FACEBOOK "FRIENDS":
HOW ONLINE IDENTITIES IMPACT OFFLINE RELATIONSHIPS

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ABSTRACT

We live in an increasingly networked world. We are connected to each other through numerous types of ties, with social networking sites offering one of the most popular methods people currently employ to link themselves together. But do "old-fashioned" ways of developing and maintaining relationships suffer from the evolution of computer-mediated communication? Have we become too reliant on the instantaneous, answer-producing quality of the internet that can reveal others' most intimate personal details before we even introduce ourselves?

This thesis examines social relationships online to see how they differ from traditional offline relationships, focusing on how people create an online identity and how that identity affects the formation and maintenance of "friendships" in the digital world. The thesis will then consider how the social networking site Facebook impacts relationships in the real world. This analysis will be based on a survey of 644 Georgetown University undergraduates regarding their uses of various technologies to interact with different members of their social networks, and especially their use of Facebook to form and maintain relationships.

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The process of writing a thesis is a long and complicated journey. From the day you choose your topic until the day you turn in the final version, you must fight many battles that block your path and attempt to keep you from reaching the final goal. But if you are lucky, there will always be someone there to catch you when you stumble and put you back on the right path.

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Chapter 1: Introduction

In looking at technology trends of the past decade, one quickly discovers how the Internet has changed the face of communication. According to December 2007 data compiled by the Pew Internet & American Life Project, 92% of Internet users send or receive messages via email. Message boards allow users to connect with other people from around the world and share their opinions and stories on a range of topics, from issues of healthcare to celebrity gossip. The website Healingwell.com, for example, boasts more than 50,000 members, offering a space for users to find support and answers to their questions on a range of medical conditions. Instant messaging, initially made popular in the mid-1990s thanks to America Online (AOL), has become a commonplace application, not just among friends, but also in business environments as a way to communicate with coworkers and customers. Even traditionally private activities like dating quickly established a strong presence online: by 2004, online dating websites saw 40 million unique visitors each month (Ellison et al., 2007).

The last five years have also seen dramatic increases in the presence and use of social networking websites (SNSs), which are "web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (boyd and Ellison, 2007).

These websites are especially popular among younger demographics: more than half of teenagers ages 12-17 maintain profiles on these sites (Lenhart et al., 2007), and an April 2008 report from the UK's Office of Communication (Ofcom) reveals that 27% of UK children ages 8-11 who are aware of social networking sites have a profile on at least one such site. When considering usage levels among young adults, this number often jumps to more than 90% of undergraduate students (Golder et al., 2006; Ellison et al., 2007). SNSs create a central location for users to communicate with friends, network with professionals and find others who share common interests. Sites vary from those focusing solely on friendship to more niche-specific sites that revolve around common themes, from pet-lovers to car enthusiasts.

Websites such as Facebook and MySpace – the two most popular social networking sites (as judged by the number of registered users) – allow users to create profiles containing various personal information and images. Users can choose to include as much or as little personal information in their profiles as they want. While the sites typically provide fields for specific information, such as favorite books, movies, and food; educational and work background; and contact information, they also provide text boxes for users to include a more personal "about me" statement. Privacy settings allow users to restrict their profile information to a specific set of users, or to make it available to anyone searching the website, and sometimes anyone using a search engine like Google. Moreover, users can manipulate profile information to create an online identity

different from their actual identity. Characteristics and pictures may be exaggerated slightly or completely fabricated, with the intention of enhancing one's identity for outside observers. These sites also make available numerous methods of communication, including posting comments on a user's profile or photo pages, sending a user private messages (much like email), instant messaging, and, in the case of Facebook, "poking" another user. Combined, these characteristics present users with an ideal location to create and maintain relationships with current friends and to make new friends based on similar interests.

Notwithstanding these technological advances, these new social networks do not precisely replicate human interaction. Several parts of traditional relationship formation are missing from social networking websites, including face-to-face communication and the visual and verbal cues that accompany non-digital interactions. When someone posts a comment on a friend's profile page, for instance, the context can easily be lost on the intended audience – let alone on the casual observer – and misinterpretations of meaning can lead to complications within relationships. To the extent that a greater percentage of communication moves online, especially among younger users, one must wonder how these new technologies might impact the ways in which users form and maintain relationships, both in the online and offline realms. For example, if the quantity of friends online becomes more important than the quality of the relationships, will social ties be weakened as a result? And, more generally, how will social networking

technologies change the meaning of what constitutes a friend? It is these questions that this thesis aims to address.

To answer these questions, the thesis will build on past research in the fields of identity, interpersonal relationships and computer-mediated communication. A diverse literature on identity and interpersonal communication spans the last century. Much of the research on identity looks to how individuals form both a personal and social sense of self, and how that identity adapts to changing environments. Leading researchers in this field include George Herbert Mead; Erving Goffman and Short, Williams & Christie, among others. In their work, these researchers consider how one maintains an individual identity, and how different groups impact that identity. Much of this literature falls into the realm of social psychology.

A number of theories of interpersonal relationships hold special relevance to this research. While Mark Granovetter considers the strength of weak ties in people's social networks, Robert Putnam and Nan Lin look at the role social capital plays in relationship and community building. Furthermore, Scott Feld examines how individuals use friendship networks to evaluate both themselves and others within their network. Each of these researchers is concerned with the types of connections people have with others and the reasons behind those connections.

While the most recently developed field of research discussed in this thesis, the area of computer-mediated communicated communication (CMC) offers a rich amount of

research on how Internet users navigate the online realm and the methods by which they use to interact with both friends and strangers in a virtual world. Three of the main theories relevant to this research are Walther's (1992) social interaction processing (SIP theory), which suggests that CMC users make due with whatever cues are available in an online environment; Walther's (1996) hyperpersonal theory, which considers how CMC users take advantage of the unique interface the Internet provides for interaction; and the social identity model of deindividuation (SIDE) theory, which often focuses on the impact of anonymity in online interactions (Postmes, Spears & Lea, 1998, 2002).

Based on a comprehensive review of literature in these three interconnected areas of research (Chapter 2 of the thesis), this thesis proposes the following hypothesis. It argues that the line currently separating digital relationships and more traditional, offline relationships are beginning to blur, thanks in large part to social networking websites. While online relationships generally contain weaker ties than traditional offline relationships, there will be more examples of strong online-only relationships as social networking technologies continue to evolve. Likewise, there will be more cases where social networking sites allow relationships that would have otherwise stagnated (e.g., because of physical distance) to instead be maintained, and even strengthened further, because of the multiple methods of communication and interaction these sites allow. Conversely, this thesis proposes that the differences between one's virtual and real identities will lead to negative consequences among some users, even causing the

breakdown of relationships with offline friends for some users. Finally, the superficiality associated with online relationships will begin to affect the quality of offline relationships, as some users may form larger social networks of friends, but with weaker ties between relationships.

To test these hypotheses, this paper will proceed as follows. First, in Chapter 2, the paper will provide a conceptual framework that characterizes the literature related to the research questions. Drawing on this literature, this chapter will also define key terms and develop an analytical framework for which to base an analysis of data. Chapter 3 will trace the history of virtual communities and the social Web, from their originations in anonymous online message boards to their current incarnation as social networking sites. Chapter 4 will examine the changing roles of identity and interpersonal communication in light of new technologies. The discussion will be facilitated through an analysis of data collected from a survey of 644 Georgetown University undergraduates on their uses of communication technologies, and specifically their uses of the social networking website Facebook. In the final chapter, the thesis will reconsider the research questions in light of the research findings, and discuss the extent to which the hypotheses are supported by the data. Finally, this chapter will consider the larger implications of this research and attempt to make predictions about the future of identity and interaction in a virtual world.

Chapter 2: Analytical Framework

Introduction

Without a doubt, recent technological innovations have impacted the ways in which people communicate. How people form and maintain relationships are evolving in light of Internet-based technologies, most recently with the rise of social networking websites. Furthermore, these sites alter previously held beliefs related to identity formation and maintenance, as users may choose to share as much or as little personal information – whether true or fabricated – as they like with other users. These changes in interpersonal communication methods and social identity impact relationships in the offline world, both positively and negatively.

But what are these impacts? In order to research this problem, this thesis will focus on two primary research questions:

> **RQ1:** Among college undergraduates, how do online and offline relationships differ?
>
> **RQ2:** Among college undergraduates, how do virtual identities and online relationships impact offline relationships?

This chapter offers a theoretical framework by which these questions will later be analyzed and answered. To accomplish this, the chapter will first look at past literature on identity, interpersonal relationships and computer-mediated communication. The chapter will conclude by identifying and operationalizing the key terms related to this research, providing an analytical model to use in examining these research questions and positing four specific hypotheses related to the research questions.

Identity Research

"The self ... is essentially a social structure, and it arises in social experience."
-- George Herbert Mead

Research on how people develop and maintain their identities covers the gamut of topics. Much of the research looks specifically at how people's social identities relate to their relationships with other individuals, as well as within groups. Here we will examine how different authors have described and expanded on concepts of identity during the twentieth century, first looking at the self and the social self generally. The discussion will then consider the theory of social presence, which has evolved over the years in light of the changing face of communication technology.

The self

Before one can understand the process by which individuals interact, it is important to note how each individual develops a sense of self. From a sociological standpoint, babies come into the world with an identity based on qualities such as their gender, race, family's economic status, etc.; however, they are not born with a sense of self. Rather, the self develops through a "process of social experience and activity" (Mead, 1934, p. 135) as the individual grows and interacts within a given environment. This pattern suggests that the self grows and matures in a similar fashion to that of the body. At the same time, it should be considered as an object unto itself rather than simply a part of the body, as such growth will not occur on its own.

The development of a self-identity can be divided into two stages, which together lead to the attainment of self-consciousness. In the first of these stages, *play*, a child imitates various roles within society – be it that of a teacher, mother, father, policeman, etc. Play then develops into more structured *games*, which include rules the child must follow. As the child learns the rules related to each of the various roles in a game, he learns his place in relation to the other players and develops into the "generalized other," with a new sense of self (Mead, 1925, p. 269).

Furthermore, this sense of self can be divided into two separate components, the "I" and the "me," with the individual simultaneously filling both roles:

> The "I" is the response of the organism to the attitudes of others; the "me" is the organized set of attitudes of others which one himself assumes. The attitudes of the others constitute the organized "me," and then one reacts to that as an "I." (Mead, 1934, p. 175).

The self cannot exist without both the "I" and the "me" present. Together, these separate pieces constitute the individual's personality within the social sphere. Therefore, it is important to also discuss the role the social self plays in developing and maintaining an identity.

The social self

One's sense of self is intrinsically linked to the perceptions of and interactions with others. Relationships between individuals are extremely important in one's development of a self-identity: humans are fundamentally motivated to develop and maintain relationships with others (Cialdini & Goldstein, 2004, p. 598), and people will modify their identities based on their ability to respond to their environment (Gratz & Salem, 1984, p. 99). At the same time, there is a strong motivation to behave consistently with self-ascribed traits, beliefs and actions (Cialdini & Goldstein, 2004, p. 607). Taken together, these factors amount to a type of balancing act within the individual as he attempts to retain (and often enhance) his sense of self.

An example of research focused on addressing this tension within the individual can be found in Erving Goffman's differentiation between a person's "front stage" and

"back stage" performances, or how an individual acts in the presence of a group with whom he is interacting versus how he acts when he is no longer performing for the group. While on the front stage, the individual can take several steps to present an optimal image to his audience. He may present important characteristics that might otherwise remain hidden (Goffman, 1959, p. 30); mirror commonly held values (p. 35); put forward false or misleading facts (p. 58); or maintain a level of distance so as to create mystery (p. 67). Through these methods, the individual attempts to steer his identity in the direction he chooses, rather than allow it to be dictated solely by the audience. However, a given front tends to become institutionalized over time, a "collective representation" of that identity; therefore, the individual must often conform to the stereotypes of that representation to succeed (p. 27). An example of this phenomenon can be seen in people holding positions of power within an organization, where they are often required to provide the public with a specific image that reflects positively on the organization.

This front stage performance differs dramatically from the individual's action while on the back stage. Here, away from the prying eyes of his audience, the individual can relax the public identity he tried so hard to control while on the front stage and step out of the character his role required of him (p. 112). The back stage is often distinguished from the front stage by a physical barrier, such as walls separating different rooms within a building, thus providing the individual with distinct guidelines as to when he must fulfill the different requirements for his different performance stages. Action on

the back stage is often contradictory to that on the front stage; however, an individual comfortable in his role can easily switch between modes, as a waiter may do as he moves between a restaurant's dining room and kitchen (p. 113-121).

When looking at group dynamics, a person's social identity can be defined as "the individual's knowledge that he belongs to certain social groups together with some emotional and value significance to him of the group membership" (Tajfel, quoted in Hogg & Abrams, 1988, p. 7). This definition suggests a direct connection between the individual's identity and the sense of belonging to a group, suggesting a heavy importance should be placed on the role of others in shaping identity.

Literature on group membership suggests a duality between membership outcomes: sometimes membership in a group enhances one's sense of self, while at other times, it jeopardizes one's personal identity (Ellemers et al., 2002; Cialdini & Goldstein, 2004). Which outcome emerges depends on how that group membership compares to membership in related groups. If, for example, a student's membership in one academic organization contrasts to his membership in other, related organizations, membership in that group may negatively impact his sense of self. Individuals must consider the social context (Ellemers et al., 2002, p. 165) and the level of group consensus (Cialdini & Goldstein, 2004, p. 607) in looking for feedback regarding their position within a group; these factors can help them cope with potential threats to group membership and identity.

In the presence of others, the individual tends to highlight certain traits that may not have otherwise been revealed in a given situation. This "status dramatization," while sometimes unproblematic, can mislead others regarding the individual's identity (Goffman, 1959). For example, a student who is trying to be attentive in class may take detailed notes during a lecture. However, because the student does not participate in class discussion, the professor may misinterpret the situation, believing the student is not invested in the material. This misunderstanding leads to a dilemma of expression vs. action within the individual, which he must learn to balance if he hopes to present others an accurate representation of self.

There may be times when the individual does not want to provide an accurate representation of self. By playing on the audience's tendency to accept performed cues on faith, the individual may find himself in the position to misrepresent himself and "dupe" the audience (p. 58). Misrepresentations of self fall into a spectrum that ranges from the slightest of exaggerations relating to one's accomplishments to outright lies about one's identity. The reasons for such misrepresentations also vary to a great degree, ranging from whether the person wishes to present a more positive image of himself, to a simple attempt at humor, to more malicious reasons such as fraud. There is a serious danger, however, in altering the facts of one's identity, especially while on the front stage:

> Perhaps most important of all, we must note that a false impression maintained by an individual in any one of his routines may be a threat to the whole relationship or role of which the routine is only one part, for a

> discreditable disclosure in one area of an individual's activity will throw doubt on the many areas of activity in which he may have nothing to conceal. Similarly, if the individual has only one thing to conceal during a performance, and even if the likelihood of disclosure occurs only at a particular turn or phase in the performance, the performer's anxiety may well extend to the whole performance (p. 64-65).

Therefore, the individual must take care when choosing to provide misleading and/or false information to the audience, as such misrepresentations can endanger the entire performance.

Social presence theory and the internet's impact on identity

The concept of social presence is often examined in relation to the development and maintenance of one's social identity, and can be summarized in a question posed by psychologist Gordon Allport early in the 20th century: "What changes in an individual's normal solitary performance occur when other people are present?" (Hogg and Abrams, p. 118). In other words, Allport and others after him (including Mead, Goffman and Short, Williams & Christie) were concerned with the impact of group members on the motivation and performance of an individual within that group. Would the presence of other people cause an individual to work harder, faster or longer than had he been performing the same task alone? Does the social aspect of the group cause an alteration in the individual's identity?

Definitions of social presence vary depending on the author's major focus. *The Social Psychology of Telecommunications*, considered to be one of the major influences on the theory's development, defines social presence as "the degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationships" (Short, Williams & Christie, 1976, p. 65). According to this definition, one's social presence could be achieved through a subjective approach that measured users' opinions related to involvement, intimacy and immediacy through use of Likert scale responses.

Biocca et al. (2001) propose a definition of presence based on two related concepts: telepresence, or the sense of "being there," and social presence, or "being together with another." Biocca differentiates this notion from Goffman's more specific idea of co-presence, or "experiencing someone else with one's naked senses" (quoted in Biocca et al., 2001), perhaps to suggest the role of social presence within computer-mediated communication, where many of the cues of face-to-face interaction are missing. For example, Goffman's definition relies on mutual awareness of another's presence, while anonymity online allows a person to mask his presence from others, or alter his identity to such a degree so as to appear unrecognizable even to close friends in the offline world.

Like Biocca, Lombard & Ditton (1997) examine social presence in light of new technologies, defining it as "the perceptual illusion of nonmediation." This suggests an

approach to social presence where the individual's presence is not defined by how he acts when he is aware of other people's presence, but how he acts when he *forgets* that those others are there and acts more similarly to how he would act when alone. Lombard & Ditton suggest that this illusion of nonmediation occurs in one of two ways: when the medium appears to be invisible or transparent, allowing users and content to share the same physical environment, or, when the medium transforms into more than just a device, becoming a social entity. This idea of transformation will be especially applicable in the later discussion of Facebook.

In his discussion of social presence specifically in relation to three methods of computer-mediated communication, Tu (2002) considers presence in much the same way as Biocca, defining it as "the degree of feeling, perception and reaction of being connected on CMC to another intellectual entity" (p. 2). In addition to previous measures of social presence, Tu adds the categories of "system privacy" and "feeling of privacy." His research found that email has the highest degree of perceived social presence, followed by real-time discussion and bulletin board discussions.

Interpersonal Relationships

"Life may not be much of a gamble, but interaction is."

-- Erving Goffman

Now that we have examined the role one's identity plays in interaction, we can broaden our examination of literature to focus more generally on the relationships formed and maintained via these interactions. Theories of interpersonal relationships tend to examine factors revolving around both how individuals first initiate and develop relationships with others and how relationships are maintained over time. Here, we will look at literature related to the concepts of social ties, social networks and social capital to see how each tackles the various components of interpersonal relationships.

Social ties and social networks

Social ties are the connections between individuals that link them together, as well as the degree of strength of those relationships. The strength of ties between two individuals can be evaluated according to the amount of time spent together, the emotional intensity of the relationship, the level of intimacy and the degree of reciprocity (Granovetter, 1973, p. 1361). Relationships with other people are typically broken into two major categories: weak ties, or individuals who are considered mere acquaintances, are differentiated from strong ties, such as close friends and family members. A third category, that of intermediary ties, categorizes individuals who fall between a strong and a weak tie (Wellman et al., 1996).

