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THE EXPERIENCES OF FIRST-YEAR COLLEGE STUDENTS USING COMPUTER COMMUNICATION

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ABSTRACT

THE EXPERIENCES OF FIRST-YEAR COLLEGE STUDENTS USING COMPUTER COMMUNICATION

By

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Computer communication has changed much about the day-to-day lives of most Americans. For many individuals born in the last two decades, the opportunity for such communication is the norm. Students enter college at a point of changes in their lives, leaving old friends behind, developing new friends, and becoming part of the campus community. While we have research that builds an understanding of the experience of students transitioning to college, we lack an understanding of the transition experiences while using computer communication to more easily maintain off-campus relationships.

This study extends prior work by investigating the experience of first-year college students using computer communication. Through my research I discovered two sets of findings, classified as *experiences* and *effects* of computer communication. Among the experiences is the sense of the computer as an extension of themselves. Students build their cultural practices around computers connections, using them to arrange meetings, dinners, and more opportunities to talk.

As students arrive on campus, they have well-established networks of friends and family from home. Computer communication helps keep students connected to parents, hometown friends, and significant others. These face-to-face relationships are easily converted to strong online contacts. Students feel a great deal of stress if computer connection to their network of family and friends is not available as they

arrive on campus. The students in my study were interested in improved classroom use of computer technology, but felt more passionate about computer communication for social purposes than they did about access to classroom technology.

Two effects of computer communication were visible in my study: time evaporation and balancing concurrent social networks. Although maintaining the pre-college network of friends can potentially discourage the development of college friendships, computer communication is valuable in sustaining students, helping them adjust to college and cope with its demands and challenges. The extent that computer communication is present in students' lives and appears to be a necessary part of the transition process warrants asking whether previous research describing student transition, involvement, and retention needs to be reworked around these new experiences.

This dissertation is dedicated to my family.

To my mother, Naomi Potter, for her love and support, and to the memory of my father, Merrill Potter;

To my husband, Basil, for years of caring, and for developing an acceptance of my need to follow my dreams;

To my daughter, Kelly Klumpp Hon and my son, Kevin Klumpp, who are the best gifts a lifetime of love can hold, and to their spouses, Randy Hon and Nickie Klumpp for their special place in my heart.

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CHAPTER I

PURPOSE OF THE STUDY

Introduction

The Internet has become not only a household word, but a tool used daily to access information, work, find entertainment, and even identify communities of friends. The term *Internet* actually means a group of interconnected networks (Standage, 1998, p. 206). Though the interconnections forming networks are comprised of hardware and software, we also create human social networks as we subscribe to Internet use.

While some would note the introduction of the Internet as somewhat parallel to the early days of television, its impact goes beyond that innovation. The Internet is a vehicle that provides not only information and entertainment, but synchronous and asynchronous interaction virtually anywhere on the planet. As such, it presses our current understanding of the meanings of community, identity, and self (Turkle, 1995). Just as the technologies of telephone and television changed lives, the Internet has the potential to significantly change our world (Bargh, 2002a; Kraut et al., 1998). As with previous innovations, computer communication has the potential for introducing significant and far-reaching changes in relationships and methods of individual communication (Hiltz & Turoff, 1978, 1992; Marvin, 1988; Sproull & Keisler, 1991, as cited in Spears & Lea, 1994).

Technology is multi-faceted; people are multi-dimensional and social situations are complex. The high level of variability of individuals, coupled with the myriad options available makes generalizations about the effects of technology difficult. Although some individuals approach issues of technology with unbridled optimism, and others with unbridled pessimism, neither perspective alone recognizes the complex nature of technology and the many facets of technology's effect on humans (cf. Van Dijk, 1993, cited in Spears & Lea, 1994). The ways in which computer communication affects individuals depends very directly on their environment and their own social identities (Spears & Lea, 1994, p. 453). It is imperative that we view applications of technology within social contexts, so that we might better understand both the effects of the technology and the social structures that underlie its use (Spears & Lea, 1994).

The emergence of computer communication is a powerful social trend of the last several decades. The Internet has become integral to American life; for example, following the September 11, 2001 terrorist attacks, over half of all Internet users (more than 53 million people) received some type of information about the attacks via the Internet (Pew Foundation, 2002). In addition to functioning as a provider of information, the Internet now regularly consumes our time. "In important respects this revolution has lightened our souls and enlightened our minds, but it has also rendered our leisure more private and passive" (Putnam, 2000, p. 242). Has this more "private and passive" new activity replaced other activities? O'Toole (2000, as cited in Weiser, 2000) asserts that traditional social activities might decrease as a result of increased Internet use. Not all researchers agree, however.

Social contact is critical to the well-being of humans (Cohen & Wills, 1985, as cited in Kraut, 1998). The Internet, now used extensively by practically every facet of society, re-defines the process of social contact. Lives are being transformed by the opportunities afforded by the Internet (Anderson, Bikson, Law & Mitchell, 1995, as cited in Kraut, et al., 1998); that transformation is occurring at an ever-increasing rate. Beliefs and theories about relationships (developed before opportunities afforded by the Internet) and present-day experiences need to be examined to determine whether they apply to a world so altered by "anytime, anywhere" communication.

A Cultural View of Higher Education and Social Connection

Higher education, like the rest of the civilized world, is challenged by the implementation of technology; institutional vision is needed to determine the best plan for supporting the learning and initiatives of its constituents. Individually, academic leaders are faced with a need for technology dollars to further the institution's mission without undermining other initiatives. While they strive to improve their institution's technological presence, leaders might not consider the changes that technology might create in students' social worlds and the resulting impact on their college experiences.

Students expect their academic institutions to offer technology-enhanced instruction, access to electronic information, and opportunities for electronic communication. Such technology should be easily accessible and practically invisible. According to Turkle (1995), "We have become accustomed to opaque technology," (p. 23). Students' first interaction with their college of choice often begins electronically;

college web pages, increasingly visible, are critical to the admissions process. For example, the National Association for College Admission Counseling (NACAC), which assisted almost a half a million students and their families in 2002, reported that almost 1700 students attended their monthly Online College Fair (NACAC, 2002) in March. The infusion of technology imparts richness to the learning environment, access to information, and opportunities for social connection, but we know little about how it changes relationships.

Research on the social integration of college students has been conducted for years (Kuh et al., 1991; Pascarella & Terenzini, 1980; Tinto, 1998,). Nora (1993) describes social integration as "the development of a strong affiliation with the college social environment both in the classroom and outside of class; [this] includes interactions with faculty, academic staff and peers but of a social nature" (p. 237, as cited in Kraemer, 1997, p. 163-164). Based on studies of Pascarella, Terenzini (1980), and others, this broad definition covers many areas, such as student-student interaction, student-faculty interaction, student-staff interaction, involvement at the institution, and an even less measurable, but distinct sense of being part of the life of the institution.

Studies of society and of higher education have resulted in theories related to social integration, but the majority of these theories pre-date massive Internet use. Tinto (1987) describes social integration stating, "the social system is comprised of extracurricular activities and peer-group interactions . . . social integration is a direct result of the level of satisfaction students have with the social system" (p. 114). A college setting – particularly a residential college setting – changes in composition at least yearly, as students enter and exit to the rhythm of their own educational needs.

Thus, the campus is always developing and redeveloping as a community. Computer communication is now part of community development, as a component of on-campus student life. An important method of understanding a culture is through its cultural tools (Tapscott, 1998). The breadth of conversational tools provided by the Internet warrants scrutiny as these tools help explain – and perhaps define – the culture of students.

For all these reasons, it is important to understand the impact of cyber-communication and the cultural changes it introduces. The experience of students on a 21st century campus is very different from that of the faculty and administrators. Although faculty and administrators use the same technological tools, how they use and understand them may differ greatly from students. Bruce asserts that "...the *same technology* has a different meaning in different settings" (1993, p. 9, italics in original). Understanding the social impact of technology on students may challenge higher education leaders, but it is a necessary challenge.

Even absent technology-driven change in society, it is necessary that we understand students in the context of their life experiences. In part, this context helps identify potential resistance to legitimizing their cultural experiences. It may also help educators and students understand both their own experiences and experiences of the other. "It is a complex matter of being able to see the world from students' eyes and our own eyes simultaneously so that we can guide the connection of the two" (Baxter Magolda, 1999, p. 61).

The collegiate environment of traditional-aged students is quite different from the collegiate experiences of today's college administrators and faculty. Meaning-making is developed through experiences, and the experiences of the last 20 years set

the current generation of college students far apart from many of the faculty and administrators who produce the academic and social settings these students enter. Faculty and administrators have not experienced the cyber-social world of students. Computer technology and computer communication have been prevalent since birth for the "net-Generation" or "N-Gen" as Tapscott (1998) dubs them. "Baby boomers are constantly being reminded that computer-facilitated networks are a personal and economic survival tool that will revolutionize everything – whether they are prepared for it or not. N-Geners, on the other hand, view it as a natural extension of themselves" (Tapscott, 1998, p. 31).

"This is the first time in the history of the human race that a generation of kids has overtaken their parents in the use of new technology," states Peter Eio (Howe & Strauss, 2000, p. 23). Different generations do not share the same world perceptions, and college educators belong to the generation of current college students' parents. Today's traditional college students grew up with home computers, school computers, and the Internet (McEuen, 2001, p. 9; Tapscott, 1998, p. 3). A typical 18-22 year old never purchased vinyl records, or played Pac Man, and likely never used a typewriter or encountered an 8-track tape. Most have always owned an answering machine; television has never been black-and-white, but has typically been cable. To the Millennial generation of students, "counter-clockwise" and "sounds like a broken record" are phrases that make little sense. These realities represent a fundamental shift in what society perceives as necessary and desirable – and a shift in experience leading to understanding and interpreting the world. "These kids never saw Muhammad Ali fight or Willie Mays play, and they think Kareem Abdul-Jabbar is a football player. To

them, Kansas, Chicago, Alabama, and America are places, not rock groups – and if you say the words 'Iron Curtain,' they might think you're talking about a wrestler" (Howe & Strauss, 2000, p. 24).

Scholars have debated the impact of the Internet on social life (Bargh, 2002a, Carey, 2000; Chen, 1999; Kraut et al., 1998, and others) but just began to address. complex and sophisticated issues related to Internet use (Bargh, 2002a; Kraut, et al., 1998). A critical point is that there is no *one* effect. The primary determinant of the effect of Internet communication on an individual is the particular characteristics of that individual (Bargh, 2002a; Kraut et al., 1998). Thus, while scholars have begun to address the effect of the Internet on relationship development, research on ways in which Internet use affects individuals as they enter new community settings is missing.

The campus is a culture with norms and shared beliefs. To the extent that all members of the campus community understand those underlying cultural structures, the cohesiveness of the whole is better maintained (Morgan, 1997). Fundamental changes brought about by generational changes and technology innovations warrant close study of the culture of students. Karl Weick (1995, as cited in Morgan, 1997) described the process of constructing our reality – our culture – in a way that proactively creates our world (Morgan, 1997). An understanding of institutional culture must be developed through shared frames of reference – seeing each others' worlds as they exist. In this way culture is created, communicated, and is maintained over time (Morgan, 1997). By getting a sense of changes in the student culture, college faculty and administrators can peer into the world of students and better understand their experiences, and better construct the collegiate environment.

Social Life and the Small Residential Campus

The first year of college presents students with "one of life's most critical transitions" (Martin & Arendale, 1993, p. 1). Fitting in with the social and academic life of the campus contributes significantly to a successful transition to college (Tinto, as cited in Martin & Arendale, 1993). That transition has been the focus of numerous investigations in the past four decades (Kuh et al., 1991; Pascarella & Terenzini, 1980; Tinto, 1998). As a result of these studies, many first year college programs are based on factors that predict student success: perception of community; student involvement in the life of the campus; and academic/social integration (Light, 2001, 190-200; Nagda, et al., 1998). A feeling of social isolation often leads first year students to be dissatisfied with the institution; connections between students and the life of the institution need to be made early in the first term of enrollment (Martin & Arendale, 1993).

Morgan's (1997) cultural metaphor allows analysis of technology's effect on the social and relationship structures of students. Context is critical, though, and it is important to understand the campus as a system, and the ways in which each segment of the system contributes to the well-being of that whole. Higher education is made up of many types of systems: the campus culture of a large, comprehensive institution is different from the culture of a small residential institution. Institution type, along with expectations and realities inherent in each particular environment, are important factors in developing an understanding of the effects of computer communication in the

institutions of higher education. Making sense of the cultural environment is a renewing, ongoing process; recognizing its existence and importance is critical to understanding the system as a whole (Morgan, 1997, p. 147-148).

When exploring questions of campus academic and social experience, it is important to assess the role of such experience within a particular type of institution. Higher education is made up of several types of institutions with distinct missions, enrolling students with particular expectations and sets of circumstances. Developing a social 'fit' can be a different experience for a community college student than for a student at a private, residential college (Tinto, 1998). Understanding the institution's culture helps develop the context for an understanding of the effects of computer communication. For example, fitting in academically and socially may matter more to students at four-year residential institutions than at community colleges (Braxton, Sullivan & Johnson, 1997); thus the difference of developing social fit might be especially noticeable at a four-year institution.

The small residential college brings students into close proximity with each other and with faculty and staff. In small colleges, face-to-face communication and bonding are a part of the institutional fabric. Students interact and learn together; changes in the formation of this community may potentially alter its very identity. At its best, the small residential college focuses on close mentoring relationships between students and faculty, which may promote student-student interaction, and opportunities for involvement with faculty in and out of class (Kuh & Hu, 2001). Faculty are typically academic advisors, and also perform research with students (Light, 2001).

While scholarship is often an expectation of the faculty, good teaching is an institutional priority.

Students on small college campuses typically know most class members, join campus organizations, and participate in myriad extracurricular activities. Ideally, students experience the benefits of a true learning community. This type of peer community is developed through time spent together (Kuh, Schuh & Whitt, p. 16). The small private residential college environment is one in which peer community is a natural extension of the institutional structure (Astin, 1993).

Students seek such involvement, but involvement has dual purposes: it helps students develop a social niche in the campus environment and choose to continue their enrollment beyond the first year of college. Astin's theory of student retention (1975, 1984) draws heavily on the importance of student involvement in the campus. He argues that involvement "with faculty, with fellow students, or with academic work" is correlated positively with retention (1993, p. 196). Pascarella and Terenzini (1979) similarly identified the "absence of sufficient interaction with other members of the college community as the *single leading* predictor of college attrition" (Nagda, et al., 1998, p. 57, italics in original).

Social expectations and experiences may vary between different subgroups of students (Kraemer, 1997). If the social experience of students is affected by the characteristics of – and influences on – students, then changes in the student cultural experience may affect their social fit. If computer communication is used in varying degrees and for various purposes by different subgroups of students, its impact and influence may be felt. Given differences in the ways males and females use computers

(Al-Motrif, 2000, McEuen, 2001), it is possible that the effects of computer communication may be manifested in gender-specific, and ethnic-specific ways.

Purpose of the Study

The purpose of this study was to develop a better understanding of the experiences of first-year college students using computer communication. Through this study, I hoped to better understand how computer communication is used for maintenance of relationships on and off the college campus. In particular, I addressed the question of whether computer communication is a factor in developing campus relationships, and whether computer communication, and maintenance of pre-college friendships, pulls students away from relationship development on campus.

CHAPTER II

REVIEW OF THE LITERATURE

"Generally, strong personal ties are supported by physical proximity. The Internet potentially reduces the importance of physical proximity in creating and maintaining networks of strong social ties." (Kraut et al., 1998, p. 6)

Introduction

This literature review is divided into four sections, progressing from a larger, societal view to the smaller unit of higher education's campus setting. However, for the sake of clarity, reference to the primary topic of computer communication's potential impact on students is woven through each of the sections. The sections are: (a) human social contact and relationship satiation; (b) effects of the Internet on social bonding; (c) student social development within the higher education environment; and (d) electronic communication and student social bonding. In the first section, I address the basic human need for communication, the concept of communication as critical to organizations, the human desire to maintain relationships once made, and the possibility for "satiation" of number of relationships. These broad communication concepts provide framework for the assertion that new technologies may alter communication activities, the relevant culture, and thus the student experience.

Section 1: Human Social Contact and Need for Friendships

Humans have a basic need to belong – to connect to each other. The need to belong is a basis for understanding the study of human interpersonal interaction (Baumeister & Leary, 1995; Bowlby, 1969, 1973; Donne, 1975; Freud, 1930; Maslow, 1968). This need is expressed in the attachments people form to each other, the relational stability they seek, and the emotional energy they spend on the well-being of others (Baumeister & Leary, 1995, p. 497). Once basic survival needs are met (such as food and safety), the need for love and a sense of belonging become dominant (Maslow, 1968). That connection is manifested in communication.

Communication is essential to individuals and is also essential to any organization's *being*, since it is "the social glue that ties members, subunits, and organizations together" (Euske & Roberts, p. 42, as cited in Jablin, 1987). Communication within an organization is determined in part by the structure of the organization itself – how it is set up, and how communication within the structure is encouraged. Communication within an organization is also dependent on the members of its subsystems and on the ways subgroups relate to each other and to the larger organization (Morgan, 1997). Weick (1969, in Jablin, 1987) argues that organizations are dynamic and changing, and communication is the critical process that allows continuous redefining of reality. When new technologies are introduced, the potential exists to change significant elements of the organization itself (Jablin, 1987, p. 421).

Every society on earth exhibits forms of social bonding, which has historically been identified as "face-to-face, personal interactions" (Mann, 1980). Once made,

individuals resist breaking relationship bonds; often they will go to great lengths to maintain them, and to avoid ending them (Hazen & Shaver, 1994). Despite this, certain points in individuals' lives can force the closing of relationships. One such event is the student transition from high school to college; another is the transition from college into the world of work.

People need other people, but not necessarily large numbers of other people. In fact, those who are satisfied with the set of relationship bonds they have will not likely be interested in initiating additional relationships (Baumeister & Leary, 1995). Once bonds are made and a level of commitment exists, people reach a point of satiation in their relationship structure. They do not feel compelled to pursue replacement of one social bond with another (Baumeister & Leary, 1995). Even within college settings, identified by Baumeister and Leary (1995) as "people-rich environments", social lives are restricted to some extent (p. 515).

The majority of an individual's meaningful interactions occur within a range of six people (Wheeler & Nezlek, 1977). Further, this satiation-induced limit in the number of meaningful relationships operates as an optimum group size, and allows a balanced expending of emotional overhead (Audy, 1980, as cited in Baumeister, 1995). Typically, when presented with a new environment, people develop new friendships and eventually drop away from the older relationships (Baumeister & Leary, 1995).

Whatever the number of friends one has, that significant group can become, or remain, a primary reference point. People will tend to evaluate themselves in terms of the group with which they are affiliated; that affiliate group will, to a great extent, determine how people will respond to challenges and their environments (Baumeister &

Leary, 1995). When students spend time with friends who are not focused on educational endeavors, negative behaviors can result (Kuh et al., 1991). By extension, the association and resulting negative behaviors can impact the academic success of students. When pre-college or even college peers do not adapt to the college environment, their influence can affect the social and academic integration of students into the college community. In turn, this can lead to student dissatisfaction with the collegiate environment, lack of satisfactory academic work, and eventual departure from the college (Tinto, 1987).

If strong affiliations can be maintained using computer communication, friends from high school social networks can remain part of day to day living, and an influential part of one's college life, through email, chat, and programs like Instant Messenger. Since one's affiliate group helps determine priorities and choices, the introduction of technology and "anytime, anywhere" communication allows access to, and influence from, pre-college acquaintances.

Section 2: Effects of the Internet on Social Bonding

The foregoing human communication concepts are essential in understanding the potential impact of new communication technologies on the student social experience. Technology is more than the hardware and software devices we use; it is "a process among which relations between people are realized" (Bruce, 1993, p. 15). Computer communication virtually permeates the civilized world, providing opportunities for interaction, and removing most communication boundaries. Although

computing and computer communication have been available for many years, in the last decade, computer communication has become an option for the society's mainstream.

Even prior to the 1990s, computer technology was bringing about "momentous" social change (Ginzberg, 1982, p. 67). Caught up in our daily routines, we may not recognize the incredible rate of change. "If the automobile and aerospace technology had exploded at the same pace as computer and information technology," says a Microsoft representative, "a new car would cost about $2 and go 500 miles on a thimble of gas. And you could buy a Boeing 747 for the cost of a pizza" (Hunderson, 2001, p. 1). Whether or not we recognize the dramatic rate of change, we are affected by it. Computer technology is around us and between us – in our banking, purchasing, educating – and always in our communicating.

Discussions of technology are often focused on what technology can do – but often not on the social relations setting – essentially on what technology do*es* do (Bruce, 1993). Design of a technology is not simply a linear relationship between the technological innovation and its function – but rather, part of a much larger process, which creates and embodies relationships among individuals (Bruce, 1993).

The collective software and hardware that comprise the Internet provides a technology innovation that increasingly reaches into our daily lives. There are now over 55 million daily Internet users (CNN, 2000); but if the Internet is only 20% invented, as Jake Winebaum, Internet pioneer asserts (in Hunderson, 2001), the next several years will bring much more societal change. The Internet is purported to increase the number of contacts individuals have, although an increase in quantity is not necessarily synonymous with an increase in quality (Markoff, 2002).

Some scholars have argued that more social contact means healthier and happier people, both mentally and physically (Cohen & Wills, 1985 as cited in Kraut, et al., 1998; Gove & Geerken, 1977, as cited in Kraut, et al., 1998). But relationships developed using computer communication appear to have different characteristics than ones developed in face-to-face contact (Kraut, et al., 1998, p. 6). For example, new relationships developed online may be characterized by weaker ties than relationships developed face-to-face (Kraut, et al., 1998). Tapscott (1998) identifies this trend humorously as he depicts a cartoon conversation between a father and computer-savvy, early teenage son: "You dumped your cyber-girlfriend?" asks the father. "Yeah, she was getting too serious," replies the son. "She wanted to know my real name" (p. 55).

Bargh et al. (2002b) studied face-to-face and Internet communication between individuals to determine which settings encouraged honest self-expression. Bargh et al. argue that Internet communication allows individuals to share their "true selves" by creating an environment that allows openness with less risk than face-to-face communication. In turn, that openness creates opportunities for relationship formation. He also determined that individuals tended to project onto the other a set of "idealized qualities." Much of the literature related to the effect of computer communication is based on the intensity of relationships formed on the computer. Less prevalent is discussion of the effect on the face-to-face community, and virtually absent is literature on the formation of new communities, given computer communication with friends from the former community.

Some scholars herald the Internet as a tool that can lessen isolation and promote relationships (CNN, 2-7- 2002; McKenna et al. 2002; Pew Foundation, 2002); some are

more dubious that electronic relationships developed have depth (Gross et al., 2002); others contend that Internet use may actually promote loneliness and unhappiness (Hughes, 1999; Kraut et al., 1998; Nie & Erbring, 2000, as cited in Bargh). Tyler (2002) asserts that "there are suggestions that the Internet may be a new way for people to do old things" (p. 7). Katz and Aspden conducted a national survey (1997) comparing the "social participation of Internet users with nonusers" and asserted that the "Internet is creating a nation richer in friendships and social relationships" (in Kraut, et al., p. 86). Mukhopadhyay, Szczypula, Keisler and Scherlis argue that the Internet is just another medium and, like the television or telephone, it will simply substitute one communication opportunity for another (as cited in Kraut et al., 1998). Bargh (2002a) asserts that the particular aspects of Internet use, combined with "particular characteristics and goals of the individuals, groups, and communities using them" determine the effect on individuals (p. 1).

The many facets of electronic communication, and the many facets of human use create complexity in assessing the impact of computer communication. Use of the Internet for interpersonal communication "does not imply that . . . social interactions and relationships on the Internet are the same as . . . traditional social interactions and relationships" (Sproull & Keisler, 1991, as cited in Kraut, et al., 1998) or that ". . . social uses of the Internet will have effects comparable to traditional social activity" (Kraut et al., 1998, p. 5). The Pew Internet and American Life project study of the Internet found that many people, particularly women, improve their family connections and deepen relationships through email use (as cited in Lake, 2000).

Research on the operational differences between the effects of computer communication relative to face-to-face communication is only beginning. Researchers generally agree that the social impact of technology is determined by the set of individual, group, and community conditions (Bargh, 2002a; Borgida et al., as cited in Tyler). For example, individuals who are socially isolated experienced a positive effect from increased online communication activities (Kraut et al., 1998). Other scholars have researched relationship formation on the Internet (McKenna, Green & Gleason and Bargh, McKenna & Fitzsimons, as cited in Tyler, p. 197), the level of social connection on the Internet (Spears, Postmes, Lea & Wolbert, 2002), and the complexity of the subject (McKenna & Bargh, 2000).

