. There is a large variation of the data for betweenness centrality (M=7.8, S.D. =16.7).

		1 Betweenness	2 nBetweenness
44	RM	64.442	6.509
2	FH	61.017	6.163
43	WL	53.333	5.387
25	CI	44.483	4.493
21	JF	35.833	3.620
39	ML	23.875	2.412
42	AA	20.458	2.066
36	AD	20.000	2.020
31	DF	16.775	1.694
24	AC	6.333	0.640
5	NL	5.167	0.522
46	MK	1.783	0.180
38	KC	1.500	0.152
41	KN	1.333	0.135
11	GN	1.333	0.135
15	BP	1.000	0.101
10	RL	0.833	0.084
23	AP	0.250	0.025
30	BJ	0.250	0.025
4	TD	0.000	0.000

DESCRIPTIVE STATISTICS FOR EACH MEASURE

		1 Betweenness	2 nBetweenness
1	Mean	7.826	0.791
2	Std Dev	16.755	1.692
3	Sum	360.000	36.364
4	Variance	280.721	2.864
5	SSQ	15730.571	160.500
6	MCSSQ	12913.180	131.754
7	Euc Norm	125.422	12.669
8	Minimum	0.000	0.000
9	Maximum	64.442	6.509
10	N of Obs	46.000	46.000

Network Centralization Index = 5.85%

Figure 4.18: Betweenness Centrality Statistics

4.5.1.3 Density of the Network

		1 Size	2 Avg De g	3 Densit y
1	Me	46.000	3.261	0.072
2	JH	2.000	1.000	1.000
3	FH	9.000	3.333	0.417
4	PP	1.000	0.000	
5	TD	7.000	6.000	1.000
6	NL	5.000	2.800	0.700
7	SG	3.000	2.000	1.000
8	CR	1.000	0.000	
9	MH	1.000	0.000	
10	CB	1.000	0.000	
11	RL	7.000	5.143	0.857
12	GN	8.000	6.000	0.857
13	EC	7.000	6.000	1.000
14	AG	1.000	0.000	
15	SC	1.000	0.000	
16	BP	5.000	3.200	0.800
17	VT	2.000	1.000	1.000
18	RR	1.000	0.000	
19	AS	2.000	1.000	1.000
20	PT	1.000	0.000	
21	RN	7.000	6.000	1.000
22	JF	9.000	5.111	0.639

Figure 4.19: Density Statistics

By looking at the network's cohesion, I was able to calculate the density of my network. Density is the extent to which the ego's (my) alters are tied to one another. The density of a network is the total number of ties divided by the total number of possible ties in my network. For instance, "FH" has a density is 41.7%.

4.5.1.4 Graph Geodesic: Distance

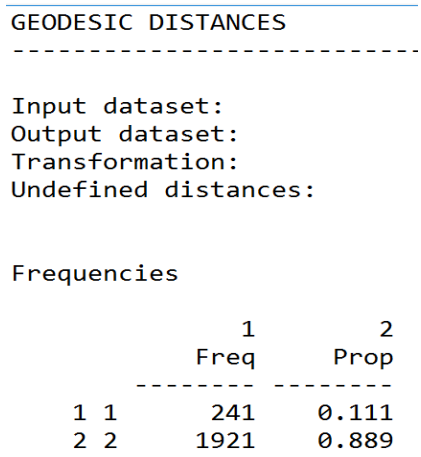
In UCINET, I calculated the Geodesic distance using Network → Cohesion → Geodesic Distance. It is the distance between all of the nodes. After the data were recorded in the software, I interpreted the data presented above. It shows that I have 47 rows and 47 columns, and it tells us the shortest distance between the different nodes (Table 4.1).