Much of the literature related to social ties looks at the different roles social ties serve for the individual. Two individuals connected by a strong tie are typically more

similar to each other than two individuals connected by a weak tie (Granovetter, 1973, p. 1362). A problem can arise if an individual has few weak ties, as the similarities between him and his strong ties may prevent an influx of information from other parts of the network (Granovetter, 1983, p. 202). Because they lack the high degree of similarity that is seen between strong ties, weaker ties can offer a greater breadth and depth of information to the individual. Figure 2.1 offers an example of a social network.

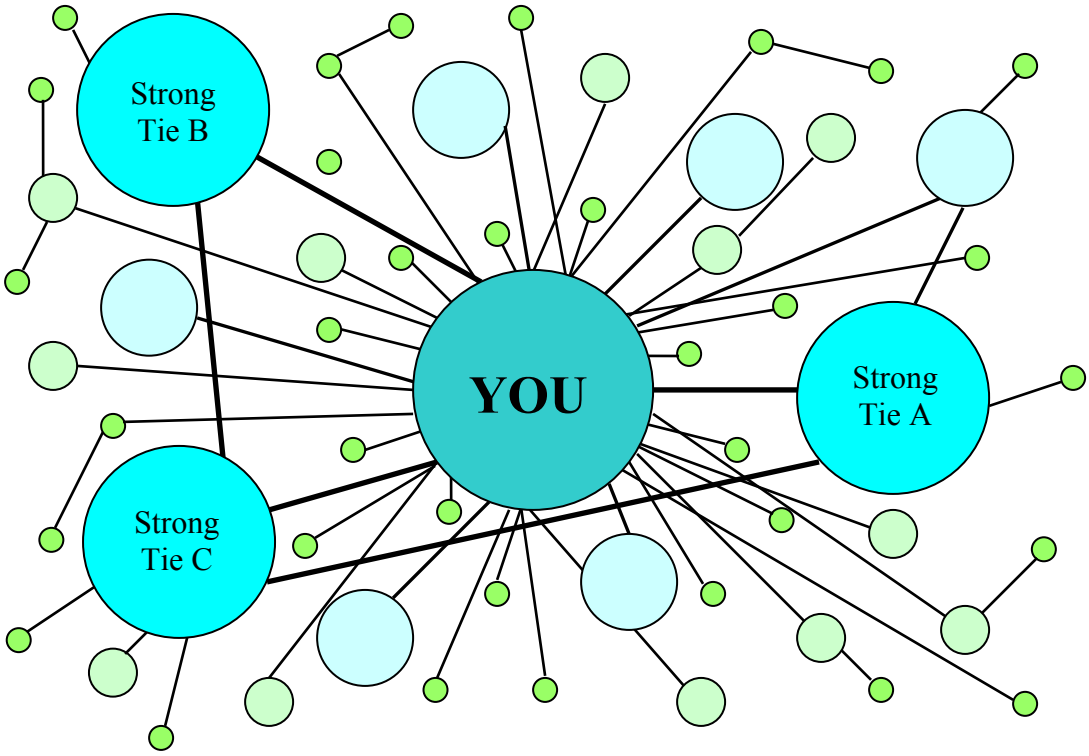


Figure 2.1: Example of a social network

The size of the circle designates the strength of the tie. Strong ties tend to be interconnected, with many links between each of the strong ties. In many networks, the number of strong ties is significantly less than the number of weak ties. While more numerous, however, these ties do not contain nearly the degree of overlap as stronger ties.

The strength of weak ties is that they create local bridges between members of the network, which provide a person with a larger number of paths and shorter paths to information (Granovetter, 1973, p. 1365). Weak ties connect an individual to people with whom he has little in common and would likely not be able to connect with through strong ties, such as a high-status individual. The argument can therefore be made that weaker ties are more important than stronger ties, as the removal of an average weak tie would potentially do more "damage" to the network than the removal of an average strong tie (p. 1366). It should be noted that this argument does not discount the importance of strong ties, which offer the advantages of availability and familiarity, but rather suggests that individuals outside a person's immediate social circle are more likely to bridge gaps in knowledge and mobility.

With the rise of the Internet and computer-mediated communication, much recent research has looked at the impact of online forms of communication on social ties. Activities that connect individuals directly to one another (e.g., email, chat) tend to have positive correlations to social ties, while those activities that are more solitary in nature, such as web surfing, tend to have more negative correlations to social ties (Zhao, 2006, p. 844). While research from the 1990s found negative correlations between Internet use and social ties, these findings were later disproven, especially as most individuals using the Internet for social purposes also maintained their offline relationships (Kraut et al.,

2002; Zhao, 2006). In addition, online social ties tend to be weaker than relationships formed and maintained offline (Kraut et al., 2002, p. 69).

Closely linked to social ties is the concept of friendship networks, or, as more commonly referred to, social networks. Literature on social networks links together theories of identity and interpersonal communications, as people use social networks to evaluate both themselves and others (Feld, 1981). In other words, an individual's identity is, in part, determined by the network of friends he maintains. Much of the research on friendship networks has focused on how people make friends or how many friends individuals have (Feld, 1981, 1991). One's social network is directly linked to the number of strong and weak ties he maintains.

Social capital

Theories of social capital examine the motivations behind forming and maintaining relationships with others. If capital can be defined as "investment of resources with expected returns in the marketplace," then social capital looks at how capital is captured within interpersonal relationships (Lin, 2001, p. 3). Social capital considers the connections between individuals via their social networks, as well as the concepts of reciprocity and trustworthiness within those networks (Putnam, 2000, p. 19). Each of these factors plays a vital role, with reciprocity accounting for *why* individuals develop and maintain relationships with others, and trustworthiness serving as a

"lubricant" to social life, allowing it to move forward. Social capital evolves in different shapes and sizes, with positive or negative correlations, depending on the individual (p. 20-22).

Lin puts forth four explanations for why individuals accrue social capital. The first involves social ties and the flow of information, suggesting that ties between individuals facilitate that flow. Secondly, social ties can exert influence over an agent and thus benefit the individual. Thirdly, social ties often equal social credentials, meaning that interpersonal relationships can help one get ahead. Finally, as previously discussed, interpersonal relationships reinforce an individual's identity and, subsequently, his recognition (Lin, 2001, p. 20). This reinforcement of social ties and their role in developing social capital signify the importance of interpersonal relationships and differentiate between the role of social capital from other forms of capital.

Social capital can be broken into two major categories: *bonding* and *bridging* (Narayan & Cassidy, 2001; Putnam, 2000). Bonding social capital creates strong in-group loyalty, as can be seen in organizations such as fraternities and sororities, where the group members become a closely knit unit. While such bonds provide strength within the group, they can also cause antagonism from outsiders, who view the organization as exclusive and closed to non-members. Alternatively, bridging social capital maintains a more inclusive role, encouraging external linkages and networking to occur. Participating in organizations with a variety of people from different networks allows for bridging

social capital to be accrued. However, it is important to note that these two categories are not an either-or scenario: both bridging and bonding capital can be developed at the same time (Putnam, 2000, p. 22-23).

Like research on identity, research on social capital differentiates between an individual and a group level. Social capital is especially beneficial to large groups, which typically do not have the advantage of shared time and location. Another benefit of computer-mediated communication (CMC) in large groups is that anonymity allows members to be honest and trusting without having to reveal their identities (Resnick, 2002).

Two opposing views of social capital consider whether it is a cause or an effect of interaction and relationship formation. One view of social capital suggests it is both the result of previous activities and an enabler of future activities (Resnick, 2002). According to this view, social capital is both produced and reproduced by actors and can be considered cyclical (Newton, 1997).

Arising from the realm of computer-mediated communication is the idea of sociotechnical capital, or social capital achieved through information and communication technologies (Resnick, 2002). In defining social capital in light of newer technologies, Bourdieu & Wacquant (1992) say it is the "sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintances and recognition" (quoted in

Ellison et al., 2006). The use of the word "virtual" here helps to clarify that social networks extend beyond traditional methods of communication and interaction.

The benefits to users garnered by these new technologies are numerous. CMC allows for communications that may not have otherwise been possible (e.g., as in the case of meeting strangers online solely through shared interests); increases the reach of communications (e.g., mass emails); restricts information flows (e.g., anonymity on online bulletin boards); manages dependencies (e.g., Google Calendar); archive one's past (e.g., saved emails); and helps establish identity (individual or group) through naming (e.g., having one's title within their email address) (Resnick, 2002).

Computer-Mediated Communication

> *"[People] tend to be more socialized at a distance, than they are in their immediate, limited, and local selves: their intercourse sometimes proceeds best ... when neither group is visible to the other."*
>
> *-- Lewis Mumford (1934)*

Since its earliest days, the Internet has been used as a means of communication and interaction. With the evolution of the World Wide Web during the 1990s and its increasing presence in both the home and at work, computer-mediated communication (CMC) has become a ubiquitous way to interact with friends and family, businesses and even strangers. This section will offer a brief overview of literature relating to the impact

of CMC on identity and interpersonal relationships. The next chapter will offer a more in-depth discussion of the history of CMC and the rise of virtual communities.

Interaction without cues

The rise of the Internet revealed a new way for people to interact on both a one-to-one and a one-to-many basis. Computer-mediated communication initially raised concerns related to the changes in the sender, receiver, channel and feedback that online communication allows. The most apparent difference between this newer method of communication and more traditional face-to-face interaction is that CMC is typically text-based, thus nullifying the verbal and nonverbal cues that accompany non-digital interactions. According to the social interaction processing (SIP) theory of CMC (Walther, 1992; Walther & D'Addario, 2001), individuals adapt their behavior to process the cues that are present within online interaction, including content and linguistic strategies, as well as typographical cues. Research in this area has found that individuals communicating solely through computer-mediated methods of communication can and will form intimate relationships comparable to relationships formed through traditional methods of communication (Tidwell & Walther, 2002).

The hyperpersonal model (Walther, 2006; Tidwell & Walther, 2002) suggests that CMC users take advantage of the unique interface and channel characteristics of online communication so as to enhance interpersonal relationships. In sending communication

when there is an absence of verbal and nonverbal cues (as in the case with CMC), an individual can selectively choose which aspects of his identity to reveal and which aspects to mute, thus putting forward the most positive identity for a given situation. The result can be a more intimate relationship than could otherwise be established in a face-to-face interaction. Anecdotes related to online relationships testify to this belief, showing that even users of the earliest virtual communities, which were solely text-based, could form deep and lasting relationships (Rheingold, 1993).

Similarly, the social identity model of deindividuation (SIDE) theory looks at interaction in the absence of standard verbal and nonverbal cues (Postmes, Spears & Lea, 1998, 2002). This model suggests that the relative anonymity allowed by virtual identities can allow for stronger group interaction as well as for impressions to be based more on the social categories of the communicators rather than interpersonal cues such as physical appearance, language, tone, etc. SIDE argues that when nonverbal cues are absent, as is the case in the vast majority of CMC, the individual instead makes judgments based on the social categories of communicators, such as group membership.

Information sharing online

People can use the Internet for a variety of communication purposes. When seeking information through computer-mediated communication, four major strategies appear to be used when communicating online. First are a set of "interactive strategies"

that entail direct interaction between the communicator and the target to obtain whatever information is needed. These strategies make more sense in digital communication than face-to-face interaction because much of the time, the information being sought is not readily available and would need to be researched on a computer anyway. If, for example, a person wanted a detailed explanation from a friend, it might make more sense to allow the friend time to compose an email and take advantage of CMC's ability to edit responses rather than put the person on the spot in a face-to-face interaction and require him to answer a question he does not know how to answer (Ramirez et al., 2002).

Additional research backs up this belief. In looking at communicators who use email versus those who use face-to-face interaction, one study found there was more self-disclosure from those interacting over email; those employing interactive strategies through email found their partners' rating their communication effectiveness much higher; and when asked personal questions, those communicating via email offered more detailed answers than those communicating face-to-face (Tidwell & Walther, 2002). It appears in this case that the presence of added cues in face-to-face interaction may actually detract from communicators' willingness to reveal information.

The three other forms of interaction strategies are active, extractive and passive. Active strategies within CMC involve retrieving information without direct contact with the target, or third-party interaction. Extractive strategies are currently one of the most commonly used strategies, as they involve using search engines and other tools to find

information electronically. Passive strategies involve obtaining information about the target unobserved, such as when one is blind carbon copied (BCC) on an email, or, to use the example of social networking sites, when a person browses through strangers' profiles, obtaining information about the individual without revealing his presence (Ramirez et al., 2002). Computer-mediated communication, therefore, can be said to make the majority of information-seeking strategies easier – depending on the availability of the information in question – than obtaining that same information in a face-to-face context.

Social networking sites

Online social networks provide a means for individuals to sustain strong, intermediate and weak ties, with the primary function of online interaction being the exchange of information. Because of the structure of the Internet and the ability to both browse vast amounts of data and to remain anonymous, people are able to form relationships with people they may have never met in real life. Many of these relationships would be considered weak ties, as relationships are based solely on sharing and exchanging information; however, many online-only relationships could be considered strong ties, as they allow for both frequent and reciprocal interaction, even without a physical presence (Wellman, et al., 1996). Therefore, online social networks

have the capability to grow one's overall network significantly by the introduction of a variety of new links.

Social networking sites and privacy

Some of the most extensive research on the evolution of the Internet as a major method of communication and interaction revolves around privacy issues. Given the emergence of social networking sites, questions have been raised over how much personal information is revealed on these sites, especially by young people.

Research conducted on YouTube, a major social networking site devoted specifically to video sharing, differentiates between behavior which is "publicly private," in which the video creator's identity is public but the content is private (because it is not widely accessed) and that which is "privately public," meaning the content was widely accessible to a large audience but the producer's identity remained hidden (Lange, 2007). On many social networking sites, however, the sort of privacy offered by privately public behavior is not an option, as a user must be logged into an account to view profiles or post comments.

Defining Key Terms

Before proceeding onto the data chapters, it is important to operationalize the key terms related to this thesis. These definitions are drawn from the above discussion of related literature, are specific to this research project, and can be divided into categories based on interaction, location and identity.

Interaction and *interpersonal communication* will be used interchangeably throughout this thesis and can be defined as "the reciprocal influence of individuals upon one another's actions" (Goffman, 1959, p. 15). Interaction can occur via any form of communication, be it face-to-face, through written correspondences, or via communication technologies such as phone calls, email or social networking sites. Building off of the literature discussed above, an *offline relationship* involves interaction between two individuals over a significant period of time, and includes, but is not limited to, speaking in person, speaking on the phone and attending social events together. Alternatively, an *online relationship* will involve interaction between two individuals via a social networking site; this will occur when one user adds another user as a "friend" on his/her profile.

The nature of this discussion requires a consideration of where interactions are taking place. *Social establishments* will be classified according to Erving Goffman's definition as "any place surrounded by fixed barriers to perception in which a particular

kind of activity regularly takes place" (1959, p. 238). All interactions within offline relationships will occur in a social establishment with a fixed location. On the other hand, online interactions examined in this research will all occur on s*ocial networking sites*, which should be considered a social establishment in the virtual world. For the purposes of this thesis, the discussion will be limited to the major friend-based social networking sites, and specifically the site Facebook. This research will not analyze interactions on websites that serve a primary purpose other than friendship but include a social networking component (e.g., YouTube, Flickr).

Because much of the data analysis in this thesis will examine the impact of identity formation and maintenance within offline and online locations, we must distinguish between the two categories. One's *real world identity* can be considered the sum total of that individual's traits and interactions as presented in a typical social setting. One's *virtual identity* is completely constructed through the information presented in his/her profile on the social networking websites to which the individual belongs, as well as the communication between that person and his/her online friends.

Developing an Analytical Model

Now that we have reviewed the literature related to identity, interpersonal relationships and computer-mediated communication, and have defined the key terms

related to this research, this thesis will put forth an analytical framework to analyze the research questions presented at the beginning of this chapter. Within this model, the communication methods used to interact with other members of one's social network, and specifically one's access to and use of the social networking site Facebook, will be the independent variable. The individual's ability to access Facebook (i.e., where and when s/he can access the Internet), as well as how often the individual chooses to use the site and for what purposes the individual uses the site (e.g., keeping in touch with friends, making new friends, and otherwise being "social") will be considered part of this component.

The dependent variable in this analysis will be the impact on the individual's relationships with both online and offline friends. This thesis will specifically look at the density of Facebook users' social networks and the strength of the ties within their relationships. The analysis will attempt to determine if an increase in digital interaction causes an increase in the number of weak ties in a person's social network, as well as a possible decrease in the number of strong ties within the network. The analysis will also attempt to make correlations between the factuality of a person's virtual identity and the health of that person's relationships with others in his social network.

When considering this model, two major intervening variables will be taken into account. First, the user's age and gender may have a significant impact on his usage of the site. One could reasonably predict that people who began using this method of

communication at a young age would have a larger and more varying number of methods for interacting with others than people who began using social networking sites to communicate at an older age. Likewise, the percentage of one's social network using a specific method of communication could impact the strength of those relationships. Individuals with a large percentage of friends who do not use Facebook either need to find alternate methods of communication, or allow those relationships to weaken through a lack of interaction. Figure 2.2 below offers a visualization of this model.

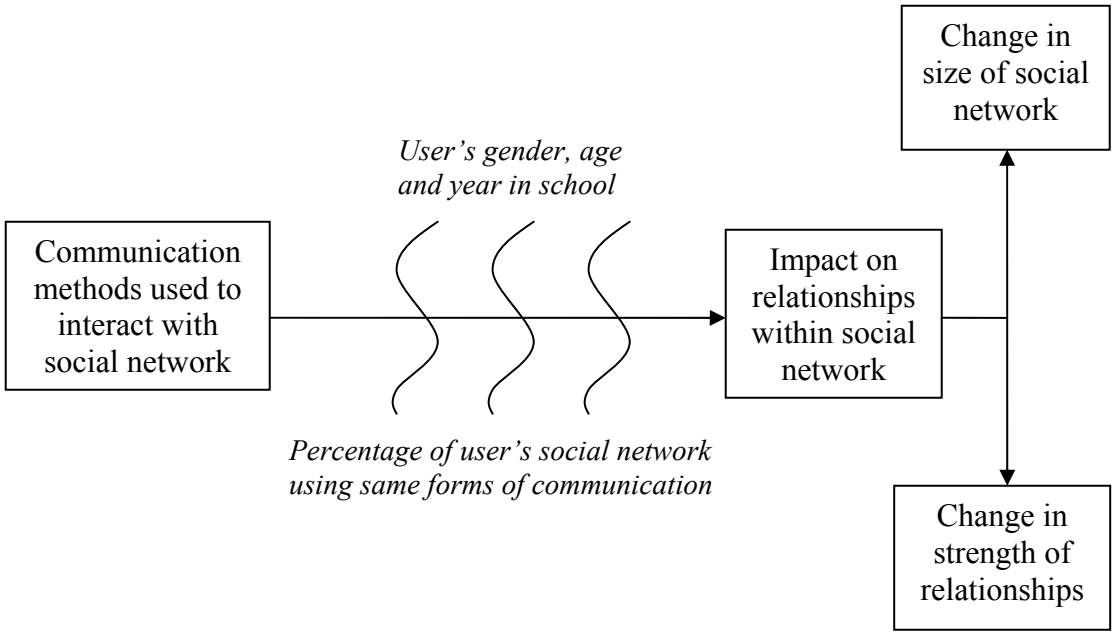


***Figure 2.2**: Analytical model being used to explain how social networking sites will impact online and offline relationships.*

Taking into consideration the literature discussed above relating to identity, interpersonal relationships and computer-mediated communication, as well as the two research questions put forth at the beginning of this chapter, this thesis offers four hypotheses to be examined in later chapters:

> **H1:** In general, online relationships contain much weaker ties than offline relationships.
>
> **H2:** In cases where factors such as distance change an offline relationship into a primarily online relationship, strong ties may be maintained and even strengthened further.
>
> **H3:** Because online identities often do not directly correlate to offline identities, offline relationships established before the online identity may suffer negative consequences.
>
> **H4:** As a larger percentage of communication moves into the digital arena, we will see a general weakening of ties between people. This weakening will be less pervasive among a person's closest circle of friends and more obvious among lesser friends, as digital communication will become the primary mode of communication in these relationships.