The possibility that computer communication might significantly benefit some groups of individuals, yet may be detrimental to relationships in other environments underscores the need to resist a "one size fits all" assessment. In speaking of the work of Thompson and Nadler (2002), Tyler (2002) encourages a more cautious response to assertions that computer communication seems to be consistently beneficial: "It may be the case that there are arenas - in particular, situations in which people are more task oriented or interests are more in conflict - in which the less social nature of electronic communication may introduce problems or undermine productive interaction" (2002, p. 200).

Wellman points to significant social scenarios formed through "*glocalization*" – "the capacity of the Internet to expand users' social worlds to faraway people and simultaneously to bind them more deeply to the place where they live" (Horrigan, p. 3). Despite his assertion that individuals are more deeply bound to their local

environments, Horrigan states that the "local connection is primarily that of 'information utility'" (p. 6). In addition to analyzing the amount of communication, it is important to address the bigger question of impact on individuals' lives.

In a recent survey, 61% of adolescents stated that the Internet did not take much time away from friendships; 10%, however, said it took a lot of time which they would otherwise use to connect with friends. Of this 10%, some felt that they achieved 'balance' because they communicated with friends at a distance (Lenhart, et al., 2001, p. 16). While this was provided as proof that the Internet did not negatively affect local relationships, it actually underscores the need for closer scrutiny of such relationship issues.

Since 10% of Internet users in the Lenhart study recognized that computer communication affected their face-to-face relationships, it is likely that many others experienced some effect from it also, perhaps just to a lesser degree. The potential impact of disengagement from the local community is an important consideration in maintaining existing relationships, but may also become critical in new community formation. "Generally, strong personal ties are supported by physical proximity. The Internet potentially reduces the importance of physical proximity in creating and maintaining networks of strong social ties" (Kraut et al., 1998, p. 6). The implications for campus community development might be particularly impacted by such dynamics.

Kraut et al. (1998) argue that there may well be a decrease in social involvement, given an increase in electronic communication, and site two possible explanations for such a decrease. The first is a displacement of social activity: use of the Internet replaces other activities in a manner similar to that of television's

displacement of alternate activities. This may lead to "social withdrawal" and decreased "psychological well being" (Kraut, et al., 1998, p. 16). A second explanation for a decrease in social involvement is that stronger, face-to-face relationships might be displaced by online relationships, which have relatively weaker ties. Although it is possible to develop friendships through computer communication, Kraut et al. (1998) argue that this is rare; when it does occur, it does not counter declines in communication with family and friends. Kraut's later study provided a more positive analysis of Internet use than the earlier work (Tyler, 2002). Making sense of differences in research results necessitates analysis of the particular environment and the local communication structures from which they report. The balance of weak and strong relationships within the online environment helps determine the impact of computer communication on the individual user (Kraut, et al., 1998).

Strong ties are identified as those "associated with frequent contact, deep feelings of affection and obligation, and application to a broad content domain..." (Kraut, et al., 1998, p. 6). Weak ties are associated with relationships that are of less consequence to the individual, and are less emotionally connected. Both types of ties provide "social support" (Kraut et al., 1998). While weak on-line ties help individuals access information beyond their immediate grasp (Constant, Sproull, & Keisler, 1996, as cited in Kraut, et al., 1998), it is the strong social ties that help individuals deal with stress and connect them emotionally (Cohen & Wills, 1985; Krackhardt, 1994, as cited in Kraut et al., 1998). Instances of loneliness and social anxiety were linked with individuals using electronic communication to maintain daily contact with individuals who were only casual acquaintances (Gross, et al., 2002, p. 84).

The concepts of weak and strong ties are especially relevant in the context of new community development. Some scholars argue that strong ties can be maintained through computer communication, but can not be created in that environment (Kraut, et al., 1998). Thus strong pre-college ties might be maintained, but development of new ties with the new community, online or face-to-face, may be hindered. From the perspective of intimacy theory (Reis & Shaver, 1988), Internet use could undermine *or* foster well-being, depending on whether it supplants (as suggested by Kraut et al., 1998) or expands opportunities for significant every-day contact with close peers (Gross et al., 2002). An increase or decrease in social involvement, predicated by Internet use, has potentially significant consequences for individuals, but could have enormous consequences for the well-being of society (Kraut et al., 1998). The maintenance of old ties has implications for new community development, from both the perspective of individual well-being, and that of new community bonding.

Section 3: Student Social Integration and Higher Education

Higher education provides opportunities for academic and social development of students. Student communication (in its many facets) is important to the well-being of students, and thus to the institution. Because changes in one part of a system are felt through the rest of the organization (Euske & Roberts, as cited in Jablin, 1987), changes in the student experience – and student satisfaction with the academic institution and with higher education – impact the well-being of the college.

Successful transitioning to the social and intellectual life of the campus is critical for the well-being of the students. The extent to which students are personally and socially connected to the life of the campus, connected with faculty, and involved in campus activities is related to a breadth of positive personal and social benefits (Pace, 1974, as cited in Kuh, 1991). Tinto (1993) argues that the major cause of student attrition from college is an inability to make the transition into the college's social and intellectual life. Making the transition requires purposeful effort; the amount of physical and psychological energy students exert is an indication of the likelihood of a successful transition to college (Astin, 1984).

Such connections between students, faculty, and institutions is a blending of individual differences and generational similarities which drive expectation and reaction.

> Regardless of your generation or current phase of life, chances are you share the commonly held view that your own peers' recent lifestyle experiences are the norm. In each case, you may believe that other generations could *or should* think and behave like you at whatever phase of life you have recently completed. (Strauss & Howe, 1991, p. 12, italics in original)

The Millennials, born between 1982 and the present, have had exposure to a different world than have the two generations that currently serve as educators: the Boomers (born 1943-1960) and the Generation Xers (born 1961-1981). Technologies of the Boomers – television, 78s and "LP" records, 8mm film, vacuum tubes and mainframes, evolved into technologies of the Xers – cable tv, cassettes, CDs, calculators and

transistors. In turn, the Millennial generation grew up in the midst of interactive TV, DVDs, microchips and personal computers (Howe & Strauss, 2000).

As a group, Millennials have had more supervision, spent more time with their parents, participated in family life, and received more discipline, although it was a different type of discipline than previous generations experienced (Howe & Strauss, 2000). These students were born during a movement toward protection and support of children, marking a decided shift in the attitude of society toward children (Howe & Strauss, 1993). The first wave of Millennials is now entering college, bringing with them a frame of reference of the world that differs from their generational predecessors. "Assessing those frames of reference is necessary for educators to help students link their experience with knowledge construction and self-authorship" (Baxter Magolda, 1999, p. 61).

Involvement in campus activities increases the quality of life on campus. In turn, the undergraduate student experience is improved (Boyer, 1987). In fact, the college environment itself may have a more significant role than the entering characteristics of the student, in determining individual satisfaction with the college experience (Astin, 1977). But while communication with all campus groups helps connect students to their institution, the peer group "is the single most potent source of influence on growth and development during the undergraduate years" (Astin, 1993, p. 398). Connection to and communication with student colleagues appears to be particularly important to the student experience.

Understanding the ways students transition from a pre-college to a college social and intellectual life is important in understanding the ways they connect to or

disconnect from their institutions. Tinto's (1987) research on student transition is particularly helpful in understanding student integration to the campus community. Tinto references the work of Van Gennep, a Dutch anthropologist who studied life passages between birth and death by studying groups. He identified transitional periods to develop an understanding of social stability and development of membership (Tinto, 1993). Van Gennep's theories, presented in his book, *Rites of Passage*, became a starting point for Tinto's depiction of the first year college student experience.

Tinto (1987) uses Van Gennep's phases of separation, transition, and incorporation to describe the adjustment of the first-year college student. The pre-entry characteristics of the student, along with institutional characteristics, cast the opportunities for and development of what Tinto calls academic and social integration. Each stage, according to Van Gennep, comprises changes in patterns of interaction between the individual, which Tinto casts as the student, and other members of society. These other members of society comprise old and new acquaintances. His model of institutional departure depicts the pre-entry characteristics of students, the goals and commitments they maintain, and the effect of the institutional experience on their academic and social expectations. In turn, personal integration of the college environment takes place, and with reformulated goals and commitments, students decide whether to depart or persist at the institution.

In the first stage of Tinto's (1993) adopted model, the new college student still embodies the norms and values of the prior high school experience and their family setting. The student is challenged by the values and norms of the new setting (the campus community) and either holds the community at a distance or moves toward an

association with it. Association requires "letting go" of the previous community affiliation, and moving toward integration with the new community. Thus the social development of the student in the new environment, through some type of involvement establishing connection, is important.

In the second stage, that of transition, the student reconciles the former and new relationships (Tinto, 1993). Although the student has not fully disassociated from old norms, neither have new norms been adopted. During the development of the first and second of these three stages, the student is more likely to become dissatisfied with the new setting and choose to depart. The third stage, incorporation, provides for personal integration of the student with the new community. Through that integration, the student becomes part of the culture and norms of the campus. Tinto's adaptation of Van Gennep's model to depict stages of student transition to college life has been used to develop an understanding of student persistence (Gatz & Hirt, 2000). Within that model, the involvement and interaction of students with other students and faculty is critical (Tinto, 1987, 1998).

Traditional-aged students are very involved with peers on campus. "Once a person identifies himself with a group, that group becomes an anchor and a reference point. The values and behaviors approved by the group provide a background for developing individual attitudes and behaviors" (Chickering, 1974, p. 88). The choice of peer group is critical to the integration process. Spending time with those who do not value the educational process may have a negative influence relative to education. "The peer group, rather than challenging old attitudes and behaviors, may allow a student to rely on comfortable, perhaps anti-intellectual behavior patterns" (Kuh et al., 1991, p.

12). Tinto (1987) asserts that peer groups made up of pre-college acquaintances can prove detrimental to successful academic and social integration; in turn, this can foster student unhappiness, sub-par performance, and eventually departure from the college (Tinto, 1987).

Integration of students into the community is a process, one that is necessary for the successful transition of students to college. Light (2001) identifies "symptoms of trouble" which are aside from issues of low grades: "a feeling of isolation from the rest of the college community...[and an] unwillingness to seek help" (p. 35). Successfully merging into the social life of the college builds campus community, but such merging requires "sustained informal contact among members of the college community, contact that involves students with both students and faculty" (Nagda, et al., 1998, p. 57).

As a group, traditional first-year college students may not be purposeful in initiating social or academic development. "Frequently, students will spend as little time as necessary to do the minimum requirement. This hit-and-run mentality makes it difficult to connect on an affective level with faculty or peers" (Lowell & Persichitte, p. 3). From an institutional perspective this is significant, since it might cause students to become dissatisfied with their college experiences; from the perspective of the individual student, this transition is critical.

Prior to the existence of Internet communication and potential withdrawal into a cyber world, students, for a variety of reasons, had trouble with the transition to college. Students who are low interactors are less actively involved in constructing their own educational opportunities (Wilson, ed., 1965, p. 157). Connecting to the new community often takes purposeful prompting. People need to spend time together if

they wish to "develop the relationships and understandings needed to establish and maintain a sense of community" (Kuh, 1991, p. 16).

Development of a new community requires time, consideration, and effort. "Lack of integration, or isolation of the student within the institution, has been identified as an important factor in contribution to student departure" (Nagda, et al., 1998, p. 57). Acceptance of a new environment, with the requisite melding and even changing of previously held concepts and values, requires thought and reflection. But such reflection is not a naturally-occurring experience for many students, especially for traditional first and second-year students (Kuh, et al., 1994). It may be easier for students to remain attached to their former community rather than to extend themselves to form new relationships. Thus, it is questionable whether students would be purposeful about setting aside old friendships and intentionally developing significant bonds with the new community. Additionally, interacting with non-students tends to reinforce a set of values that are not consistent with the college environment and student-oriented goals (Astin, 1993). If students, new to the college community, retain former (non-college) friends as a primary reference group, their effort to fit socially within the college environment could be hampered.

College communities and cohort groups are maintained over a shorter time span than most other communities (Tinto, 1987). Because of this, students may be more affected by events that occur outside their academic community than more permanent community members would be. "As a result, events which occur elsewhere in the student's life may play an important role in determining what transpires within the college. The actions of one's family, of members of one's community . . . may play an

important part in the decisions of individuals to depart from the institution" (Tinto, 1987, p. 108). When community structure is still relatively weak, during new community formation, "those conflicts may lead the person to withdraw entirely from the college setting in order to conform to the expectations of the stronger external communities or groups" (Tinto, 1987, p. 108). Thus relatively strong pre-college relationships, maintained electronically (perhaps to the exclusion of the development of new relationships) might pose significant "pull" for students.

If students attain a sufficient number of close friends, avoid breaking off relationships, and do not, therefore, bond with the new community, the social connection to the new (college) environment could be impacted. In addition, if the student's group affiliation is not academically focused, the transition to college may be further affected. It has never been easier to maintain external relationships – to resist breaking the circle of significant relationships – than it is today. Computer communication expands the opportunities for choice, but developing new relationships still requires student initiative and interest. If students choose to retain old-community relationships rather than forming relationships in the new community, they may not bond with it. This could potentially lead to dissatisfaction with the college experience and eventual withdrawal.

Section 4: Electronic Communication and the Student Social Experience

The advent of computer communication adds complexity and operational change to the environment of higher education. Students expect to have access to

electronic communication. Email has become the societal communication device of choice, rivaling telephone use and forcing computing infrastructure upgrades to meet demand (Moneta, 1997). There is much to be welcomed in this venue. Technology provides new communication mediums and also new opportunities to communicate, by allowing ease of collaboration (Feldman, 2000-2001). New information and communication technologies such as email modify "existing practice [and lead] to more fundamental and social change, such as new organizations or changed social roles" (Bruce, 1993, p. 28).

As documented earlier, the proliferation of technology may change the way students relate to the off-campus environment, and potentially impacts the way students relate to their internal, campus environments. Students used to "go away to college," but now email, chat rooms, listservs, and online-telephone programs such as Instant Messenger provide constant communication opportunities, allowing students to stay in touch with those off-campus in ways unimagined only a decade ago. Within any community, the communication tools used by the participants determines the social impact on the community; sometimes, the changes may alter social systems dramatically (Bruce, 1993). Changes in the mode and frequency of student communication with individuals off campus may introduce a change in the working of the campus community.

One particular study of the use of email by students yielded several interesting findings. Gatz and Hirt (2000) researched email use by first-year students at a large, public research university, for the purpose of studying the students' academic and social integration. Through printouts of student incoming and outgoing email, they assessed

the amount and nature of student email communication, and found that students continued extensive communication with their family and friends. In fact, the largest single category of electronic communication they reported was with friends, and the largest subcategory of that was that of high school friends.

The students in the Gatz and Hirt (2000) study did not, however, did not significantly connect to faculty using email. This finding is consistent with research of Lowell & Persichitte (2001) in which they reported that intention to communicate must be mutual, and students often lack the initiative or sense of necessity for accomplishing such contact. Tinto (1987) affirms that social integration is one of the major factors influencing retention, while findings from Gatz and Hirt (2000) suggest students spend time using email in ways that do not promote campus social integration and, moreover, may use email to avoid direct communication with others. Astin (1984) asserts that spending time and energy connecting to the campus is directly related to a successful transition. If students are now remaining connected to high school friends and others who are not involved in the life of the campus, higher education might experience erosion of student satisfaction and an increase in attrition.

New environments, created by the application of technology, necessitate a review of the models depicting the student first-year experience. Technology has changed the nature of communication and communication patterns among students and between students, faculty, and administrators (Gatz & Hirt, 2000), as well as ways in which students spend their time. New relationship structures are different because of the technology, and not simply extensions of preceding relationships (Bruce, 1993).

Summary

We are in the process of a paradigm shift in American higher education (Barr & Tagg, 1995). Technology has become part of the expectation and experience of society in general, and the current generation of college students in particular (Howe & Strauss, 2002). Technology enriches the classroom and provides new ways of accomplishing tasks; it also increases communication opportunities significantly. We, in turn, need to understand how students use computer communication, and how these new patterns impact the student experience. For ethical, as well as financial reasons, we need to better understand the student experience within the context of the twenty-first century campus, which by definition includes an increasing technological component.

Understanding the change technology brings to our students' social environment is critical to the success of higher education initiatives. "Continuing research is needed to further examine the functions and potential long-term effects of the many distinct and rapidly evolving uses of the Internet . . . [with special consideration of] the social and developmental context of adolescents' daily lives" (Gross et al., 2002, p. 88). We must respond to student needs within our institutions to enhance their campus experiences and encourage their success. We also need to assure that our own institutions remain stable in the next decades, with sufficient enrollment to be viable as educational entities.

The campus cultural and communication environment has been recognized as a key component of the student experience. Technology has fueled significant change in the functioning of that environment. Thus, it is imperative that we understand how students interpret, use, and are affected by the cultural changes technology allows and

which we – individually and collectively – develop. For example, how do students describe their use of computer communication? Do they feel that they stay in touch with pre-college friends? Do they feel any conflict in relating to that group of friends compared to their college acquaintances? Has computer communication affected the extent to which they join in college activities? Do they feel well-supported by peers in their college participation? Morgan (1997) argues that culture is difficult to understand when viewed from a distance. Therefore, in order to better understand the evolving student culture, it is necessary to look at student uses of computer communication and its effect on the student experience.

College faculty and administrators want students to accomplish the transition to college successfully and integrate with the campus community. Studies on various social groups indicate that computer communication might negatively affect some groups, and positively affect others. Tierney (1988) argues that "a comprehensive study of organizational culture in academic settings will demand increased awareness of determinants such as individual and organizational use of time, space, and communication" (as cited in Peterson, 1991, p. 136). Given the importance of community development at residential colleges, we are particularly in need of an understanding of the impact of computer mediate communication on college students. Our models for understanding the student experience needs to be examined and perhaps re-developed in light of changes brought about by technology.

CHAPTER III

RESEARCH METHODOLOGY

Overview

This study examines the experiences of first-year college students using computer communication. Discussions were initiated with sophomores, reflecting on the first-year of college, because it was anticipated that the account of personal and anecdotal experiences shared would be more comprehensive than if students were currently experiencing the initial (and often confusing) first few weeks of college attendance.

Data collection involved a qualitatively-based methodology employing focus group discussion. This type of research was particularly appropriate for a study of this nature because it allowed an exploration of the experiences and opinions of students, and allows the development of issues, with follow-up of seemingly pertinent threads (Krueger, 1994). As administrators and faculty develop environments for students that meet the fullness of their academic and social needs, development of an understanding of the current thinking and experience of students is critical.

Research Question

The purpose of was to develop an understanding of the experiences of first-year college students using computer communication. The focus group research allowed

development of a basic understanding of the experiences of students. For example: how much electronic contact (email, Instant Messenger, chat groups) do first-year students have with pre-college friends and family? Does this contact affect their student-student relationship development on campus or their participation in campus-based activities? Through discussion, insight into the student experience developed. The intentional selection of students who just completed their first year in residence at the college, and who use the computer for communication purposes helped assure that participants in this study were among those most likely to experience social consequences of electronic communication. Additionally, segregation of the initial four focus groups by male and female helped determine differences in use and experience between these groups. The final (co-ed) focus group addressed "big issues" or themes that arose in the previous four single-sex focus groups provided an opportunity for exploration and development of understanding of research findings. Members of the final group were comprised of student volunteers from the first four groups. In addition, students were given a brief questionnaire, which I analyzed once the focus group discussion was complete (Appendix B).

Research Site and Participants

This research was conducted at a small, residential college with a low student-faculty ratio and a reputation for significant student-faculty and student-student communication. Within this environment, changes in such relationship structures may stand out more than in a large, less personal campus environment.

Alpha College is a small, private, residential liberal arts college in a semi-rural area in the mid-west. It is located within an hour's drive of several major cities. The institution is a moderately selective (average entering student ACT score of 25.5), Carnegie I Liberal Arts institution, with a four-year liberal arts and sciences curriculum. The institution is known for its opportunities for "one-to-one" student-faculty research, travel, internships, international study, and particularly for a friendly environment with opportunities for student participation in curricular and extracurricular activities. The average class size of 19 and the student-faculty ratio of 13.5:1 contribute to an atmosphere in which communication and personal relationships are valued.

Participants in the study were first-term college sophomores, who spent their first year at Alpha College. This group had the benefit of the full first-year student experience, which was still fresh in their minds since they completed it only a few months prior to the study. These students could report on "what works" and "what does not work" in their experience of joining the campus community.

Phase One consisted of four focus groups of five to seven participants each. Two of these groups were all-male and two groups were all-female. Segmentation of this nature was chosen since "what is crucial. . . is whether there are gender differences in how people experience or respond to the specific topic of the research" (Morgan, 1998, p. 61). Previous research (Al-Motrif, 2000; Lenhart, 2001) reports that males and females use the computer differently. The structure of all-male and all-female focus groups allowed for the discovery of trends that did or did not support gender-based uses of computer communication. Triangulation of the data occurred by comparing the data from the two female focus groups with the two male focus groups. Krueger (1994)

describes theoretical saturation, in which the researcher continues data collection (in this case, holding focus groups) until no new information is provided. While theoretical saturation may be reached with three groups, the division of male and female groups necessitated an even number, thus four initial groups were conducted.

Phase Two of the focus group study consisted of a big issues session with participants from the previous focus groups invited (Krueger, 1994). In this session, the group consisted of eight males and females. General issues from the previous focus group sessions were presented as themes to students and discussion ensued. A separate set of survey questions, identifying themes from the first four sessions, was distributed to participants (see Appendix B).

Timeframe

Michigan State University's University Committee Involving Human Subjects (UCRIHS) was obtained. Additionally, the provost and the president of Alpha College received a copy of the research proposal. Some costs were absorbed by Alpha College, since I am employed at the institution. Alpha College provided a room for each of the focus groups, and provided tape recording equipment. Telephone calls were made at no additional cost through the campus system.

Procedures and Data Collection

A list of first-term sophomore names was compiled and checked through the Registrar's Office to ensure that the students resided on the Alpha College campus during the 2001-2002 academic year. A random selection method of drawing names from the full set was employed, resulting in a pool of forty-four males and forty females. Letters explaining the research were sent to students whose names were drawn (see Appendix A).

The week after the initial letter was mailed to those eligible, I phoned students to determine if they were willing to participate and to set up meeting times (see phone script, Appendix A). I reiterated the voluntary nature of the study, and the relevance of the study for the college students. As noted, students eligible to participate were first term sophomores who spent the prior academic year in residence at Alpha College. Through screening of this initial group, during the preliminary phone call to students, a subset was determined, consisting of students who regularly used computer communication to stay in touch with friends during their freshman year. Eligible students were assigned to male or female focus groups, as described below. A pool of students was developed so students who dropped away prior to the focus group meetings were replaced to keep the focus group as fully populated as possible.

As the researcher, I retained all responsibility for the planning and conducting the focus group study. One male and one female assistant moderator helped with the focus group sessions. These individuals were both seniors at Alpha College, and had been students at this institution since their first year of college. I met with both of these

individuals prior to the first focus group session, presented the plan for the focus groups, and then discussed the plan with them. The male assistant moderator met with the two male focus groups sessions, and the female assistant moderator met with the two female sessions.

Following each session, the assistant moderator and I held a debriefing session. Both assistant moderators met with the final session, and participated in a debriefing session at its conclusion. Several days after the final session, the two assistant moderators and I met for a two-hour review of the entire set of focus group discussions, in which we identified themes, similarities, and differences in the sessions. This helped ensure accuracy of my interpretation of the discussions and helped me understand these in the context of the student experience (Creswell, 1994). Additionally, a written copy of the audio-taped text, with a breakdown of the discussion by themes, was provided to each assistant moderator for feedback. In this way, the assistant moderators were involved in each phase of the research and the distance between the research participants and I was lessened (Guba & Lincoln, 1988, in Creswell, 1994). Since the assistant moderators were students from the same institution, they participated within the student culture in ways that were similar to the research participants. As seniors, the relative maturity of the assistant moderators helped bridge the years between the research participants and me.

I also sought the assistance of a peer reviewer who read the entire document and provided feedback. We had three subsequent discussions of the themes present, approaches to grouping those themes, and the meaning of various segments of the

student discussion. Those discussions both pointed out ideas for exploration and helped me identify gaps in my understanding of the student experience.