	1 Me	2 JH	3 FH	4 PP	5 TD	6 NL	7 SG	8 CR	9 MH	10 CB	11 RL	12 GN	13 EC	14 AG	15 SC	16 BP	17 VT	18 RR	19 AS	20 PT	21 RN	22 JF	23 VM	24 AP	25 AC	26 CI	27 NT	28 SZ	29 PK	30 EV	31 BJ	32 DF	33 SG2	34 TV	35 AR	36 OK	37 AD	38 JP	39 KC	40 ML	41 MA	42 KN	43 AA	44 WL	45 RM	46 PY	47 MK
1	Me	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	JH	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	FH	1	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	1	2	2	2	2	1	2	2	1	2	2	1	2	1	2
4	PP	1	2	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5	TD	1	2	2	2	0	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	1	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	2	2	2	2
6	NL	1	2	2	2	2	0	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	1	2	1
7	SG	1	2	2	2	2	1	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8	CR	1	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
9	MH	1	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
10	CB	1	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
11	RL	1	2	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2	1	2	1	2	2	2	2	2	2	1	2	2	2	1	2	2	2	1	2	2	2	1	2	2
12	GN	1	2	2	2	1	2	2	2	2	2	2	0	1	2	2	1	2	2	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	2	2
13	EC	1	2	2	2	1	2	2	2	2	2	2	1	0	2	2	2	2	2	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	2	2
14	AG	1	2	2	2	2	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
15	SC	1	2	2	2	2	2	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
16	BP	1	2	2	2	2	2	2	2	2	2	2	1	2	2	2	0	2	2	2	2	2	2	2	1	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2
17	VT	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
18	RR	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
19	AS	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2
20	PT	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
21	RN	1	2	2	2	1	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	0	2	2	2	1	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2
22	JF	1	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	0	2	1	2	1	2	2	2	2	2	1	2	2	2	1	2	2	2	1	2	2	2	2	1	2
23	VM	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
24	AP	1	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	0	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	2	2	1	2
25	AC	1	2	2	2	1	2	2	2	2	2	2	1	1	2	2	1	2	2	2	2	2	1	2	2	2	0	2	2	1	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2	2	2
26	CI	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	0	2	2	2	2	1	2	2	2	2	2	2	2	2	2	1	1	2	2	2
27	NT	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
28	SZ	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
29	PK	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
30	EV	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
31	BJ	1	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	0	2	2	2	1	2	2	2	2	2	2	2	2	2	2
32	DF	1	2	1	2	2	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	1	2	2
33	SG2	1	2	2	2	1	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	1	2	2	2	2
34	TV	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	2	2	2	2	2
35	AR	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	1	2	2	2	0	2	2	2	2	2	2	2	2	2	2
36	OK	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	2	2	1	2	2	2	2	2	2
37	AD	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	2	2	2	2	2	2	1	2
38	JP	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	2	1	2	2	2	2	2
39	KC	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	1	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	1	2	0	2	2	2	1	2	2
40	ML	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0	1	2	1	2	2
41	MA	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	0	2	1	2	2
42	KN	1	2	2	2	1	2	2	2	2	2	2	1	1	2	2	1	2	2	2	2	2	1	2	2	2	1	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	1	0	2	2	2
43	AA	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	0	2	2
44	WL	1	2	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	1	2	1	2	2	2	2	2	1	2	2	2	1	2	2	2	1	2	2	2	2	0	2
45	RM	1	2	1	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0
46	PY	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
47	MK	1	2	1	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0

Table 4.1: Matrix of Geodesic Distance

For example, the table above shows that the shortest distance between 'PP' and 'Me' is 1, and between 'PP' and 'JH' is 2. The table presents 47 nodes (including me), and of that there are (47*46) = 2,162 possible combinations. This tells us that, of all of those 11% or 241 combinations are one link apart whereas 89% or 1921 combinations are two

links apart in the network (Figure 4.20). These are the degrees of separation which allow you to determine how many steps it takes to get to a certain node.



```
GEODESIC DISTANCES
--------------------------

Input dataset:
Output dataset:
Transformation:
Undefined distances:


Frequencies

                1         2
             Freq      Prop
         -------- ---------
    1 1       241     0.111
    2 2      1921     0.889
```

Figure 4.20: Geodesic Distance

4.5.1.5 Clustering Coefficient

Clustering Coefficient ranges from 0s and 1s. It tells us how my network is clumped together. For example, if we look at the node 'BJ,' we notice that of all its neighbors, BJ has an individual clustering coefficient of 93.3%, whereas some of the others have higher and lower clustering coefficients. The ones like 'PY' do not have pairs of neighbors, so the clustering coefficient cannot be converted for those nodes. Clustering is one the many different network metrics that can be interpreted showing how quickly information disperses and reaches other nodes in that region.