This thesis will now begin its discussion of data with a historical look at the rise of virtual communities and specifically social networking sites, before moving into an analysis of data related to a survey of Georgetown University undergraduates on their use of different technologies to communicate with various members of their social networks.

Chapter 3: Rise of the Virtual Community

Introduction

Americans today consider the Internet an essential component of their daily lives. Pew Internet Project data reveal nearly half (45%) of Americans say it would be very hard to give up the Internet, a larger percentage than say the same about television (43%) or landline phones (40%) (Horrigan, 2008). At the same time, accessibility has skyrocketed with the rise of Internet-ready cell phones and personal digital assistants (PDAs) for both business and personal use, as well as an increase in overall wireless connection availability. The introduction of Apple's iPhone in 2007 moved smartphones from a small segment of the population into the mainstream as a hot commodity: Apple forecasts 10 million iPhones sold by the end of 2008 (Dalrymple, 2008). Meanwhile, *PC Magazine* predicts smartphones could represent as much as 15% of the expected 1.2 billion cell phones sold in 2008, and 25% of total cell phones sold in 2009 (Bajarin, 2007). When considering wireless access overall, 52% of Americans have accessed the Internet via their cell phones or wirelessly from a location outside of their home or work location (Horrigan, 2008).

At the same time, the Internet has evolved from being primarily a place to store and exchange information to a social platform and a major communication and

interaction medium. Web-based virtual communities hold a prominent place online, with social networking sites such as MySpace and Facebook becoming a global phenomenon in recent years, especially among younger users. In 2007, more than half (55%) of all teens ages 12-17 maintained a profile on one of these websites (Lenhart et al., 2007), with at least two studies showing this percentage rising above the 90th percentile among college students (Golder et al., 2006; Ellison et al., 2007). These sites have become so ingrained into users' daily activities that "facebooking" someone, or "to look someone up on a social website, to find one's information on a social website," ranked second in Merriam-Webster's 2007 "word of the year".[1]

While the Internet and its many applications have quickly become a ubiquitous – and often necessary – component of our daily lives, the technology is still relatively new. According to Pew Internet, only 15% of Americans accessed the Internet in 1995; this number did not surpass 50% until mid-2000. Widespread broadband access to the Internet, which increases the speed at which users can access some of the more complex Web 2.0 technologies, is an even more recent trend, with the number of households using a broadband connection only reaching 50% of the population in late 2007 (Horrigan, 2007). Furthermore, the vast majority of social networking sites, which millions of Americans use every day to communicate with family and friends, did not exist at the turn of the 21st century. Looking at these developments from a surface perspective, the

speed with which these technologies embedded themselves in Americans daily lives is nothing short of phenomenal.

These technologies, however, did not miraculously appear one day. The rise of the Internet did not occur in a bubble; rather, it developed over several decades and several different forms before evolving into its most currently used format, that of the World Wide Web. Likewise, the rise of virtual communities did not begin with the launch of Friendster in 2002, but rather has a history extending as far back as the Internet itself. In this chapter, we will examine this history and trace the path of virtual communities from their earliest days to the present. In particular, we will consider the evolution of these sites in terms of their capabilities to facilitate interaction and help users create a virtual identity.

The Birth of a New Medium

> *"It seems reasonable to envision, for a time 10 or 15 years hence, a 'thinking center' that will incorporate the functions of present-day libraries together with anticipated advances in information storage and retrieval. The picture readily enlarges itself into a network of such centers, connected to one another by wide-band communication lines and to individual users by leased-wire services."*
>
> *-- J.C.R. Licklider, "Man-Computer Symbiosis," 1960*

The evolution of the Internet spans back nearly half a century to the 1960s, when MIT professor and futurist J.C.R. Licklider began writing about a future technology he

called the "Galactic Network." Licklider, who was appointed the first head of computer research at the U.S. Defense Advanced Research Projects Agency (DARPA) in 1962, saw the potential for using computers as an interactive communication medium years before the Internet became a reality. In a 1968 article published with Robert Taylor, Licklider saw a future not too many years off, with individuals communicating through computers more effectively than they could otherwise do face-to-face:

> What we do say is that we, together with many colleagues who have had the experience of working on-line and interactively with computers, have already sensed more responsiveness and facilitation and "power" than we had hoped for, considering the inappropriateness of present machines and the primitiveness of their software. Many of us are therefore confident (some of us to the point of religious zeal) that truly significant achievements, which will markedly improve our effectiveness in communication, now are on the horizon.

Licklider went so far as to predict the rise of online interactive communities, where individuals would be connected to each other not by space, but through shared interests.

Licklider's predictions would not be fully realized for more than three decades, with the rise of social networking sites and the accompanying ease of online interaction. But the development of a relatively inexpensive personal computer and its encroachment into the homes of ordinary Americans allowed for virtual communities to enter their infant years much earlier. In his book, *The Virtual Community*, Howard Rheingold (1993) suggests this development was unavoidable:

> When enough people brought sufficiently powerful computers into their homes, it was inevitable that somebody would figure out a way to plug PCs into telephones. …With the powerful computers available to citizens today and affordable modems, you don't need an expensive, high-speed conduit like Internet uses. You just plug into your telephone line, perfectly legally – so far – and publish your manifestos or organize your meetings (p. 68).

Before moving into a discussion of the public's first steps into virtual communities, however, the Internet's predecessor, ARPANET, should be mentioned. While at DARPA, Licklider and his colleagues began working on plans to develop a method for computers to interact and form his Galactic Network. This dream became a reality with the development of packet switching, which allowed for information to be transmitted from one computer to the next via digital packets, rather than through circuit switching, which required dedicated telephone lines. ARPANET was initially unveiled to the public at the International Conference on Computer Communication in 1972, with further developments during the 1970s allowing for its expansion in size and availability, as well as the emergence of its new name, the Internet (Rosenzweig, 1998).

Immigration to Virtual Communities

> *"A virtual world's entire existence is predicated on the provision of good experiences for the user. It has to be better than reality."*
>
> -- *Ted Castranova, 2007*

Initial usage of the Internet was limited to a small portion of the population, specifically government employees, academics and those directly connected to the technology industry. By the late 1970s, however, the limitations on use began to change as government policies changed regarding who could use the Internet. In addition, personal computers lowered in price and increased in quantity, thus allowing for diffusion into consumers' homes. Coupled with this, many of the engineers and researchers behind ARPANET, aware of the potential the Internet presented, formed their own companies during this time to aid in the Internet's transformation from a device used solely in more professional purposes to creating machines that could work "for the rest of us."[2]

As quickly as people realized that plugging their phone into their computer gave them access to the Internet, virtual communities were born. But what are virtual communities? Howard Rheingold, who was an early user of the WELL (Whole Earth 'Lectronic Link) and wrote about the rise of this technology in *The Virtual Community*, defines virtual communities as "…social aggregations that emerge from the Net when enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace" (p. 5). While much of the earliest communication occurring over the Internet was institutional in nature (e.g., government, academia), these virtual communities allowed regular users to post, comment and interact with minimal regulation. They were not based on a physical

location, as can be said of traditional communities, but instead brought together users from a wide range of locations, backgrounds and groups who shared common interests.

Virtual communities provide many of the characteristics of traditional communities without the limitations of time, place and identity. Because a virtual community has no physical location, members can connect from anywhere in the world at any time of day. And because of the absence of a physical presence, a user's virtual identity is equal to the amount of information provided in text-based forums. Judith Donath (1999) comments on this freedom by saying, "The inhabitants of impalpable space are…free from the body's unifying anchor. One can have…as many electronic personae as one has time and energy to create" (p. 29). In Multi-User Dungeons (MUDs), for example, users can create characters that may bear no resemblance to their physical presence – and in many cases are not even human – and interact with other players through the virtual world's storyline. As with the evolution of social networking sites, which we will examine later in this chapter, MUDs have also evolved in the last two decades, and now hold a significant position in the virtual community in the form of Massive Multiplayer Online (MMO) games.[3]

Developed in 1979 at the University of North Carolina as an alternative to the more "elite" ARPANET, Usenet is one of the earliest computer network communication systems still in existence today. The site's usage grew exponentially – and in many ways similar to the way in which Facebook's user base grew – from initially connecting two

computers and processing a few posts per day in 1979 to handling 300,000 messages by 20,000 people per day in 1999 (Smith, 1999, p. 196-197). In addition to the sheer size of the community, Usenet also saw its member base grow from solely a domestic site to a global forum, connecting users from around the world who would, in all likelihood, never have met in the "real" world. In 1999, fully 59 percent of the site's participants lived in locations outside the U.S.

Usenet differed from other online communication networks of the time, which also collected and stored public postings on a number of topics; these early bulletin board systems (BBSs) aggregated posts in a central server, thus requiring the user to be connected to a computer network in order to read content. Alternatively, Usenet managed a large number of posts and newsgroups that were spread across a number of systems. Thus, users could choose to read postings from the Internet or from their desktop PC because user postings would be copied from server to server rather than merely appearing in one location. Howard Rheingold (1993) describes Usenet as a "network-scale computer conferencing system" (p. 69), with interaction capabilities far beyond any previous systems.

Like Usenet, the WELL community, which launched in 1985, brought together an otherwise disparate group of users to form a real community in a digital space. Rheingold (1993) reflects on his experience in the introduction of *The Virtual Community:*

> Finding the WELL was like discovering a cozy little world that had been flourishing without me, hidden within the walls of my house; an entire cast of characters welcomed me to the troupe with great merriment as soon as I found the secret door. Like others who fell into the WELL, I soon discovered that I was audience, performer, and scriptwriter, along with my companions, in an ongoing improvisation. A full-scale subculture was growing on the other side of my telephone jack, and they invited me to help create something new (p. 2-3).

Here is a key difference between Usenet and the WELL. Usenet created an opportunity for interaction on a personal level, but the site was more of a massive repository for information than a community. In the WELL, however, anonymity was not allowed. All postings were linked to the users' real userid. While users could choose to create an alternate online identity, they could not post under any name other than the one they registered with the WELL.[4] This policy most likely encouraged a closer sense of community among users than in the much-larger and less-certain world of Usenet.

User anecdotes confirm the idea that, even lacking the physical and verbal cues associated with traditional face-to-face interaction, WELL members were still able to form deep and lasting relationships with other users solely through text-based communication. While many WELL users eventually met in the offline world, the lack of "real world" knowledge of another user in no way precluded relationship formation online. Rather, people using these sites may have felt liberated by the freedom and lack

of judgment that virtual worlds allowed, finding themselves talking more openly about otherwise difficult subjects.

The idea that online interactions provide a freedom from judgment remains pervasive in present-day discussion of the Internet, but also played a fundamental role in the early development of virtual communities. The Internet offered a "level playing ground" of sorts for individuals who – for whatever reason – struggled to interact in face-to-face situations:

> Because we cannot see one another in cyberspace, gender, age, national origin, and physical appearance are not apparent unless a person wants to make such characteristics public. People whose physical handicaps make it difficult to form new friendships find that virtual communities treat them as they always wanted to be treated – as thinkers and transmitters of ideas and feeling beings, not carnal vessels with a certain appearance… (Rheingold, 1993, p. 26).

Early virtual communities also contained a sense of community similar to what can be seen in the open source community,[5] in which users – who, in many cases, barely knew each other beyond a screen name – came together to solve problems presented to the group, even if they personally had little expertise in the situation. In the case of the WELL, Rheingold offers the example of a member who posted in a health forum about his young son, who had recently been diagnosed with leukemia. Members of the forum quickly responded by researching the disease, and, as Rheingold writes, "Over the weeks, we all became experts on blood disorders" (p. 23). The same members later supported

another WELL member fighting the disease, even tie-dying lab coats and gowns for him – a man only known by his virtual identity – to wear during his months in the hospital.

Examples like those Rheingold describes raise questions related to what incentives participants in virtual communities have for exerting so much time and energy on a person who is, for all intensive purposes, a stranger. Barry Wellman addresses this very question in his research on virtual communities, attributing such actions to the egalitarian nature of the Internet. He says that in the real world, people are typically hesitant to assist strangers; alternatively, such aid in the virtual world – and especially in the case of public forums – is observed by the entire group and may be positively rewarded in the form of group status. In addition, he notes that in online interactions, the ease with which a person can withdraw from a problematic situation is much greater than leaving a similar situation in the real world (Wellman & Gulia, 1999, p. 176). Wellman also suggests that examples like Rheingold's experiences in the WELL are proof that helping others, regardless of the presence of real-world connections, can increase a person's self-esteem, respect from others and status attainment (p. 177).

Sherry Turkle (1995) echoes Wellman's ideas related to the uniqueness of online interactions in her discussion of Multi-User Dungeons:

> Women and men tell me that the rooms and mazes on MUDs are safer than city streets, virtual sex is safer than sex anywhere, MUD friendships are more intense than real ones, and when things don't work out you can always leave (p. 244).

Virtual worlds allow users to be several characters at once, embody traits they would never consider portraying in real-world interactions, and even be a person they could not physically be in the real world (e.g., gender switching). Because an "exit door" is always within reach, members of virtual communities need not be afraid of taking chances, whether it is making new friends, helping out a stranger or trying out a new identity. As we will see in the next section, however, the line of separation between one's virtual and offline identities begins to narrow as virtual communities evolve into modern social networking sites.

Present-Day Social Networks

> *"…people do not neatly divide their worlds into two discrete sets: people seen in-person and people contacted online. Rather, many community ties connect offline as well as online. It is the relationship that is the important thing, and not the communication medium."*
>
> *-- Barry Wellman and Milena Gulia, 1999*

The late 1990s saw a major transformation in the Internet, thanks largely in part to the exponential growth of the World Wide Web and the prevalence of Internet Service Providers (ISPs) such as America Online, which provided members with constant access to the Web for a monthly fee. The Web allowed for a much greater degree of visual presentation of identity than previously available, allowing users to post images and later

video to complement text-based postings. A parallel development in interaction technologies allowed users to chat with each other in real time, through chat rooms and instant messaging services, such as the one provided to all AOL members.

Building upon the sense of community found within online sites such as the WELL, one of the most recent – and certainly the biggest – trends in Internet communication has been the emergence of modern-day social networking sites (SNSs).[6] boyd and Ellison (2007) define these websites as services that allow users to:

> (1) create a "public or semi-public" profile, which can include a variety of details related to the user's educational and work background, hobbies, etc., as well as capabilities for posting images and video (in the case of many, but not all, sites);
>
> (2) create a list of other users with whom they are connected via the specific site (i.e., a "friend" list); and
>
> (3) view their list of connections and the connections of others within their network.

Social networking sites can maintain user bases in the tens of millions, and can serve either a general audience, as the popular sites MySpace and Facebook do, or a specific niche, such as sites for animal lovers (e.g., Catster.com, Dogster.com), car enthusiasts (e.g., CarDomain.com) and even Goths (e.g., GothPassions.com). SNSs can also be focused primarily on friendship and interpersonal connections, or they can be geared

more toward sharing of content. YouTube, for example, can be considered an SNS as defined above, as it allows users to create a profile and share connections with "friends;" however, the main purpose of the site is posting and sharing user-generated content with a general audience. Profiles and connections remain a secondary concern for YouTube users, and visitors to the site are not required to create an account or be friends with another user in order to view videos.

Predominantly conceived as an American phenomenon, SNSs are in no way limited to Western users: as of this writing, Orkut, a Google-owned, friend-based social networking site, has its heaviest user base among non-Western nations, with 54% of users hailing from Brazil and 17% from India. Nor are SNSs limited solely to consumers: in recent months – and most likely due to the success of Facebook and MySpace – many businesses have added a social networking component to their business models, in some cases as a way of staying on top of new technologies, but often as a way of reaching a younger and more connected audience. For example, IBM is very active in Second Life and conducts some meetings online so that employees in different physical locations can collaborate in one place – albeit a virtual location.[7] Likewise, Starbucks launched its version of an SNS, mystarbucksidea.com, in March 2008, as a way of getting the consumer more involved in the company.[8] The idea that emerges from these examples is that in today's society, a social networking site exists for everyone, regardless of age, race, social status or physical location.

As referenced in the definition above, the idea of *public* displays of connection is central to the social networking site model being discussed in this thesis. A large number of SNSs make interpersonal links available for the public – or at the very least, the users' network of friends. The degree of "publicness" varies from site to site, with most sites allowing for some degree of user control. On Facebook, for example, users can customize their settings to allow no one; just friends; friends and friends of friends; everyone in some of their networks; or everyone in all of their networks to view their friend list. Facebook also allows users to exclude specific friends from viewing parts of their profile, including the friend list, through its "Limited Profile" setting. So if Susan doesn't want her boyfriend Bobby to see that she has "friended" her ex-boyfriend Joe, she can exclude Bobby from seeing her friend list (although doing so may raise other problems if Bobby figures out that she's done this).

But why is the ability to see a user's connections so important to a relationship? Donath & boyd (2004) say that seeing a person within the context of his/her online friend list can provide the viewer with a deeper understanding of the person and allow inferences to be made regarding that user's social status, political beliefs, musical tastes and more. Seeing a list of connections may also help build trust between two users, especially if there are shared links between the two, as these common connections can act as a form of verification process. For example, if two people meet at a business event and

determine that they have mutual friends, they will probably be more likely to pursue a relationship with each other than if no connections exist between them.[9]

Research on Facebook users supports Donath and boyd's claim. A study of Facebook users' messaging habits suggests that navigation and browsing of others' friend lists comprises a significant amount of users' time on the website (Golder et al., 2006). Facebook recently facilitated this process in March 2008 by adding a "People You May Know" section to users' home page. This feature lists other Facebook members who share more than one connection with you and asks if you want to friend them.