The Focus Group Sessions

Format for the focus group sessions was loosely structured, with the goal of getting the participants talking about the topics relevant to the research (Morgan, 1998). Questions were provided to the students in writing to guide the discussion (see Appendix B), and I used them as a general guideline rather than strict discussion lines. This open-ended nature of the questioning allowed me to acquire additional relevant information even if it had not been considered previously.

A memo was sent to students on the initial contact list to inform students of the focus group study (see Appendix A). A week later, those students were contacted by phone (see Appendix A) to solicit participation. Those willing to participate were assigned to a focus group based on their scheduling needs and preferences. I sent a note of participation confirmation to students a week before the scheduled focus group meeting (Appendix A), placed a reminder phone call to the student approximately 24 hours prior to the meeting date (Appendix A).

Each discussion was held for a minimum of one hour and a maximum of two hours. If some members of the discussion group left, I allowed conversation to continue with those remaining. Sessions were audio tape-recorded to assist in ascertaining themes and discussion threads. Both the assistant moderator and I took notes during each focus group. A flip chart helped capture threads of the group's discussion.

Framing questions for each focus group were the same, allowing some consistency of conversation across focus groups.

Following each focus group session, the assistant moderator and I held an audio-taped debriefing session. During this session, we reviewed notes, identified dominant themes, and noted interesting comments and quotes. A basic outline of the session was developed to capture dominant themes, which were addressed in the final big issues focus group. Triangulation of focus group data was accomplished by comparing results of the focus groups for common themes and consistency (Morgan, 1998). Additionally, the debriefing sessions served to help with data triangulation.

Sessions were planned around the dinner hour during the week. Pizza, soda, and a light dessert were provided, to entice students to attend by offering them "something different" than their standard meal options. The room selected was relatively small, but one that was familiar to students. The intent was to help participants feel comfortable with the focus group environment. Students were not paid for their participation, with the exception of the meal and a token gift of a five-dollar coupon for a "Smoothie" drink from the campus food service. The sessions were described to participants as an attempt to better understand the student experience. In turn, the students were told that the outcome of the conversations might help the institution enhance environmental conditions and improve student satisfaction. In pilot discussions with non-participants, students emphasized that latter point was meaningful. They want to have their voices heard and their experiences understood.

Each session began with a distribution of forms and pencils to participants (see Appendix A). The Informed Consent document included a "sign off" area in which

students indicated their permission to be part of the study. I reviewed the consent forms prior to the beginning of the session and made sure all students had signed the form. Since all students signed the form, there was no need to excuse any student from the group.

A brief survey form was distributed to students (see Appendix A), and they were given about ten minutes to complete it. I then presented a brief overview of the area of research, and facilitated the discussion. The topic of computer communication appeared not to have intensely emotional discussion attached to it; however, I watched for over-disclosure of participants, and steered the conversation carefully back so that a more general discussion could occur (Morgan, 1998a).

Final "Big Issues" Focus Group Session

Main points from the initial four focus groups were pulled together for the "super focus group" session. This group was comprised of volunteers from the first focus group sessions and used the "big ideas" that came out of the previous discussions. This final focus group session was held two weeks after the initial four sessions. Procedures for the final focus group were the same as those of the initial four. Meeting times, process, and analysis of data were consistently developed and refined. The elements of the final report were determined from the analysis of the focus group and super focus group meetings. As the entire set of data was reviewed, I considered topics that were known prior to the study and were confirmed or challenged within the focus groups; themes that seemed logical but were confirmed or challenged during the focus

groups; and themes that emerged through the focus group and were not previously apparent (Krueger, 1994).

Pilot testing

A trial run for the focus groups took place late in the summer of 2002, with a small group of students on campus. These were upper-class students who were available on campus during the summer of 2002 and were not part of the later study. During this pilot session, I tried out the processes, procedures, and documents and made appropriate adjustments.

Compilation of data

Following each focus group session, I prepared a transcript of discussion including: description of the setting, observations regarding the manner and appearance of participants as they enter and join the conversations in the room; conversations topics between participants, reactions to framing questions, and discussions. The brief survey forms were collected, and reviewed following the focus group conversations. Since the consent form were separate from the survey, and were collected prior the beginning of discussions, only students who consented to be part of the study were present to fill out the survey.

As the data were analyzed, categories of conversation were determined and entered into a computer database, with some attempt to identify linkages students were

noting between discussion items. For this latter process, students were entered by generic code name; real names were not used. Once the research was complete, I erased the audio tapes made during the focus group sessions.

Following data compilation, I provided the assistant moderators a copy of the categories of conversation with supporting text to elicit any concerns and comments. I engaged in discussion with two separate peer reviewers regarding the comments and findings. I then provided one of the peer reviewers a copy of the findings and implications chapters. That individual checked for consistency and logic in the analysis.

Display and Analysis of the Data

Session notes were typed up as quickly as possible following the completion of each session. These notes assisted in the development of the final focus group and were also completed quickly to maximize memory of the particulars of each session. Following guidelines of Krueger (1998), I attempted to develop analysis that ". . . enlighten[s]. . . entertain[s] alternative explanation . . . [allows] feedback . . . is a process of comparison . . . [and is] situationally responsive" (p. 12-18).

As the data developed, and quotes and themes identified, I addressed description of the setting to uncover likely meaning being conveyed by student participants. Particularly noteworthy were the frequency of themes students identified, how extensively themes were identified by participants, and how intense opinion was on each theme (Krueger, 1998).

Limitations of the Study

Because of the relatively small number of students interviewed (four focus groups of approximately six students, plus a fifth focus group of seven students who had participated previously and volunteered for the final session), the study was exploratory rather than comprehensive. The ground work should prove beneficial, however, in setting up a later, more comprehensive study. An additional and significant limitation in the broad applicability of this study to higher education arises from its being conducted on a single college campus. Due to differences of institutional type (research university, comprehensive university, community college, small residential college), the findings at this particular institution may be helpful in understanding the student experience at the small residential college, but not necessarily at other types of institutions.

An additional limitation is that the information provided by students can not, for the most part, be verified. Individual impressions are highly subjective; even variables such as level of parental degree attainment (to ascertain first-generation college students) may be incorrectly presented by the student (Grandy, 1998, in Government Publication, 1999). While each focus group used a similar framework for response, individual focus group dynamics might influence individual responses. Individual interpretation might vary and thus allow unwarranted similarities or differences of response.

Another limitation is the small number of student subgroups and thus, the opportunity to differentiate effects of computer communication among those groups.

Examples might include first-generation college students and students of minority populations. Given the small number of students interviewed and the even smaller number within particular classifications, the group size might not be sufficient to allow theory development of the effect of computer communication on specific subgroups. However, this opportunity to hear student voices and develop an understanding of their experiences of these students hopefully provides groundwork for future studies.

CHAPTER IV

FINDINGS: THE *EXPERIENCE* OF COMPUTER COMMUNICATION

"You notice everybody, as you walk down the hall and they have their back to the door, you know, and they're always on the Internet all day long" (M1- male student describing walking down a residence hall).

"...and you can hear beeping as you go down the hall, and someone getting Instant Messages" (M1).

Introduction

The purpose of this study was to develop a better understanding of the experiences of first-year college students using computer communication. I hoped to develop an enhanced understanding of the ways in which students use computer communication to maintain relationships on and off the college campus. In particular, I asked whether computer communication was a factor in developing campus relationships, and whether computer communication (and maintenance of pre-college friendships) pulled students away from relationship development on campus.

As I began to analyze my focus group data, two distinct patterns emerged. The first was the *experience* of using computer communication that students could easily describe. It folds around their lives, their reference points, and their understanding of how the world operates. I group the themes in this chapter from this first pattern titled "the Experiences of Computer Communication."

The second distinct pattern that emerged was the *effect* of computer communication on students' lives. I address these effects in Chapter V, titled "The *Effects* of Computer Communication." To some extent, students were conscious of the effects of computer communication, specifically, the effects of concurrent social networks in their lives. Students were also affected by computer communication in ways they did not immediately recognize. The topics in Chapters IV and V overlap: some of the effects of computer communication are visible through the experiences of computer communication. For example, part of the student experience is the connection to their friends and the opportunity to keep them present in their lives. One of the effects of this presence is the sense of being sustained.

As students began discussing their first year, they described some of the typical experiences of incoming college students, such as freedom to come and go as they wished, determining when to do homework, and feeling quite "on their own." Students also related experiencing the freedom of a direct connection to the Internet. Most of these students were able to connect to the Internet from their homes during their high school years, but that connection was typically through a modem. Since such connection ties up the home phone line, the time students spent online in their high school years was often relatively brief. In describing the difference between high school and college Internet use, and implicitly the difference between modem access and a high-speed Internet connection, one student summed it up by stating: "I used it [the Internet] in high school but I was *under dial-up*" (Male, session 1 – M1). I thought it was interesting and accurate that the young man described being "under" the dial-up connection. The limitations of dial-up access felt restraining to these students.

Almost all of the students in the focus group sessions had access to a computer, with a high-speed Internet connection, in the college residence halls. Because of that direct connection, these students were able to be online continuously while going about their daily activities. As one of the young men stated, "Since it's there, they'll just, you know, keep it signed on just because they can" (M1). According to the students in the focus group sessions, that opportunity meant that they significantly increased the amount of time they spent accessing the Internet in college, as compared to high school.

While the process of adjusting to residential college life is typical for new college students, the coupling of that adjustment with the freedom of a direct connection to the Internet may remain fairly unique to students attending college at the beginning of the 21st century. A decade ago, students did not have widespread access to the Internet at all; students in the future will be more likely to have high-speed Internet connection prior to attending college. Younger brothers and sisters of students in the focus group sessions were accessing the Internet from the home computer more than these current college students had while in high school. One student described how his fifteen-year old brother was saving money for a new computer rather than a new car. Many of the families had recently acquired cable connection to the Internet, and the speed and ease of use made it more accessible. For most of the students in this study, the experience of leaving home to attend college and the experience of direct connection to the Internet occurred simultaneously.

The focus group sessions often started out slowly as students arrived and helped themselves to pizza and soda. Typically, the students did not know each other and engaged in somewhat stilted conversation while they ate. The male assistant moderator

in the two male groups and the female assistant moderator in the two female groups involved the students in conversation, asking about band, choir, classes, and other common experiences. I also shared in some of these conversations, and asked students a few questions about how the term was going for them. A few of the students knew each other, and those students seemed to engage in the process more quickly than other participants. In each focus group session, it appeared that the process of eating first, and then moving into the discussion helped participants relax and converse with other group members.

Conversation in the focus groups was open, friendly, and at times very animated. The students were interested in discussing computer communication, particularly the importance they placed on access to such communication, and the subsequent problems they had experienced with it. I was first impressed with the sheer volume of communication students were describing. I carried with me an assumption that these students used the computer in a manner similar to my use, and that to them the computer was an essential tool...but just a tool. I heard these students talk about growing up with computers, depending on them for so many daily activities, and absolutely relying on them to facilitate communication with their social networks. To them, the computer and the communication it enabled was a way of talking, and a part of themselves. I heard a breadth of use that surprised me, and a dependence on it for social purposes that I did not feel myself. The conversations were lively and enjoyable, and although I felt that I learned from them initially, it was in the transcript typing and review that I really began to understand what I was hearing. The following themes include my initial impression of the volume and breadth of use, but also go beyond that.

I feel that in conducting these focus group sessions, I actually had the opportunity to step into these students' lives for a time and see a world that is different from mine, which was a fascinating experience.

Four significant themes emerged regarding the student experience of using computer communication, and are described in more detail in the following pages. The first of these themes was identification of the computer as an absolute necessity in these students' lives. Online communication connected them to their social networks, their family networks, and to a myriad of Internet-provided resources. As such, it was very important to them. In discussion, they emphasized their need and their absolute right to unfettered use of computer communication.

Students also turned to the Internet to transact business, seek information, and find entertainment. They used the Internet to accomplish academic work, preferring the Internet over conventional information sources. This generation of students has grown up amid widespread use of computers. The set of opportunities such technology provided was accepted as the norm. These students were knowledgeable about the opportunities afforded by Internet technology, and made use of those opportunities.

The second theme was the way in which students typically arrived on campus with fully developed friendship networks comprised of their pre-college friends and family. These networks consisted of significant face-to-face relationships, which were easily adapted to online contact. Once students arrived on campus, they also had the opportunity to make and connect with new friends, and these formed another social network. Generally speaking, students turned to both their old and new friends to help

them cope with issues and problems in their lives. However, some students relied almost exclusively to their high school social network.

Most students in this study described frequent contact with their parents, and even stayed in touch electronically with aunts, uncles, cousins, and grandparents. This contact was typically conducted through the Internet, and was most often by email. Students talked about the ways in which parents helped them cope with problems and adjust to college. When discussing parents' use of the Internet, the tables turned and students felt they had the upper hand. Students talked about how some parents felt overwhelmed by programs like Instant Messenger, and how they assisted their parents in coping with computer communication that seemed to belong to the younger generation.

The third theme involves differences exhibited by men and women in their Internet use. Both men and women stated that they used the same basic set of Internet tools in similar ways, but in discussion they proceeded to talk about differences. Some students felt that there were differences in the topics and type of communication that men and women shared: women described chatting online more, and felt that men sought specific information online. Men described enjoying computer games more often than women. When I asked the men how much they used the computer to play games, they were adamant that computer games were for middle school and high school students. Yet, in later conversation they described playing online games with friends a few rooms away and friends hundreds of miles away. Women seemed to seek a connection with parents more than men, or at least were more willing to state that they sought such connection.

The fourth theme describing the experience of students using computer communication was the ways in which students connected with "the College" and with faculty. Students felt that Alpha College was technologically behind other institutions in the use of computer technology. The technology lacking was identified in terms of Internet course tools such as Blackboard, technology in the classroom, and student-faculty contact by computer. Although students felt that the college and faculty did not provide sufficient academic computing resources, and that providing such resources would improve the academic experience, they did not feel dissatisfied with the academic experience as currently structured.

Campus Internet Problems

"...they like gave it to you and you take it and you're like 'yeah, this is awesome, keep in touch with everyone – it's GREAT' and then you can't use it." (Male, Session 2 – M2).

During the fall term of this study, the campus experienced dramatic problems with the college's Internet connection. According to the Director of Information Technology at Alpha College, these problems were due to: 1) a rapid growth in student use of applications that require large amounts of bandwidth such as peer-to-peer music and video applications; 2) an increase in the number of users; and 3) an increase in computer virus attacks on the campus system. In a memo to the campus community, the Director of Information Technology stated, "...The biggest part of our current problem is the direct result of peer-to-peer file serving applications that allow for the

sharing of MP3 music files, jpeg and avi videos, and similar very large files" (September 27, 2002). Students acquired these from off-campus servers and download them to their personal computers in their rooms.

Bandwidth can be envisioned as a sort of pipeline that connects campus computers to each other and to the outside world. Through the Internet, students could access music and video files and draw them down onto their personal computers. While many colleges actually blocked the downloading of music and video files, Alpha College staff actively discouraged such activity, but did not block it. In a memo to students, the Director of Information Technology stated, "Students can do a great deal to help by voluntarily deactivating peer-to-peer serving on their machines, and by encouraging others on campus to do the same" (September 16, 2002). Applications that used large amounts of bandwidth – by virtue of sheer numbers of users or by movement of very big files – negatively affected system performance. These very large music and video files created significant problems for college network resources, and thus for performance of the entire college network.

Although the downloading of these large files was not the only contributor to the network problem, it put pressure on college bandwidth resources and thus helped create a situation of increasing instability of the college Internet connection. In the fall of 2002, with more students bringing their own computers to campus than ever, the pressure on the network became excessive and serious performance problems resulted. As evidence of increased demand on the campus computer system, the Information Technology Director stated that 30,000 email messages were delivered during the first week of class in the fall of 2001 and that during that same week in 2002, the delivery

level increased to approximately 200,000 email messages (Reed, personal communication, September 16, 2002). During peak periods of such activity, Internet communication would slow down significantly and the Alpha College network became unstable, which in turn meant that the Internet connection to the outside world failed. Sometimes computer users could re-initiate network use immediately, while at other times they were unable to resume use for a significant period of time.

As a result of the timing of the network problems and the resulting network instability, this study benefited because students had experienced ongoing difficulties in connecting to the Internet, and had thus considered the importance of the Internet in their daily lives. Prior to, and during, the focus group sessions, the Internet connection was a focal point of conversation, not only between students, but also between students and faculty members, students and staff, and between faculty and staff members. Essentially, during the fall term of 2002, members of the entire campus were actively discussing their serious concerns with the state of the network, and network instability was the issue students most frequently took to the provost for resolution. Student opinions were strong and consistent and are reflected in many focus group comments.

Theme One: Computer as Natural Extension of Self

"We are so connected – like all the time, we're connected." (F2)
"We're so dependent on it." (F2)
"Yeah." (F2)

Computers have been present in these students' lives since birth. One male described the computer as a "natural extension" of himself (M1). The need and desire

students felt to have access to computer communication – and the sense of near panic in some cases when such communication was not available – seemed to underscore this young man's comment. This comment highlighted for me a primary difference between these students and college faculty and administration, for whom the computer was a necessary and appreciated tool – but probably not typically considered a "natural extension" of themselves.

IM, Email, and the Opportunity for Constant Communication

Throughout the focus group sessions, students expressed their need for access to computer communication and the College's obligation to provide such access. The network instability caused problems with the campus email system, but its effect was felt most keenly when students used "IM" – America Online's Instant Messenger service. IM provides an opportunity for a conversation between two people, with several individuals concurrently, or even for multiple conversations with several individuals concurrently. Whether or not a student was directly participating in a discussion, the direct connection to the Internet left an open line to receive messages. Being "on" (a word often used by students to describe their presence or visibility on the Internet) seemed to allow the presence of others – or the anticipation of an unplanned conversation. Students preferred using IM to using email and phone communication.

Students cited computer communication as a critical need upon entry to the campus, noting that improving the speed and accessibility of computer communication could make the first few days on campus much more comfortable. They identified this

as an area in which the institution could improve to make the transition to college easier. Particularly, students noted how scary it was as they arrived on campus on the first day of college. Students talked about looking around and not knowing anyone, including their new roommates. Computer connections were not available initially, as it took several days for the Information Technology staff to accomplish the steps needed to get students registered in the system and have computer accounts available for them. In addition to this, long-distance phone service activation required several steps and the assignment of a code number. Thus, long-distance phone access was not available for students during the first few days on campus, either. The result was that students felt cut off from their family and friends, perhaps more keenly than their counterparts of ten years ago, because these students were used to participating in computer conversation regularly, before arriving on campus. Students felt that initial computer connection was critical in making the first few days of college less traumatic, because they would be able to stay connected to home while adjusting to the new college environment.

Students were passionate about the need for access to Instant Messenger and email. To sign up for AOL's IM service, individuals simply filled out a form online and selected a screen name. Individual identities were typically not obvious from the names themselves. Students could have as many screen names as they wished, and they described using particular screen names in some conversations, and other screen names in different types of conversation. Screen names were single words like "vanillagirl," "paintmaker," or "biologynerd."

When individuals want to add someone to the list of contacts, they simply add them to their online 'buddy list.' When they want to discontinue further IM

correspondence from someone, they just remove them from their buddy list. In this way, students have complete control over who is conversing with them. To participate in a discussion, even anonymously, students simply join a chat room conversation. To initiate a conversation with a specific group of people, the originator clicks on a button on the screen intended for group contact, then types in the screen names of the individuals to participate in the group. As conversation begins, the message text appears on each recipient's screen simultaneously, and as each 'converses' with the group in this way, the posting is visible to all.

Students shared their screen names with others so they could be identified in conversations. It was not necessary to share the real identity of the individual even when the screen name was shared, and it was not uncommon for students to converse through IM without identifying themselves. Thus, other members of the discussion group knew as much about the individual as he or she wished. The male assistant moderator told me after the session that he had a couple of screen names that he used regularly for conversation; friends associated those screen names with him. Additionally, he had a couple of screen names that no one else knew about; it allowed him to participate in conversations anonymously. Individuals can join chat room discussions without being invited. Thus, they may meet others online and engage in later discussions without sharing their real identities. Several students described the fact that they knew screen names for their friends, but could not remember those friends' phone numbers.

Students described a feeling of companionship in having the computer available to receive IM and email messages. Individuals off campus and on campus, with whom

they communicated seemed to be, in some sense, constantly present. Even when students left their rooms, they continued to communicate by posting descriptive "away messages" to share their current locations with others. "A lot of people don't even shut it off – they just put an away message up" (M2), stated a male student in one of the groups. As that student spoke, others around the table nodded, indicating that this was common practice. Messages sent while individuals were away from the computer were stored for later viewing, either at the computer in their room, or at any other computer the students accessed. Unlike phone messages, students accessed email and IM messages in college computer labs, at job sites, and even from home. They could thus quickly respond to any message that arrived while they were away. That ability to move between locations and maintain access to computer networks of friends seemed to make students feel comforted and comfortable. Students felt as though they were able to have their friends around them at all times, although often those friends were not physically present on campus.

Students described how IM allowed them to maintain several conversations concurrently. When I asked how many conversations students would hold at a time, an entire group chimed, "LOTS! A LOT" (F2). One student added, "like 7-8 [conversations] going on at once" (F2). Another noted, "I can be playing a game and get a really high score and be talking to like 7-8 people at the same time" (F2). Enthusiasm rose during this part of the conversation, and voices became louder. Students liked knowing that they were talking to many individuals at once, and found the concurrent, fast-paced conversation with several others exhilarating.

IM was seen as an opportunity to communicate more quickly than email. A young man in one of the focus group sessions stated, "...Email is to Instant Messenger as a letter is to the phone" (M1). This analogy captures quite well the ways students viewed IM and email use. To send an email message, several steps needed to be taken, including identifying the recipient, the subject, any additional individuals to whom copies should be sent, presenting the text of the message, and then pressing the 'send' button. In contrast, IM allowed a much faster interchange; there were fewer steps and thus, it felt less formal. Excitedly describing the feeling of getting caught up in the IM process, one female stated, "...it goes faster and like you get blurbs of conversations" (F2)

While IM was used to talk with several individuals concurrently, it was also handy in sending a brief message to just one person. Students generally preferred sending an IM message rather than phoning because individuals were accessible at almost any location. As one student suggested, "If I want to get a hold of somebody on campus instead of picking up the phone, I'll just IM them. I can do that if I'm at work..." (F1). Unlike the phone, computer access allowed individuals to pick up messages easily and inexpensively, whether they were across the campus or across the country. This allowed easy responses to social invitations, information, and also meant students were available for conversation as soon as they were near a computer.

Besides the conversational uses of IM, students related using it as a homework tool. One participant shared, "...I had a friend I was like just chatting with them and they were having problems with a paper and I was like 'copy and paste it and I'll see if I can help you.' I offered my services. I didn't do too well..." (M1). He sounded almost

gallant as he talked about offering his "services" and as he shook his head, I realized that he discovered his own limitations for academic assistance despite the use of technology. This comment reminded me that these students are young, willing to try computer communication to address the problem at hand, but are still learning how to be successful in academic and other ways. Other students spoke of using IM as an opportunity to get help on a specific point when working on homework, and I got the sense that it was common to use IM for this purpose.

One student, Sandra (not her real name) had experienced a computer crash and was without a computer in her room for a couple of weeks. Sandra's roommate, also a focus group member, described what it was like for Sandra when the computer quit working, stating, "when Sandra's computer broke down, she's like 'I don't know what to do'" (F2). Sandra spends time at her boyfriend's room to use his computer since hers is broken. Her roommate continues: "... She's always on it whenever she's in our room and it's so weird now that it's gone. She's just like 'I don't know what to do!' She's like 'I walk in every day and I just don't know what to do!'" (F2). Sandra responds:

> Because that's how I connect to people like my mom – like teachers, friends. That's like my way of connecting to people because I don't really like using the phone...I WILL find some way to use the computer because that's how I connect...what did they use to do before they had computers? (F2)

Among the students interviewed in the focus group sessions, Sandra was by far the heaviest user of computer communication, claiming to use the computer for more than one hundred hours per week. However, her sense of being adrift, following the

breakdown of her computer, helps describe the dependence that almost all of the students had on computer communication.