Node Clustering Coefficients

		1	2
		Clus Coef	nPairs
1	Me	0.072	1035.000
2	JH	1.000	1.000
3	FH	0.417	36.000
4	PP		0.000
5	TD	1.000	21.000
6	NL	0.700	10.000
7	SG	1.000	3.000
8	CR		0.000
9	MH		0.000
10	CB		0.000
11	RL	0.857	21.000
12	GN	0.857	28.000
13	EC	1.000	21.000
14	AG		0.000
15	SC		0.000
16	BP	0.800	10.000
17	VT	1.000	1.000
18	RR		0.000
19	AS	1.000	1.000
20	PT		0.000
21	RN	1.000	21.000
22	JF	0.639	36.000
23	VM	1.000	1.000
24	AP	0.933	15.000
25	AC	0.722	36.000
26	CI	0.619	21.000
27	NT		0.000
28	SZ	1.000	3.000
29	PK		0.000
30	EV		0.000
31	BJ	0.933	15.000
32	DF	0.667	15.000
33	SG2	1.000	21.000
34	TV		0.000
35	AR	1.000	10.000
36	OK	1.000	3.000
37	AD	0.667	6.000
38	JP	1.000	1.000
39	KC	0.800	15.000
40	ML	0.600	10.000
41	MA	1.000	3.000
42	KN	0.857	28.000
43	AA	0.700	10.000
44	WL	0.556	45.000
45	RM	0.500	36.000
46	PY		0.000
47	MK	0.833	6.000

