Instant Messaging Usage and Academic and Social Integration

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Abstract

Research suggests that college students persist in college when they feel connected to something or someone at their institution. These connections are often established through academic and social engagement. Tinto (1987) described these concepts as academic integration and social integration. Much research has been done regarding the importance of academic and social integration. Some have looked at technology's impact on the ways in which students achieve social and academic integration. However, there has been little research regarding how the current student population uses Instant Messaging to supplement traditional behaviors associated with academic and social engagement. The present study was designed to address these gaps in the present literature on social and academic integration.

The purpose of this study was to examine how college students use Instant Messenger (IM). Specifically, the present study explored if college students use IM to supplement traditional behaviors associated with academic and social integration. Data were collected from emailed IM conversations, logsheets submitted by the participants, and answers to IM survey questions. The results of the analysis of these data were compared to Gatz's (1998) lists of traditional behaviors associated with academic and social integration.

Results seem to suggest that college students use Instant Messaging for primarily social purposes. When students engage socially through IM, it is most often used to connect or stay connected with friends. Interestingly, the majority of the friends college

students are Instant Messaging are fellow students from their home institution. When students do use IM for academic purposes, it is most often used to set up project meeting times or ask questions about a class.

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CHAPTER ONE
Introduction

Student persistence in college is an issue often researched in higher education. These studies often reveal the importance of academic achievement and social involvement. Adequate levels of social interaction and academic achievement can have positive effects on a student's likelihood to graduate. (Astin, 1978, Evans, Forney, & Guido-DiBrito, 1998; Pascarella & Terenzini, 1991, Tinto 1987).

Student affairs professionals aim to enhance the social and academic richness of college students' lives. These professionals often focus on providing college students with a holistic college experience (Whitt, 1997). A holistic experience includes a well-rounded involvement in the social and academic aspects of college life. Student affairs administrators have found that students are more likely to persist when they feel a connection to someone or something amidst their holistic college experience (Pascarella & Terenzini, 1991, Tinto 1987).

Tinto (1987) described these connections as "academic integration" and "social integration." Academic integration refers to the behaviors that students engage in academically. Such behaviors include faculty interactions, participating in academic activities, forming study groups, attending class, using the library, and the like. Social integration is defined as behaviors related to social engagement. Examples of social engagement are participation in extra-curricular activities, interacting in the dining hall, and making friends.

Tinto (1987) stated, "persistence in college requires individuals to adjust both socially and intellectually" (p. 47). This suggests that students who do not develop behaviors described as social and academic integration are less likely to persist in college.

Chickering, a notable student development theorist, created a theory that also takes into account the development of interpersonal and intellectual aspects among young adults. Chickering's theory proposed that students move through seven vectors at different rates. These vectors then build on each other to lead to a greater sense of integration (Evans, Forney, & Guido-Dibrito, 1998).

There are two vectors in Chickering's theory that closely relate to social and academic integration. The first is called Developing Competence. In this vector, a student is said to develop competence in his or her physical, intellectual, and interpersonal capacities. Intellectual Competence, in particular, is described as the acquisition of knowledge and increased skill in critical thinking and reasoning abilities. Interpersonal Competence is defined as skills related to communication, working with others, and leadership. The second vector is called Developing Mature Interpersonal Relationships. In this vector a student's capacity to maintain significant relationships with partners and/or friends develops (Evans, Forney, & Guido-Dibrito, 1998).

College students can vary when it comes to their adjustment to college. This is also true as they achieve development related to social and academic integration. College experiences will differ for individual students based upon their personality, coping skills, and past education and social experiences (Tinto, 1987). Pascarella and Terenzini (1991) characterized this adjustment as college culture shock. They described college culture shock as encounters with new teachers and friends with various values and beliefs, new freedoms and opportunities, and new academic and social demands.

For that reason, college culture shock affects students in different ways. For some, college is a place that is not very intimidating. Instead, it is a place where newly acquired knowledge and friends are welcomed. For others, college is a place that is far more

daunting. Going to college means being away from familiar surroundings for the first time. These individuals may experience higher stress because college is as much a social adjustment as it is an academic adjustment. Therefore, it is important that educational communities commit to providing an environment that makes students feel like they are connected to something or someone at their institution (Tinto, 1987).