As we are beginning to see, one of the chief differences between social networking sites and earlier virtual communities stems from the exposure – and in the case of many social networking sites, the *proclamation* – of one's identity. Many of the early forms of online communication (e.g., MUDs, BBSs, Usenet) experienced such high levels of success because they offered users a component of anonymity (Postmes et al., 1998, 2002; Christopherson, 2006). Anonymity allows message board contributors the freedom to speak openly and honestly, often about controversial subjects for which they may not want to reveal their identities. With modern social networking sites, however, the motivation has reversed somewhat from early virtual communities: whereas people such as Howard Rheingold established online relationships in the WELL before meeting users in person, today's social networking sites focus more on allowing users to maintain or solidify pre-existing offline relationships (Ellison et al., 2007). An example of this

trend can be seen in a study of Facebook users that found that users were more likely to search the website for connections already existing offline than they were to browse for complete strangers with whom to engage (Lampe et al., 2006). The visibility of profile information, such as photos of a user, also makes it easier to browse for and find other individuals with whom one has an offline relationship.

Another potential perk for social networking site users is the ability to create an *illusion* of popularity through the sheer quantity of "friends" one has connected to his profile. In one study of Facebook users' messaging habits, researchers found that being a friend on Facebook should be considered a necessary but not a sufficient requirement for being a friend offline (Golder et al., 2006). This finding suggests that, for some individuals at least, the quantity of connections one has ranks higher than the quality of those relationships. Because the relationship takes place in a virtual world, people looking for this form of gratification from a social networking site need merely alter their profile accordingly in order to accrue more "friends." Tila Tequila, for example, rose from general obscurity to a major Internet phenomenon thanks because of the popularity of her MySpace profile. As of April 2008, she had nearly 3 million "friends" on the website, thanks largely in part to the sexy persona she portrayed in her profile. Tequila's experience suggests significant power exists in numbers: her popularity on MySpace led to an MTV reality series and the launch of her music career (du Lac, 2007).

Donath and boyd's (2004) research supports this belief, as they suggest that social networking sites allow users to increase the number of weak ties in their networks. In Golder's study, the average Facebook user had 180 friends on the website, comprising a substantial network of contacts. One could consider SNSs as a virtual rolodex which categorizes both close friends and casual acquaintances, allowing users a direct link to others within their networks. This method appears to be a much simpler and quicker method of contacting people outside of one's immediate circle of friends, and may even be considered less intrusive than a random phone call.

Facebook's emergence

By 2007, it became apparent that two major players had emerged from the overabundance of social networking sites: MySpace and Facebook. As referenced above, each of these sites serves a general audience with the primary purpose of connecting to other users and most often to friends. These sites have distinct backgrounds and appeal to different audiences. Since its inception, MySpace has had significant ties to the music community, and these connections have remained an important part of the site's appeal. On April 3, 2008, MySpace announced an online music venture with three of the four largest record labels to offer MySpace users access to both free music and paid-for downloads (Stone & Leeds, 2008). Facebook, as we will see in the discussion below, initially emerged as a closed network, limited to a small group of users (in this case,

Harvard undergraduates). Press coverage of these two sites sometimes suggests that these initial focal points still hold sway over the present-day user base.[10]

MySpace has long held the title of the most popular social networking site as based on the sheer number of registered users. While reports vary, most claim that as of the beginning of 2008, MySpace has more than 100 million active users, compared with 69 million active users on Facebook,[11] where an active user is defined as a registered user who has logged the Web site in the past month. One of the major reasons this thesis considers the impact of Facebook on offline relationships and not MySpace is that Facebook continues to see growth on its site, while MySpace has seen membership levels flatten out. As can be seen in Figure 3.1 below, Facebook has now surpassed MySpace in page views per visit, a classic method of gauging Web site popularity. This is not due to any significant growth on Facebook's end, but merely sustainability of interest as compared with a large decline in average MySpace page views per visit since summer 2007.

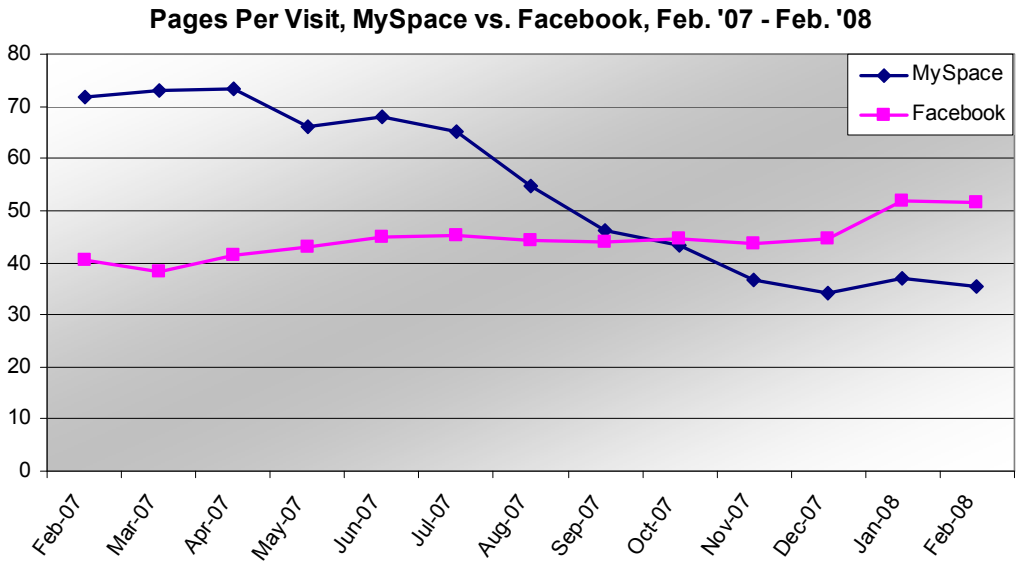


Figure 3.1: Differences in usage of two major social networking sites, MySpace and Facebook.

So how did Facebook begin its journey toward social networking greatness? The original incarnation of Facebook launched Feb. 4, 2004 in a Harvard dorm room, the brainchild of founder (and student at the time) Mark Zuckerberg. The main purpose of the site at its inception was to connect fellow Harvard students through an online network that allowed students to post a photo and personal information, such as where they lived on campus and the campus organizations to which they belonged. By the following day, more than 1000 students had signed up; by month-end, that number reached approximately 75% of Harvard students (Cassidy, 2006).

As the site's popularity grew, the network of colleges expanded, and by year-end it had reached one million users. After receiving nearly $13 million in venture capital

financing in mid-2005, the site expanded again to include high school and international school networks during late 2005. In September 2006, Facebook executives made the decision to open up the site to everyone, rather than those in specific networks, and membership soared from 12 million active users at year-end 2006 to 50 million active users by October 2007 and 69 million active users by April 2008. The site currently ranks as the fifth most-trafficked Web site in the world.[12]

Facebook offers some unique features and modifications from other social networking sites. As with all SNSs, members create an online profile and control the amount of information they choose to reveal to other users. This information can be as benign as their hometown, college name and birthday to as specific as relationship information, favorite movies and a list of the classes they're enrolled in during the current semester. A status bar allows users to update their status at any time with what they are doing, how they are currently feeling, or any other information they want to include. This status is typically viewable by all of the users' friends. The wall feature allows friends to post comments, links, and images on a user's profile page, where they are also typically viewable by all friends. Photo tagging involves associating pictures of an individual with his name and therefore his profile. Users can create or join groups ranging from topics as serious as finding a missing person to as inane as "When I was your age, Pluto was a planet." And when any of this information is added, changed, or deleted, the user's friends can be notified via their News Feed, which appears on users' home page and lists

recent activity by friends. See Figure 3.2 below for an example of what a standard Facebook profile may look like.

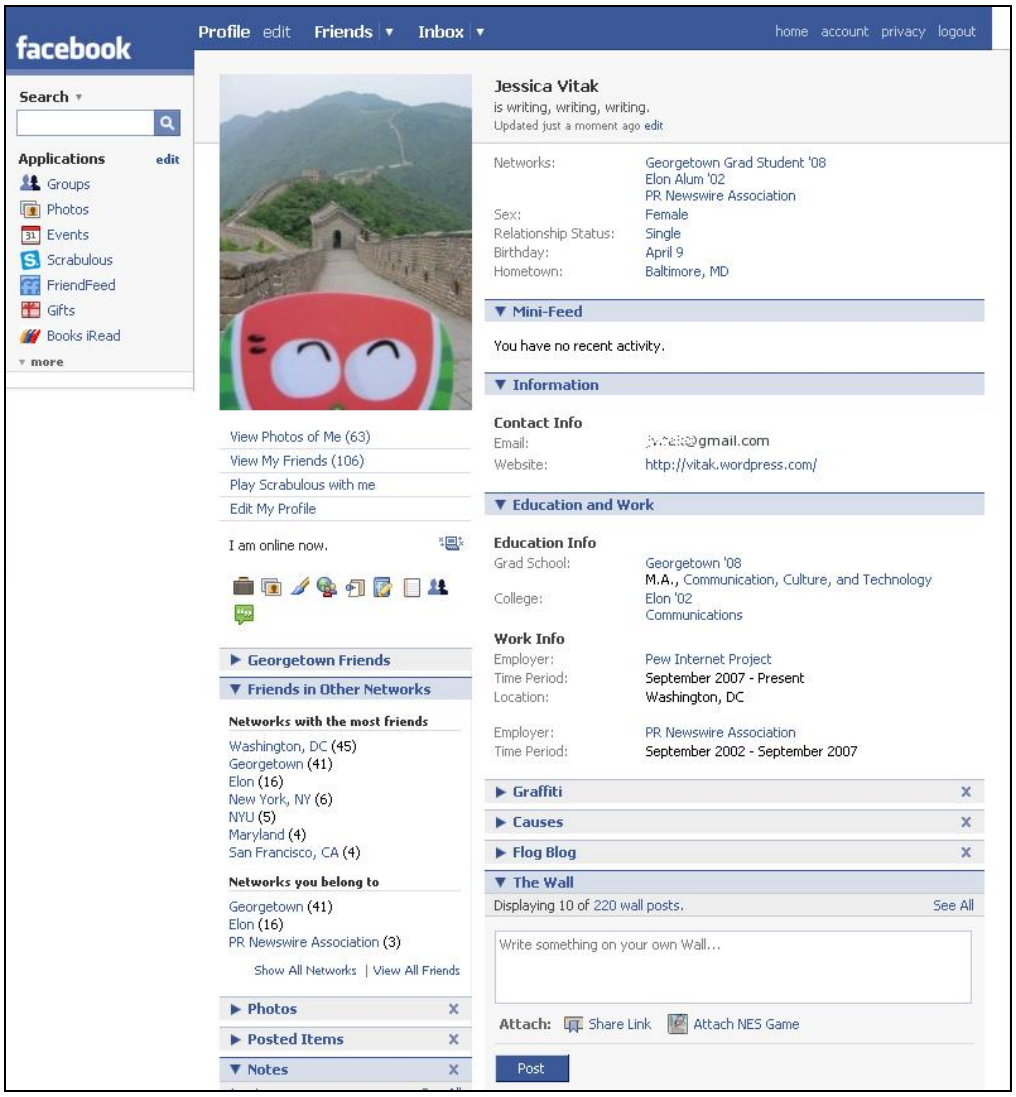


Figure 3.2: Example of a Facebook profile page.

The Facebook platform has allowed for the creation and growth of applications, which as of April 2008 included nearly 21,000 separate options. While few applications are widely successful (currently just 55 have 100,000+ daily active users), they provide another way to allow users to interact, to bring members to the site more often and to encourage non-users to join the site. The Scrabulous application, for example, allows friends to play the board game Scrabble online, with no time limit and no physical presence necessary. This application component has been one of the biggest distinguishers between Facebook and its competitors, and other sites have tried subsequently to copy Facebook's model, although none have yet come close to the sheer size of Facebook's application collection.

Taken together, these features add up to a website to which members frequently return. On average, two-thirds of users log in at least once every 24 hours, and users spend about 20 minutes on the site each day (Cassidy, 2006). Facebook has also managed to win the trust of its users by prioritizing their privacy with detailed account and privacy settings. Unlike sites such as MySpace, which allow members to search for and view the profiles of any registered user, Facebook limits searches to only those within that user's networks, unless specifically approved by that user. For example, a user can have the site search his Gmail or Yahoo! address book to see if any email addresses match registered accounts. If matches are found, the user can send a friend request to specified users, asking them to be his Facebook friend. That same person cannot, however, search

through a general directory of Facebook users looking for users he might know who are not in his networks. Zuckerberg says these restrictions encourage users to reveal more personal information about themselves than they would had anyone been able to see their profile: "…giving people control over who sees what helps to increase over-all information flow" (Cassidy, 2006).

Another privacy aspect in which Facebook takes the lead is in the area of identity verification. When the site first launched – and, indeed, until it membership extended beyond college students – all members were required to register their account with a .edu email address, which had to be verified before the account activated. Even today, where a potential Facebook user does not need to belong to a specific network to join, s/he must verify a relevant email address before joining a specific network (geographic-based networks are excluded from this verification process). Donath and boyd (2004) discuss the importance of such verification processes, especially in relation to the connections between users, as a way of ensuring honest self-presentation online. Facebook's verification process supersedes some of the need for users to keep each other honest: while I could list myself as having a degree from Harvard on MySpace and get away with it until a friend called my bluff, Facebook will not even let me jokingly make such a claim.

Critics voice concern over the evolution of the Internet

As can be found in the history of all major technological developments, the rise and evolution of virtual communities has met with both praise and criticism. In the 1990s, optimists like Howard Rheingold and Mark Poster focused on the opportunities for growth virtual communities allowed, suggesting that the Internet could solve many of the issues of differentiation and integration found within tradition communities (Willson, 2006). On the other hand, the '90s also saw a number of Internet critics emerge, with arguments often focusing on the belief that online worlds and virtual interaction would replace real-world realities, and that people (especially children) would be incapable of differentiating between the two. Some critics said that interaction via a computer could never equate face-to-face interaction and that those who pursued such online relationships would "lose contact with 'real life'" (Wellman and Gulia, 1999. p. 169).

Howard Rheingold (1993) addresses the concerns of critics and Luddites in *The Virtual Community*, writing:

> Many people are alarmed by the very idea of a virtual community, fearing that it is another step in the wrong direction, substituting more technological ersatz for yet another natural resource or human freedom. These critics often voice their sadness at what people have been reduced to doing in a civilization that worships technology, decrying the circumstances that lead some people into such pathetically disconnected lives that they prefer to find their companions on the other side of a computer screen (p. 23).

Likewise, Barry Wellman addresses these concerns in an article with Milena Gulia (1999), quoting a critic as saying, "Where does the need come from to inhabit these alternate spaces? And the answer I keep coming back to is: to escape the problems and issues of the real world" (pg. 169). Wellman goes on to say that such arguments are unscholarly and must be examined in light of research rather than speculation.

While we have seen a decrease in many of the fears related to the Internet as use becomes more ubiquitous in the early years of the 21st century, such criticism and concern continue today in various forms. Coverage of Internet addiction, which has been debated since the 1990s within the press and the medical community, has reemerged as a major subject over the last year. In 2007, South Korea opened a "boot camp" for young men suffering from Internet addiction (Fackler, 2007). The *American Journal of Psychiatry*'s March 2008 editorial suggests Internet addiction is an obsessive-compulsive disorder characterized by excessive use, withdrawal and negative repercussions (Block, 2008, p. 306). This debate is especially focused on the gaming industry, where players of MMORPGs (Massively Multiplayer Online Role-Playing Games) such as *World of Warcraft* and *RuneScape* invest hours each day developing their characters and interacting in virtual worlds: Ted Castranova (2004) estimates that the average MMORPG player spends 20-30 hours per week in virtual worlds, with heavy users spending every available moment online (p. 1-2).

Unfortunately, there exists no easy answer to questions posed 15 years ago. Ongoing research continues to examine the many questions related to the positive and negative aspects of the Internet and virtual communities, but such work cannot typically keep pace with technological change. However, it is important to remember the history discussed in this chapter and to realize that people have been using the Internet for communication purposes for nearly four decades – and most of us have turned out just fine.

The next chapter will apply the research discussed to this point to new data collected in early 2008 from a survey of college students' use of the social networking site Facebook.

Chapter 4: Data Analysis

Introduction

While previous research has considered the implications of the Internet on social interactions through a variety of academic methods, the rapid rise of Facebook from relative obscurity to global phenomenon in the last four years means that few quantitative research projects have been completed as of this writing. Therefore, in an effort to contribute to the growing body of literature examining this Internet and social phenomenon, original data collection was undertaken via a survey of college undergraduates to discover more information about their uses of the website.

From the foundation built by examining previous literature on identity, interpersonal relationships and computer-mediated communication, as well as a historical examination of virtual communities, we will now begin an analysis of this data. While a full methodology is presented at the end of this chapter, a brief overview is provided here to familiarize the reader with the data collection process.

Over the course of 32 days in January and February 2008, 644 surveys were completed by undergraduate students at Georgetown University in Washington, D.C. Students were able to take the surveys through either an electronic method (via the survey website SurveyMonkey.com), or in classes across a number of different subject areas.

The survey was divided into three sections: a basic demographics section, which collected information about respondents' gender, year in school and major, among other things; a section which asked questions related to respondents' use of various communication methods, including the time spent using the Internet for a variety of purposes; and a third section for those respondents with Facebook accounts, which included questions related to respondents' virtual identities and relationships with different types of Facebook "friends". In the data analysis below, discussions based on the questions from the first two sections of the survey will be based on the total sample size of 644, while discussions specifically related to respondents' use of Facebook will be based on the number of respondents who reported having an active Facebook account at the time of the survey (n=614).

Survey Demographics

Before beginning a detailed analysis of relationships between data, we should consider the overall demographics of the sample. Below is a brief look at respondents' background information:

- *Forty-four percent of respondents are male; 56% are female*. This ratio closely corresponds to Georgetown's overall undergraduate male to female ratio of 45% to 55%.

- *Fifty-six percent of respondents are freshmen, 25% are sophomores, 10% are juniors and 9% are seniors*. The discrepancy between years can be attributed to the methods employed in collecting surveys: as most of the classes surveyed were introductory and low-level courses, they were biased toward underclassmen. Due to the time constraints of this research project, I deemed this bias acceptable. Generalizations made from an analysis of the data will take the respondents' year in college into consideration.[1]

- Survey respondents represent a *diversity of geographical locations*, listing 42 states (including the District of Columbia) and 38 foreign countries as their home location. Domestically, the regions of location closely mirror those of the demographical data Georgetown lists for students enrolling in the 2007-2008 academic year: 52% are from the Northeast (including states located north of Virginia); 12% are from the Midwest; 11% are from the Southeast; 11% are from the West; 9% are foreign; and 4% are from the Southwest.