Most students also felt that access to electronic communication helped them get to know students on campus better. "It's so much easier because you're not always going to see someone during the day – you know, you're both busy, but if you're by a computer, you can still kind of check, keep in touch. You know, just even become better friends with people on campus too" (M2). And several students said that they preferred the option to combine computer communication with face-to-face communication. If they were able to determine another student's screen name, they could contact them and communicate electronically first, then proceed to face-to-face conversation. Conversely, they could begin a conversation "off-line" and then get to know each other through online conversation.

In three of the four primary focus group sessions, students described walking through the residence facility, with doors to the rooms open all the way down the halls, and seeing each room's inhabitants turned to their computers, with their backs to the doors. In each room, students appeared to be isolating themselves from others; in reality, they were connected to one or many other individuals, and engaged directly in conversation. A student in the first session described it: "You notice everybody, as you walk down the hall and they have their back to the door, you know, and they're always on the Internet all day long" (M1). Students also noted that the 'beep' of Instant Messages arriving often took the place of actual conversation. Another student stated, "...you can hear beeping as you go down the hall, and someone getting Instant Messages" (M1). I found it interesting that students raised this as a significant point,

without any prompting, in three focus group sessions. In the one session in which students did not mention the "backs to the door" scene, I brought it up and they quickly nodded in understanding.

Aside from conversing electronically with friends on campus, students noted that campus organizations benefit from using electronic communication. Students asserted that when electronic communication was purposefully used on campus, it facilitated involvement in campus life. Large groups have the advantage of college-wide information dissemination for their activities, such as the college newspaper, banners, and other means; small groups must rely on contacting members or prospective members individually. "If you're a big group like [the college union board] ... you can just put up big banners and signs... [but] if you just want to reach 10-12 people in a little group, I think the power from the computer and the communication, I think you need that. So I think it DOES help you join groups" (M2). Another student agreed, "...that's definitely how I hear the most about different clubs...I would say it can really help join the community" (M2). By sending email to a group of students at a time, information on group activity is easily shared. Since participation in student life on campus is important for students bonding with the campus, the use of computer communication to involve individuals in small group activity is important to the development of community and the opportunity to connect with other students and with organizations.

Computer Communication is Integrated into Lifestyle

In addition to communicating extensively using the computer, as described previously, students accomplish many other goals and tasks in their lives using the computer. However, it seemed that students were much more adamant that they had to be able to communicate socially than they were about accomplishing other tasks using computer communication. This is not intended to minimize the value of the computer for transacting business, seeking information, and entertaining. But actually conversing, described in the previous section, was a more basic need.

Transacting Business

I found it interesting that students had discovered many uses of the computer that I had not considered. Students turned to computer communication to complete various kinds of informal agreements and arrangements, but also more formal business transactions. A male student, who worked periodically as a high school wrestling official, related receiving contracts by email, and sending his "signed" agreement via return email. He described how easy and fast he felt the process was and how computer communication thus significantly improved the older process of sending and returning contracts. He was surprised that the communication constituted an 'official' agreement, but glad to be able to transact contractual business in this way.

Shopping and banking were conducted online by many of these students, allowing them to access big-city selections from their semi-rural, mid-western location.

Noted one male, "I don't do any of my banking [locally] – my credit card, my phone, my cell phone bill, my online accounts – I do them all online" (M1). Students talked of going online to transfer money, sometimes contacting parents via email or IM to let them know they were low on cash (so parents could address the students' depleted funds), then resuming online bill-paying and shopping activities. "I always buy a lot of stuff online and I also pay my credit card bills online...because you don't have to worry about getting out to the store and buy a money order and send it in and losing your parking spot" (F1). This was humorous, given the fact that on this small campus, a parking spot is always available within a walk equivalent to a city block.

Rather than changing banks when coming to college, students often continued banking from their hometown bank, using electronic access. "My girl friend is from Nashville. She has a bank down there and there's no way you can get any money. You have to send stuff in the mail, and put it in an envelope to make funds available, and how long will that take? At least a week!" (M1). The group agreed that transactions taking at least a week clearly were not acceptable to them. They seemed to appreciate the opportunity to keep the same banking institutions as they had prior to coming to college. The fact that they did not have to change banks was directly attributable, they felt, to their ability to communicate through the computer with financial institutions and with their parents, as fund providers.

Book buying was frequently transacted over the Internet. I found these students purposeful and serious in their access: they evaluated web sites, searched for new ones that provided better opportunities, and enthusiastically shared that information with other students. They identified on-line sites that allowed them to purchase their college

books at significant cost savings over the local bookstore prices. Students said that these book outlets were used by students in colleges all over the country, so they could buy and sell books even when the professor changes versions and the local bookstore will not re-buy the old version. "... If you put it online, students from colleges all over the country are looking at it ... and you just put it in an envelope and mail it to them. And then they pay and the web site cuts you a check at the end of every month" (F1). The conversation was lively as students shared this information with each other. Several students quickly wrote down the names of the web-sites being discussed, so they could try for themselves.

Students also described preparing to shop "in-person" but using the Internet to pre-shop to compare prices between stores they would later visit. I was interested and impressed with the thought and care they put into seeking information and finding ways to save money. For each type of situation or need students encountered, they appeared to turn first to the Internet to find a way to address it.

Sending and Seeking Information

Almost all students related using IM to set up plans for meeting other students on campus or attending events. Students talked about gathering a group to walk together to the dining commons for meals by sending IM messages. When I looked surprised that they turned to the computer so constantly to set up such routine events, a male student explained, "It's easier than walking to their rooms" (M1). Sending an IM message to friends was deemed even easier than phoning them. This was interesting in

a couple of ways. Alpha College campus is a quite small, and it does not take a lot of effort to walk to another student's room. IM seemed to be a way of "reaching out" to let another know about plans, and thus easier than walking or phoning. But this would not work unless these students presumed that their friends would either be near a computer to receive the message, or would be checking it quickly enough so that they could count on this medium of communication for their planning. Evidently, students check for messages so frequently that this method of communication is reliable. Students related that they constantly use IM to do this type of informal dinner and gathering planning.

Another form of information seeking was used to help students understand their own collegiate experience. One student described the opportunity to be in the lives of friends at other colleges as a way of understanding what was happening at those institutions, and how those experiences were similar to and different from his experiences at Alpha College. He said that by communicating so frequently with friends at another college, he was better able to determine whether or not he would want to transfer there. "[I ask myself] what types of problems are they having versus what I'm having? That helps me kind of keep the perspective there" (M1). This student felt that he stayed at Alpha College rather than transferring to his friends' institution because he knew more about the daily lives of those friends and knew that the institution was not necessarily a better place to attend.

In the final focus group session I asked specifically whether students used the Internet more than the library for information searching; all of them did. This is consistent with reports by campus administrators on the significant increase in use of library resources on the web. The students in the final focus group session said they

preferred to find full-text articles online rather than finding information about articles online with the need to later do a library search for the article.

Entertaining

The computer is a focus point for entertainment. One student shared, "So you come back and sit down...so in a 12x15 space you have your computer, TV, video games and you just kind of sit back and relax with friends and chat on the computer and kind of go from there...walk around...and that's pretty much all your entertainment is, right there" (M1). I found it interesting that some students were so willing to be satisfied with the entertainment options just within their rooms, and thought of the words of Putnam (2000) as he stated that the Internet has "rendered our leisure more private and passive" (p. 242).

In the variety of ways students spoke of using the Internet, it was obvious that surfing the web was an activity they enjoyed. Sometimes this activity had a specific purpose, and other times they engaged in it purely for entertainment. While students employed the web for entertainment purposes, they did not appear as passionate about that use as they were when discussing IM and email communication with friends.

Theme Two: Students Arrive Connected and Continue Connecting

"I think the real relationships are built outside the classroom, like on the weekends and stuff just hanging out. On down time." (M2)

Through all of the focus group sessions, students emphatically articulated the importance of being connected through computer communication. Students described being connected to friends and family *as* they arrived on campus, and emphasized how important that connection was to them in their first days as college students. They were used to being connected and were adamant that they needed to maintain that connection.

Additionally, these students were in the process of connecting with a variety of new friends and acquaintances. Computer communication provided an opportunity to meet and get to know new people. Several students related getting to know others online prior to face-to-face discussions because it was more comfortable for them. In the variety of ways students connect with others, computer communication was described as being part of the connection.

Staying Connected to Parents

Overall, the students in this study described a significant amount of electronic contact with parents. While students stated that they were in contact with fathers and with mothers, the mothers were mentioned most frequently. One female related, "I chat with my mom online...she helps me with the pressures here..." (F1). Women talked more about connecting with parents regularly; men talked less about connecting with parents but it arose as a topic while discussing initial transition to the college. One male described his adjustment to college during the first weeks of his first year, stating "...if you could still talk to your mom or whatever, that was helpful" (M2). Another male in the same group elaborated, "...I wasn't dependent on it to talk to my parents – but it

definitely was nice" (M2). The women in the focus group sessions seemed connected more with parents for stability than did the men, or at least they were more willing to say they looked to their parents for stability than were the men.

Being cut off from computer and phone upon students' initial arrival on campus affected their communication with parents also. One student felt especially frustrated because she could not contact her parents initially, while students whose parents lived near the college could still be in touch. She stated, "I was SO jealous because like they can just go home and get what they forgot or say hi to their mom. And I couldn't even call my mom or email her or anything like that" (F2).

Students in the focus group sessions indicated that they typically send email to parents; when sending to other students, IM is the preferred mode of communication. A female student shared, "It's just like a newer thing so my parents haven't figured it out yet..." (F2). Students found IM appealing because it was newer, and because the speed of a direct connection to the Internet allowed the process of using IM to be much faster than with a dial-up connection. A majority of the students indicated that their parents use email rather than IM. One female explained, "...My parents don't get online for long periods of time – they'll get on, do their thing and get off because we just have like dial up and so – like here I just leave my Instant Messenger on all day" (F2). Another female, referring to use of Instant Messenger stated, "My mom tried it once. She hated it," to which another responded, "Yeah, it's like it's too much to keep up with" (F1).

For many, electronic communication was preferred over all other forms of contact with parents, as one male stated, "...You do the phone when you have to. Like with my parents, I don't have to send a card, and I wouldn't send a card" (M1).

Particularly for the males, sending hand-written communication was only for very special occasions. One male in the first focus group session shared, "I know I'm going to send a letter to my aunt, just because she sent me two with money in them. And like the first one I emailed her and the second one, I'm like 'I'm going to do something more important and special and I'll actually send her a card'" (M1).

Students in the focus group sessions noted that most parents tended to use email in the same way they did letters, without popular abbreviations students often used, and with a formal closing to the communication. The students seemed to view computer communication as a faster and less formal medium than letters. A female shared with the group, "I found with my parents, or at least my mom, when I try to chat with her on IM, she doesn't really use a lot of slang...so it's easier for me to email her because I'm more likely to use full sentences and full words...she gets really confused so she's like 'ok, what does this mean? Explain it to me! And I'm like 'It's ok mom, this means this'" (F2). Everyone in one female focus group session related to (and enjoyed) a student's description of her mom signing off from a conversation: "...when we end the conversation she'll be like "Love, Mom" and I'll be like "yeah, I know it's you, Mom!" but I guess she's just not used to it...she'll sign it just like she's signing a letter" (F2).

As I pressed to understand how students and parents communicate by computer, one female student shared, "[I] email to home; my parents don't use AOL," to which another student responded, "well, some parents do." The first student replied, "It's like a newer thing so my parents haven't figured it out yet" (F1). One male related how his father used abbreviations in the text of his messages to communicate, noting "he's worse than most what you would call teenagers with the abbreviations" (M1). It

seemed students felt as though *they* owned the medium of computer communication. Their parents used the medium, but either relied on the younger generation to guide them through its use or attempted to boldly, and sometimes awkwardly, own it for themselves.

For the majority of the students in these focus groups, computer communication provided support and assistance in coping with the new challenges they were facing in college and with serious life issues. Both men and women stated that the electronic connection helped ease the newness – and scariness – of the adjustment to college. One student described the loneliness of her first few days at college, stating, "You're so overwhelmed and like your parents leave and you're like 'I can do this' and then everything kind of hits you at once and you just like want to talk to your friends and there's all these new people" (F2). This student spoke for her colleagues in the focus group session, but also for students in all the sessions I conducted. Students found the adjustment to college intimidating and sought the support of family and friends to get through it.

Just over half the students in the focus groups indicated that they stay in touch with parents on a regular basis using electronic communication, although women mentioned doing so more often than males. These students represented other Millennial generation's interest in staying in touch with parents (Howe & Strauss, 2002). Students talked about asking parents for advice, seeking affirmation that their problems were going to work out, and just being comforted by their online presence. Some related receiving email almost daily from either a father or mother. The frustrations students

felt with the college computer network problems were exacerbated by the fact that they periodically lost the computer connection with that parental support.

Staying connected to hometown friends

Beyond the initial grounding that computer communication gave these students when they were new on campus, email and IM also provided details of the day-to-day life in their home towns. "You feel like you're still part of things, you know," said one male. Another noted that he liked hearing that his "little cousin scored a touchdown or a goal in soccer. It's like hey today you just go to the room and talk to him" (M2). While parents or friends in years past could relate such incidents in written communication to students, the opportunity to hear immediately from a cousin to share such stories allowed students a real presence in the lives of friends and family at home.

"Significant Other" Relationships

Despite students' commitment to and passion for electronic communication, they recognized that it is not the best form of communication in some situations. "You have to be careful," said one student, "because you can't portray a tone of voice and like a body language and sometimes you can get things completely messed up" (M2). When it comes to electronic communication, all agree that "significant other" relationships are in a separate category. One student, speaking of the role of computer communication in maintaining "significant other" relationships, summarized it:

> ...it's kind of faceless – it's kind of heartless – it's great for transmitting ideas but you can't really transmit emotions very well like just because you don't have all those other things we use to communicate body language and stuff like that. And. ...email is hard to sustain a relationship through – you know, phone calls are a little bit better but still. With things that need that emotional – if you have a relationship that needs high emotional input – I think that's where this type of communication fails. You know...if you get the video conferencing and things like that, you get closer, but still you're not there yet (M2).

Adds another, "...It can't sustain it, but it definitely helps" (M2), and "It makes it easier to set up stuff and talk" (M2).

Students indicated that in-person conversation is important in "significant other" relationships and in situations where the topic is sensitive. A female in the focus group discussion stated, "If I actually have something important to say to someone or like talk to someone about, I'd much rather talk in person than online though. Like if I have a lot to tell someone I'd rather just walk across campus and tell them than sit on my computer. And plus like emotions aren't shown, obviously" (F2). Despite the fact that students extensively used computer communication as a tool, they felt that when the situation warranted face-to-face interaction, and the opportunity existed to hold such conversation, they preferred that to computer communication.

While electronic communication is not viewed as a sufficient vehicle to completely maintain 'significant other' relationships, students felt that it may help maintain those relationships. A female described her experience in maintaining a long-distance relationship by using computer communication: "In high school my boyfriend

went to college. So for the whole year like we weren't together. And I think online communication helped a lot because I could go talk to him and we didn't have to be on the phone line..." (F2). Since college students are at an age where significant other commitments are not uncommon, and the need to be separated during college years is often a reality, computer communication might help sustain the relationship during this period of time.

Identifying the number of good friends

In the focus group discussions, students related holding Internet conversations with many people at a time. They also described friends from home and high school as "good friends" and noted that they also maintained friendships on campus. Given the volume of conversation and the numbers of concurrent conversations these students talked about, I expected that they would tell me that the number of good friends was high. I anticipated that most students would say they had more than ten very good friendships. Yet, the most common answer to this question was "four to six" very good friends.

The preceding information on number of good friends was acquired through the surveys students filled out in the four initial focus group sessions, but was not discussed directly in those sessions. Once I considered the themes and patterns I was hearing through the first four focus group sessions, I developed the agenda for the mixed fifth focus group session of volunteers. In that last session, I asked students to explain whether electronic communication expanded their network of friends. One student

stated that it did not expand the number, but did expand the social life. Another student responded that it expands the number of people you know, but not the number of friends you have. The students in this last session were in agreement with the comments made, and I mulled this over for a considerable period of time. The comments seem to contrast with the ways in which students talked about the amount of time, volume of communication, and need for contact with friends. If they were so committed to having regular conversation with so many individuals, why did they not identify a larger number of these as good friends?

At least for some students, computer communication was comprised of contact with people who were close to them and part of their support network, plus individuals who were regular communication contacts but were not as essential to their well-being. The sum of the conversations these students described contained elements of support, information, and entertainment. Students valued all elements, but the subset that made up actual support seemed to be focused on a relatively small number of individuals.

Theme Three: Gender Similarities and Differences

"I've got guy friends that I talk to online and they'll be like 'one more' and that's all they'll write back to you." (F2)

The male assistant moderator shared with me after the first male session his view that "guys are all about being comfortable" and that you can tell when they are engaging in the conversation by the way they lean back, *away* from the table. I saw this occurring: as the male students became engaged with the discussion; most of the young

men stretched back and looked very comfortable. In the two sessions with females, I noted a different engagement dynamic: the women tended to move in closer to the table when sharing discussion with each other. In this physical way, men and women exhibited different patterns of establishing comfort and engaging in conversation.

Men Valued Convenience; Women Valued Connectedness

Through verbal exchange, I recognized differences in purpose of computer communication between men and women. The men seemed to use computer communication to make their lives more comfortable. Connection with others was part of being comfortable. The women had less concern with comfort itself and more interest in *being* connected. I began to understand this once I analyzed the transcripts of the focus group sessions, but I also saw it from the interaction of the first focus groups. It seemed that the physical engagement dynamic was quite representative of the verbal accounts students gave of the ways they use the computer to communicate. In the focus group sessions, individuals were also *doing the same thing*: all were grouped around a table, having partaken of a light dinner, and all were conversing on the topic of computer communication. But just as the men and women displayed differences in their unconscious habits of physical comfort – men leaning back and becoming relaxed, women leaning close and engaging – there were similar differences in their habits of computer communication.

Engagement in Similar and Dissimilar Ways

Some women and men in each focus group said they felt there were no practical differences between each gender's use of electronic communication: "everybody is doing basically the same thing – emailing friends, talking about whatever..." (F1). Other students disagreed, feeling that some activities were more "male" and some more "female." I noted to each group that some research suggested that men play computer games more than women, and that women use the computer more to communicate, and asked students if they felt that was true. The men bristled at the idea that they would be cast as computer game players. That term evoked images of Nintendo, an activity they associated with high school and even middle school students. One male responded: "I think I communicate a lot more than play games" (M2). Another added, "Oh, computer games, like when I was in high school..." (M2), followed by a third "Yeah, I'm kind of past computer games" (M2). In these discussions, however, men referred several times to playing games using the computer, often over the Internet. I think they viewed this type of interactive game, which could be played with individuals in multiple locations, as significantly different from the games they recalled from their middle and high school years.

The women also talked about playing computer games, but they did so with less frequency than the men. Women spoke more about using the computer to find out what was happening with friends in class or at home. One female noted,

> Girls use IM for gossiping stuff. Like they'll get back from class and like 'oh my gosh, you won't believe what happened' or whatever...the guys will use it

like 'hey, why don't you come over and watch football,' or 'hey come over and do this' like if they have something in particular to say, like 'can I borrow your notes' like that's all guys do. (F1)

Another female stated, "I think guys tend to not be as social anyway. So they're not likely to just start a conversation about nothing with someone else whereas I see a friend online and I'll just say hi just to say hi, you know" (F2).

Another felt that females had a greater need to have their own computer, while males were content to share. A female in the second focus group session elaborated on this, stating "...a lot of guys [in my dorm] only have one computer and it's really weird because ... I couldn't deal with not having a computer by myself" (F2). I wondered whether females saw the computer as a tool for *personal* connection, and whether men viewed it as a tool for *convenient* connection.

Even when students stated that there were not significant differences in male and female use of the computer, they still identified some computer activities as primarily male or female. In the second focus group session, one female stated that she and her friends were not "as feminine" as other females; as evidence of this, she said that she used video games herself. She explained that, "... the males and females that I know, we all use it the same. We all download music. It's not too much we chat more than the guys" (F2). Students in that group seemed to agree as this young woman asserted that women use the computer in ways similar to men. Apparent in the young woman's quote and in the focus group discussion, however, was an indication that some uses of the computer were considered by students to be predominantly male or female. For example, women indicated that they believed they did 'chat' more than the men, even

though they said both men and women participated in chat, and they played computer games even though they mostly associated that with men.

Acquiring Screen Names

I also observed some gender differences in the way students acquired IM screen names. Since screen names have to be given (they are not in print for one to look up), men and women have to find out the screen names of others to communicate via IM with them. Women indicated generally that they would not ask a screen name; they would, instead, work through existing friends and acquaintances to discover the names they sought. Men consistently appeared to be more open in seeking screen names – they just asked. In one of the male discussion groups, a student explained, "Those connections come from an actual person-to-person meeting because you know that's where you get screen names, that's where you get email addresses." This student felt that the connection was more valuable because an in-person discussion was required to acquire the screen name, and thus the on-line relationship was built on a connection that could be maintained off-line also.

Once the screen name was acquired, IM could be used to break the ice in developing a conversation. One of the men said that he could be "more smooth" in meeting women, and avoid "awkward stuff" by contacting them electronically first. I did not discover how this particular student acquired screen names so that he could contact women initially through the computer, although it may have been through a chat room or through a friend's sharing of screen names. Although they did not admit to it

in the focus group sessions, it is possible that men also used indirect routes such as those the women described to discover some screen names.

Theme Four: Students, the College, and Internet Communication

"...but to me it was like 'will the Internet work?' I still have never been there [to the cyber café] because I don't know if the Internet will work and if it does work, I'm not walking all that way for it." (M1)

Connecting with "the College"

The severe Internet access problems during the fall term were addressed directly by every student focus group. Comments regarding the necessity of improvement in the computer network were scathing. The unreliable network played havoc with students' social lives and connection with their parents. They freely shared their opinions, including those on situations they felt were handled poorly by the college. During the period of network instability, which spanned the time in which the focus groups sessions were held, students continued their widespread practice of downloading music and video files. Students believed the College should provide sufficient computing resources to allow them to pursue their use of the Internet.

One student addressed a particular attempt by the college to create a technology presence in the midst of a renovated dining facility. This facility was a fairly busy, noisy area, with a large television at one end and students, faculty, and staff eating in groups. During the summer of 2002, amid budget shortfalls, the college administration decided to renovate the facility, to make it more interesting for students. Among the

changes was the addition of Internet access so students could access the Web in this bustling, food-oriented environment; the renovated structure was referred to as a "cyber café." A male in the first focus group session noted with derision the fact that the college put money into a cyber café when he was having trouble accessing the Internet from his room. He stated, "...But to me it was like 'will the Internet work?' I still have never been there [to the cyber café] because I don't know if the Internet will work and if it does work, I'm not walking all that way for it." This is a small campus and "all that way" was only a couple hundred yards from most residence halls; the facility was one that students frequently used. The college was promoting the renovation as an example of meeting students' needs technologically. But at least from this student's perspective, that assumption failed on two counts: the unstable network meant he did not trust the connection at all; and he was not interested in having access outside his room nearly as much as he was interested in having access from his room.

Students also described the awkwardness they felt when they were involved in IM discussions during network instability. An unstable network tossed individuals off without giving them the opportunity to exit the IM discussion visibly or gracefully. Because there was an expectation that one would announce a departure prior to dropping away from an IM conversation, students felt that they were perceived as being rude when the network connection suddenly failed and they were instantly dropped from an ongoing IM discussion. And since one has to be invited into IM discussions groups by the person who initiates the conversation, the unannounced and invisible dumping of students from the network created an uncomfortable situation for students.

A male described his discomfort with that process, noting, "They'd have to re-invite me, which sort of made them mad" (M1).

College to Student Email Communication

Apart from network problems, students perceived the college email system as inadequate and unacceptable. In approximately the last five years, email options became available through off-campus providers such as AOL, Yahoo, or Hotmail, and students began choosing and using those email accounts over Alpha College email accounts. Students changing their email provider significantly contributed to problems for the college in finding out email addresses of students on campus. In past years, students had maintained their college-assigned email accounts. Student email addresses, like all college email addresses, were available to students, faculty, and staff so electronic correspondence could be easily facilitated.