College administrators and staff members can provide communities that promote traditional behaviors associated with academic integration through facilitation of student involvement in academic work and experience. Pascarella and Terenzini (1991) found that greater involvement in these activities leads to higher levels of knowledge acquisition and cognitive development in the student. Likewise, Pascarella and Terenzini (1991) suggested that success in academic achievement should not solely be placed on the importance of grades. Instead college administrators should also focus on student academic success as it relates to personal motivation, attitudes, and work habits. Such accommodations could provide students with a greater feeling of connection to their institution.

Academic integration for students also occurs during social interactions with faculty. These interactions have been proven to strengthen bonds between students and their institution (Pascarella & Terenzini, 1991). Frequent contact with faculty has proven to have a significant impact on a student's persistence through college (Tinto 1987). Regular interactions with faculty have often influenced students to pursue postgraduate aspirations (Pascarella & Terenzini, 1991). Tinto (1987) noted that student and faculty contact is especially important when the interactions happen outside the classroom.

Administrators and college staff members can also promote connection to their institutions by providing students with opportunities to socialize and interact. Social

involvement with faculty, peers, and friends has been found to have a positive effect on persistence and educational attainment. Students who persist to graduation reported that having someone with whom they had a significant relationship made college very satisfying. Similarly, social integration through extra-curricular involvement has positive effects on persisting to graduation. Therefore, colleges with opportunities for extracurricular engagement expose students to social networks that promote achievement, greater interpersonal skills, and self-confidence (Pascarella & Terenzini, 1991).

Researchers have suggested that given the opportunity to achieve, social and academic integration increases the likelihood that college students will persist through college (Niles, Sowa, & Laden, 1994; Mohamadi, Lee, & Shaffer, 1996; Pascarella & Terenzini, 1991; Tinto, 1987). In all cases the research explored behaviors of academic and social integration in a face-to-face context. Research that explores behaviors in which students engage when technology is used to achieve social and academic integration is not nearly as extensive (Gatz, 1998; Kiesler & Sproull, 1987; Zagorsky, 1997).

Technology has brought about a lot of reform to the everyday functions of higher education. Faculty members correspond with students through technology to discuss academic matters. Faculty members also use technology to conduct online classes. Thus, online courses force notions of the traditional classroom to take on new meaning. (Gatz, 1998; Kiesler & Sproull, 1987; Van Dusen, 1997; Wilson, 1996; Zagorsky 1997).

Administrators employ technology to advise students, disperse information through listserves, and update students about administrative affairs. Students use technology for research, correspondence with faculty, and to keep in touch with friends and family. Greater interest in technology, and email in particular, could be attributed to the inability of students, faculty, and administrators to meet due their increasingly busy

lives (Gatz, 1998; Kiesler & Sproull, 1987; Van Dusen, 1997; Wilson, 1996; Zagorsky 1997).

Email had a major effect on behaviors associated with achieving academic and social integration. Students receive email accounts to communicate with others and their instructors (Wilson, 1996). Gatz (1998) noted that using email resulted in positive effects on faculty and student communication. For example, using email initiated discussions about class outside of the lecture because students felt safer in asking questions via email.

One form of technology that could be explored in relationship to achieving social and academic integration is Instant Messaging (IM). IM is a relatively new technology found on many college campuses that has changed the ways in which students communicate. To date, research on IM consists of examining its basic functions and possible educational uses (Branzburg, 2003; Goldsborogh, 2001). However, research about IM's affects on both social and academic integration and its impact on the people who use it is limited. An extensive search of the literature revealed no studies on the outcomes associated with student use of Instant Messaging to supplement traditional academic and social behaviors. The present study is designed to explore these gaps in the existing literature, and to recreate Gatz's (1998) study by examining the reasons students use IM as well as if this form of technology is being used to achieve academic and social integration.