Figure 4.21: Clustering Coefficients

4.5.1.6 Cliques

Cliques refer to a sub-set of a network in which the actors are more closely and intensely tied to one another than to other members of the network. Analyzing the UCINET algorithm Network→ Subgroups→ Cliques produces a census of all cliques. The result, applied to my symmetrized Facebook network data matrix, is shown in Figure 4.22 on the next page. It tells us that there are twenty-one maximal complete sub-graphs present in these data. The largest one is composed of eight of the forty-seven actors, and all of the other smaller cliques share some overlap with some part of the larger cliques. The second part shows how "adjacent" each actor (row) is to each clique (column). Actor 11, for example, is adjacent to 3/4 of the members of clique 5. While some actors have a very high degree of common membership, the data reflects that a low degree of common membership is more prevalent (Figure 4.23). This hints that the actors are not intensity tied in the network.

```
21 cliques found.

   1:  Me RL JF AP BJ WL
   2:  Me RL JF AP KC WL
   3:  Me RL JF BJ AR WL
   4:  Me JF CI WL RM
   5:  Me OK KC WL
   6:  Me FH CI DF RM
   7:  Me FH AD RM
   8:  Me FH RM MK
   9:  Me FH ML AA
  10:  Me FH CI AA
  11:  Me FH VT
  12:  Me TD GN EC RN AC SG2 KN
  13:  Me NL SG DF
  14:  Me NL DF RM
  15:  Me NL RM MK
  16:  Me GN BP AC KN
  17:  Me BP AC SZ
  18:  Me AS AD
  19:  Me JH VM
  20:  Me JP ML
  21:  Me ML MA AA

Clique Participation Scores: Prop. of clique members that each node is adjacent to

           1     2     3     4     5     6     7     8     9    10    11    12    13
        ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----
 1  Me  1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000
 2  JH  0.167 0.167 0.167 0.200 0.250 0.200 0.250 0.250 0.250 0.250 0.333 0.125 0.250
 3  FH  0.167 0.167 0.167 0.600 0.250 1.000 1.000 1.000 1.000 1.000 1.000 0.125 0.500
 4  PP  0.167 0.167 0.167 0.200 0.250 0.200 0.250 0.250 0.250 0.250 0.333 0.125 0.250
 5  TD  0.167 0.167 0.167 0.200 0.250 0.200 0.250 0.250 0.250 0.250 0.333 1.000 0.250
 6  NL  0.167 0.167 0.167 0.400 0.250 0.600 0.500 0.750 0.250 0.250 0.333 0.125 1.000
 7  SG  0.167 0.167 0.167 0.200 0.250 0.400 0.250 0.250 0.250 0.250 0.333 0.125 1.000
 8  CR  0.167 0.167 0.167 0.200 0.250 0.200 0.250 0.250 0.250 0.250 0.333 0.125 0.250
 9  MH  0.167 0.167 0.167 0.200 0.250 0.200 0.250 0.250 0.250 0.250 0.333 0.125 0.250
10  CB  0.167 0.167 0.167 0.200 0.250 0.200 0.250 0.250 0.250 0.250 0.333 0.125 0.250
11  RL  1.000 1.000 1.000 0.600 0.750 0.200 0.250 0.250 0.250 0.250 0.333 0.125 0.250
12  GN  0.167 0.167 0.167 0.200 0.250 0.200 0.250 0.250 0.250 0.250 0.333 1.000 0.250
13  EC  0.167 0.167 0.167 0.200 0.250 0.200 0.250 0.250 0.250 0.250 0.333 1.000 0.250
14  AG  0.167 0.167 0.167 0.200 0.250 0.200 0.250 0.250 0.250 0.250 0.333 0.125 0.250
15  SC  0.167 0.167 0.167 0.200 0.250 0.200 0.250 0.250 0.250 0.250 0.333 0.125 0.250
16  BP  0.167 0.167 0.167 0.200 0.250 0.200 0.250 0.250 0.250 0.250 0.333 0.500 0.250
17  VT  0.167 0.167 0.167 0.200 0.250 0.400 0.500 0.500 0.500 0.500 1.000 0.125 0.250
18  RR  0.167 0.167 0.167 0.200 0.250 0.200 0.250 0.250 0.250 0.250 0.333 0.125 0.250
19  AS  0.167 0.167 0.167 0.200 0.250 0.200 0.500 0.250 0.250 0.250 0.333 0.125 0.250
20  PT  0.167 0.167 0.167 0.200 0.250 0.200 0.250 0.250 0.250 0.250 0.333 0.125 0.250
21  RN  0.167 0.167 0.167 0.200 0.250 0.200 0.250 0.250 0.250 0.250 0.333 1.000 0.250
```

Figure 4.22: Example of Clique and Actor-by-Clique Analysis

```
                                  1 1 1 1 1 1 1 1 1 2 2
    1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
    - - - - - - - - - - - - - - - - - - - - -
 1  6 5 5 3 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 2  5 6 4 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 3  5 4 6 3 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 4  3 3 3 5 2 3 2 2 1 2 1 1 1 2 2 1 1 1 1 1 1
 5  2 3 2 2 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
 6  1 1 1 3 1 5 3 3 2 3 2 1 2 3 2 1 1 1 1 1 1
 7  1 1 1 2 1 3 4 3 2 2 2 1 1 2 2 1 1 2 1 1 1
 8  1 1 1 2 1 3 3 4 2 2 2 1 1 2 3 1 1 1 1 1 1
 9  1 1 1 1 1 2 2 2 4 3 2 1 1 1 1 1 1 1 1 2 3
10  1 1 1 2 1 3 2 2 3 4 2 1 1 1 1 1 1 1 1 1 2
11  1 1 1 1 1 2 2 2 2 2 3 1 1 1 1 1 1 1 1 1 1
12  1 1 1 1 1 1 1 1 1 1 1 8 1 1 1 4 2 1 1 1 1
13  1 1 1 1 1 2 1 1 1 1 1 1 4 3 2 1 1 1 1 1 1
14  1 1 1 2 1 3 2 2 1 1 1 1 3 4 3 1 1 1 1 1 1
15  1 1 1 2 1 2 2 3 1 1 1 1 2 3 4 1 1 1 1 1 1
16  1 1 1 1 1 1 1 1 1 1 1 1 4 1 1 1 5 3 1 1 1 1
17  1 1 1 1 1 1 1 1 1 1 1 1 2 1 1 1 3 4 1 1 1 1
18  1 1 1 1 1 1 2 1 1 1 1 1 1 1 1 1 1 3 1 1 1
19  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 3 1 1
20  1 1 1 1 1 1 1 1 2 1 1 1 1 1 1 1 1 1 1 3 2
21  1 1 1 1 1 1 1 1 3 2 1 1 1 1 1 1 1 1 1 2 4
```