But in the fall of 2001, when the students participating in the focus group sessions entered Alpha College, the college email system was a relic, and was seen as ridiculously out of date and unusable. Students connected to the Internet using the Alpha College network, but rather than using the available college email system, they used email providers. Once students felt established with an email address, they did not wish to change to an Alpha College email address even when a better system was implemented at the institution. Improvements in the campus email system in the summer of 2002 did not result in sophomore student use of the Alpha College email system, because students did not want to change email addresses at that point. Students

in the focus group sessions overwhelmingly indicated that they did not use the Alpha email system, and agreed with the student who stated, "And now ... if you asked me to go check my [Alpha College] mail, I couldn't do it" (M2). Students would share email addresses with relatives and friends, including other students, faculty, and staff. But since these addresses were individually acquired, and not assigned by the institution, the faculty and administrators did not have an effective way to connect with students electronically. When college faculty or administrators sent email to students by way of the students' college-assigned email addresses, the missives were typically not read since the students did not access these accounts. Although it was possible for students to forward email from their Alpha College account to the email account they actually used, they did not feel that was necessary. Students believed that the college email system distributed information that was not relevant for them.

Network Unreliability and Student Frustration

The level of concern students felt with the unreliable network appeared to relate to the intensity of their need to connect. For a few students, problems with the network provided a potential reason to transfer to another institution. A male described a female friend's reaction when she couldn't talk to her boyfriend online, stating she "was seriously tempted to transfer, like get out of here so she could go anywhere" (M1). Some students maintained a more philosophic approach to the problems: "If I get booted off it's no big deal" (M1). The majority, though, were not so accommodating; one student explained, "I'd be sitting there and I'd be booted and I'd get mad and even

if I was writing a paper and trying NOT to pay attention to who was online" (M1). This last comment typified the response most students had to the network problems, as they were constantly aware of them and upset by them, even when they tried to focus on something else.

Network problems not only silenced the fast-paced IM conversations, but also disturbed other activities such as emailing parents and ordering supplies from the Internet. Because system crashes were invisible as they occurred, students were particularly frustrated when they thought they completed a process, only to find that it had failed. Female students described writing long letters by email, sending them, and then discovering that the Internet wasn't working. With no back-up copy, the entire endeavor was a waste of time "...and I was not happy" (F1), states one student. Another says, "I thought it went through, and I didn't find out that it didn't go through until two to three days later..." (F1). One student described buying an English book online, only to find the connection had gone down and then came back during the process. She did not know whether to re-buy the book or wait to see if she got it. These experiences fueled students' indignation and frustration with the network problems.

Connecting with Faculty and Administration

Students expressed a wish for more technology in the academic life of the college. A few faculty were cited as using good electronic tools, like Blackboard, in the class experience. Students felt the use of these computer tools enhanced their academic experience. For example, the college Marching Band Director kept in touch with

students using email, by creating an electronic email list of all band students and sending messages to the entire set, to keep students informed of upcoming events. Both a professor of English and an assistant professor of philosophy used a computer information process similar to Blackboard to hold online discussions, provide information for students, and contact students. Faculty in the Computer Science Department used computer communication to contact students. These faculty members identified the email addresses students were using, rather than trying to send email to the students' Alpha College account, since students rarely use the latter. Students indicated these examples of regular email contact related to courses were rare.

Even so, students were not as critical of the faculty as they were of the college administration. They wanted electronic tools, but did not feel that they received an inferior class experience because of the lack of those. At the same time, students felt network problems interfered with their academic work. One student stated, "They tell you to look something up on the Internet and then the Internet is down, you know, how are you going to do your homework? So it's like the professors, everybody depends on it when it goes down. It's not just students but professors feel it too because they can't get information across" (M2).

In the combined, final focus group session, I asked what percent of the students' Internet use was for social communication and what percent for education. Students unanimously asserted that at a minimum, their computer communication was 80% for social purposes; some of the students said that they used it 90% for social purposes. Overall, the number of times students used email to contact faculty was not high. When students did contact faculty electronically, it was to report information about absences,

and occasionally to request grade information. And when students experienced classroom online work, it was typically for extra credit. Only two students in the final focus group session (one male, one female) said they keep in touch with professors or professors keep in touch with them via email; one of these students said he was required to use email in his classes.

Students in this final focus group felt that other academic institutions used online communication with professors more than did Alpha College. Based on conversations with friends at other places, many students felt that Alpha College was lagging behind other academic institutions in bringing Internet technology into the academic side of the student experience. One student noted that her 6th grade sister used the Internet more for academic purposes than she had as a college student.

One of the women said that the professors were not caught up with the students in the use of technology – not as savvy – and she felt it was time for them to catch up. The students felt they were more computer literate than faculty, and that faculty needed to focus more on putting information online. The administration, they said, needed to do a better job getting students set up with electronic communication and helping them use it immediately upon entry.

Summary

The experience of maintaining concurrent social networks is one of constant computer communication and a way of life. The students in this study have been surrounded by computers since birth and started using them during their earlier years to

connect with high school friends. They arrived at college already connected to a social network and to computer use, although this previous dial-up connection and use were slow. As these students entered college, they experienced the freedom of living away from home, and the freedom of a direct connection to the Internet. For many of these students, the format of college classes made them feel they had a lot of time on their hands. Upon entering college, they quickly became accustomed to the speed and ease of cable connection to the Internet, and upgraded their own expectations for computer use. They found they could easily stay in touch with their friends and family at home, and most of them found they could also use the computer to meet new friends on campus.

When network instability played havoc with their connections, it rocked the students' opportunity for support, entertainment, information, and connection with the day-to-day lives of family and friends. A "natural extension" of themselves and critical aspect of their lives, the computer connection was suddenly unpredictable and unavailable. Given the importance of this communication form to the students, the absence was unacceptable.

The experience of concurrent social networks bridges students' off-campus and on-campus social lives, allowing them to be present and constant in both. Students construct these differently, putting different relative emphases on each, which I will discuss more in the next chapter. While computer communication could also connect students to the academic side of the college, it typically did not do that for the students in this study. Some conversed with faculty by email, and used Internet resources for academic purposes. Virtually all of the students in the study used some Internet

resources to accomplish academic purpose, whether required for a specific course or not. But students' passion for and primary use of computer did not typically include much use on the academic side. Computer communication was critical to the student experience, and their passion for its use was based in the importance of their social connections.

CHAPTER V

FINDINGS: THE *EFFECTS* OF COMPUTER COMMUNICATION

Introduction

Through Internet use, social networks are connected in new ways. Concurrent social networks are now part of the college student experience. Understanding the ways students are affected by this experience is important to knowing what it means to be a college student at the beginning of the twenty-first century.

In this section I discuss two primary effects of computer communication. The first of these is time evaporation. Students spend hours conversing with friends and family by computer. These hours would have been spent another way, had they not had the option to converse electronically. The students in the focus group study did not feel that they lacked any kind of participation on campus because they were using computer communication. They stated that they were doing exactly what they wanted to do, and that they were as involved as they wanted to be on campus. Yet, they also said they did not participate more in campus activities because they just did not have time.

It took a long time before I realized what I was hearing. Students in each focus group said that they spend a lot of time on the computer. "...Give me a sense of how you use the computer – what kinds of things do you do..." I asked. "IM – IM – constantly" said one; another added, "We're always on" (M2). For the most part,

students did not recognize the relationships in the situation they were describing: online communication took time away from academic work; they did not have time to participate more in the life of the campus due to the pressure of their academic work. Thus, although they generally denied it, it is possible that students were participating in fewer campus activities because of their use of computer communication.

The second effect of computer communication on these college students is balancing old and new social networks. Students were passionate about retaining their old social network of pre-college friendships. These friendships kept them connected to their high school circles, kept them informed about news within that network, and often helped support them in coping with large issues in their lives, as well as addressing day-to-day stresses and successes. Students who stay in touch with friends at other colleges felt that challenges were similar for their friends and that day-to-day life at other colleges was not necessarily better. This helped them appreciate some aspects of Alpha College and thus encouraged them to remain at the institution.

Students described meeting peers on campus and communicating with them both online and face-to-face. They also related staying in touch with pre-college friends and spending a significant amount of time in on-line conversation with them. As students described the amount of connection with each network of friends, they emphasized that the responsibility and decision regarding amount of contact resided with themselves. They discussed the emotional comfort of accessing these networks, and staying in touch with important groups of friends.

The transition to college was more difficult for some students because they did not want to let go of the friends from home. These friends gave them a sense of

security and acceptance. They represented, for some, the golden days of high school and were not part of the new challenges of college. These friends understood where they came from, accepted them as they were, and were loved. Because of this, the connection to friends at home made the transition to college more difficult: they did not move through a separation phase and make a real adjustment to living in the new, college community.

Effect 1: Time Evaporation

"...I have no problem spending 3 hours talking to somebody chatting online, but I will not go to their room and spend 3 hours in a discussion or conversation with them." (M2)

An important factor in understanding the experience of students using Internet communication is the time factor. Through the short survey at the beginning of each session, students shared information on the amount of time they spent using email, IM, and surfing the web. The women in the focus group sessions reported averaging nineteen hours a week of social use of the computer; the men averaged fifteen hours a week. One female student described spending a combined total of one hundred and five hours a week between the three activities. One male, speaking of his dorm room filled with his computer and other, seemingly necessary, electronic devices said, "It's like your womb" (M1). But the students also indicated that their extended use of electronic communication came at a price. One student stated "I can also see the computer as

distraction..." (F1). That admission may ring true for many students, but it did not diminish their desire or plans for use.

Only one student said that the constant communication was tiresome. He described his frustration when he wanted to listen to music or search the web without "hav[ing] them talking to you" (M2). The male assistant moderator, a senior, also described protecting his time. He noted that he posted an 'away' message when he went to the library to study, but did not divulge his whereabouts in the message. In this way, he maintained an informative computer presence but could study undisturbed by those on campus who might otherwise track him down.

Students and Controlling Time on Communication

Students described feeling as though they had a lot of free time upon entering college, and using that time to connect with friends and family by computer. The luxuries of both time and a direct connection to the Internet affected their habits of Internet use. As noted previously, when I asked students what they were *not* doing when they spend time using the Internet, the response was consistently "homework." The computer was used as a tool for completing many classroom assignments, but because computers were directly connected to the Internet, the student was positioned to receive incoming messages. As one student shared, "Every time you sit down to your desk...I'll have IM on and someone will talk to you." Once distracted, it was easy to lose track of time while conversing online. A young woman described, "I'll sit down and like 'I'm going to write that sociology paper now and the next thing you know,

you're emailing somebody from back home or checking to see if I got an email from [my boyfriend]" (F1). These stories were representative of how all of the students seemed to feel about the competition between their social networks and their academic work. Students agreed that time slipped away, often unnoticed, when they spent time communicating online. People IM you, noted students, "when you're in the middle of your paper" (F2). Another young woman described the lure of conversation with friends when she knew she should be working on a paper for class, "it's definitely hard to try to fight the instinct to go talk to someone online when you really don't want to be typing" (F2).

Most students knew they were being drawn away to chat instead of doing their homework, while some were surprised that hours passed leaving little time for studies. A young man described the passing of time, and noted, "Like it's 9:00 and I'm studying and then I stop [to start] talking to someone and look and it's midnight and like 'what just happened here?' I spend a lot of time [online]" (M2). Students also described the fact that they were away from home for the first time and did not have parents to keep them on their academic tasks. One student noted that when her computer crashed after a month of use, she found she got much more work done. But Sandra, the student described earlier who spent over one hundred hours a week online, found herself completely adrift when her computer crashed. Her time was constructed around the use of her computer and in its absence, she did not know how to reallocate her time.

The senior assistant moderator had learned to take more control of his time, as evidenced by his willingness to be unobtainable while he worked on course assignments, and he used the computer without being controlled by it. Perhaps he was

less dependent on the social network the computer provided, or perhaps he had become a more sophisticated computer user. Some of these sophomore students also knew how to fit their social networks into their student lives in successful ways. But others seemed to be controlled by their passion for connection to their social networks, and the "beep" of yet another message arriving from a friend was a diversion that was both welcome and pursued.

Effect Two: Computer Communication and the Balance of Old and New Social Networks

"What would have been different without computer communication?" I asked. The student replied: "It would have been easier. Because I wouldn't have had that to retreat to. I would have been forced – pried out of my comfort area." (F2)

Students corresponded most with the people they felt closest to, whether those individuals were on campus, on other campuses, or in their hometowns. But the identification of who was closest was an individual construction. Some noted that they felt that campus friends better understood the challenges of being a student and shared in the stories and situations of life at Alpha College. Others felt that they communicated about equally with friends at home or at other colleges, because those friends knew their life stories. This seemed a very important point, and made me realize that because this was an individual student's construction, individuals to whom students turn for support could not be predicted.

Some students remained intensely connected to their friends and family at home while others essentially left them behind. One student noted that while he had used the computer a lot during his freshman year to communicate with friends at home, he had drifted away from some of them: "Last year it was more people that you could essentially talk to. It gets less and less every year I'm sure" (M2). Another noted that IM helped him adapt to the campus, as well as staying in touch with friends at home, noting, "so it helps both ways in adjusting" (M2). Some of the sophomores in the focus group sessions were still very connected to the day-to-day events at home.

The Draw of Old Social Networks

Use of computer communication as an adjustment and coping mechanism was a common thread through each of the focus group sessions, but the intensity of need by individual students varied. For a few students in each group, there seemed to be a lessened reliance on the computer connection with pre-college friends. It appeared to me that these individuals were transitioning away from pre-college friends, and connecting more to friends on campus. It was hard for students to describe what was happening to them. They seemed to be experiencing a process of transitioning to the community, and were part of the way through that process. The movement away from off-campus friends was probably most recognizable as we discussed whom students turn to with problems, and they said they turn to those who they feel best understand them. Some students felt that those on campus understood their *present experiences*;

others felt that off-campus friends understood their *life experiences.* Depending on the type of support they sought, students related to the group that best met their needs.

Some students had moved from reliance on off-campus friends and family to reliance on campus friends for support. Others had not made that transition, and did not indicate that they expected to experience that change. It was difficult for me to assess through these conversations how important that was in the level of commitment and satisfaction students felt with the collegiate experience.

When the transition to college is difficult, students might be especially inclined to turn to friends at home for help. One female student told of a very bumpy freshman year; among several serious events happening at home was the divorce of her parents. For this young woman, meaningful contact was with high school friends who understood the issues she was encountering. She related that she nearly left college at more than one point, preferring instead to be with friends at home, where she felt better understood and sustained.

Students in this study felt they were maintaining friendships that would likely have diminished in the absence of regular communication. One female student said that knowing at-home friends were there for her was comforting and gave her strength while at college. To many students, friends from high school were still as close as they were at the time of graduation. A young woman, who coped with several difficult situations during her first year talked about how she felt about staying closely connected to her friends from home:

> It kind of made me want to be home more...because they knew what was going on...You know, early on because with everything that was happening at home.

I kept talking to people about it and it was just all I thought about, whereas if I didn't have Instant Messenger, I would have moved on quicker, I think... (F1)

Other students described a process of transitioning away from high school friends. One student described how the relationships from high school had begun to wane, stating "...I'd say that my close friends now – they're STILL my friends. But I don't talk to them as much and they're starting to be not as close" (F2). This student may have been describing a process of transitioning to college, developing campus friendships, and moving into a new set of relationships. She had the opportunity to stay in the lives of her high school friends, and seemed to do that to some extent, but was willing to allow the contact to diminish as she developed other relationships.

Pre-College Friends and Leaving College

I did not hear a significant concern that pre-college friends actively tried to pull students away from college. The few references to this type of pressure were in situations where some of the friends did not attend college at all as opposed to those who went to other four-year colleges or community colleges. Some students stated, with some pride, that they did not stay in touch with those who were not college-bound, as though they had chosen a path of achievement. Other students described the respect they had for friends who chose not to attend college, and the extent to which these high school friends remained close. A young man described the support he felt from friends who did not choose to go to college in this way: "I know a lot of people who don't go to college – and they've been really encouraging – because they want me to

succeed...and I can always talk to them" (M2). One student said, "...they don't pull me away or ...change my priority or anything like that. And you know I respect them for wanting to go to work and not go to school..." (M2). And another – a female – felt that being in close touch with non-college friends actually helped her better appreciate the college environment. Speaking of a male high school friend of hers, she said, "it pulls me closer because I see how much like he doesn't get to experience because he didn't go to college" (F2).

But for a smaller number of students, pre-college friends who remained at home attempted to pull their college friends back into the world shared in high school. One young man discussed the pressure his high school friends exerted saying, "When I first got here...it was like they didn't understand what I was going through...and they wanted to pull me away like when I went home they were like 'Why did you go away' and 'You should still be back here with the guys and hang out every night and just do stuff'" (M2). This young man remained in close touch with his high school friends through computer communication. He said that it seemed difficult to him in college when he knew these high school friends were still experiencing a world he enjoyed with them only a few months before.

One of the female students summed up her view of the effect of off-campus friends on her decision to stay at Alpha College: "... If your family members and your friends know that you want to be here and it's a big deal to you ... they won't try to pull you away. But on the other hand if they know you're here because you think you're supposed to be here but you're not happy here, then they can tend to pull you toward them" (F1). As she spoke, several women around the table nodded. For many of the

students in this study, high school friends remained part of their circle of influence and had input into the decisions made in college.

For those students whose friends attended other institutions, the opportunity to hear more about the day-to-day life elsewhere may have helped Alpha College students form a more realistic understanding of life at other colleges. A young woman described the perspective this way, "I just see [this college] as like so many more opportunities than they have. So I don't really feel pulled toward them" (F2). Students frequently discussed their perception that Alpha College is more difficult than other schools, and that life could have been easier academically if they attended elsewhere. Interestingly, the difference students perceived in level of difficulty was often addressed with pride, as students sensed that they were receiving a higher quality education, evidenced by the amount and difficulty of work.

Individual Construction of Concurrent Social Networks

Students noted how they were frequently in touch with friends from high school, and how the social networks students maintain actually compete. A young woman described the pull she felt as she was confronted with college and the opportunity to develop new friendships, "I have a couple close friends from both places so it's kind of hard to build strong relationships..." (F1). Another young woman talked about how she was closer with friends from home than from college, stating "I'm still close with them and probably four other girlfriends and we're really tight and I mean we still talk all the time. But I also have a lot of friends here that I would say are

dominant in my life here" (F1). It was not possible to determine that any particular groups of students were more likely to lean more toward off-campus friends rather than on-campus friends.

For the students who hesitated to form relationships with the campus community, several felt that the Internet could provide sustaining friendships; but the activity of staying connected with those off campus might also provide a reason *not* to develop campus friendships. Said one male: "If you come to college and still hold onto all those friends and hold onto your parents ...because it's so easy to communicate, it's very easy to just draw yourself out....and that could lead to some severe, you know, withdrawing of the students" (M2).

When I asked students in the focus group sessions if they joined college activities less frequently than they did high school activities, many said they had. However, most students did not feel that their more limited involvement in campus activities had anything to do with the time they spent using electronic communication. One male indicated that his priorities had shifted from sports to academics, saying "...In high school it's sports and girls and that's about it. When you're here it's grades and girls, I guess" (M2). Many of the students noted that the academic work of the college was more time consuming than it was in high school. Said one student, "I just couldn't join groups in college because I had other things to do – academic responsibilities and stuff – and so the communication on the computer is kind of not a factor of me joining groups. But then yeah, I'm not really belonging then and so maybe I'm a victim then. <laugh>" (M2). One student felt computer communication did affect opportunities to

join groups, stating, "I'd say that it does have somewhat of an effect on your joining other things, other activities you know." (M2).

In the women's group, the opinions were similar, but more of them identified potential effects of remaining intensely connected to friends at home. One woman shared "I choose to be less involved. I had some involvement with people in college but I'm less involved because I have a scholarship and my grades are really important to me" (F1). Another female student noted,

> ...I [came] to Alpha and it's kind of funny because I'm not used to this kind of atmosphere – my high school was so much bigger than this. And I really didn't feel comfortable here. You know, I didn't really find anybody with the same interests. But I'll admit, I didn't really look because I had – you know – I could always just talk to the people – and I had...that environment at home (F2).

When asked how the experience would have been different without electronic communication, one student noted, "It would have been easier. Because I wouldn't have had that to retreat to. I would have been forced – pried out of my comfort area" (F2).

Although some students in the study were not consciously engaged in fewer activities because of computer communication, they described others who were obsessed by computer communication and felt those students bore responsibility for that choice. "You either do it or you don't you know. Some people are addicted to the Internet and are not gonna, you know, do anything else. Some people choose to do other things. Be on a sports team or whatever" (M1). This suggests that students

recognized that electronic communication could affect participation, and that they felt accountable for its use, so that it did not negatively impact the college experience.

Several students felt that although this type of retreat was a reality, students consciously chose to draw back in this way. A male student described his frustration with students who engaged in such activity and then complain, saying,

> ...You hear a lot of people just when they come here they'll like sit in their room 'well, I haven't made any friends.' Well, if you're not trying to make any friends, you're just sitting in your room, talking to friends from back home, you're not going to do anything. That's what, you know, makes them want to leave. (M2)

Sometimes, students who focus on friends at home choose to leave the campus on weekends to spend time with them. A male student explained, "There are some people that just mainly [correspond with] their high school friends – with the Internet, like they don't go out, they just keep up with them and that's it. Then you won't see them on the weekend – they don't stay here" (M1). When students spent weekends with friends from home, they did not have as much opportunity to develop friendships on campus, or to participate in the social life of the college.

Minority students can feel pressure in fitting into a new, predominantly white environment. Students related their own experiences and experiences of friends in dealing with the lack of a diverse student body at Alpha College. A female minority student related: "I'm used to large and Alpha is so small and so very white that it's kind of hard...I'm out of my comfort group now and I don't know how to react to some people and their comments and that makes it a lot harder to open up and get close to

people...and make friends" (F1). These students indicated that they maintained a significant amount of contact with friends and family at home, primarily accomplished through using IM and email.

In the focus group sessions, students were generally quick to state that their off-campus friends *did not* pull them away from college life, yet approximately one fifth of the same students noted on their survey form that off-campus friends *did* pull them away from Alpha College. These seemingly contradictory statements may be explained by looking at the students' views of the intentions of their friends: friends were expressing interest and concern in the students' best interests and thus were not cast as pulling students away from their academic goals. However, remaining close to off-campus friends had the net effect of altering the relationship that students had with the campus environment; sometimes that effect was a pulling away. Typically, students noted their own responsibility for connecting with the campus, thus they did not place blame on off-campus friends for any lack of campus connection.

On the survey form, I also asked students whether they felt their experience on campus was affected by maintaining off campus friendships. Just over a third of the students responded affirmatively. I was seeking a general sense of how students felt computer communication affected their campus friendships as well as an opportunity to raise the issue for them, and I did not provide a more specific context for the question. While student response indicated that the majority of students did *not* feel they experienced a pulling away or lessening of college contact, their replies underscore the importance of seeking a better understanding of the effect of computer communication on student life.

Computer Communication Sustains

Computer communication helped students bide time during stressful periods. One student described his first term at Alpha College, living in a residence hall in which he did not fit. He was not going to make friends there, he determined, "So I never came out of my room. So I sat on my computer all day pretty much just talking with friends back home and then I talked to people at meals and stuff" (M1). This student eventually made a positive transition to the college. He moved from that initial dorm assignment, into a residence hall in which he felt more comfortable. He credits his Internet access to providing him the needed outlet to hold himself together during that difficult term.

Another student, who transferred to Alpha College during the second term of his freshman year, did not fit into the student body of a large, public university in which he was previously enrolled. He shared, "...The last two months, I pretty much lived in my room, on my computer/email, talking to my friends, counting down the days...it held me together because outside my room, pretty much I just hated it" (M1). Television, video games, and computer contact with friends outside the college sustained him until he could transfer out the following term. Another noted, "I think it helps sustain me. I really didn't know people here and there weren't people I could really talk to, but I could talk to my friends at home. It definitely helped me. I email my dad every day...and I hear from him every day" (F1).

Some students described commiserating about course workload via the computer with colleagues on campus and with friends at other colleges. One female noted: "...I could email my friends who were going to school back home and talk with them and if I was having hard classes, they could say 'Oh, yeah, well I have hard classes too.' It really helped" (F2). Computer communication helped students believe their challenges were not unique, and helped them feel they could succeed academically.

Students related relying on computer communication to get them through difficult times, and lessening need for constant communication as time passed. The young woman who experienced several home crises, including he divorce of her parents, eventually transitioned well to the college. She stated that she has good friends at home and at the college saying, "...I don't go home as much as I used to...but I go home and I talk to them more and I come back you know like a day early...I have a couple close friends from both places" (F1). As we recognize that students experience a set of processes in their transition to college, that they separate from home, transition to a new environment, and eventually integrate into a new community and set of friendships, understanding the effects of computer communication and the resulting interconnection of social networks allows us to better understand the whole student experience.