- Survey respondents also represent a *diversity of academic majors*. By placing the given majors into the 12 major academic areas determined by Georgetown, 34% of respondents fall into the business and economics category; 14% are in the biomedical and health sciences; and 10% are in the international, regional and ethnic studies. Seventeen percent of respondents listed their major as undecided, most likely due to the large percentage of undergraduates included in the survey.

- *Survey respondents are very connected*. Virtually all (99%) of respondents own their own computer, and 98% connect to the Internet at home.[2] The majority of respondents (87%) connect at home more than any other location.

- *Traditional face-to-face communication is by far the most popular way respondents interact with other people*, with respondents spending more time per day talking in-person than communicating via social networking sites, phone, text messages or email. Eighty-seven percent of all respondents spend more than one hour each day in face-to-face interactions. This survey did not ask questions related to which types of communication respondents used when interacting with different ties within their social networks.

- *The social Web rules*. Using the Internet for communication purposes, including email, instant messaging and social networking sites, ranks as the activity respondents spend the most time doing when online, followed by education, entertainment and news purposes, respectively.

- Fully *97% of respondents report having a Facebook account*,[3] and no other SNS comes close in terms of usage: 25% of respondents use an SNS other than Facebook, with MySpace being the most popular (20% of all respondents).

Data Analysis

This section will present an analysis of data collected from the surveys. Once the collection period ended, data was coded[4] and imported into SPSS, a statistical software program, and crosstabs were run to examine relationships between data. The comparisons focus primarily on two of the intervening variables introduced in Chapter 2: differences in communication across gender and across age (i.e., year in school). The other major intervening variable in that model – the percentage of one's social network using the same form of communication – is discussed specifically in the section of this chapter focusing on the different types of friends one can have on and off Facebook. Where possible, connections between the findings in this survey and in previously conducted Facebook studies will be discussed.

A copy of the questionnaire is included in the Appendix.

Use of communication methods

Modern technology offers consumers an infinite array of gadgets and platforms to connect and interact with other people. No longer forced to talk in-person or over a landline, today's mobile generation can connect 24 hours a day from virtually any location in the world. Because of this, it is important to consider how the ways in which people interact have changed over the years, and especially how younger users – who

often adopt newer technologies first – use the abundance of communication methods now available to connect to their friends, family and others.

Georgetown students use a number of communication methods to stay connected on a daily basis. The vast majority of respondents (89%) use each of the five major communication methods included in this survey – face-to-face interaction, phone, email, social networking sites and text messages – on a typical day, and average use for all methods except email falls into the 10-30 minutes per day range or higher (see Figure 4.1 below). By a large margin, respondents report spending the most time per day communicating face-to-face, followed by using social networking sites, a phone, text messaging and email, respectively.

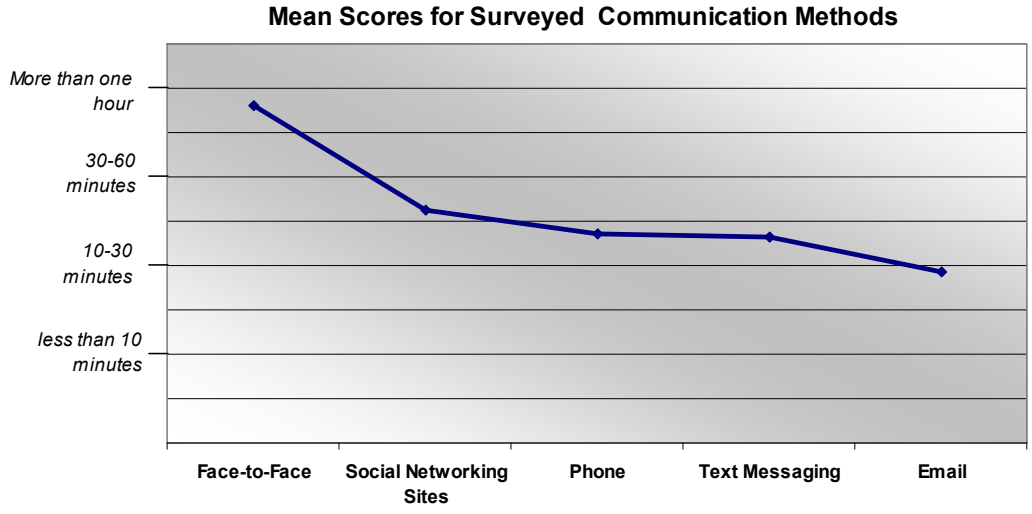


Figure 4.1: Respondents average usage rates of the listed technologies on a typical day.

When considering respondents' usage of these communication methods according to their year in school, the data reveal some noteworthy findings. As should be expected, face-to-face interaction remains the most used method across all four years of students. However, each of the other four categories reveals a relationship between the respondent's year in school and the amount of time spent using each method (see Figure 4.2 below.) Seniors are much more likely to spend a significant amount of time each day using "older" communication technologies, in this case emailing or talking on the phone. On the other hand, freshmen are twice as likely as upperclassmen to be spending this much time using social networking sites, and more than twice as likely to be spending more than one hour text messaging each day. This high use of newer communication methods among freshmen is most likely the cause for their low usage of email on a daily basis: more than half of freshmen respondents (56%) use email for less than 10 minutes or not at all on a typical day, and just 12% report using email to communicate for more than 30 minutes per day.

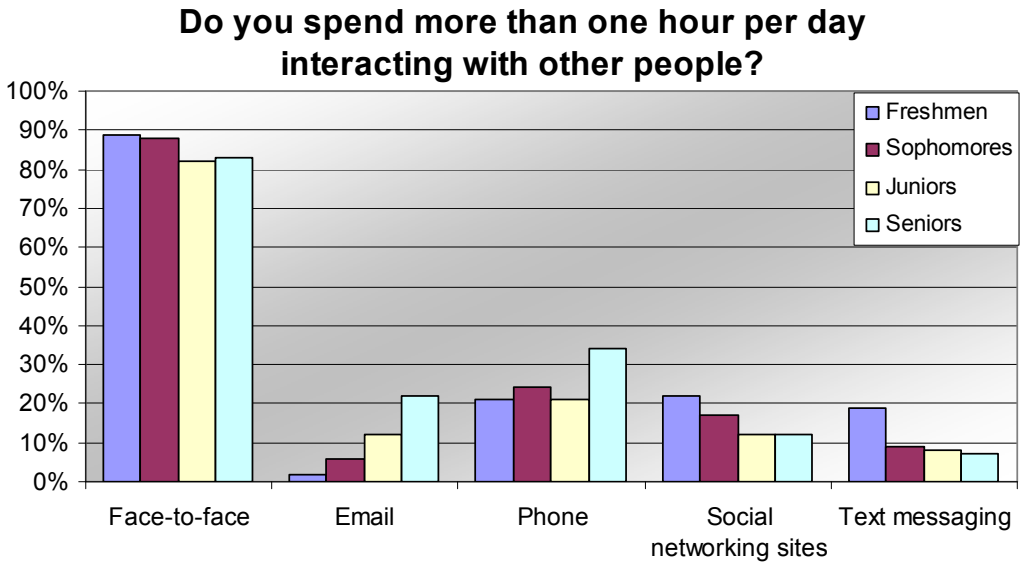


Figure 4.2: The percentage of respondents, based on year in school, who say they spend more than one hour each day communicating via the five major communication methods considered in this survey.

Differences also exist between communication method usage levels with respect to gender. Women typically spend more time than men using each of the five communication methods included in the survey. For example, while only a slight variation (i.e., less than a 10% difference) exists between the reported amount of time spent in face-to-face, email and text message interaction each day, communicating via phone reveals a larger gap in usage: 46% of female respondents spend 30 minutes or longer each day talking on the phone, compared with 30% of men. Furthermore, 57% of female respondents spend 30 minutes or more each day using social networking sites, compared with 42% of male respondents.

Comparisons can also be made between these findings and related research on the use of various communication methods. Gender-based data on phone use fall in line with conventional wisdom regarding the amount of time men and women spend talking on the phone, but disagree with other recent research: a 2007 survey conducted by AT&T found that men actually talk on the phone more than women.[5] Data suggesting younger students spend more time communicating via text messaging and social networking sites are supported by recent a Pew Internet Project report, which found that more teens ages 12-17 talk to their friends on an average day via these methods than via email (27% and 21% vs. 14%, respectively) (Lenhart et al., 2007).

How students use the Internet

Within the collegiate environment, one can safely assume that all students need to use the Internet for a variety of educational purposes, in addition to their personal uses for activities such as communication and entertainment. Nearly all (98%) of respondents have Internet access at their local residence, 84% access the Internet from school and 33% report accessing the Internet from work. Other responses given that reflect recent changes in technology include accessing the Internet anywhere via electronic gadgets like smartphones (2.4%) and in alternate locations via Wi-Fi networks (2.2%).

While fully 99% of respondents own a personal computer, and Ethernet connections are provided for all on-campus residents, the university offers students

several locations to access the Internet when away from home. The campus maintains two public and five dorm-based computer labs, and the university's main library houses approximately 150 computers with Internet access on its main floors and in its new-media lab. The relatively low percentage of students accessing the Internet from work is most likely due to the fact that many students do not work while school is in session.

Students use the Internet for a variety of purposes. In this survey, respondents were asked how much time they spend on a typical day accessing the Internet for the following purposes:

- *Education/school work*, including researching papers and general education purposes;
- *Communication*, including use of social networking sites, instant messaging and email;
- *Entertainment*, including playing games online, watching videos on sites such as YouTube and reading entertainment-based websites; and
- *News*, including reading content on news-based websites.

Use of each method listed in the survey scored highly, with at least 97% of respondents within each category reporting daily use, and 95% of respondents using the Internet for all four activities on an average day. Use of the Internet for communication and educational purposes show the highest level of daily use, with four out of five respondents in both categories (80% and 79%, respectively) reporting 30 minutes or more of use each day. Reading news sites online occupied the smallest amount of time, with

65% of respondents spending less than 30 minutes online (or no time at all) each day reading news.

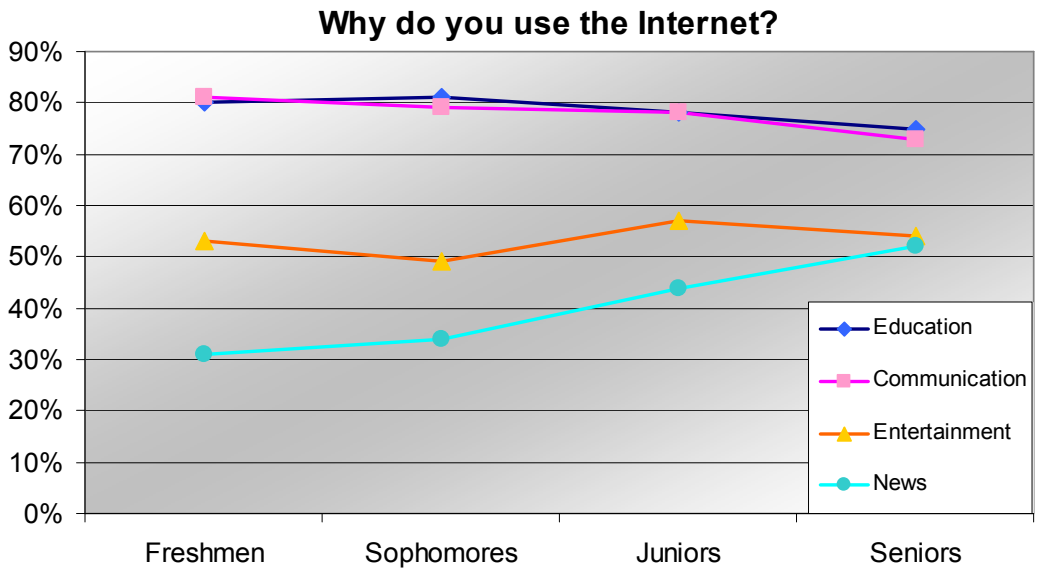


Figure 4.3: Percentage of students within each year of school who say the spend 30 minutes or more per day using the Internet for educational, communication, entertainment and news purposes.

College students' use of social networking sites

The primary audience that many social networking sites target is young adults, and the primary audience of Facebook – indeed, the site's only intended audience when it launched in 2004 – is college students. Georgetown University students overwhelmingly pick Facebook as their social networking site of choice, with 97% of respondents confirming an active account on the website. This penetration extends far beyond the

nearest competitor in terms of use: of all other options, MySpace, with 20% penetration among the sample, was the only social networking website to break into double-digits. See Table 4.1 below for a break-out of data.

Table 4.1: Social networking sites with which respondents have accounts

Name of site	Primary purpose of site	% of respondents with an account
Facebook	Friends	97%
MySpace	Friends, Music	20%
LinkedIn	Professional	2%
Hi5	Friends (predominantly foreign)	1%
Friendster	Friends	1%
Xanga	Blogging	1%
Livejournal	Blogging/Journal	1%
Doostang	Professional	1%
Bebo	Friends (predominantly foreign)	<1%
Orkut	Friends (predominantly foreign)	<1%
Other*	Varies	3%

** All responses included in the Other category received two or fewer responses in the open ended section of Q5, which asked if respondents belonged to any other social networking sites other than those listed.*

Looking specifically at how often students use Facebook, 80% of respondents with a Facebook account log in to the website multiple times a day. When considering this percentage in relation to the respondents' year in college, there appears to be a

relationship between the respondent's year in school and the frequency of use, with respondents logging in less often the further along they are in school. While 85% of freshmen report logging into Facebook multiple times a day, this percentage drops to just 57% of seniors. As might be expected, the opposite trend occurs when looking at the percentage of respondents who log in a few times a week or less: 26% of seniors report this level of usage, but the percentage drops to 5% of freshmen respondents. Differences in usage based on gender are less noteworthy: while women are more likely to log in multiple times a day than men (84% vs. 75%), the percentages even out when considering respondents who log in at least once a day (92% vs. 91%, respectively).

In addition to logging in often, most respondents spend a similar period of time on Facebook each time they visit the site. Nearly all respondents (95%) report spending 30 minutes or less on the website, with more than half (54%) spending less than 10 minutes each time. When considering these responses in relation to the previous question about frequency of site visits, one might assume that users who log in more often are spending less time on the site because they visit it repeatedly throughout the day; however, users who log in multiple times per day are also slightly more likely to be spending more than 10 minutes on the site than users who log in less frequently. Women are also more likely to spend more time on the site each time they log in: whereas 36% of men say they spend 10 minutes or longer on the site each time they log in, this percentage rises to 53% of female respondents.

Facebook was created as a central location to interact with friends, but the site has since evolved to serve a number of other functions. The site is far-and-away the market leader in third-party applications, with more than 20,000 distinct applications currently available for users. According to Facebook's website, the site is the No. 1 photo-sharing site on the Web, with more than 14 million photos updated daily. While respondents in this survey certainly take advantage of these features on the website, keeping in touch with friends remains the top priority, with 97% of respondents saying they use Facebook for this purpose. Figure 4.4 reveals the major reasons for which respondents use the site.

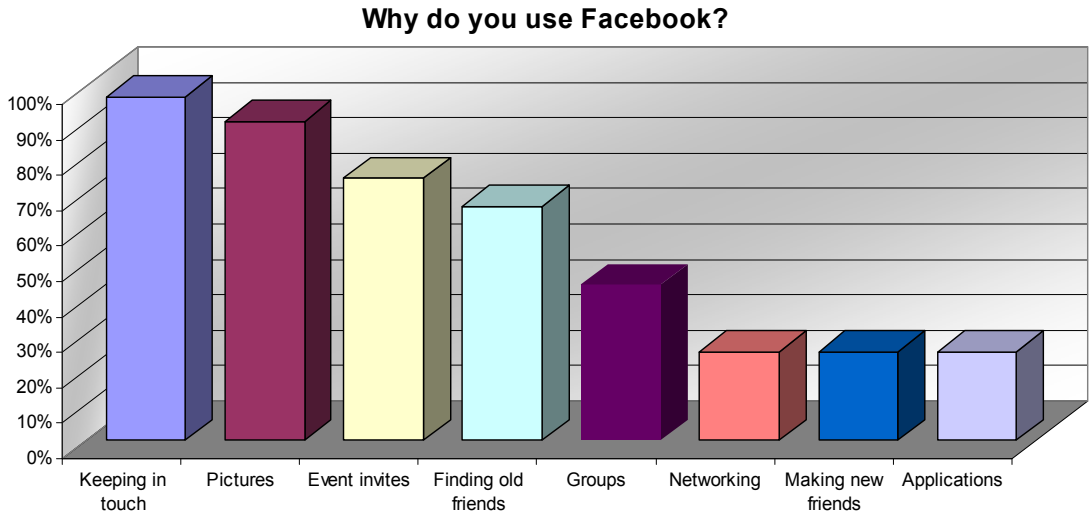


Figure 4.4: The percentage of students who say they use Facebook for each of the listed purposes.

As might be expected from the above results, fully 85% of respondents say that keeping in touch with friends is the *most important* reason for using the site, with viewing and posting pictures coming in a distant second at 9% of respondents. While these results were consistent across gender, a slight variation can be seen across respondents' year in school, with underclassman being more likely than upperclassman to rank keeping in touch with friends as the most important reason for using the site (87% vs. 77%, respectively). Upperclassmen were more likely than underclassmen to list picture posting/viewing (13% vs. 9%) and networking (3% vs. <1%) as their primary reason for using Facebook.

Because keeping in touch with friends is the chief reason most respondents use Facebook and the site offers numerous ways to interact, one could reasonably expect that the site serves as the primary method of communication for a portion of users' friends, and the survey data confirm this belief. More than 92% of respondents say that Facebook serves as the primary method of communication for at least a few of their friends, with nearly one-fifth (18%) saying this statement applies to the majority of their friends. The percentages remain relatively consistent across year in school; however, seniors are less likely than freshman to use Facebook as a primary method of communication: 54% of seniors say they primarily use Facebook to communicate with few to none of their friends, as compared with just 34% of freshmen. Likewise, men are more likely than

women to say they communicate with just a few or none of their friends primarily via Facebook (43% vs. 31%, respectively).

Facebook helps users transition to college

For the current generation of college students, Facebook is still a relatively new technology, having launched the spring before current college seniors began their freshman year of school. While 84% of all respondents had a Facebook account before beginning college, the newness of the site is evident in looking at results across year in school: 94% of freshmen had an account before they entered Georgetown, but this percentage drops significantly with each subsequent year, and only half (51%) of seniors say they had an account before entering college.