Figure 4.23: Clique-by-Clique Actor Co-membership Matrix

4.6 Implications for Practice and Future Directions

In this study, I examined only my ego network on Facebook. Because the research was limited to my network, it did not allow me to generalize these findings to other kinds of communities. The Facebook use discussed in this research was limited to the context provided in the survey. The analysis of the limited items restricted positive outcomes in regards to the reliability of interaction between prior contact and meeting new people. One of the most surprising outcomes from the present study was that the data did not quite lead to the desired outcomes with regard to social capital and psychological well-being, and this research opens an avenue for further investigation in this area. One way to possibly get the desired result could be by collecting more data in order to measure and assess the hypotheses. For this, there would need to be significantly more data sets in order to hold value into the theories to prove that the data yield accuracy. One solution could be to add more items to test the accuracy of the data findings. Further, the Likert-Scale line items measured could be too broad for this focused research. There is also a possibility that the respondents may not have fully and accurately reported their behavioral information. To deal with such concerns, future research should approach Facebook use and social capital by adopting multiple methodologies. In addition, an in-depth analysis of profile, without Facebook restrictions, would allow future researchers to combine survey responses with direct behavioral measures. Finally, collecting longitudinal data over the course of multiple years of those survey respondents could enable more accurate data for analysis and outcomes.

CHAPTER 5

CONCLUSION

This study of the social network site considered how Facebook provided people with new venues to express themselves and to interact with one another. The research showed that on average the participants were on Facebook for almost an hour each day, and were glad to tell people that they were on Facebook. Facebook gave them a sense of familiarity into the lives of their friends. While one might want to receive unlimited interactive experiences, I found that users mostly wanted to see what people were up to by getting constant updates through posts that they received on their timeline. Most users used Facebook in order to share and look at posts, which are often updated as people's daily activities motivate them to stay active. Within the walls of my ego network, users chose mostly to connect with the people whom they already know rather than reaching out and meeting with new people. This could be due to the environment in which they lived in. For the most part, users were geared more toward living in-state and off-campus. The results showed that there is also less movement from the users to venture out-of-state, suggesting that the participants were not looking to form many new connections. Moreover, there is more of a tendency to stay in on-campus housing. When it came to interaction, the data showed that there was a strong linkage between being online and connecting with old friends.

Additionally, social network characteristics enabled me to understand my network more closely. It allowed me, for example, to see who is most influential and who is not so

influential in terms of information flow. It also showed which actors are the leaders. It provided me with an insight into who is most connected, or who holds the most power through degree centrality. Through betweenness centrality, I was also able to see who was in the most favored position in the network. With the data provided through Facebook, it gave an opportunity to discuss some of patterns found about the users' behaviors and personalities.

Although there is a wide range of social networking environments, Facebook has become the most convenient for conducting social science research. The breadth of Facebook data allows researchers to tap into the information discovered by analyzing the users' Facebook use and behavioral patterns by using computational methods. With the size of the population, currently 1.4 billion, the advantages of Facebook-based research will open new avenues to predict personality traits and behavioral footprints of individuals. The nature of studying people in the digital environment will become more widespread in future than ever before.