Summary

Computer communication forms the basis of myriad opportunities that students now have to maintain social networks. In particular, the effects of computer communication were visible in two major areas: time evaporation and in the challenges and benefits of balancing old and new social networks.

During times of stress, the computer provided a welcome opportunity to explain problems to on-campus or off-campus supportive friends, and this felt sustaining. These students often turned to parents for guidance, emotional support, and of course, money. Computer communication provided a way to connect for all of these. Some students stayed in touch with significant others through email and IM, bridging times of necessary separation. While computer communication is a relatively new addition to the set of communication opportunities on college campuses, students do not see their experiences or effects of computer communication as *changes* since the opportunity to communicate electronically has been part of their full-life experience. That communication represents their status quo; they cannot imagine a time when it was not available.

CHAPTER VI

DISCUSSION AND CONCLUSION

Introduction

Internet communication has permeated American life. It connects us in ways that were previously unattainable, and forces society to redefine the meanings of being alone, of staying in touch, and of developing and maintaining community. In past decades, the technology of telegraph communication changed the world, bridging cities and continents, and providing opportunities for communication and information acquisition that did not exist previously. That ability to communicate changed society and changed the world. The telephone and television further expanded opportunities to communicate and brought information and entertainment into the home. These technologies, as well as others, altered the ways we relate to each other and they are woven into our society to the point that they are almost transparent. It is difficult to imagine a world without them. Internet communication has also significantly altered our perceptions of communication and information acquisition. Just as the telegraph, telephone and television are enmeshed in societal experience and expectation, so also is the Internet, and the communication opportunities it affords are part of the experiences and expectations of today's youth.

The Millennial Generation, born since 1982, has grown up in the midst of Internet communication opportunities (Howe & Strauss, 2002). Their world looks very

different than that of previous generations. Vinyl records, Pac Man, typewriters, black-and-white television, and eight-track tapes predate the Millennial Generation. Answering machines and cable television have always existed, and any set of directions that instructs them to turn something 'counter clockwise' is meaningless, as that does not connect with the experiences of a digital world. The characteristics of this generation differ from their generational predecessors. These young people were born at a time when children were recognized and valued, evidenced in part by the proliferation of "Baby on Board" signs adorning vehicles (Howe and Strauss, 2002). When political issues are addressed, their impact on children is a point of consideration. These and many other underlying differences in the environment of this generation have produced young people who are confident, team oriented, achieving, pressured, conventional, sheltered and have a feeling that they are special (Howe & Strauss, 2002). This new generation is now entering college, taking with them their social experiences and expectations, their myriad electronic accoutrements, and through computer communication, even their pre-college friends.

Ten years ago, students left friends and family behind to enter college; today's students may retain their old social networks as they enter college and experience the campus environment. Computer communication increases access, connections, and thus widens the span of communication opportunities (Spears & Lea, 1994) allowing students the chance to maintain their networks of pre-college friends. But this phenomenon is recent and there is much to be discovered about how it affects students' college experiences. Colleges are communities that are constantly being re-formed, as seniors graduate and first-year students arrive. But some students fail to adapt to and

bond with the campus community. These students often transfer to another institution or drop away from the pursuit of a college degree. For the well-being of both the student and the academic institutions, it is critical that incoming students transition well to the college environment, become part of the campus community, and develop into the student leaders for the next group of students arriving.

The transition to college has been the focus of numerous investigations in the past four decades (Kuh et al., 1991; Pascarella & Terenzini, 1980; Tinto, 1998). As a result of these studies, many first-year college programs are based on factors that predict student success, including perception of community, student involvement in the life of the campus, and academic and social integration (Light, 2001; Nagda, et al., 1998;). But while previous research demonstrates that participating in the life of the campus is linked directly with satisfaction students have with their college experiences (Tinto, 1987), these widely accepted theories of student life on campus pre-date massive Internet use. We need to develop an understanding of the experiences of students entering college at the beginning of the 21st century, including the role of computer communication in their transition to college.

In critically addressing the issues and environments of entering students, it is important to get a sense of their uses of computer communication relative to their experiences of joining a campus community. Of the variety of environments in which student interaction and Internet communication could be studied, the small, residential campus may be the best. Classes are relatively small, providing students the opportunity to interact more with faculty (Kuh, 2001) and with each other in the classroom. Students know many of their classmates, and participate in the residential life of the

campus. Influences of Internet communication in maintaining old social networks might be especially visible on a campus of this type.

The effect of computer communication on students in my study was mixed. Bargh (2002a) explains that individual aspirations and goals are significant in determining the effects of computer communication on any individual. Students in my study represented diversity of aspirations and goals, and thus their choices in use of computer communication varied. Researchers are just beginning to discover the complexities of social interaction via computer (Bargh, 2002a). Individual desires, needs, and access to computers affected the ways Alpha College students engaged via computer communication. Additionally, the balance of weak and strong relationship connections students maintain would help explain the differences in use of computer communication and resulting experiences (Kraut, 1998).

The purpose of this study was to develop a better understanding of the experiences of first-year college students using computer communication. Through this study, I particularly sought to know more about the ways in which Internet communication was used for maintenance of relationships on and off the college campus.

Theoretical Framework

The need to belong – to connect to one another – is a basic element in the experience of human interpersonal interaction (Baumeister & Leary, 1995; Bowlby, 1969, 1973; Donne, 1975; Freud, 1930; Maslow, 1968). Given that, it is not unexpected

that as Internet technology opened new avenues for communication, humans would fully use it to connect to each other. The opportunity to do so has also provided new opportunities to maintain social networks that in the past could not be supported due to distance.

Even prior to the 1990s, computer technology was bringing about momentous social changes (Ginzberg, 1982). Caught up in our daily routines, we may not recognize the incredible rate of change. "If the automobile and aerospace technology had exploded at the same pace as computer and information technology," says a Microsoft representative, "a new car would cost about $2 and go 500 miles on a thimble of gas. And you could buy a Boeing 747 for the cost of a pizza" (Hunderson, 2001, p. 1). Computer technology is around us and between us – in our banking, purchasing, educating – and always in our communicating.

Scholars debate whether or not relationships developed online have the same characteristics and strength of face-to-face relationships. Bargh (2002b) argues that Internet communication allows individuals to share their "true selves" by creating an environment that allows openness with less risk than face-to-face communication. Computer communication allows much greater opportunity for social relationships and friendships (Katz and Aspden, as cited in Kraut et al., 1998).

Kraut (1998) argues face-to-face relationships might be displaced by online relationships and that social involvement may be displaced by Internet communication. "Weak" and "strong" ties represent relative strengths of relationships, and scholars argue the influence these ties in development of online relationships (Constant, Sproull & Keisler, 1996; Kraut, 1998). Strong ties are often associated with face-to-face

relationships, but both kinds of ties provide support for individuals. Old social networks, maintained by Internet communication, could provide opportunities to maintain older, "strong" relationship ties. The maintenance of old ties has implications for new community development and bonding, as computer communication potentially reduces the importance of physical presence in sustaining friendships.

Typically, when presented with a new environment, people develop new friendships and eventually transition away from the former relationships (Baumeister & Leary, 1995). When that happens, the friends who *were* influential in the old setting are not as influential in the new environment. The set of friends one maintains can become, or remain, a primary reference point. Individuals will tend to evaluate themselves in terms of the group with which they are affiliated; that affiliate group will, to a great extent, determine how they respond to their challenges and their environments (Baumeister & Leary, 1995). If incoming college students do not transition away from the norms of their pre-college social network, they may not engage as fully in their educational goals as they would have if they transitioned to a new group of friends. Kuh (1991) describes the effect this can have on students as, "The peer group, rather than challenging old attitudes and behaviors, may allow a student to rely on comfortable, perhaps anti-intellectual behavior patterns" (p. 12).

Concurrently, time spent on computer communication likely reduces time for other activities, some of which may be the fostering or maintaining of friendships in the local college community. In a recent survey, ten percent of pre-college aged teens who participated in phone interviews said that Internet communication took a lot of time that they would otherwise use to connect with friends in their local community, and that

caused the local friendships to suffer (Lenhart et al., 2001). Even ten percent has significance when one considers the potential for problems in relating to campus community environments. The teenagers in Lenhart's (2001) study felt that they achieved balance because they stayed close to long-distance friends via computer communication, even though they did not stay as connected to their local peers.

Successful transitioning to the social and intellectual life of the campus is critical for the well-being of students (Kuh, 1991; Tinto, 1987, 1998). The extent to which students are personally and socially connected to each other, connected with faculty, and involved in campus activities affects their fit within the community, and their satisfaction with college. Involvement in campus activities increases the quality of life on campus and improves the students' undergraduate experience (Boyer, 1987). When students fail to make a connection with the campus life of the college, they are more likely to become dissatisfied and to leave. Tinto (1993) argues that the major cause of student attrition from college is an inability to make the transition into the college's social and intellectual life. Yet, that transition requires effort. Astin (1984) argues that the amount of physical and psychological effort student exert is an indication of the likelihood of a successful transition to college.

Tinto (1987) uses Van Gennep's phases of separation, transition and incorporation to describe the adjustment of the first-year college student. Each stage, according to Van Gennep, is comprised of changes in patterns of interaction between the individual, who Tinto casts as the student, and the new experiences of college. In the separation stage, the new college student still embodies the norms and values of the prior high school experience and family setting. The student is challenged by the values

and norms of the campus community and either holds the community at a distance or moves toward an association with it. That association requires letting go of the previous community affiliation, moving toward integration with the new community. The second stage is that of transition; the student has not fully disassociated from the old norms, and has not fully adopted the new norms. In the third stage, the student becomes integrated in the campus community, contributing to the norms of the institution.

Integration of students into the community is a process, one that is necessary for the successful transition of students to college. Light (2001) identifies "symptoms of trouble" that include student isolation and an unwillingness to seek assistance, which in addition to low grades, indicates difficulty in adjustment. Successful merging into the social life of the college builds campus community, but such merging requires purposeful and sustained contact with other students, and contact with faculty (Nagda, et al., 1998). Yet it may be easier for students to remain attached to their former communities than to extend themselves to form new relationships. Thus, it is questionable whether students would be purposeful about setting aside old friendships and developing significant bonds with the new community. Internet communication expands the opportunities for communication choice, which may impact the integration of students into the campus community.

Technology has changed the nature of communication and communication patterns among students and between students, faculty, and administrators (Gatz & Hirt, 2000), as well as ways in which students spend their time. New relationship structures are different because of the technology, and are not simply extensions of preceding

relationships (Bruce, 1993). New environments created by the application of communication technology necessitate a review of the models for understanding the student first-year experience for the 21st century.

Case Description

A small, liberal arts college was chosen as the location for this study because of the importance of relationship development at this type of institution. On these campuses, face-to-face communication and bonding are part of the institutional fabric. Students often know most class members, join campus organizations, and participate in a myriad of extracurricular activities. Thus in such a college environment, relationship development issues and the effects of Internet communication might be more apparent.

Alpha College is a residential college of approximately 1400 students, located in a town of about 10,000 people in a semi-rural area of the mid-west. The institution has a four-year liberal arts and sciences curriculum and is moderately selective as evidenced by an average ACT composite score of almost 25. Participants in the study were first-term sophomores, who spent their first year at Alpha College. Students were asked to reflect on their first year of college as they related their experiences in using Internet communication.

During the fall term of this study, the campus experienced serious problems with its Internet connection, related to rapid growth in student use of applications such as peer-to-peer music and video serving. Although the downloading of these large files was not the only contributor to the network problem, it put pressure on college

bandwidth resources and thus helped create a situation of increasing instability of the college Internet connection. As students downloaded these applications, network capacity diminished and ground to a halt.

In the fall of 2002, with more students bringing their own computers to campus than ever, the pressure on the network became excessive and serious performance problems resulted. During peak periods of such activity, Internet communication slowed down significantly and the Alpha College network became unstable, which in turn meant that the Internet connection to the outside world failed. Sometimes computer users could re-initiate network use immediately, while at other times they were unable to resume use for a significant period of time. These problems built over the prior year, and reached a crisis point in the fall of 2002, culminating in several months of unreliability and instability of campus and Internet connections.

As a result of the timing of the system problems and the resulting network instability, students had experienced ongoing difficulties in connecting to the Internet, and had thus considered the importance of the Internet in their daily lives before agreeing to participate in the study. During the fall term of 2002, members of the entire campus community actively discussed their serious concerns with the state of the network, and network instability was the issue students most frequently took to the provost for resolution. Student opinions were strong and consistent, and are reflected in many focus group comments.

Methodology

Inductive research strategies were used to develop an understanding of the way Internet communication was used by students, and the ways in which that use might affect their relationships on and off the college campus. Four focus groups, arranged as two male only participants and two female only participants, were used to discuss student experiences of computer communication on a small, liberal arts college campus. The initial focus groups were split by gender to better ascertain differences in experiences of males and females (Al-Motrif, 2000; Lenhart, 2001). A final session comprised of both males and females from the first four sessions was held to revisit key points and address questions that were not fully developed in the first four sessions. By holding several focus group sessions, it was possible to review the topics in each group until no new information was provided. This design was particularly appropriate for this type of study as it allowed exploration of student experiences and opinions, with follow-up of pertinent threads (Krueger, 1994).

Student participation was voluntary; a meal and a small gift were provided to those who attended. The students filled out a survey prior to the focus group sessions for the dual purposes of supporting the discussion itself, and to help me develop a better understanding of these students through some baseline data. Sessions were audio tape-recorded to help ascertain accuracy, and identical framing questions were presented to each group. Following each session, the assistant moderator participated with me in a debriefing session, which was also audio tape-recorded.

Verbatim transcripts of the sessions provided the basis for coding emerging themes. Student responses were grouped thematically, and each theme was addressed descriptively to ascertain the collective impact of their experiences, and indications of the role of computer communication in their college experiences. In this way, it was possible to develop both description of trends in student use of computer communication, and also to develop 'macro themes' regarding the impact of this use.

Findings

Findings are grouped into two types: the *experience* of computer communication for first-year students, and the *effects* of computer communication on first-year students. The experience of computer communication is one of folding around the lives of students; it envelops their life experiences, their reference points, and their understanding of how the world operates. The second distinct pattern that emerged was the set of effects that computer communication had on students' lives. Although these are grouped separately for better clarification, the experiences of students and the effects of those experiences have common underlying structures and thus do not fall completely into separate categories, causing some bleeding across themes.

Experiences of Computer Communication

As students discussed their first year, they described some of the typical experiences of incoming college students, such as freedom to come and go as they

wished, determining when to do homework, and feeling quite on their own. Students also related experiencing the freedom of a direct connection to the Internet once they were at college. Most of these students were able to connect to the Internet from their homes during their high school years, typically through a modem. Since such connection ties up the home phone line, the time students spent online in their high school years was often relatively brief in comparison to what they could spend online once arriving at Alpha College.

Almost all of the students in focus group sessions had access to a computer, with a direct Internet connection, in the college residence halls. Because of the direct connection, they were able to have a continued online presence, even posting messages describing where they were while they went about their daily activities. According to the participants, direct Internet connection encouraged them to significantly increase the amount of time they spent accessing the Internet in college, as compared to high school.

The process of adjusting to residential college life is typical for new college students. The coupling of that adjustment with the freedom of a direct connection to the Internet may remain fairly unique to students attending college at the beginning of the 21st century. For most of the students in this study, the experience of leaving home to attend college and the experience of direct connection to the Internet occurred simultaneously.

I was first impressed with the sheer volume of communication students were describing. They talked about growing up with computers, depending on them for so many daily activities, and absolute relying on them to facilitate communication with their social networks. To these students, the computer and communication it enabled

were extensions of themselves. In conducting these focus group sessions, I had the opportunity to step into these students' lives for a time and see a world that is different from mine, and I found the experience fascinating. Four significant themes emerged regarding student *experience* of using computer communication.

The first theme was identification of the computer as an extension of themselves, and as such an absolute necessity in students' lives. Online communication connected them to their social networks, their family networks, and to myriad Internet-provided resources. As such, it was very important to them. In discussion, they emphasized their need and perceived absolute right to unfettered use of computer communication.

Students turned to the Internet to communicate, transact business, seek information, and find entertainment. They also used the Internet to accomplish academic work, preferring the Internet to conventional information sources like the library. This generation of students grew up amid widespread use of computers. The set of opportunities such technology provided was accepted as the norm. These students were knowledgeable about the opportunities afforded by Internet technology, and made use of those opportunities.

The second theme was the amount of connection that students had with off-campus and on-campus friends. Students typically arrived on campus with a fully-developed friendship network. This pre-college network was made up of close friends, and easily adapted to online contact. Once students arrived on campus, they also had the opportunity to make and connect with new friends, thus forming another social

network. Generally speaking, students turned to both their old and new friends as well as family to help them cope with issues and problems in their lives.

Differences between parent and student use of computer communication also emerged. Most students described frequent contact with their parents, and even stayed in touch electronically with aunts, uncles, cousins, and grandparents. This contact was typically conducted through the Internet, most often by email. Students talked about the ways in which parents helped them cope with problems and adjust to college. When discussion turned to parents' use of the Internet, the tables turned and students felt they had the upper hand. These students talked about how some parents felt overwhelmed by programs like Instant Messenger. Students seemed to feel that the world of computer communication belonged to their generation, but they willingly assisted their parents by helping them cope with the perceived complexities of such communication.

The third theme comprising the experiences of students was the emergence of distinct group traits by gender. Both men and women stated that they used the same basic set of Internet tools in similar ways, but in discussion they proceeded to talk about gender differences in the topics and type of communication. Women described chatting online more, and felt that men sought specific information online. Women seemed to seek a connection with parents more than men, or at least were more willing to say so.

The fourth theme describing the experience of students using computer communication was the ways in which students connected with "the College" and with faculty. Students felt that Alpha College was technologically behind other institutions in the use of computer technology and in providing sufficient academic resources for students; technological shortcomings were identified as a lack of Internet course tools

such as Blackboard, technology in the classroom, and student-faculty contact by computer. While students believed providing better computing resources would improve the academic experience, they felt as though they had many opportunities for face-to-face contact with faculty, and that they had a high quality academic experience at Alpha College.

Effects of Computer Communication

Concurrent social networks are now part of the college student experience; discovering the ways this experience affects students is important to understanding what it means to be a college student at the beginning of the twenty-first century. In this section, I discuss effects I observed related to use of computer communication. These included time evaporation and balancing old and new social networks. While students recognized these to some extent, they were better able to describe their *experiences* related to computer communication than the outcomes of those experiences.

The first effect of computer communication I encountered was time evaporation. Students spent hours conversing with friends and family by computer. These hours would have been spent another way had students not opted to converse electronically. The students in this study did not feel that they lacked any kind of participation on campus because of using computer communication. They said that they were doing exactly what they wanted to do, and that they were as involved as they wanted to be on campus. In fact, students repeatedly stated that they did not participate more in campus activities, mostly because they needed to spend time on academics. When I asked what

was displaced by computer communication, almost all of the students said it was time for study and homework. For the most part, students did not recognize the relationships in the situation they were describing: online communication took time away from academic work; they did not have time to participate more in the life of the campus due to the pressure of their academic work. Thus, although they generally denied it, it is possible that students were participating in fewer campus activities because of their use of computer communication.

Students were passionate about maintaining pre-college friendships. These friendships kept them connected to their high school circles and news within those circles. The pre-college friendships often helped students cope with large issues in their lives, and address day-to-day stresses and successes. Students who stayed in touch with friends at other academic institutions felt that collegiate challenges were similar and that day-to-day life at these other colleges was not necessarily better than at Alpha College. Some students felt that by having this information, they were more satisfied with Alpha College and more likely to re-enroll.

Students described peers who spent their time on the computer, talking with friends at home, and then complained about not making any friends at college. In these instances, maintaining the old social network obscured the opportunity to develop a new social network. Sometimes members of the pre-college network of friends pressed students to return home and rejoin the group. In these situations, computer communication pulled students away from the relationships and activities that would help them bond with the campus and succeed in transitioning to college.

Another, and possibly more important, effect of these networks was the very significant amount of support students got through their use. I realized that students exhibited the need for different levels of support from their networks, and that these changed dynamically over time (see Figure 1). For some students, their pre-college network of friends provided the most support; other students stayed connected to the daily lives of pre-college friends, but sought support from peers on campus. Construction of the relationships of these networks with the students' lives was very individualized. For many, the support they received through their networks sustained them through difficulties that might have otherwise caused them to withdraw from college.

Implications

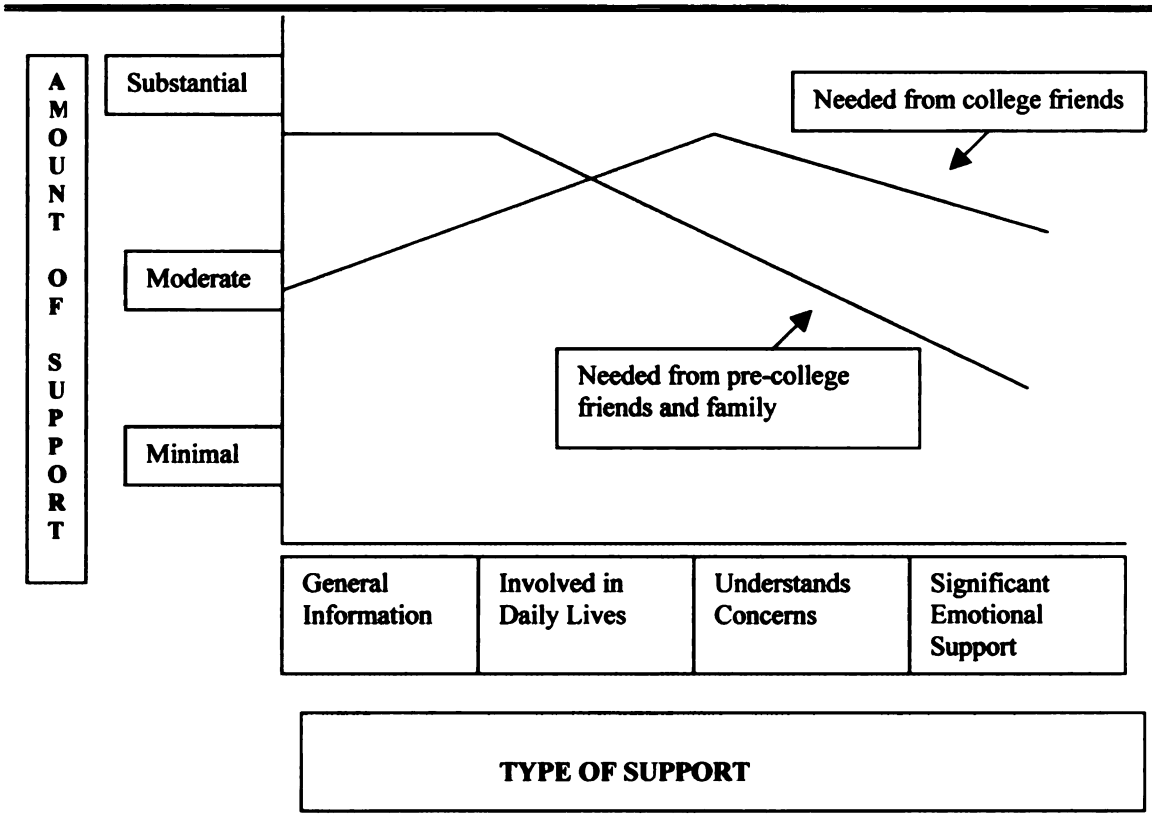
The findings of this study indicated that students both *experience* computer communication and are *affected* by computer communication. In the following pages, I develop these categories more fully and break them down into themes.

Experience One: Computer as Natural Extension of Themselves

For the students in my study, the computer was an extension of themselves, and it was fully integrated into their lifestyles. Their passion for computer communication seemed based in their passion to maintain connection with important people in their lives. The computer was the most efficient and satisfying process for them to use.

Figure 1

Student use of computer communication



This is a construction of one student's support network at one point in time. He noted, among other things, that his on-campus friends better understood what he was going through than did his off-campus friends. He wanted to remain in the daily lives of his pre-college friends, but they were not needed much for emotional support.

- Students individually construct the need for support from friends and family at home, and from friends on campus.
- The varying need levels, ranging from actual support to simple appreciation for general information, spanning their off-campus and campus relationships, could help us understand how the student can best be supported.
- This graphic depiction of a student's construction of relative need for different networks is not intended to quantitatively depict the student experience, but simply to illustrate that students need different levels of support from different groups.
- The fact that both of these networks can co-exist to such a great extent is due to computer communication and the maintenance of off-campus relationships it allows.
- Other support network constructions, if depicted graphically, would show a very high level of pre-college support.