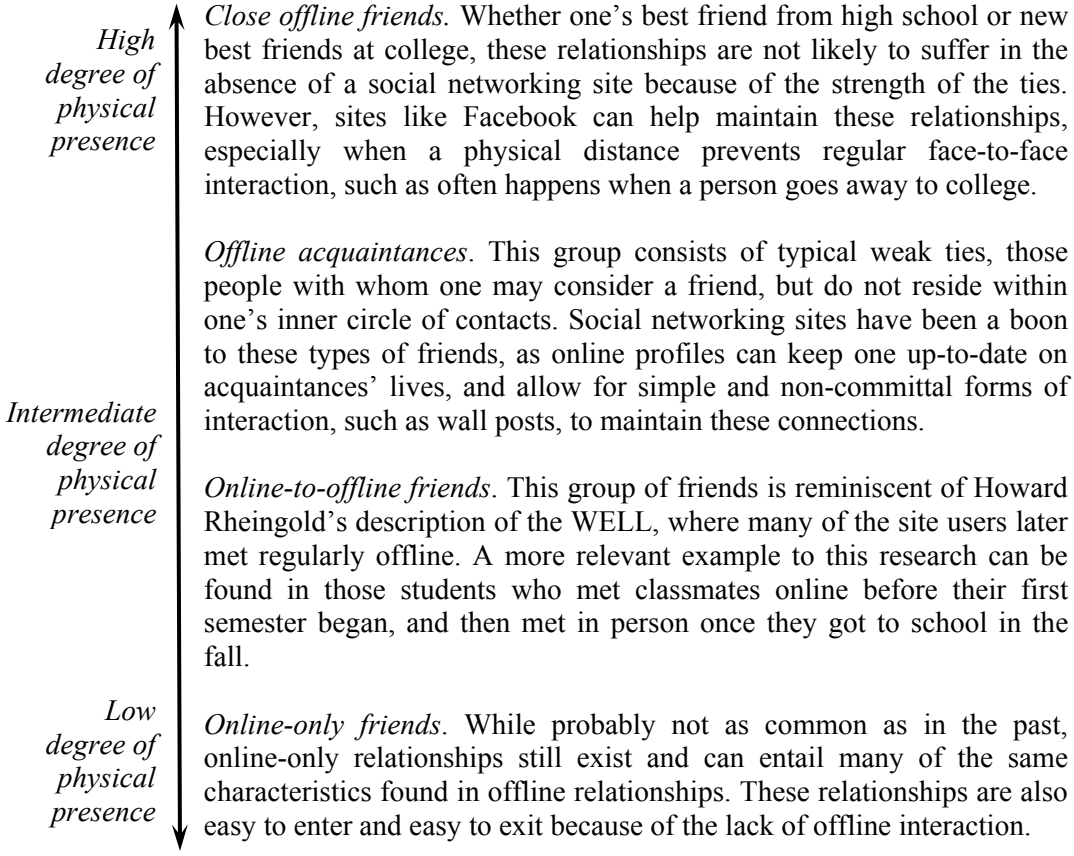
One option valuable to new students who may be entering a college far away from home is that Facebook allows users to join specific networks related to their educational institution and year (e.g., Georgetown ’11), thus allowing students the opportunity to seek out fellow classmates before the school year begins. Two-thirds of respondents who had a Facebook account before entering Georgetown say they used the site to seek out classmates before school started, and as with the previous question, there was a downward trend associated with year. Of those students who had a Facebook account before entering college, 70% of freshmen searched out fellow classmates before school

began, compared with 55% of seniors. Men and women were equally likely to use Facebook for this purpose.

Many types of friends exist on social networking sites

Friendships exist in all shapes and sizes, especially in the online world. As previously considered in Chapter 3, online communities such as the WELL bring together users from geographically disparate locations who share common interests. Today, a plethora of social networking sites allow individuals who would never have had a chance to meet in the real world to come together and talk about their hobbies, their passions and, for all intensive purposes, just about anything on their minds. Research shows that a physical link is not necessary to form a strong and lasting relationship (Rheingold, 1993; Wellman & Gulia, 1999); however, for many people, meeting in person can solidify online interactions and provide more meaning to a virtual persona.

In the survey, respondents were asked several questions about their different types of Facebook friends. Four categories were devised to denote the major categories of friendship possible on a social networking site – close offline friends, offline acquaintances, online-to-offline friends and online-only friends. Below is a detailed description of each category, based on the degree of physical presence possible (although not always present) within each relationship.[6]



Georgetown students appear to have little problem forming relationships in the virtual world. More than half (58%) of respondents say they have online-only friends on Facebook. Most often, respondents say they met an online-only friend through mutual friends (57%) or through a shared group or network on the site (34%). A complete listing of responses can be found in Table 4.2 below. However, these relationships only make up a small percentage of respondents' total friend base on Facebook: 87% of respondents with online-only friends say that just a few Facebook friends fall into this category. In

addition, most respondents do not place much weight on these relationships, with 85% of respondents saying they do not communicate with the majority of their online-only friends, and just 14% saying they would consider meeting an online-only friend in person if the opportunity arose.

Table 4.2: Relationship initiation for online-only friends

How did you initially meet your online-only friend(s)?	Percentage saying yes
Mutual friends	57%
Same group/network	34%
Similar interests	16%
"They friended me"	7%
Random	6%
Same name	2%
Other	3%

Based on number of students who say they have online-only friends (n=354). Percentages total more than 100% because respondents were asked to check all options which applied.

Freshmen are more likely than students in any other year to have online-only friends, with 64% of freshmen reporting such relationships on Facebook, compared with just 48% of upperclassmen (see Figure 4.5 below). Freshmen are also more likely to say that online-only friends make up a larger percentage of their total Facebook friends: 16%

of freshmen say they have never met "some" to "most" of their Facebook friends, as compared with no seniors who said this. On the other hand, seniors are twice as likely respondents in other years to pursue an offline relationship with online-only friends: 26% of seniors say they would meet an online-only friend if the opportunity presented itself, compared with just 13% of all other respondents.

Men and women are equally likely to have online-only friends, although men are slightly more likely to have a substantial number of such friends on Facebook, with 18% of male respondents saying these friends comprise "some" to "most" of their Facebook friends, compared with 11% of women who say the same. Likewise, men are more likely than women to pursue an offline relationship with online friends: 19% of men say they would probably meet their online-only friends in real life given the opportunity, as compared with just 11% of women.

The phenomenon of having online-to-offline friends can best be seen in the early versions of virtual communities, where relationships are solidified via semi-anonymous interactions first, and members later decide to organize in-person meetings. Previous research has shown that for modern social networking sites such as Facebook, users spend more time searching for other users with whom they already have an offline relationship than they do looking for strangers to meet (Lampe et al., 2007). Data collected from the surveys of Georgetown students support these findings, but also reveal that students do forge some relationships online before establishing an offline

relationship. Nearly half (47%) of all respondents say they have been able to form offline friendships with people they initially met online, and the majority of respondents who say this (81%) have formed friendships with more than one person. These percentages had little variation across gender; however, as can be seen in Figure 4.5 below, freshmen are twice as likely as seniors to have online-to-offline friends (53% vs. 27%).

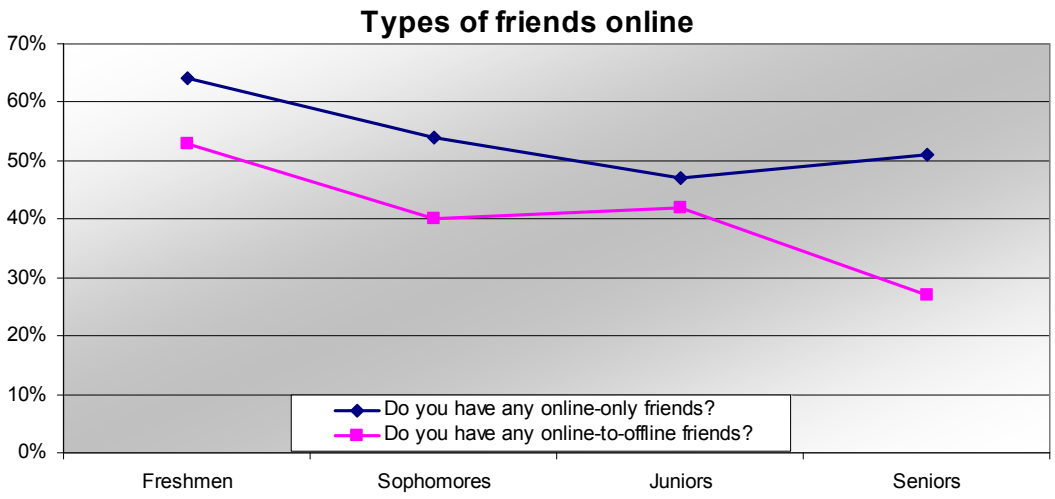


Figure 4.5: Percentage of respondents saying they have online-only and online-to-offline friends.

But what about offline friends? Here the popularity of Facebook among college-aged students is once again proven. Two-thirds (65%) of respondents say that just a few of their friends do not have a Facebook account, and one-quarter say that all of their friends are on the social networking site. These numbers remain fairly consistent across both year in school and gender, although freshmen and women are slightly more likely to

report that all of their friends are on Facebook. Furthermore, 31% of respondents who have friends without a Facebook account say they would be closer to these friends if they joined the website. As also seen above, underclassmen (32%) and women (36%) are more likely to say they would be closer to offline friends if they joined Facebook than upperclassmen (24%) and men (25%).

For the three-quarters of respondents who do have offline friends without a Facebook account, a variety of alternative communication methods are employed to maintain friendships. Respondents interact equally with these friends via face-to-face interaction and over the phone (61% and 62%, respectively), followed by text messaging (56%) and email (34%). Talking on the phone ranks as the method of communication *most commonly* used with these friends (36%), followed by face-to-face interaction (34%), text messaging (21%) and email (8%).

Patterns in communication methods emerge among across both gender and year in school. Men are more likely than women to say they most often communicate with their non-Facebook friends via face-to-face interaction, while women are more likely to use the phone or email to keep in touch. Likewise, freshmen are the most likely to say they communicate most often via face-to-face interaction or text messaging, while seniors are significantly more likely than other years to use email or a phone as their primary communication method with their non-Facebook friends. See Figure 4.6 below for a complete breakout of communication methods by year in school.

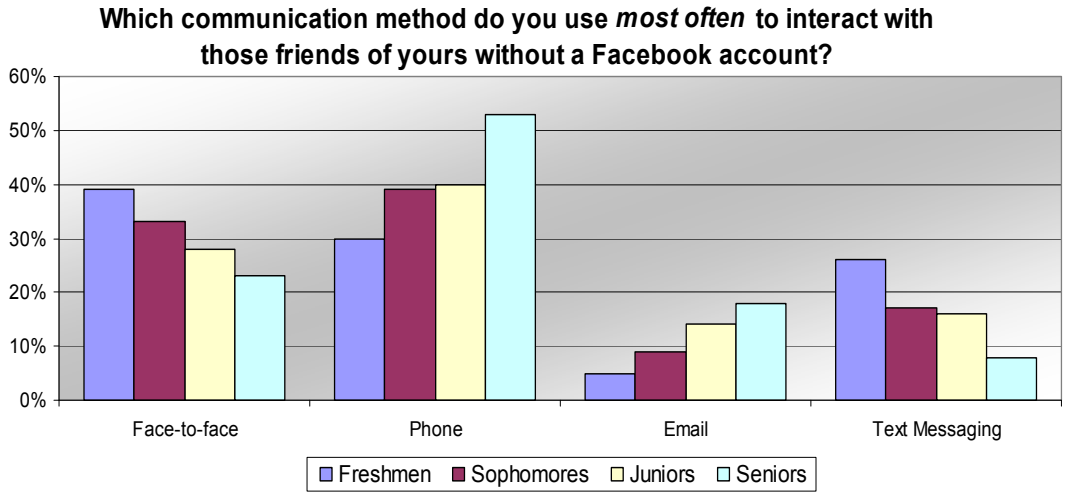


Figure 4.6: Percentage of respondents who use each of the above communication methods as the primary means to keep in touch with those friends without Facebook accounts.

Finally, respondents were asked about the primary method of communication they use on Facebook when interacting with each of the four types of friends defined above. Wall posts are the most popular mode of interaction across all four types of friends, while private messages are relatively popular for communicating with close offline friends (37%). A significant portion of respondents reported that none of Facebook's communication methods were applicable to their online-to-offline and online-only friends (56% and 71%, respectively). This high rate could be due, in part, to the fact that most respondents (85%) previously said they do not communicate with the majority of their online-only friends. Little variation in responses exists across either gender or year in school.

Truth and lies in online identities

For many people, one of the Internet's most-embraced characteristics – especially in its early days – has been users' ability to play with identity. Within a virtual world, users can create an accurate reflection of their offline identity, or they can choose to manipulate their identity to any desired degree, usually with little to no consequences. For example, online gaming has always contained an identity component allowing players to create characters that aren't even necessarily human in nature, let alone sharing the same race, gender, etc. as the player. Likewise, the increasing use of avatars on websites to link posts to an image allows users to create a graphical representation of themselves that does not need to be connected to the person's physical identity.

With the evolution of the social Web and of users reasons for using social networking sites, identity manipulation on modern SNSs can be much more difficult than on BBSs or in the gaming world. Users of the major SNSs typically *want* to present an accurate to nearly accurate representation of their identity, both because that makes it easier to find and connect with friends, and because the potential for being "called out" when greatly misrepresenting identity features increases when that identity is available for friends to see and comment on publicly. On some social networking sites, such as the professional networking site LinkedIn, presenting an accurate representation of one's

offline identity is often essential to achieving the site's main goal of connecting potential employers and employees.

While this sentiment rings true for a majority of modern SNS users, some people still choose to include shadings and exaggerations of their offline identity in their online profiles. When asked about the truthfulness of the information in their Facebook profile, 14% of respondents say they exaggerate or manipulate at least some of the information in their profile. This compares with nearly half (47%) who obscure information in their profiles for privacy reasons and 40% who say all information in their profiles is factual. Those respondents who manipulate information in their profiles say they do so for a variety of reasons, although most respondents take a light-hearted approach to such embellishments. Figure 4.7 details the different reasons respondents give for manipulating information in their profiles.

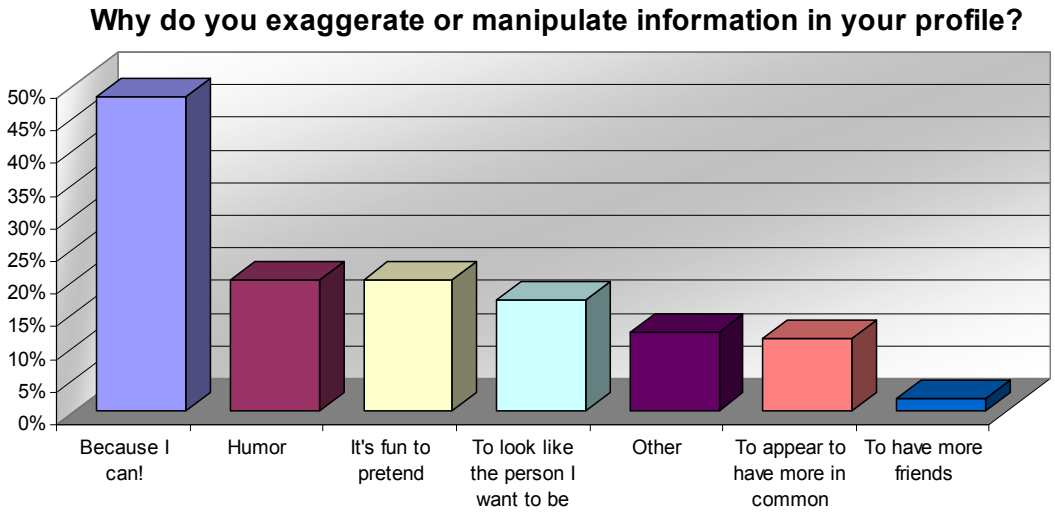


Figure 4.7: Responses from the 14% of all respondents who report manipulating at least some of the information in their online profiles. Respondents were asked to select all applicable reasons from the list provided in the survey.

While little variation in reported profile presentation exists between different years in school, some disparities between women and men's responses to the question are worth further discussion. As seen in Figure 4.8 below, a notable difference exists between women and men who say they conceal certain information in their profiles for privacy reasons, with 10% more female respondents saying they conceal personal information in their profiles. Looking at the question from a different angle, men are twice as likely to report manipulation or exaggeration of at least part of the information in their profiles.

On a related note, differences emerge between men and women's level of concern related to the image they present through their Facebook profile. Men are more than twice as likely as women to report that they are not at all concerned about the content in

their profile and 10% more likely to show little to no concern. Conversely, more than half of women (57%) say they are very concerned about their profile image, compared with just 44% of men. Responses across year in school remain relatively consistent, although freshmen are more than twice as likely as seniors to say they have no concern over their Facebook image (19% vs. 9%, respectively).

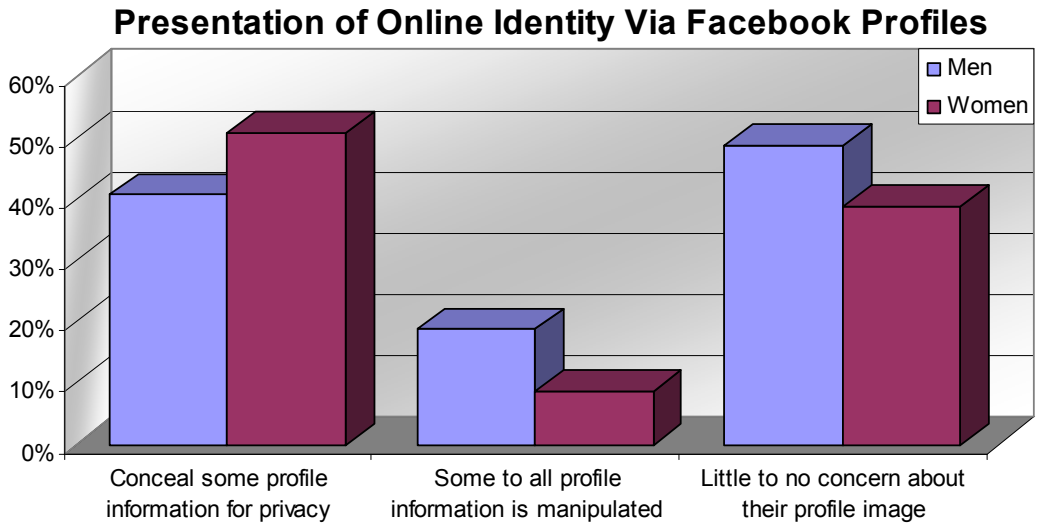


Figure 4.8: Men and women's responses to two survey questions: the first asked about the truthfulness of information included in the respondents' Facebook profiles, and the second asked respondents to quantify the level of concern they feel regarding their online identity, as presented through their Facebook profile.

One of the reasons why a large percentage of respondents are so concerned about their profile image could be related to users' tendencies to base "friending" decisions on the content of a user's profile. Nearly two-fifths of respondents (38%) say they have

based the decision to friend another Facebook user solely on the content in that person's profile. In addition, users who are concerned about their own profiles tend to be more judgmental: 69% of those respondents who have based friending decisions on other people's profiles are also "very" or "somewhat" concerned about their profile image.