APPENDIX A

SURVEY QUESTIONNAIRE

Demographic Information

Name:

What is your gender?

Which race/ethnicity best describes you?

What year were you born?

What is the highest level of education you have completed?

What is your approximate average household income?

What is your home residence?

What is your local residence?

Are you a member of Greek life?

How many Facebook friends do you have?

Facebook Usage and Interactions

Do you use Facebook to meet new people?

How likely is it that you use Facebook to communicate with a family member, a friend or a colleague?

Approximately how many hours do you spend on Facebook account each week?

Do you think that Facebook is part of your daily activity?

Are you proud to tell people you are on Facebook?

Do you feel out of touch when you haven't logged onto Facebook for a while?

Do you feel you are a part of the Facebook community?

Would you be sorry if Facebook shut down?

Do you use Facebook to connect with someone you met socially?

Do you use Facebook to keep in touch with your old friends?

Do you use Facebook to learn more about classmates and colleagues?

Do you use Facebook to learn more about other people living near you?

(Ex. College, Organizational Groups)

Do you feel that your life is close to your ideal?

Do you feel that the conditions of your life are excellent?

Think about one of your close friends. How likely are you to do the following?

a. Browse their profile on Facebook

b. Contact them using Facebook, or by using information from Facebook

c. Add them as a Facebook friend

d. Meet them face-to-face

Imagine someone at your university/workplace who lives in your resident hall/apartment complex who you recognize but have never spoken to. How likely are you to do the following?

a. Browse their profile on Facebook

b. Contact them using Facebook, or by using information from Facebook

c. Add them as a Facebook friend

d. Meet them face-to-face

Do you feel that you are satisfied with your life?

So far, do you feel that you have gotten the important things done in your life?

If you could live your time over, do you think you would change nothing?

Do you feel that you are part of the college/workplace community?

Do you feel that you are interested in what goes on at your university/workplace?

When you are interacting with people at your college/workplace, do you feel like you want to try new things?

At your college/workplace, do you come in contact with new people all the time?

When you are interacting with people at your college/workplace, does it remind you that everyone in the world is connected?

If you needed an emergency loan of $100, do you feel that there is someone at your college/workplace you could turn to?

Do you feel that there are several people at your college/workplace you could trust to solve your problems?

Do you feel that there is someone at your college/workplace you can turn to for advice about making very important decisions?

If you needed to, do you feel that you could ask a high school acquaintance to do a small favor for you?

Do you feel that you would be able to find information about a job or internship from a high school acquaintance?

What features of Facebook attract you?

How many groups have you joined on Facebook?

Do you consider Facebook a waste of time?

How often do you change your "status" on Facebook?

Do you have any other comments, questions, or concerns?

REFERENCES

Backstrom, L., Huttenlocher, D.P., Kleinberg, J.M., & J.M., & Lan, X. Group formation in large social networks: Membership, growth, and evolution. In *12th KDD (2006),* 44–54.

Bargh, J., & McKenna, K. (2004). The Internet and social life. *Annual Review of Psychology*, 55(1), 573–590.

Borgatti, S.P., 2002. NetDraw Software for Network Visualization. Analytic Technologies: Lexington, KY

Boyd, d. (2008). Why youth (heart) social network sites: The role of networked publics in teenage social life. In *D.Buckingham (Ed.), Youth, Identity, and Digital Media,* 119–142. Cambridge, MA: MIT Press.

Donath, J., & boyd, d. (2004). Public displays of connection. *BT Technology Journal*, 22(4), 71–82.

Ellison, N.B., Steinfield, C. and Lampe, C (2007). The Benefits of Facebook "Friends:" Social Capital and College Students' Use of Online Social Network Sites. *Journal of CMC*, 12, 4, 1143–1168.