However, the representation of the computer in their lives was more than simply an activity. It was a symbolic opportunity to post away messages and be present on the computer when physically absent from it. This allowed students to reach out in ways that made them feel they were, through the computer, connecting. In this symbolic and metaphoric way, the computer extended their reach, extended their physical presence, and was part of their identity.

The basic need to belong is expressed in the attachments people form to each other, the relational stability they seek, and the emotional energy they spend on the well-being of others (Baumeister & Leary, 1995). That connection is manifested in communication. Bruce (1993) states that new information and communication technologies modify what society regards as the norm, and because of this, they lead to different social experiences, expectations, and social roles. This was apparent in this study as students told me of their experiences staying connected to networks of friends and family, their expectation for computer software and hardware access to maintain those networks, and the ways in which relationships were initiated and maintained differently than in pre-Internet society.

Educators need to understand the experience of students using computer communication, validate the legitimacy of the experiences, and positively address opportunities to tap into this communication tool to develop campus community and student satisfaction with the campus social and academic experience. I did not anticipate the level to which students were connected to each other via computer communication, their dependence on it, or the extent to which they were computer

savvy. Students' expectation for access to computer communication was so deep-rooted that they could not imagine being without it.

The Millennial generation of students, born since 1982 and entering college today (Howe & Strauss, 2002), have a different relationship with computer communication than the administrators and faculty running colleges. These students turn first to the computer to accomplish almost every task they encounter. This generation is now in their first years of college, will begin graduating from college in 2004, and entering professional schools in 2006 (Howe & Strauss, 2002). They will use computer technology and communication more than any preceding generation, and the younger siblings who follow them will be even more electronically connected, with expectations at least as high as their older brothers and sisters.

Experience Two: Students Arrive Connected and Continue Connecting

Because computer communication provides the opportunity to stay close to pre-college networks of friends, "going away to college" is a different experience now than it was before such communication existed. Students now leave home and attend college, but they no longer need to 'go away' from their friends and family. Instead, those individuals are now often in the daily lives of students.

Students arrive on campus with their pre-college friends virtually in tow as they begin unpacking. They want to connect with friends and family by computer as soon as they move into their rooms. When these connections can not be accomplished, the result to the student is more than simply lack of access to the computer. Students feel

cut off from their support network, not only from friends and families because of distance between them, but also cut off from a pastime of communicating with them electronically.

Although I did not have enough participants to analyze differences between minority and majority students, I heard minority students speak of feeling like outsiders, particularly because the college "is so small and so very white" (F2). Connecting with their ethnic group via computer communication appeared to be an additional form of support for these students. Adapting to college life might be assisted by encouraging students to connect with their support networks and by creating campus-based support networks of students, administrators and faculty. Chat room discussions of strategies for survival to connect students intentionally may provide better support for these students and allow development of cohort groups.

Students described the extent to which they corresponded with their parents electronically, with some noting that parental correspondence is almost exclusively through the computer. These students, as members of the Millennial generation, have been sheltered by parents, are seeking success, and yet feel pressured to achieve (Howe & Strauss, 2002). Many students, particularly women, described the connection with parents as one that helped sustain them in adjusting to college. Since students communicate extensively with parents via computer communication, college administrators might consider the new opportunities to support students through information that could be provided by computer communication to parents.

I found that students relied on parents for support through computer communication, but felt that parents knew much less about using the computer for

communication. As students identified ways in which their parents communicated by computer, they also described ways they helped their parents understand how to use the computer. I saw evidence of their Millennial generation characteristics in this process: these students liked their parents, enjoyed communicating with them, and were glad to help them in this way.

Additionally, college administrators and faculty can develop ways to connect routinely with students using computer communication. In this study, students suggested that having a very good campus email system, coupled with timely and complete information on its use, helps connect incoming students to each other and to the college. Beyond initial chat room opportunities, the college can initiate ongoing discussion areas such as virtual counseling, opportunities to ask questions, and ongoing forums and town hall types of discussions.

To accomplish these initiatives, it is imperative that students *use* the institution's email system. College administrators and faculty can help encourage this by providing an email system that is competitive with the ones students seek externally. Colleges also need to consider providing some critical information only through the campus email system so that students are encouraged to keep using it, and avoid sending too much information that is of the bulletin board variety. Students in the focus groups indicated that they disregarded bulletin board communication, and its distribution gave them one more reason to avoid using the campus email system. By encouraging students to continue using their campus email addresses, administrators, faculty and students can more easily connect electronically, and formation of community environment may be more possible. Once students become dissatisfied with the college

email system and change to another email provider, they are not likely to switch back and the campus community loses a valuable communication opportunity.

Experience Three: Gender Similarities and Differences

Men and women used the same types of computer processes to communicate, to be entertained, and to accomplish academic work. However, differences emerged regarding ways that students used those computer processes. For example, men tended to be direct in asking others, particularly women, for screen names, while women indirectly sought screen names, particularly from men. Women's description of computer communication emphasized a more detailed communication with friends than did men's. In both instances, computer communication appeared to be an extension of the characteristics of the individual user. The extent that men and women use different tactics and styles to communicate transferred to their use of computer communication. Both men and women discussed communicating electronically with parents, although women emphasized the support aspects of that communication more than men did.

As computer communication opportunities are more intentionally developed on campus, it is important for administrators and faculty to consider ways in which those processes can be positive experiences for men and women, taking the preferences of each group into account. By identifying opportunities for support that help strengthen the student experience, college administrators and faculty can use knowledge of students' needs to help positively structure the collegiate experience.

Experience Four: Students, "the College" and Computer Communication

The relationship between the student and the college is directly affected by student satisfaction with computer access, particularly access for social purposes. Students like to have technology in classrooms and courses but are not nearly as passionate about any lack in academic technology as they are about a lack of technology for social purposes.

Students in my study evaluated their satisfaction with the college in large part through their access to computer communication. While colleges report to prospective students, parents, and others the number of computers available for students in computer laboratories and residence lobbies, these indicators are less important to students than the particulars of access from their rooms. Students emphasized a need for reliability of the computer network, inexpensive access at a level that is not less than they have experienced in the past, and they did not want to have to leave their rooms to use it. Tinto's (1987) research on social integration and student satisfaction with the campus experience related to student life in past decades; today's students may additionally need to maintain social integration with their pre-college friends to feel socially connected.

Effect One: Computer Communication and Time Evaporation

Students are living away from home, typically for the first time, and often turn to the computer to connect with those to whom they are emotionally closest. That

connection can be positive and grounding, carrying students through the uncertainty of a new set of experiences, helping them cope with serious issues, and even reinforcing the reasons they selected and attended the college. That connection can also be distracting and time-consuming.

The latter point is exacerbated by the fact that students in their first year of college have not yet adapted to the shorter blocks of time in class and the increased expectations of academic work outside of class as compared to high school. Additionally, while parental supervision of homework may have existed during their high school years, students are on their own in college. As students adjust to the expectations of college, they may believe that they have significant time to fill, and it is natural that they turn to their pre-college friends, who have been important in their lives for years. Because Internet communication is easily accessible, and because many have a direct connection for the first time in their lives, the initial weeks and months of college easily become filled with email and Instant Messaging.

Through my research, I discovered that computer communication consumed a significant amount of students' time, potentially displacing academic or other activities. Also, while students did not necessarily see a connection between time spent maintaining social networks via computer communication, and an impact on campus activities, they described a shortage of time, particularly for studying. Despite being computer-savvy eighteen-year old students, students typically enter college as unsophisticated learners who may have difficulty prioritizing and protecting their time. First-year college students cope with significant adjustment and feel a lot of pressure to do well (Howe & Strauss, 2002). Computer communication helps them feel more

connected, more comfortable, and more in touch. They use it to fill the perceived spaces in their schedules *and* messages come to them even as they try to use the computer for academic work. When they are not on their computers, the "beeps" of arriving messages can be heard, luring them back into conversation.

Because of this potential drain on time, and the possibility that students will not engage sufficiently in establishing a college social network, they may find that they do not 'fit' at the institution. Social integration has long been equated with the satisfaction students have with their campus experience (Tinto, 1987). Today, the social connection with the campus has the potential for a dual effect: not only might students bond to a lesser degree with their peers at their academic institution, but they might also be dissatisfied if they can not connect to pre-college friends.

Some students stated that communication with pre-college friends took time away from academic work but did not impact their level of participation in campus activities. These students also stated that the reason they did not participate more in campus activities was because they needed to focus on academic work (see Figure 2a and 2b). My research showed a substantial influence of computer communication on time available and initiative for developing campus friendships. The situation and personality of the student appeared to be the determining factors influencing the ways in which students were affected by maintenance of concurrent social networks.

Because there is a saturation point in seeking relationships, people do not feel compelled to pursue replacement of one social bond with another (Baumeister & Leary, 1995). My research identified some students who may have had their 'relationship quota' met and chose to maintain old social networks rather than developing new ones.

Figure 2a

Relationship between electronic communication, participation in campus activities, and time spent on academic activities such as homework.

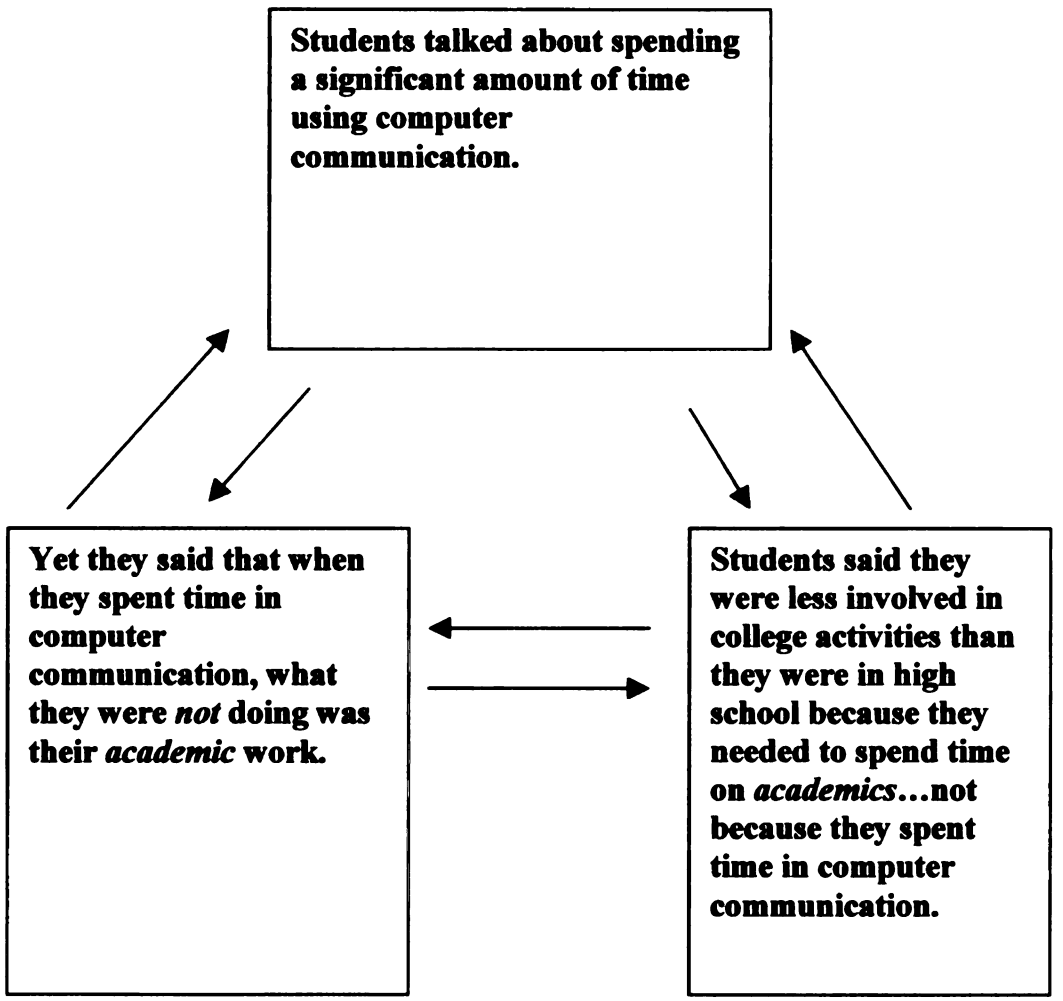
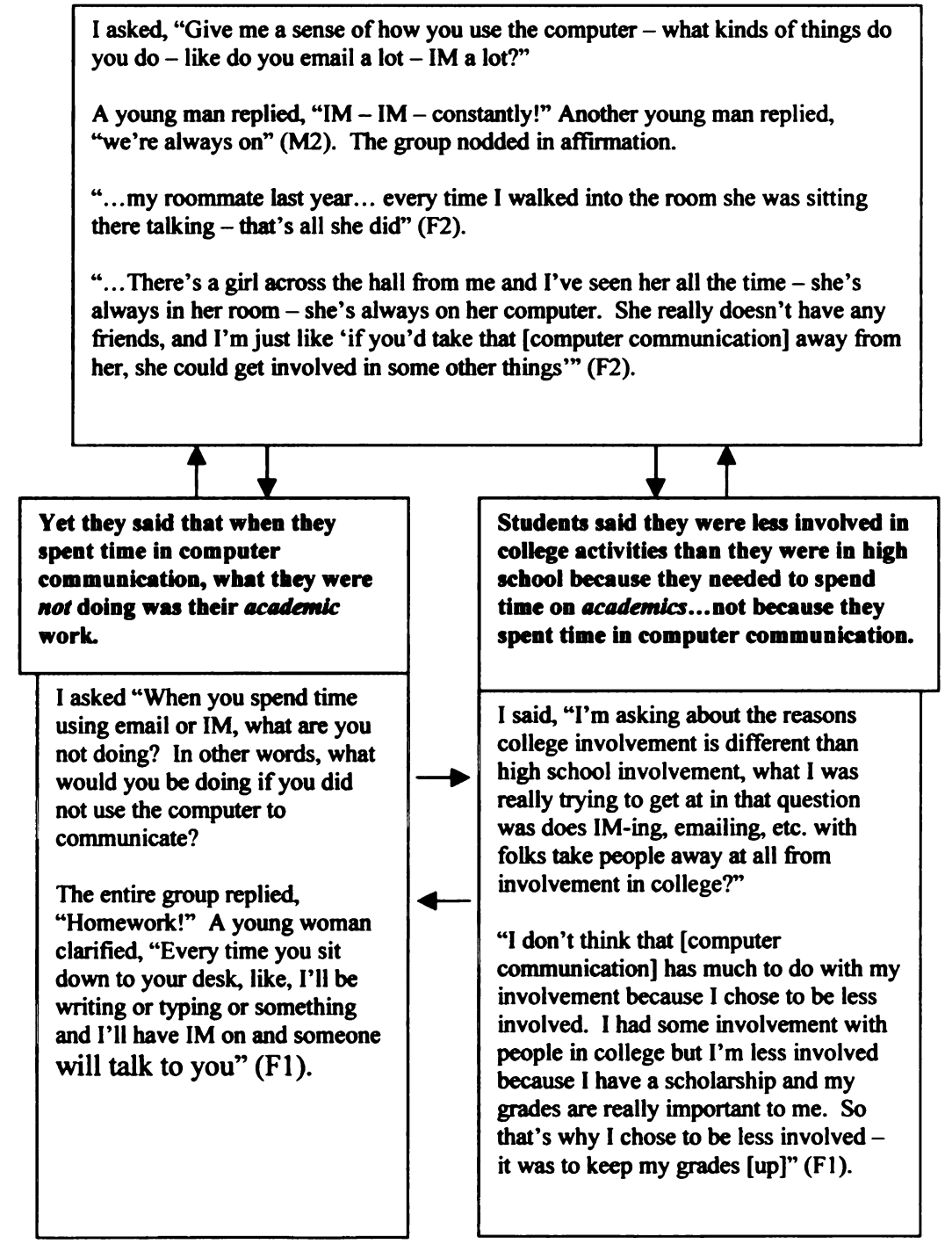


Figure 2b

Relationship between electronic communication, participation in campus activities, and time spent on academic activities such as homework, using actual student comments.



Because they stayed in touch with their pre-college friends, they had less need – and thus less willingness – to try to make friends on campus. Some of these students felt that they would have better attempted to make friends in the new environment if they had *not* had access to their old networks. As I listened to these students describe their struggles with adjustment to college, I realized anew that the individuals in the focus groups were students who had returned for the second year of college. Many other students leave after completing only a first term or year of college. A study of the experience of those students and their use of computer communication is a study for a later time.

Given the significant number of contacts and extensive communication that students described in this study, I thought that students would also tell me that they had a lot of close friends. But their comments on this were fairly inconclusive. Some students claim to have only a few very good friends, while other students claim to have many. Yet all students seemed to communicate extensively with many individuals beyond an initial network of friends. A feeling of social isolation often leads first year students' dissatisfaction with the institution. Connections between students and the life of the institution need to be made early in the first term of enrollment (Martin & Arendale, 1993). It is possible that for some students, extensive communication with the pre-college network lessens both the time and the need for development of on-campus friendships.

Effect Two: Computer Communication and the Balance of Old and New Social Networks

Scholars have long recognized the importance of student involvement on campus with their peers, their academic work, and with faculty in retaining students at the institution (Astin, 1975, 1984, 1993). Other research noted that communicating with friends at a distance took time away from development of local friendships (Lenhart, 2001). The lack of sufficient interaction with the campus community was identified as the primary indicator of college attrition (Pascarella and Terenzini, 1979). Given the support students feel computer communication provides, new questions arise: if students rely on their pre-college friends to provide support, does that actually make them more likely to be dissatisfied with the campus? Might it actually be a new way of meeting the needs of first-year college students?

The Draw of Old Social Networks

Tinto's (1987) description of the separation, transition, and incorporation stages of student adjustment to college were described by the student experience in my focus group sessions, although no two students seemed to have exactly the same experiences relative to college adjustment. The passion for retaining the old social network sometimes diminished as students built new friendship networks. My research indicated that students may take longer to separate from pre-college friends because they communicate with them so frequently, and in that process, they may lengthen the

separation stage of their shift from high school to college. In this study, some sophomore students moved away emotionally from pre-college friends and turned toward campus friends for emotional support. Other students were still very dependent on pre-college friends for emotional support, and it was not obvious to me whether or not they would ever transition away from that.

It is possible that students who bond less strongly to the college may be more vulnerable to leaving the institution. Astin states that making the transition to college requires purposeful effort. The amount of physical and psychological energy students exert is an indication of the likelihood of a successful transition. Connecting to the new community takes purposeful prompting and requires time spent together to develop a true community (Kuh, 1991). Of particular concern are students who are less actively involved in constructing their own educational communities (Winston, 1965). Since participation in the research project was completely voluntary, and focus group discussions were very active, it is likely that the group of students in my study were not 'low interactors.' And yet, even in this group, some effects of online communication on community building were evident. This study did not determine whether low interactors are more willing to maintain old social networks, but it identified other categories of students who might do so. For example, students undergoing periods of stress, or students who do not fit into either their residence hall or the initial group of students around them may rely heavily on computer communication. My research indicates that students, particularly in times of difficulty, reach toward the group with whom they find the most comfort. Often this group was their pre-college friends, as well as their

families. For these students, maintaining the old social networks may be especially important.

As college communities and cohort groups are maintained over a shorter time span than most other communities, the need for early bonding, and the implications when it does not occur are significant (Tinto, 1987). Students are relatively short-term members of college communities, remaining in the community group only a few years. As short-term members, students may be more affected by events that occur outside their academic community than they would be in a longer-term, home community environment. Because of the significant ties students maintain with their pre-college communities, events that occur in those communities remain important to them after entering college. I witnessed the strength of the pre-college relationships and students' strong interest in maintaining them. New opportunities to remain in almost the minute-by-minute lives of friends and family kept students much more connected to the details of their pre-college communities than they could have been in the absence of computer communication.

Pre-College Friends and Leaving College

This process of potentially lengthening the separation stage of adjustment to college life may mean that students experience an extended period of vulnerability in their transition, and that they are more likely to leave the institution. Tinto (1987) also asserted that pre-college friends can inhibit students' academic and social integration into the campus community. Students related to me that pre-college acquaintances

exerted a pull on them that manifested itself as a draw back into the previous life and support structures. Students generally felt that the choice was theirs: they never blamed friends from the old social network for any aspect of their college adjustment or activities. The closest they came to criticizing was a male who said that his friends were asking him why he went away, and were encouraging him to return to their company. Generally, students said their friends were supportive of their academic work, particularly if they knew that the student was happy with the college choice. If friends detected unhappiness, they encouraged students to leave college.

Student life administrators work to help students connect to each other and join in the campus community. My research indicates that development of new campus community may be affected by pre-college social networks that students build from significant face-to-face relationships, and which provide day-to-day information and support for students. While distance typically causes the fading of relationships, computer communication maintains pre-college relationships well beyond a point that was possible before such communication existed. As a result, student life administrators may need to develop different strategies for orienting students to campus that incorporate pre-college networks. For example, the orientation process might support students connecting with family and pre-college friends, and also suggest ways to connect with peers on campus. Student life administrators could design experiences that connect students on campus electronically, as well as the more traditional face-to-face activities. Such experiences may include chat rooms to encourage students to get to know other students on campus.

Students in the focus groups seemed to be well aware of peers who were overly-engaged in computer communication. Student life administrators should consider ways to work with students to identify those who are extensively communicating with off-campus social networks that they lack connection to on-campus students. These individuals may have problems adjusting to college, such as being in a residence hall of students with whom he or she just can not connect. By recognizing extensive computer communication as a symptom of a potential problem, administrators might address the source of the problem and help students cope with their campus environment.

Individual construction of concurrent social networks

In some sense, students' passion to maintain their concurrent social networks was woven through each section in this work. For each student, the amount and type of support from each social network varied (see Figure 2a and 2b). Some students needed only general information from their pre-college networks; they turned almost exclusively to their college network for emotional support, feeling that college peers understood their challenges. For others, the pre-college network provided most of the students' support and the college network provided much less support. Most students maintained some type of balance between the two extremes.

Strong ties are typified by frequent contact, a sense of affection, and a sense of responsibility in regard to the other individual; weak ties represent relationships that lack depth, whose bonds are easily broken bonds, and contact may be infrequent (Kraut, 1998). Strong and weak ties are often discussed in the development of online

relationships. I found that through the use of computer communication, strong ties for pre-college, face-to-face friendships were maintained. Additionally, the new college environment offers, at the point of entry, a weaker set of ties, and a weaker support network. However, over time, the campus community may become a network of strong ties for the individual student.

Computer Communication Sustains

Kraut (1998) expressed concern that Internet use could promote social withdrawal and decreased psychological well being. In my study, I found that extensive communication with the pre-college social network may discourage connection to the campus community. Students who connected extensively with off-campus contacts may not have been satisfied with their campus social experiences, but I did not hear them speak of decreased psychological well being. In fact, I found that computer communication often sustained students and thus, increased their psychological well being.

Tinto (1993) states that a major cause of student attrition from college is an inability to make the transition into the college's social and intellectual life. In my research, I noted that some students have difficulty transitioning to the college's social life. I also noted that Internet communication was often used by these students as a communicating and a coping mechanism. Some students stated that they would have adjusted to the college better if they had let go of friends from high school. It appears

that there may be an inverse relationship between letting go of pre-college friends and a general willingness to participate in the social life of the college.

My research indicated that maintaining relationships with high school friends can help ground students, stabilize and support them, and generally help them deal with the pressures and changes in their lives that the college transitions bring. However, it is also possible that whatever the length of time involved in the separation process, students are more grounded and better supported due to their own balance of old and new friendship networks. Therefore, it is possible that computer communication makes the separation stage more comfortable and bearable for students. This raised for me the question of how necessary it is for students to transition into college friendships. If they are satisfied with their academic experience, and satisfied with their social experiences by remaining connected to pre-college friends, they may be satisfied with their overall experience enough to continue at the institution through graduation. For these students, Internet communication may support the separation phase and assist with the transition to college. The extent to which computer communication is present in students' lives and appears to be such a necessary part of the transition process warrants asking whether previous research (Astin, 1993; Pascarella & Terenzini, 1998; Tinto, 1987) describing student transition, involvement, and retention need to be reworked around these new experiences. At least for some students, computer communication may have changed the separation phase significantly enough to transform the process.