Real-world consequences for online profiles

Social networking sites allow users to share a significant amount of personal information in a semi-public location. Depending on individuals' privacy settings and the number of "friends" they have on these sites, users may be revealing potentially harmful information about themselves and their relationships to a large audience. Even when all information included in their profile is factual, the absence of cues in text-based, non-verbal communication leaves room for misinterpretations and potential problems within users' offline relationships.

The majority of respondents (87%) say their offline relationships have never suffered because of the content in their Facebook profile; however, the 13% who responded positively to this question is worth discussing. While there were no major differences in responses between men and women or across the year in school, the types of problems respondents listed offer some surprising insights into the potential impact of virtual identities on offline relationships. Figure 4.9 reveals that the most commonly reported consequence users experience has been getting into a fight with a friend over the

content in their profile. The more interesting finding, however, is that nearly half of respondents reporting negative offline consequences because of their Facebook profile say a boyfriend or girlfriend has ended a relationship due to profile content. One possible explanation to this high rate lay in the openness of person-to-person interaction on profile pages, as discussed above. Wall postings, photo tags and photo comments allow what may have previously been a private interaction in the offline world to move into a very public light on Facebook. The potential for misinterpretations of inside jokes and comments increases significantly in the absence of context and cues.

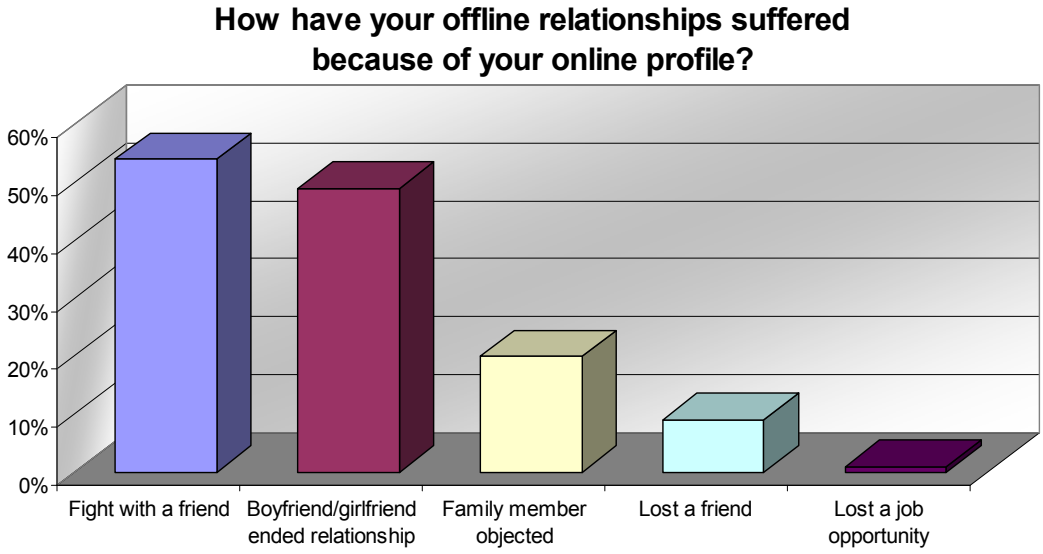


Figure 4.9: A breakout of negative consequences users experience in their offline relationships because of content in their Facebook profile. These percentages are based on the 13% of all respondents who replied "yes" to the question, "Have your offline relationships ever suffered because of your Facebook profile?

Methodology

The data discussed in this chapter are based on the findings of a survey conducted on Georgetown University's campus between January 25, 2008 and February 26, 2008. The findings discussed above are based on responses from a convenience sample of 644 Georgetown undergraduate students ages 18-25, 614 of whom reported having a Facebook account at the time of the survey.

Survey design

The questions included in this survey were developed in conjunction with the background research I conducted for this thesis. While I did not have access to any surveys from Facebook research previously conducted on other college campuses, I reviewed the articles associated with these projects and based some of the questions in my survey on previous research. In addition to using my past experience in survey design in writing the survey, I also consulted several colleagues at the Pew Internet Project familiar with my research and with survey design in general to ensure my questions were clear and the survey was cohesive. The final survey included six demographic/general questions and 19 questions related to respondents use of the Internet and of Facebook.

Choosing a sample

Because of school regulations against mass emailing of students, obtaining a truly random sample would have been nearly impossible; therefore, a convenience sample was employed in this survey. At the same time, attempts were made to make the sample as representative as possible of the Georgetown student population. As Georgetown is a liberal arts college, students are required to enroll in a number of classes outside of their specific major. Therefore, I contacted 24 professors across 10 different departments – representing classes required of all students – in an attempt to include all types of students in the survey sample.

Professors from academic programs in the areas of business, science, math, history, humanities, and the social sciences were included in the initial communication. Emails to these professors included a description of my research, why I had chosen to conduct a survey of Georgetown undergraduates and a request for assistance with survey dissemination. Professors were chosen in an attempt to reach a wide range of students and because they taught large sections and/or multiple sections of students. Sixteen professors, representing 25 class sections, agreed to help with survey distribution.

In order to increase survey response rates, I offered professors three options for survey distribution. A paper version of the survey was created for classroom distribution. Alternatively, the survey was also placed on the survey creation website SurveyMonkey.com; professors who did not wish to use class time for survey completion

were emailed a link to the survey online to share with their students. Some professors who chose this option asked me to come into their class and offer a brief description of the survey, while others chose to just email the link to their students with a written description. A breakdown of professors' choices is as follows:[7]

- Six professors, representing 10 sections, allowed in-class dissemination of the survey;
- Six professors, representing eight sections, emailed a link with a short description of the survey to students in their classes;
- Five professors, representing seven sections, allowed a brief in-class introduction of the survey (typically 2-4 minutes), but then emailed students the link to the online version.

Approximately 1900 students were enrolled in the 25 classes participating in the survey; however, it is impossible to determine the exact number of students in this base, as many students were enrolled in more than one of the classes included in the sample. Between the three methods of collection, 644 surveys were collected: 389 paper surveys and 255 online surveys. Approximately 90% of the surveys were completed in full, with 10% missing responses to at least some of the questions. The survey sample size represents 9.4% of the total population of 6853 undergraduate students enrolled in Georgetown during the 2007-2008 academic year.

Why Georgetown undergraduates?

There are a number of reasons for limiting the survey sample to Georgetown undergraduates. Georgetown students were used because they were readily accessible and constituted a large enough population. I chose to limit the surveys to Georgetown only, rather than include students at other institutions, so that I could more easily make generalizations about the data. The sample was limited to undergraduates because it limited the age range of respondents to young adults. Graduate students' ages can range significantly from early 20s into 30s and beyond. Because of the strong relationship between age and use of social networking sites, it made more sense to look solely at a small segment of the population that has some of the highest rates of use of these websites. In addition, numerous other surveys have used student populations of a specific university to study the effects of social networking sites.[8] Finally, the constraints of writing of master's thesis within a limited period of time prevented me from conducting a larger-scale survey.

Table 4.3 below summarizes the breakdown of responses for the key demographics collected in this survey.

Table 4.3: Demographics of Survey Responses

Demographic	Total respondents (n) answering the question	Percentage of total respondents (n=644)
Gender	644	100%
Male	288	44%
Female	362	56%
Year in School	643	~100%
Freshman	357	55%
Sophomore	161	25%
Junior	67	10%
Senior	58	9%
Home Region	644	100%
Northeast	327	51%
Southeast	71	11%
Midwest	75	12%
Southwest	27	4%
West	70	11%
Foreign	59	9%
College Major (category)	630	98%
Business & economics	211	33%
Law, government & politics	43	7%
Biomedical/health sciences	85	13%
International studies	61	10%
Other	123	20%
Undecided	107	17%
Computer Ownership	630	98%
Yes	633	99%
No	1	<1%
Internet Access	n/a	n/a
Home	631	98%
School	539	84%
Work	209	33%

Chapter 5: Conclusion

Introduction

The primary objective of the research undertaken in this thesis has been to shed light on the evolution of online interaction, as characterized by the rise of the social networking site Facebook. Specifically, this thesis has attempted to provide insight about the differences between online and offline identities, and how – if at all – users' online identities impact their offline relationships. Previous research in the areas of identity, interpersonal relationships and computer-mediated communication provided the base for the development of an analytical model and four hypotheses that aimed to illuminate the puzzle Facebook created. Following this analysis, the thesis provided an extensive historical account of virtual communities, focusing on the technological advances that have enabled the rise of modern social networking sites. Finally, a survey of Georgetown University undergraduates generated current data on how college students interact through both traditional and new communication methods.

This final chapter brings together the data collected in preceding chapters and examines it in the context of a broader analysis of technology's impact on communication. To do this, we will first revisit the hypotheses posited in Chapter 2 and evaluate each in light of the data collected for this thesis. This section will be followed by

a brief discussion of ways in which this research might be improved. Finally, the thesis speculates beyond the survey findings to consider the larger impacts of electronic communication and suggests future research that might be usefully conducted in this subject area.

Re-examining the Hypotheses

This section will consider the thesis' four hypotheses in light of the research and data analyzed in previous chapters and provide a discussion as to whether the research strengthens or weakens each statement.

> *H1: In general, online relationships contain much weaker ties than offline relationships.*

The theoretical framework chapter of this thesis offers a detailed description of social ties and differentiates between strong, intermediate and weak ties. Donath and boyd (2004) build upon this theory and suggest that ties are based on (1) the context surrounding relationship formation, (2) the frequency of interaction between ties and (3) the closeness of the relationship. While this survey did not directly ask respondents to quantify the closeness of their relationships with their online-only friends, questions were

asked relating to the other two components, which can be examined to determine if this research supports the hypothesis.

The survey conducted as part of this thesis research asked respondents with Facebook accounts several questions about their online-only friends. The majority of respondents (57%) said they were initially introduced to those "friends" through mutual friends, which increases the likelihood of such relationships developing into strong ties. On the other hand, responses to a separate question overwhelmingly support the hypothesis. While a significant portion or respondents said they have at least a few online-online friends, 85% said they do not communicate with the majority of their online-only friends, and just one respondent said that he/she considered those friends as a strong tie.

Social networking sites such as Facebook offer users a convenient method for maintaining a large number of weak ties. While maintenance of strong ties typically requires significant commitments of time and energy, weak ties may be managed solely through the connections that link Facebook "friends." Facebook allows users to stay up-to-date on their weak ties' lives simply by viewing the information available in those friends' profiles and by connecting through actions such as pokes, private messages, wall postings and photo comments. By offering multiple methods of interaction, Facebook saves users significant time, thus enabling them to create and maintain a massive social network, albeit one predominantly composed of weak connections between users. For

example, a recent survey found that the average user had 180 friends on the website, which is far more "friends" than the average person would say they have in the real world (Golder et al., 2006).

> *H2: In cases where factors such as distance change an offline relationship into a primarily online relationship, strong ties may be maintained and even strengthened further.*

The scope of this thesis' research makes this hypothesis difficult to prove or disprove definitively. However, some of the data from the survey support the idea that Facebook can be a boon to friendships lacking physical interaction. Nearly two-thirds (65%) of respondents said the majority of their friends have a Facebook account, which suggests that many students use the site to stay in touch with their offline friends. Keeping in touch with friends remains the primary reason for site usage across both year in school and gender. Furthermore, approximately one-third (31%) of respondents with friends who do not have a Facebook account say they would be closer to those friends if they were on the site, and 87% of respondents said they had never experienced negative consequences in their offline relationships due to content in their Facebook profiles, which suggests that most respondents benefit from using the site.

Apart from the survey data, common sense suggests that social networking sites can play a powerful role in maintaining friendships separated by a physical distance. For

college students, it may be easy to get caught up in school and have little time to maintain strong ties back home. By "poking" these close offline friends, or posting a quick message on their wall – activities which take just seconds to complete – users have a quick and easy way to stay connected and keep the relationship healthy when they are too busy to commit more time to interaction. Today's abundance of communication options means that one can maintain friendships with more ease than ever before. Whereas a college student 20 years ago may have been limited to letters and occasional phone calls from their friends and family back home, the college students of today have numerous options available to maintain constant levels of communication with a large network of friends comprised of both strong and weak ties. Survey respondents reported high levels of daily interaction via text messages and social networking sites, methods that allow for near real-time communication. Thanks to all-inclusive cell phone packages and widespread Internet availability, these newer forms of interaction are low-cost – if not free – and thus encourage people to spend more time using them.

> *H3: Because online identities often do not directly correlate to offline identities, offline relationships established before the online identity may suffer negative consequences.*

While this hypothesis has yet to ring true for a large portion of people, the survey revealed that real-world consequences do occur because of online identities. In the

survey, just 13% of respondents reported experiencing any form of negative consequence such as fights with friends or relationships ending as a direct result of content in their Facebook profiles. As briefly discussed in Chapter 4, one of the possible reasons for these negative consequences is that sites like Facebook place formerly private interactions in a semi-public to fully public light. For example, the most common form of interaction across all four types of friends defined in the survey was wall postings. Content posted on a user's wall can range from something as benign as wishing that person a happy birthday to much more intimate interactions, including inside jokes, continuing conversations from an offline interaction or making plans for going out. Unless a user's privacy settings specifically restrict users from viewing wall postings, any friend of that user – and potentially an even large number of users, based on privacy settings – can view a history of these interactions. Lacking a context within which to place a conversation, a casual viewer (or a jealous boyfriend) can easily misinterpret wall postings, which can then lead to offline consequences such as the fights and breakups reported by survey respondents.

Another potential way in which social networking sites might aid in creating offline problems can be found in the same reason for their success. These websites allow for quick communication, often with a one-to-many component. Such ease of communication allows for the spreading of gossip, rumors and lies just as easily as it allows users to share everything from upcoming event details to engagement announcements and personal notes. On one hand, such activities online can lead to

cyberbullying, especially among youth: a 2007 Pew Internet Project report found that one-third of teenage Internet users had experienced some form of harassment online, most often when private information was made public on a website (Lenhart, 2007). Cyberbullying garnered national attention in November 2007 when Megan Meier, a 13-year-old girl, committed suicide after being harassed on MySpace by a neighbor. On the other hand, however, at least one site – JuicyCampus.com – has emerged in recent months as a central location for users to anonymously post gossip, insults and other "juicy" details about fellow students at a number of universities across the country. As rumors do not need to be verified before being published and site users do not need to create accounts to add to or view postings, very damaging information can be made available to a global audience. In both situations, the victims' offline relationships can suffer grave consequences from the information – true or false – posted in online forums and on social networking sites.

> *H4: As a larger percentage of communication moves into the digital arena, we will see a general weakening of ties between people. This weakening will be less pervasive among a person's closest circle of friends and more obvious among lesser friends, as digital communication will become the primary mode of communication in these relationships.*

The research undertaken for this thesis can neither confirm nor deny the veracity of this final hypothesis, as it looks to a future yet unwritten. However, as the discussion

regarding the previous three hypotheses suggests, the impact of virtual identities and the many uses for the Internet as a communication medium will bear close watching in future years to determine if a change is occurring within people's social networks, and if this change is generational or if such change occurs across different demographic groups. The conclusion of this chapter will look to this future and offer suggestions of specific areas for potential research.

Retrospect is 20/20

The constraints of writing a master's thesis prevent the author from addressing all potentially pertinent areas of focus, and the fight against time may invoke oversights that only become clear once the research is complete. While the survey design provided a solid overview of college students' uses of Facebook, several questions were not included in the survey, which, in retrospect, may have allowed for a broader analysis of the data. For example, respondents were not asked about the number of friends they have on Facebook. Knowing this number would have been beneficial in making generalizations about user trends in relation to friending habits and would have helped determine if the quantity of online friends acts as an intervening variable in how Facebook impacts relationships. Questions related to instant messaging habits were not included in the survey. It may have also been interesting to ask students questions about their use of cell

phones to connect to the Internet; the percentage who owned laptop computers; and, on a related note, the percentage who connected to the Internet at Wi-Fi hotspots such as coffee shops and in classrooms.

The original intent of this research was to conduct focus groups of college students to further discuss patterns of use and to collect anecdotal evidence to use in the data analysis chapter. The final question on the survey asked students interested in participating in a focus group to provide their email address, and 64 respondents provided contact information. However, conducting these focus groups was beyond the time constraints of this project, and the analysis chapter relied solely on data collected from the surveys.

Thinking Bigger: How Technology Currently Impacts Communication

This research has revealed a number of possible trends occurring within the digital world, most notably that the line differentiating one's offline and online personas continues to blur with each passing year. In the virtual communities of 30 years ago, anonymity was a cherished right, one to which users held tightly. One's online identity remained completely separate from the actual person typing on the keyboard.

The rise of the social Web has slowly but surely changed the perception of online identity forever. Members of the WELL community gave up some degree of anonymity

to form tighter-knit groups of users, but even within such an environment, users could still keep their offline and online identities separate, if they chose to do so. At the same time, many members decided to sacrifice anonymity and meet in the real work after establishing an online relationship.

These events from 20 years past were just the beginning of a massive transition of people's real identities to the virtual world. Whereas Internet users from even a decade ago most likely used the Web for a limited range of purposes, the Internet of today stores nearly every action people perform, both online and offline, sometimes within seconds. Bank transactions, divorce proceedings, purchasing histories, phone numbers, home addresses – all of this information and more can be accessed online with the right search terms, and in some cases, the correct log-in information. Companies simplify the process of setting up online accounts and offer incentives to users to such a large degree that users may be disadvantaged if they do *not* have an online presence.

As with many technologies, adoption of the Internet – especially for its social uses – has seen its highest levels of usage among younger users. The majority of current college students have had access to the Internet and computers for a large percentage of their lives. These "digital natives" see these technologies as a logical extension of traditional communication methods, and often a much quicker and more convenient way to interact. The younger generation does not share in the opinions of some older users and Luddites that digital communication threatens people's ability to form and maintain

significant relationships with people in the real world. In samples such as the one used for this research, where 97% of all respondents had a Facebook account, non-users are almost certainly at a disadvantage and may find themselves on the outside looking in during social exchanges.

Educating users about their digital identities is essential in upcoming years so that the general population learns how to manage the vast array of information online. A recent Pew Internet Project report aimed to learn the extent to which Americans are familiar with their "digital footprints" and found that more and more people are becoming aware of their online identities. Nearly half of Americans report "googling" themselves, or using search engines to find publicly available information posted on the Web; however, just 3% of people say they regularly check their online identities to verify that all information is correct (Madden et al., 2007). This practice will most likely become a standard routine in future years, as the percentage of information available online continues to grow.