"Facebook, Inc.: Private Company Information." *Bloomberg.* Bloomberg.com. Web. 12 Feb. 2016. <http://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=20765463>.

Fitzgerald, Britney. "More Women On Facebook, Twitter And Pinterest Than Men." *The Huffington Post.* TheHuffingtonPost.com, 9 July 2012. Web. 12 Feb. 2016. <http://www.huffingtonpost.com/2012/07/09/women-facebook-twitter-pinterest_n_1655164.html>.

George, A. (2006, September 18). Living online: The end of privacy? New Scientist, 2569. Web. 16 Jan. 2016. <http://www.newscientist.com/channel/tech/mg19125691.700-living-online-the-end-of-privacy.html>.

"How Millennials Use and Control Social Media." *American Press Institute RSS.* 16 Mar. 2015. Web. 20 Mar. 2016. <https://www.americanpressinstitute.org/publications/reports/survey-research/millennials-social-media/>.

"India Leads Worldwide Social Networking Growth - EMarketer." India Leads Worldwide Social Networking Growth. *EMarketer*. 19 Nov. 2013. Web. 17 Mar. 2016.

Joinson, A.N., Looking at, Looking up or Keeping up with People?: Motives and Uses of Facebook. In *Proc CHI '08* (2008), 1027-1036.

Kornblum, J., & Marklein, M. B. (2006, March 8). What you say online could haunt you. USA Today. Web. 16 Jan. 2016. http://www.usatoday.com/tech/news/internetprivacy/2006-03-08-facebook-myspace_x.htm>.

Lampe, C., Ellison, N. and Steinfield, C., A face(book) in the crowd: social searching vs. social browsing. In *Proc CSCW 2006* (2006), 167-170.

Lin, N. (2001). Social capital: A theory of social structure and action. New York: Cambridge University Press.

Roberts, D. F., Foehr, U. G., & Rideout, V. (2005). Generation M: Media in the lives of 8–18 year-olds. Menlo Park, CA: Kaiser Family Foundation.

S. Boccaletti, V. Latora, Y. Moreno, M. Chavez, and D.-U. Hwang, Complex networks: Structure and dynamics, Physics Reports, 424 (2006), 175–308.

"Social Networking Statistics." *Statistic Brain.* Web. 15 Feb. 2016. <http://www.statisticbrain.com/social-networking-statistics/>.

"The Average American Spends 40 Minutes a Day on Facebook - NBC News." *NBC News.* Web. 2 Apr. 2016. <http://www.nbcnews.com/tech/social-media/average-american-spends-40-minutes-day-facebook-n164046>.

"The Growth of Social Media in 2014: 40+ Surprising Stats [Infographic] – ShortStack." ShortStack. 23 Jan. 2014. Web. 18 Mar. 2016.

"Topic: Social Networks." *www.statista.com.* Web. 18 Mar. 2016. <http://www.statista.com/topics/1164/social-networks/>.

BIOGRAPHICAL INFORMATION

Shradha Chaulagain is graduating from the University of Texas at Arlington with an Honors Bachelor of Science in Information Systems. She has served in various leadership positions on campus, and she has been part of over 15 organizations since she began her college career. Shradha has also given back to the community through UTA Volunteers, The Big Event, The Leadership Center, and Women in Leadership. She has especially loved being a peer leader for the First Year Experience Courses, helping the first-year students transition into college. Through networking, she was given an opportunity to hold a financial advisor and peer mentor position at Student Money Management Center. She is also a Goolsby Scholar, a position that has ignited her passion to grow in leadership and research in order to advance in the business world.

After graduation, Shradha will be traveling to China with the Goolsby Leadership Academy cohorts 11 and 12 for study abroad. She hopes to gain exposure to international business processes, learn about different cultures, meet new people, and be a well-rounded person. After her travels to China, she plans to visit her native country of Nepal for the first time. After her travels, she will return to Dallas to work in information security at InfoDefense, Inc. She plans to enhance her abilities in the real-world through life experiences and a better understanding of cyber security.