Some scholars herald the Internet as a tool that can lessen isolation and promote relationships (CNN, 2-7-2002; McKenna et al., 2000; Pew Foundation). While I observed that students *appeared* to be isolated, spending time alone in their rooms, they

were not really alone; they were simply talking with a different group of people. Even exclusive external communication combined with an unwillingness to connect to local people may not necessarily mean that the individual is worse off, but it does suggest problems in that person's relationship with the campus community. The questions for me then revolved around the effect of those maintained relationships on development of new relationships.

Theoretical Implications

As I speculate about the future of Alpha College and the ways in which computer communication might be present in students' lives, I think there will be significant change ahead. Technology will continue to evolve, and communication opportunities will reach into new areas. As this occurs, the computer might become an even more visible and natural extension of students. Effects of pre-college networks, observable now, might be stronger once voice and visual display, via microphones and cameras, are a part of the day-to-day communication opportunities.

Campus influences on residential life might significantly diminish as pre-college peers are present to a greater extent in the day-to-day lives of students. It is likely that students will have little patience with academic communities that do not significantly engage them via computer, as that type of communication will be so well-used by students. The computer network and opportunities to connect will likely be as important to students the academic reputation of the college or the physical facilities.

Because computer communication helps students create a world of their choice, where pre-college friends and college friends are present when and where they wish, continued erosion of time for academic preparation may occur. Academic institutions that can help students come to terms with time for academic work and time for social interaction might help students have a more satisfying college experience. Additionally, those students who are able to balance their old and new social networks, maintaining the old and developing the new, might find the college experience more rewarding, and their connections to the social and academic life of the institution more solid. Through use of computer communication, students might find that the transition to college is not as traumatic as students did in years past. We may learn that the separation phase identified in literature on the four-year college experience (Tinto, 1993) diminishes to the point that it no longer exists.

The experience of computer communication for young men and women likely transcends the boundaries of my research project. Students in my study described their interactions with peers on the Alpha College campus, on campuses of other institutions, and at home. All of the individuals with whom students were connecting also had experiences of using computer communication. Students described the passion with which their younger brothers and sisters used computer communication. The students in my study are probably very similar to their younger siblings and to students entering many types of colleges. The experience of today's students may be a larger transformation of human relationships and interaction through computer communication.

Students obviously enjoyed the opportunity to use Instant Messenger to carry out multiple concurrent conversations. I wondered why this was so exhilarating. Perhaps it was invigorating as it challenged students to keep up, and made them feel very capable as they succeeded. The activity reminds me of fast-paced, sound-bite television ads, where images are quickly portrayed and then disappear. As I considered the relationship between reflection and subsequent learning that acts as building blocks, I wondered how this generation will commit to memory those images and conversations that pass so quickly. I also wondered whether the press for multi-tasking in the student experience would explain a society which seems to increasingly become less patient.

In considering the students' desire for information provided at the speed of the Internet, preferably in full text, I wonder about the role of the library in future years. If the Internet is actually only a fraction of its future presence, will the Internet *become* the library? And will the Internet virtually become the source of all information? Will paper communication become a second choice, only used for very special occasions, as the young man in one focus group indicated? And if a society is represented and recorded through electronic impulses, what is archived for future generations? Will the next several generations commit documents to paper or retain sufficient old software to read electronic text?

If one always has a visible face to the world, be it physical or via a computer presence, and if we are always reachable, connected, and communicating, I wonder if we will become a society that does not know how to be alone. Will silence have a place? Or will we require constant connection to other people to meet minute-to-minute expectation for contact?

Internet technology and computer communication provide, and likely will continue to provide, opportunities for many good things in our lives. The students in my study were sustained by computer communication. Because they did not need to be physically present with their networks of friends, they could be sustained from any location. This might change the meaning of being absent from one another. As modern families relocate to significant distances from their families of origin, perhaps computer communication will re-create, in a virtual sense, a semblance of communication opportunities of years past, when family members lived close to their birthplace.

Previous generations have worried that those who follow will lack the quality of thought and action that are necessary for a healthy society. Each society determines how it will use the innovations available (Bruce, 1993). Computer communication opens new options that were not previously accessible, providing individuals with significantly more choice than previous generations. It is important to remember that the next several years will contain significant changes and today's students will become the parents of another generation of students. We are experiencing more and better opportunities to choose how we wish to live and communicate. For those who seek constant communication with others, opportunities are available. Even though I wonder where computer technology will take us in the next several years, I believe that we will have the chance to create the best opportunities for the connections we desire.

Summary

College administrators and faculty recognize that students have myriad experiences, needs and pressures. Computer communication is critical to students as a pastime and as an important support mechanism. Administrators and faculty can use this knowledge to better meet the emotional needs of students and help them adjust to college. In some situations, the process of using Internet communication may actually work against desired outcomes (Thompson and Nadler, as cited in Tyler, 2002). One example is new community development, when the old community remains at hand through computer communication. However, negative aspects of this may be ameliorated by a student's conscious effort to develop campus community through use of the same medium. Rather than discouraging the use of computer communication, college faculty and administrators can consider ways to expand opportunities for students to better meet their emotional needs through more effective use of computer communication.

This may be the most significant finding of this study: as an individual construction, computer networks may provide a better mix of support for students than they have ever had before. It is unclear whether or not students are more likely to leave the institution but I believe that students are likely to be better supported emotionally and psychologically through computer communication.

Computer communication can be used to develop campus opportunities. In my research, I saw this happening primarily unintentionally. If used purposefully, computer communication that seems such a central connection to student life might

better connect students to campus life in addition to connecting them to off-campus friends and family.

Suggestions for Additional Research

Pace (1974, as cited in Kuh, 1991) states that the extent to which students are personally and socially connected to the life of the campus, connected with faculty, and involved in campus activities is related to a breadth of positive personal and social benefits. My research indicates that computer communication impacts the personal and social connections on campus, and suggests that additional research is needed to determine the extent of the impact on those personal and social connections to the college.

I could not pinpoint whether or not contact with the old social network pulled students away by *not* supporting the goals of education, or whether it simply inhibited the development of campus friendships. For the most part, students did not claim that off-campus friends actively pulled them away from the campus but this affiliation could cause students not to develop campus friendships. In turn, this might cause students to become dissatisfied with the college experience and leave the institution.

Several other questions emerged from my research. For example, we need to better understand the extent to which computer communication affects the academic preparation of students on campus. In what ways does this communication impact the time they spend on connecting with the life of the campus? We need to determine how to best develop connections for students entering college, using their own medium of

computer communication, to ease the transition to college and help them become part of the campus community.

The primary determinant of the effect of Internet communication is based on the particular characteristics of the individual(s) involved (Bargh, 2002a; Kraut et al., 1998). Students acclimate to college differently and use computer communication in ways that they construct as best in their situations. Females and males in my study differed in the specifics of their use of computer communication. Males appeared to value and emphasize convenience of access, in their connection with others and in their opportunities to access information. Females were interested in specifics of individuals' daily lives and also in being supported by others. However, it is not possible to say these are completely male or female characteristics; there was simply a trend in those directions through the groups in my study. How are particular groups of students (females, males, minority students, transfer students, first generation college students) likely to use Internet communication? Particularly interesting for future study is identification of the ways Internet communication could be used to form support for students on the college campus and help them successfully transition to the college environment.

We need to better understand how computer communication affects students' transition to college. For some, computer communication with an off-campus network of friends may lengthen the process of transition and increase the likelihood of departure. Others students might be better supported through the transition to college and more likely to continue enrollment. Since my research involved sophomores who remained at the college into their second year, those who left should also be studied.

The environment of a small liberal arts college is unique from those of other kinds of institutions, so developing social "fit" likely differs somewhat from campus to campus. How do attributes of different campus types contribute to the effect of Internet communication on that particular group of students?

Also, many first-year programs are based on factors that predict student success, including perception of community, student involvement in the life of the campus, and academic/social integration (Light, 2001; Nagda, et al., 1998). We need to revisit these factors to identify ways in which Internet communication affects their enactment.

Finally, the lack of time and its impact on homework, studying, and social activities should be more fully explored. Although students denied being affected by the latter, they said that they did not have time for activities and, separately, that Internet communication was a big consumer of time.

Limitations

I began this study focused on the term "computer communication" or "computer mediated communication" (CMC). The latter term came from my literature sources Jablin, et al., 1987; Spears, 1994; Walter et al., 1994). However, as I progressed with the study, as a result of revisiting the topic and, in turn, attempting clarity in my presentation of the information derived, I began to think that "computer-mediated communication" as a term left open questions of definition. For example, would it include any communication that had computer logic at the base, such as cell phone technology? I initially resisted the term "Internet communication" because I felt that I might be seen as jumping on the Internet bandwagon. The Internet has become a

household term and sometimes discussion of its use seems more hype than substance. But rather than using the term "computer communication" as I used initially, I felt that the term "Internet communication" seemed to more directly describe the process I was studying.

I began framing my research by using a cultural lens. I used this to develop a rationale for the study, and referenced Morgan (1997), stating that culture is dynamic and changing, and that communication is a critical process for a healthy culture. The cultural lens helped explain the existence of the student body as a distinct entity on a college campus, and validate the importance of communication in maintaining the health of that subculture. It helped develop the concept that the campus community changes over time, and that the student culture may change over time. However, as I proceeded through the research and findings processes, I discovered that the cultural lens did not allow me the opportunity to develop the student experience as well as the other literature bases, and therefore I discontinued its use.

In doing this study, I heard the experiences of sophomores, reflecting on both their first year and their sophomore year experience thus far. These were students who returned to the campus for the second year. However, 16.3% of first-year students did not return to Alpha College for the second year. Students who left the institution might have been affected differently, possibly more intensely, by a lack of bonding to the institution. Of course, any such lack may or may not be rooted in maintenance of old social networks.

Conclusion

Discoveries of this research stress the importance of understanding the culture of students entering our colleges and universities. This Millennial generation, now in college and continuing toward college for the next several years, brings attributes, experiences and expectations that differ from previous generations. The experience of computer communication engaged and affected students differently. We do not yet understand the effect of computer communication on the maintenance of old social networks for students adjusting to the new college community. Those experiences, attributes, and expectations need to be understood to effectively develop social and academic environments in which students can maximize their opportunity to participate and learn.

Appendix A

Initial Contact letter

October 20, 2002

Dear [personalized],

You might have thought that faculty and administrators just don't understand what it's like to be a student at this point in time. That's probably true – but you can help develop this understanding and make your voice heard.

I am a doctoral student, studying the experiences of students and communication on this campus. I'd like to hear your opinions and experiences; this understanding might help to make improvements for college students in the future. To create the opportunity for discussion, I am holding a get-together on [day]. The group will be about 7-9 first-term sophomores, discussing their experiences in their first year of college; it will begin at 5:15 p.m. and end before 7:00 p.m. [alternate discussion will begin at 7:15 p.m. and end before 9:00 p.m.] I'll buy the meal – pizza and subs from Mancino's; and I'll reserve the room. There will be two groups of women and two groups of men (and later, a "big issues" follow up group, made up of volunteers from the first groups). Participation in this discussion is completely voluntary; you have no obligation whatsoever to participate.

To create the opportunity for discussion, I am holding four group sessions. I will call to see if you would be willing to attend **ONE** of these:

Men's groups: Oct. 28 (Monday) at 7:15 p.m., or Nov. 4 (Monday) at 5:15 p.m.
Women's groups: Oct. 30 (Wednesday) at 7:15 p.m. or Nov. 11 (Monday) at 5:15 p.m.

The gathering is for the purpose of discussing computer communication by college students. I am particularly seeking students who lived on campus as freshmen last year and who used the computer quite a bit during the freshman year to communicate with friends (on-campus and/or off-campus friends). I plan to audio-tape the discussion to help me develop an analysis of the experiences.

Computer technology has changed the world in so many ways in the last several years, and college administrators and faculty grew up in a world that is different than that of students. I hope to develop a better understanding of the environment that students experience; this information will be used by the college, and hopefully beyond the college.

Sincerely - Karen Klumpp – Asst. Provost & Registrar – Alpha College (ext. 7244)

Appendix A

Script for phone call

Hi, I'm Karen Klumpp – I am a college administrator and also a doctoral student. I sent you a memo last week regarding a study I'm doing as part of doctoral research at Michigan State University. Did you get that? [If no, I will go through the initial memo first.]

As I noted in the memo, I'm gathering a focus group on [day] and would be interested in having you participate. You need to remember that your participation is voluntary. The development of this information will hopefully make a difference in understanding the experiences and environment of students, and thus in better anticipating student needs. Your comments and information will be kept private, shared only with my academic advisor – Dr. Marilyn Amey – at MSU. In referring to the information developed in the group, I will not use names.)

Do you think you would be interested? As I noted in my memo, I am particularly seeking students who lived on campus as freshmen last year and who use the computer quite a bit to communicate with friends (particularly off-campus friends).

1. Did you attend Alpha College as a freshman last year? (I will actually pre-screen my list so it should consist of sophomores who were freshmen at the college in the previous year.)

2. If yes, do you use the computer as a primary way to correspond with friends? (At this point, I will not differentiate between friends off campus and friends on campus because I think that both kinds of information would be useful. I will ask what friends they communicate with while in the focus group discussion, however.)

If the student answers no to any of these questions, I will thank them for their time & say that I will contact them if another opportunity arises, but they aren't eligible for this study.

If the student answers yes to all of these, I will say:

The upcoming discussion group will consist of 7-9 students and will meet in VanDusen Fireside Lounge. Do you know where that is? [explain] Can you attend the meeting on [day] at 5:15 or 7:15 p.m.? [If no, terminate; if yes, continue.] I will have pizza & subs for the group. I'll ask you to provide me with some written information and sign for permission for me to use your responses in my study. If you are interested in the results of my research, I will be glad to share that with you when it is available.
Thanks! Let me know if you have any questions – if you need to reach me, my number is ext. 7244.

Appendix A

Confirmation letter

Dear [personalized],

Thank you for agreeing to participate in the focus group discussion on the student experience and computer communication. You are in Group 1 [or 2] and will meet on [day], at 5:15 p.m. [or 7:15 p.m.] in Van Dusen Fireside Lounge. I know you are busy and will be sure to end the session by 6:55 p.m.

As I noted in my phone call, the purpose of this discussion to hear about your experiences of using the computer to communicate with friends; I will record the discussion for later review and analysis. You will be part of a group of 7-9 people who are also first term sophomores and who spent their freshman year at Alpha College. I will bring in pizza and subs from Mancino's.

As you arrive on [day] I will give you a consent form with a sign-off area for voluntary participation in the study. I'll distribute a brief survey, and then begin the discussion. As I noted previously, I will make every effort to maintain your privacy.

I hope you are able to participate; if for any reason you are not able to attend, please let me know as soon as possible.

I'm looking forward to meeting with you on [day].

Sincerely,

Karen Klumpp
Ext. 7244

Appendix A

Script for follow-up reminder call

Hi – this is Karen Klumpp & I'm calling to remind you about the session tomorrow – [day] at 5:15 p.m. [or 7:15 p.m.] in Van Dusen Fireside Lounge. Are you going to be able to attend? Do you know where to find the room? We'll be starting right at 5:15 – will you have any problem getting there by then? I'll have the pizza & subs; you don't need to bring anything.

Do you have any questions! [responses follow, if questions are asked.] Thanks, bye.

[If a student indicates he/she will not be able to attend, I will call one of the pre-set "alternates" with whom I've already arranged attendance in the event that someone indicates they can't attend. The alternates will not be different from the rest of the group, and will be as good a choice as the original attendee would be.]

Appendix A

Statement of Informed Consent

To participants:

By signing this form, you are agreeing to participate in this research project on "Students, Computers, and Communication" that is being conducted by Karen Klumpp from Alpha College (through Michigan State University).

You are being asked to participate in this focus group study to find out about students and computer communication; the discussion will be based primarily on the experiences of first-year students in using computer mediated communication while developing social integration. This discussion will last less than two hours, and will be audio-taped. The audio tapes will be used to construct a transcript of the focus group and at the conclusion of the research they will be erased.

Your participation in this study is completely voluntary, and if you wish to withdraw from the study or to leave, you may do so at any time, without explanation, reason, or any penalty. If you do withdraw from the study that withdrawal will have no effect on your relationship with this college or any other organization. You will not receive compensation or other direct benefits from participating in this study, but your presence may help others in the future.

As a participant, your privacy will be protected to the maximum extent allowable by law; in turn, you have an obligation to respect the privacy of others in the group by keeping any personal information shared during our discussion confidential.

As the researcher, I am glad to answer any questions you may have about the study and what you are expected to do. If you would like information about the focus group discussion, I would be glad to share that with you. If you would like to keep a copy of this form, I will make a copy for you.

I have read and understand this information and agree to take part in the study.

Today's Date: _____

Your signature: _____ Your name (printed): _____

If you have any questions about this study, please contact either the researcher, Karen Klumpp – 989-463-7244 or the chair of the doctoral dissertation committee, Dr. Marilyn Amey – 517-432-1056.

Appendix A

Survey – distributed with Informed Consent form

1. Name: _____

2. Did your parents attend college? (circle one) Yes No

3. How many miles away do your parents/relatives live? OR, how long does it take you to get there, if that's easier than figuring out miles? ____ miles OR ____ hours

4. Do you live on campus? (circle one) Yes No

5. Are you working? (circle one) Yes No
   How many hours per week? ____
   On campus or off campus? ____

6. Do you have easy access to a computer at your residence? (circle one) Yes No

7. How many people do you consider to be "very good" friends?
   a. 1-3
   b. 4-6
   c. 7-9
   d. 10-12
   e. over 12

8. How do you stay in touch with friends who are not at this college (email, phone, IM....)?

---

9. Some off-campus friends may be attending another college; some may have decided NOT to go to college.

   Do you think there is a difference in the way you relate to these two groups of friends?
   (circle one) Yes No

   Does it ever feel as though one group "pulls you away" from your college work?
   (circle one) Yes No

   If you said yes, which one?
   a. friends attending another college

b. friends who are not in college

Do these off campus friends ever make you feel glad you're at this College? (circle one) Yes No

10. What level of college activities are you involved in as compared to your high school activities? (circle one) More Less Same

11. How many hours per week do you use the computer to:
    - email friends? _____
    - surf the web? _____
    - participate in chat rooms or Instant Messaging (or equivalent)? _____

12. Do you think you are involved in fewer face-to-face activities and communications with friends on campus because you have kept your former friends?
    a. Yes
    b. No
    c. Neither a nor b

Why or why not? _____

13. Do you stay in touch with your parents using the computer? (circle one) Yes No Not much

If yes, does that contact:
a. help you feel good about college
b. pull you away from college
c. neither a nor b

14. How has your computer communication with off-campus friends affected the number of campus friendships?
    a. fewer on-campus friendships because of computer communication with off campus friends
    b. no difference in number of campus friendships because of computer communication with off campus friends
    c. more on-campus friendships because of computer communication with off campus friends

15. Overall, what is the effect of computer communication on your adjustment to Alpha College?

_____

_____

_____

16. Is there any important area that I missed? Any additional thoughts you'd like to share?

_____

Thank you!

Appendix B

Focus group questions

The group assembled here is all first-term sophomores. You were all here and lived on campus for your freshman year. And you all survived it and returned! For this discussion, I want you to think back on your freshman year – remember what it felt like, how you reacted, what mattered to you.

Opening question (students have nameplates; no need to introduce by name)

Let's start by talking just a little about who you know here – do you know some of the people here? All of them? And then talk a little bit about what kind of computer you have, and the ways that you use it (typing papers, searching the web, emailing friends, IM, etc.). Then – as a group – we'll identify on the flip chart which uses are the most important to you.

Transition

Can you give me a sense of how much you use the computer to communicate with on campus friends and with off campus friends?

Can you describe a bit about how involved you were in high school activities -- how many and what kind -- and how involved you now are in college activities. Do you see a difference in your amount of involvement?

For those of you who felt there was a difference, what do you think are the 1-2 primary reasons that your college involvement is different than high school? What are you doing more or less than you were?

What was the biggest obstacle (which you experienced or which you witnessed) for students in joining and feeling a part of the campus community?

Some studies have shown that males and females use the computer differently. Since this is a group of [women/men], what can you tell me about differences you've seen in the ways men & women use the computer? (I'm intentionally NOT saying "to communicate" here because females have been shown to communicate more and males to play games more. I don't want to narrow the question by naming a category of use.]

Key questions

Now can you talk about how close you feel to your friends off campus and how close you feel to your friends on campus. You don't need to explain the level of *personal* relationships, but give an idea of how connected you are on campus and off campus to friends.

How does computer communication fit into this? Does email keep you connected?

Would you classify yourself as a "joiner," a "mid-level joiner" or a "non-joiner" in relation to joining committees, groups, and events on campus? Does communication with off-campus friends make you more or less likely to join?

When you spend time using email, what are you *not* doing. In other words, what would you be doing if you didn't use the computer to communicate?

When you communicate with off-campus friends, how much help are they in dealing with problems you experience on campus? Do you feel like they understand? Do they help you or do you feel like they pull you toward what **they** are doing?

Ending questions

What should the college understand about life as a freshman (first year student) and the ways that computer communication impacts that experience?

How might the college structure that environment to make it better?

Would you recommend that any changes be made in ways we help students connect to each other and to the campus?

Summary questions

[review for 2-3 minutes the information students have shared.]

Did I "get it" – does this summary correctly describe what was said?

Does this adequate capture the conversation?

Final question

Is there anything I've left out, or anything that seems important to add?

We will have one more follow up meeting, to deal with the "bigger issues" that arose from both focus group sessions. Developing this understanding is really important to students coming in and to the college. How many of you might be interested in participating in one more discussion? (I'll feed you again!) I appreciate your time, and if you care to share any additional thoughts, please feel free to call me or to email me with them.

Appendix B

Fifth Focus Group Session – Survey Questions

Name _____

Yes – No 1. Does email allow you to *express ideas* to a professor that you would not have expressed in class?

Yes – No 2. Do you use the Internet *more than the library* for information searching?

Yes – No 3. Are you *required to use the Internet* to contact other students in at least some of your classes?

Yes – No 4. Do you subscribe to one or more *mailing lists* to carry on discussions about topics *covered in classes*?

Yes – No 5. Do you use email to *discuss or find out a grade* from an instructor?

Yes – No 6. If you do email a professor, do you use email to *report absences*?

Yes – No 7. Do your *professors email you* to stay in touch with you?

Yes – No 8. Do *you* use email to *keep in touch with professors*?

Yes – No 9. Are you *required to use email* in your classes?

Yes – No 10. Are you more likely to use the *phone* than the Internet to communicate socially?

Yes – No 11. Do you often meet someone online before meeting them face-to-Face on campus?

12. Please rank order your frequency of use of the Internet for the following purposes (1 = most; 5 = least)
    __ communicate socially
    __ engage in work for classes
    __ be entertained
    __ communicate professionally
    __ not sure / don't know

13. Please rank order those with whom you communicate most frequently using the Internet (1 = most; 5 = least)
    __ friends
    __ family
    __ professors
    __ significant other
    __work colleagues

14. Please rank order the Internet tool you use most frequently
    __ email
    __ instant messaging
    __ web boards
    __ chat rooms
    __ news groups

Please circle response:

15. Regarding online information searching, do you:
    a. Use the Internet more than the library?
    b. Use the Internet and the library about the same?
    c. Use the Internet less than the library?
    d. Don't know.

Appendix C

Generational Attributes of Current College Students

(Howe & Strauss, 2002, p. 31)

Special. From precious-baby movies of the mid-'80s to the media glare surrounding the high school Class of 2000, now in college, older generations have inculcated in Millennials the sense that they are, collectively, vital to the nation and to their parents' sense of purpose.

Sheltered. From the surge in child-safety rules and devices to the post-Columbine lockdown of public schools, Millennials are the focus of the most sweepig youth-protection movement in American history.

Confident. With high levels of trust and optimism – and a newly felt connection to parents and the future – Millennial teens are beginning to equate good news for themselves with good news for their county.

Team-oriented. From Barney and soccer to school uniforms and group learning, Millennials are developing strong team instincts and tight peer bonds.

Conventional. Taking pride in their improving behavior and quite comfortable with their parents' values, Millennials provide a modern twist to the traditional belief that social rules and standards can make life easier.

Pressured. Pushed to study hard, avoid personal risks, and take full advantage of the collecive opportunities adults are offering them, Millennials feel a "trophy kid" pressure to excel.

Achieving. With accountability and higher school standards rising to the very top of America's political agenda, Millennials are on track to become the smartest, best-educated generation in U.S. history.

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