Even assuming that users become more proactive in managing their online identities, the current attitude toward posting personal information on sites such as Facebook of "the more the better" will most likely change in upcoming years to reflect an increasingly educated user base. In addition to those survey respondents who reported experiencing offline consequences for their online profiles, recent news reports support the idea that no information posted online is truly private, regardless of one's account

settings. The popular Silicon Valley blog Valleywag offered a prime example of how Facebook is increasingly encroaching into users' professional lives: in fall of 2007, it reported on a bank intern who was caught in a lie at work after images posted on Facebook showed him at a Halloween party – in a fairy costume, no less.[1] The intern had told his boss he had to return home for a family emergency so he could attend the party. Likewise, *The Times* (UK) ran a story in September 2007 on "Facebook suicide," a growing trend – according to the newspaper – in which users deactivate their Facebook accounts because of the problems the site was causing among their friends and at their jobs (Justice, 2007).

Looking Forward: What Else Needs To Be Done

While this research has provided possible solutions to some of the current questions related to technology's impact on communication, further research is needed to answer the new questions emerging as quickly as the technology evolves. During the research process, several key areas emerged as needing a deeper examination than possible within this thesis. Within the realm of Facebook, more qualitative research needs to be conducted, especially among younger and older demographics, to determine generational differences in usage and general attitudes toward social networking sites as a way to maintain friendships. Such research could get more deeply into a discussion of

how Facebook impacts users' relationships with different types of friends. Current research being conducted at Michigan State University[2] may help to fill this void, but the social networking phenomenon demands more extensive projects be conducted in upcoming years.

A recurring theme in technology over the past year has focused on the increasing role of text messaging as a primary method of interaction, primarily among teenagers and young adults, and more recently as a way for parents to stay connected to their children.[3] Data from the survey of Georgetown students confirmed the popularity of text messaging, especially among younger users, and usage is only expected to increase in the coming year as more texting-friendly phones appear in the market and monthly packages lower the costs of sending text messages. A recent Research and Markets report predicts there will be 2 trillion text messages sent in 2008, which works out to *two text messages per person, per day, worldwide*.[4] Research should be conducted to examine if and how this abbreviated form of interaction is impacting more general changes in communication.

On a related note, future research should consider the impact of instant messaging on communication, both as it is used between friends and as it is employed in the business world as a way for companies to interact with clients. Instant messaging, once limited to ICQ and AOL members, has become a common application across a variety of websites. So many separate instant messaging applications exist, in fact, that companies

such as Meebo now serve as an aggregator of users' instant messaging services, allowing a central location for one to manage and access multiple IM services at one time. Facebook announced in March 2008 that it would launch its own instant messaging service (Facebook Chat) the following month, allowing users to communicate via IM with any of their Facebook "friends." Recent trends in both SMS and IM use suggest a definite shift in interaction toward more constant but less personal relationships.

Looking farther into the future, it is important for researchers to consider where the next chapter of social networking online will go. The longevity of online interaction suggests that communicating via some form of social networking sites will continue to evolve in future years, and will almost certainly maintain an important – and even essential – role in many people's daily routines. While their current incarnation may not last, it is hard to imagine that social networking sites such as Facebook will not exist in some form five years from now. The Web is a social creature, and there will always be a place online for people to share and interact. The difficult part will be predicting the evolution of a technology that changes quicker than most people can manage to follow, let alone to stay ahead. Research on these sites should continue, as it provides the public with a unique look into the changing face of communication in the 21st century. These changes will guide the next generation of personal and professional relationships and will impact the ways in which people treat both the most intimate and the furthest links in their web of social connections.

Endnotes

Chapter 3 Notes

[1] See http://www.merriam-webster.com/info/07words.htm.

[2] This phrase refers to text included in some of the earliest Macintosh commercials. Examples of these commercials can be viewed online at http://www.youtube.com/watch?v=C8jSzLAJn6k&feature=related and http://www.youtube.com/watch?v=ZtPPFZERXyg&feature=related.

[3] There is extensive research on the impact of MMOs, from their roles as virtual communities in fostering interaction, to their real-world economic impacts. *World of Warcraft*, a popular online virtual world, maintains a user base of more than 10 million people (as of 2008) and has a real-world economic impact. Ted Castranova's book, *Synthetic Worlds*, provides a detailed analysis of this phenomenon.

[4] The WELL was not a free service; when it launched in 1985, users paid $3 per hour to access it. Therefore, the possibility of users simply creating multiple accounts with different userids is less likely among WELL users than today, where the majority of social networking sites are free of charge and users only need an email address to create an account.

[5] For a discussion of uses and gratifications among open source participants, see Hars and Ou's article, Working for Free? Motivations for Participating in Open-Source Projects, *International Journal of Electronic Commerce*, 6(3), pp. 25-39.

[6] boyd and Ellison differentiate between "social networking sites" and "social network sites," choosing to use "network" in their discussion. For the purpose of this thesis, I have chosen to use the former term throughout.

[7] IBM has been active in Second Life since 2006, investing millions of dollars into the company and trying new and innovative ways of using Second Life to improve company collaboration. For an interview with IBM's head of technical strategy and innovation, Irving Wladawsky-Berger, see http://www.news.com/IBMs-virtual-pioneer/2008-1023_3-6144122.html.

[8] While some sources are not calling it as such, much of the press is terming Starbucks' new website as a "social network." An example of this is CNBC's article, "Starbucks brews up social network for customers," which is available online at http://www.cnbc.com/id/23728694.

[9] This example is supported by the uncertainty reduction theory of communication (Berger and Calabrese, 1975), which considers how two strangers interact when they meet for the first time and attempts to predict if a relationship can be formed from this interaction. One of the theory's

seven axioms states that personal similarities between the two individuals decreases uncertainty and increases the likelihood of relationship formation.

[10] danah boyd, a social scientist who specializes in research related to youth and social networking sites, has written about this topic in her essay, "Viewing American class divisions through Facebook and MySpace." This essay can be accessed online at http://www.danah.org/papers/essays/ClassDivisions.html.

[11] These numbers were pulled from a Web strategy blog authored by a senior analyst at Forrester Research. See the blog entry at http://www.web-strategist.com/blog/2008/01/09/social-network-stats-facebook-myspace-reunion-jan-2008/. Facebook lists membership rates on its site; MySpace does not.

[12] Statistics related to Facebook's growth were taken from its online press room, which can be accessed online at http://www.facebook.com/press.php.

Chapter 4 Notes

[1] I have chosen to base many comparisons on respondents' year in school rather than their age, as there is a strong relationship between age and year in school. For example, 98% of freshman reported an age of 18 or 19; 96% of sophomores reported an age of 19 or 20; 94% of juniors reported an age of 20 or 21; and 91% of seniors reported an age of 21 or 22.

[2] The reason for the abnormally high Internet connection is most likely due, in large part, to the percentage of students who live in student housing, which has Internet connections provided by the school. A Georgetown undergraduate admissions representative said the number of students living in campus varies from year-to-year, but typically ranges between 80-85%. Freshmen and sophomores are required to live in on-campus housing.

[3] It should be noted that the percentage of respondents with Facebook accounts may be skewed slightly because of the language included in the email sent to those completing the survey online. While the email specifically stated that respondents could take the survey even if they did not have a Facebook account, the fact that it said my research was on Facebook may have discouraged non-users from participating. At the same time, however, there have been several similar surveys of college students conducted during the past two years, and their data have placed Facebook use at more than 90% (see Ellison et al., 2007 or Golder et al., 2006 for examples).

[4] SurveyMonkey.com provides users with software to export coded data into an Excel document or directly into SPSS. Paper surveys were coded by hand in an Excel document and followed the coding model provided by SurveyMonkey.com. The coded data was then checked for errors before being imported to SPSS and analyzed.

[5] According to the AT&T report, the gap between men and women's time spent talking on the phone has narrowed significantly in recent years. The disagreement between AT&T's research and the data found in this survey can most likely be attributed to generational differences: adult men talk on the phone significantly longer due to business reasons. Few college students are using phones extensively for this purpose and are much more likely to be using phones to communicate with friends and acquaintances, which AT&T's survey found was dominated by women. AT&T's press release announcing the survey's results can be found online at http://www.att.com/gen/press-room?pid=4800&cdvn=news&newsarticleid=23951

[6] It should be noted that detailed definitions for each category were not provided to survey participants, as the headings for each category were deemed to be self-explanatory.

[7] The total number of professors included in this section equals more than the total number of professors who agreed to participate in the survey research because one of the professors allowed me to distribute the surveys in-class for one section of students, but requested using the online version for her two other sections.

[8] For examples of other surveys studying youth and undergraduates' uses of various technologies, see Lenhart et al. (2007), Ellison et al. (2007), Hargittai (2007), and Golder et al. (2006).

Chapter 5 Notes

[1] The complete Valleywag blog post can be found online at http://valleywag.com/tech/your-privacy-is-an-illusion/bank-intern-busted-by-facebook-321802.php.

[2] As of the writing of this thesis, researchers at Michigan State had just launched their latest Facebook-related survey, which continues a string of previous research looking at how Facebook users gain and manage social capital.

[3] One need not look far to find publications writing about the impact of text messaging on youth. A recent *New York Times* article that succinctly summarizes the popularity of texting among teens can be found online at www.nytimes.com/2008/03/09/business/09cell.html?scp=1&sq=text+messaging+teens&st=nytSimilarly, an example of a recent article looking at how texting is now being used by parents to stay in touch with their families, and especially their children, can be found in the April 11, 2008 issue of the *Washington Post*, available online at http://www.washingtonpost.com/wp-dyn/content/article/2008/04/10/AR2008041003784.html

[4] The full Research and Markets report is available online at http://www.researchandmarkets.com/reports/c84203.

Appendix

Following is a copy of the questionnaire distributed to Georgetown University undergraduates. Those students who completed a hard copy of the survey answered the following questions across a five-page survey, while those who completed the survey online completed the survey on five continuous web pages. Only respondents who agreed to have their information included in this thesis research by checking off the "yes" box in the informed consent field had their responses included in the data analysis.

Dear Student,

The following survey will ask you a series of questions on your use of the Internet and specifically your use of the social networking website Facebook. Even if you do not have a Facebook account, you can still complete the first two sections of the survey. The results will be analyzed as part of my graduate thesis in the Communication, Culture and Technology department at Georgetown, which is looking at the impact of new communication technologies on how we form and maintain interpersonal relationships.

You do not have to answer all questions if you do not want to, and you will face no penalties whatsoever. All information will be kept entirely anonymous and confidential. You need not put your name on the questionnaire. The information from the questionnaire will be entered into a computer database for analysis. Any names will be removed from the questionnaire and replaced with ID numbers. The results will be reported for the group as a whole so that no individual can be identified unless consent is received. The surveys will be stored in a locked facility that will be accessed only by the researchers. Once the research is completed, the surveys will be destroyed. Your participation is completely voluntary, and you may withdraw at any time with no penalties or risk.

*Please note: You should only be completing this survey if you are a **Georgetown University undergraduate** who is **18 years old or older**. Questions can be directed to Georgetown's Institutional Review Board at 202-687-6553 or sjr33@georgetown.edu. Thanks.*

Jessica Vitak
Master's Candidate '08, Georgetown University
Jmv35@georgetown.edu

I have read the information provided in this Informed Consent Document, and I acknowledge that by checking "yes," I voluntarily consent to participate in this research.
____ Yes ____ No

Section 1: General Information – Please answer the following questions.

Age _____ Sex: ___ Male ___ Female

Home State (country for foreign-born) _____

Year in school ___ Freshman ___ Sophomore ___ Junior ___ Senior

Major: _____

Thinking about the methods you use to communicate with friends and acquaintances, how long, on average, do you spend using these methods each day?

A. Face-to-face	___ Less than 10 minutes	___ 10-30 minutes	___ 30-60 minutes
	___ More than one hour	___ I don't use this method	
B. Email	___ Less than 10 minutes	___ 10-30 minutes	___ 30-60 minutes
	___ More than one hour	___ I don't use this method	
C. Phone	___ Less than 10 minutes	___ 10-30 minutes	___ 30-60 minutes
	___ More than one hour	___ I don't use this method	
D. Social networking sites	___ Less than 10 minutes	___ 10-30 minutes	___ 30-60 minutes
	___ More than one hour	___ I don't use this method	
E. Text messaging	___ Less than 10 minutes	___ 10-30 minutes	___ 30-60 minutes
	___ More than one hour	___ I don't use this method	

Section 2: ***Internet use***

1. Do you own a computer? ___ Yes ___ No

2A. Where do you access the internet? (Consider your dorm as "home" and the school library or a computer lab as "school.") Please check **ALL** that apply.

___ home

___ work

___ school

___ other (please specify where:_____)

2B. Where do you access the internet ***the most***?

___ home

___ work

___ school

___ other (please specify where:_____)

3. How much time, on average, do you spend **each day** using the internet for the following activities?

A. Education/school work (this includes research for papers and general education purposes not related to school)

___ Less than 10 minutes ___ 10-30 minutes ___ 30-60 minutes
___ More than one hour ___ I don't use the internet for this purpose

B. Communication (this includes email and using social networking sites to stay in contact with others)

___ Less than 10 minutes ___ 10-30 minutes ___ 30-60 minutes
___ More than one hour ___ I don't use the internet for this purpose

C. Entertainment (this includes playing games, watching videos and reading entertainment sites like The Onion)

___ Less than 10 minutes ___ 10-30 minutes ___ 30-60 minutes
___ More than one hour ___ I don't use the internet for this purpose

D. News (this includes reading content on news sites like NYTimes.com, CNN.com and other legitimate news organizations)

___ Less than 10 minutes ___ 10-30 minutes ___ 30-60 minutes
___ More than one hour ___ I don't use the internet for this purpose

4. Do you have a Facebook account? ___ Yes ___ No

5. Which other social networking sites do you have accounts with? Please check **ALL** that apply.

___ MySpace

___ Friendster

___ LinkedIn

___ Bebo

___ Orkut

___ None of the above

___ Other (Please list:_____)

Section 3*: Facebook use*

If you do not have a Facebook account, you have completed the survey. If you do have a Facebook account, please complete the questions in this section.

6. How often do you log in to Facebook?

___ Multiple times a day

___ Once a day

___ A few times a week

___ A few times a month

___ Rarely ever

7. How much time, on average, do you spend on the website each time you log in?

___ Less than 10 minutes

___ 10-30 minutes

___ 30-60 minutes

___ More than one hour

8. What do you use Facebook for? Please check **ALL** that apply.

___ Finding old friends
___ Keeping in touch with friends
___ Making new friends
___ Event invites
___ Pictures (posting/viewing)
___ Networking
___ Groups
___ Applications
___ Other (please specify: _____)

9. Thinking of all the things you use Facebook for, what is the ***most important*** reason you use the site?

___ Finding old friends
___ Keeping in touch with friends
___ Making new friends
___ Event invites
___ Pictures (posting/viewing)
___ Networking
___ Groups
___ Applications
___ Other (please specify: _____)

10. Did you have a Facebook account before entering Georgetown? ___ Yes ___ No

A. If **YES**, did you use Facebook to find classmates before school started?
___ Yes ___ No

11. Are any of your Facebook friends people that you have never met offline, in person?
___ Yes ___ No

A. If **YES**, what percentage of your total Facebook friends have you never met?

___ Most (>75%)

___ Some (25%-75%)

___ Few (<25%)

B. If **YES**, how did you initially meet your online-only friends?

___ Through mutual friends

___ Similar interests

___ Join same group

___ Other (please specify: _____)

C. If **YES**, please check the statement that most closely describes your relationship with your online-only friends.

___ I consider some to be among my closest friends and would definitely like to meet them some day.

___ If I had the opportunity to meet some of them, I would probably do it.

___ I like to communicate with them online, but would not pursue an offline friendship.

___ I don't communicate with the majority of my online-only friends.

12. Have you been able to form offline friendships with people you initially met online?
___ Yes ___ No

A. If **YES**, for about how many Facebook friends have you been able to form offline friendships?

___ 1 ___ 2-5 ___ 6-10 ___ more than 10

B. If **YES**, what is the likelihood you would have become friends with these people had you not originally met on Facebook?

___ Not at all likely ___ Somewhat likely ___ Highly likely

13. When using Facebook, what is the ***primary*** method of communication for the following types of friends?

A. Close offline friends

___ Messages
___ Wall posts
___ Pokes
___ Photo comments
___ Other (please specify:_____)
___ Not applicable

C. Online-turned-offline friends

___ Messages
___ Wall posts
___ Pokes
___ Photo comments
___ Other (please specify:_____)
___ Not applicable

B. Offline acquaintances

___ Messages
___ Wall posts
___ Pokes
___ Photo comments
___ Other (please specify:_____)
___ Not applicable

D. Online-only friends

___ Messages
___ Wall posts
___ Pokes
___ Photo comments
___ Other (please specify:_____)
___ Not applicable

14. For how many of your Facebook friends is the website your ***primary*** means of communication?

___ All

___ Most

___ Some

___ Few

___ None

15. Do you believe your Facebook profile is an accurate representation of your actual identity?

___ All information is 100% factual

___ Some information is obscured to protect my privacy

___ Some information is exaggerated or manipulated

___ Most of the information is exaggerated or manipulated

___ All of the information is exaggerated or manipulated

15A. If you do manipulate or exaggerate information in your profile, what are the reasons you do this? Please check **ALL** that apply.

___ So I appear to have more in common with other friends or groups of people.

___ To look more like the person I want to be.

___ To have more friends.

___ It's fun to pretend to be someone else.

___ Because my real identity is pretty boring.

___ Because I can!

___ Other (please specify: _____)

16. How concerned are you about the image you present to others through your Facebook profile?

___ Very

___ Somewhat

___ A little

___ Not at all

17. Do you ever base a decision to friend someone on Facebook on their profile?
___ Yes ___ No

18. How many of your friends do **NOT** have a Facebook account?

___ Most

___ Some

___ Few

___ None

18A. If you do have friends without a Facebook account, what methods do you use to communicate with them? Please check **ALL** that apply.

___ Face-to-face communication

___ Phone

___ Email

___ Text messaging

___ Other (please specify: _____)

18B. If you do have friends without a Facebook account, which method of communication do you use ***most often*** to communicate with them?

___ Face-to-face communication

___ Phone

___ Email

___ Text messaging

___ Other (please specify: _____)

18C. Do you think you would be closer to those friends without Facebook accounts if they joined the site?

___ Yes ___ No

19. Have your offline relationships ever suffered because of your Facebook profile?
___ Yes ___ No

19A. If YES, please check off **ALL** ways in which an offline relationship has suffered.

___ Boyfriend/girlfriend ended relationship

___ Lost a job/employment opportunity

___ Got into a fight with a friend over content in your profile

___ A family member objected to content in your profile

___ Lost a friend because of content in your profile

___ Other (please specify: _____)

20. If you would like to participate in a focus group in late February/early March to further discuss Facebook and its social impact, please include your email address and I will be in contact. **This is completely voluntary.**

Email: _____

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