Purpose of the Study

The purpose of this study was to examine how college students use Instant Messenger (IM) in general. Specifically, I wanted to explore if college students use IM to supplement traditional behaviors associated with academic and social integration.

Students' IM conversations were examined to see if they can be linked to traditional behaviors that help students socialize and achieve academically.

The data consisted of emailed IM conversations; log sheets that tracked the time spent on IM, the relationship between participants and sender/receivers of the IM conversation, content of the conversation; and answers to IM survey questions. The results of the analysis of these data were compared to Gatz's (1998) lists of traditional behaviors associated with academic and social integration (Appendix A). These comparative lists were developed through an analysis of items on three reliable and valid instruments used to measure academic and social integration. Those three instruments were the Student Developmental Task and Lifestyle Inventory (SDTLI) (Winston, Miller, & Prince, 1987), the Student Opinion Survey (SOS) (American College Testing Program, 1990), and the College Student Experiences Questionnaire (CSEQ) (Pace; 1979, 1990). Gatz assigned items found on each instrument into themes that reflected traditional behaviors associated with academic and social integration. After each behavior was grouped into a theme, it received a code number that identified that academic or social integration theme, the instrument it came from, and the item number from which it appears on the instrument. For example, under the social integration theme "Miscellaneous Social Activities", the behavior listed as "Voted in a student election" is coded as item IC83 found on Gatz' (1998) comparative list of academic and social behaviors. Therefore "Voted in a student election" can be found under "Category I" on Gatz' themed list as well as item number 83 on the CSEQ (Pace; 1979, 1990).

The present study was designed to examine the following research questions:

1. How do college students use IM?

2. Do college students use IM to supplement traditional behaviors associated with social integration?

3. Do college students use IM to supplement traditional behaviors associated with academic integration?

Significance of the Study

The present study has significance for both practice and research. In terms of practice, results from this study could provide student affairs professionals with new and different ways to program about the uses of IM. For example, a program about the pros and cons of IM could be designed to inform students, faculty, and administrators about the impact IM could have on the college environment. Student affairs professionals could also explore the ways IM might be used in social and out-of-classroom activities.

Faculty members might find that the results from this study help them explore new and unconventional ways to conduct classroom discussions, lectures, and the like. Faculty might also explore new approaches to advising and providing help on upcoming tests and quizzes. Lastly, the present study might inform faculty on how to conduct intra- and interdepartmental communication with students through Instant Messenger.

Administrators might also use the results for the same reasons suggested for faculty in terms of communication with colleagues. More importantly, administrators could use such results to consider establishing policies that regulate the usage and accessibility to IM. For example, the study's outcomes could influence the development of policies about cyber stalking or hate crimes via technology. This data might also suggest that policing IM activity in regards to how much and how often students use the technology is necessary at a postsecondary institution.

The present study also had significance for future research. Future studies might want to examine IM usage by demographics such as gender, race, and age. Such research might reveal the various impacts IM has on different groups of students.

Student affairs professionals might wish to explore the relationship the social aspects of IM have on involvement in out-of-classroom and extracurricular activities. The results from such a study might lead to changes in the way extracurricular activities are conducted. Such research could also lead to changes in computer access to ensure that students do not spend all of their free time in front of a computer as a means to socialize.

Finally, research might explore the impact IM has on language and writing. Considering the abbreviated writing and special vocabulary often associated with IM, scholars might want to further examine the ramification of such a lexicon on student writing and social skills.

Limitations

Like all research, the present study was not without some limitations. First, the research only examined students from Virginia Tech, a large public institution in the Mid-Atlantic region. Students found on different college campuses might generate different results about IM and its effects on the ways students achieve social and academic integration.

Second, the study consisted of volunteers as participants. Volunteer participants might have differed from non-volunteer participants. The volunteers may be both experienced and long-time users of IM, thus skewing results of the study.

Lastly, the method that was employed to collect the data might skew the results as well. Human error such as forgetting to log every IM conversation, forgetting to email the

IM conversations to the researcher, and providing selective conversations might have greatly influenced the results.

Despite these limitations, previous research has not explored the impact Instant Messaging has on college students' traditional academic and social behaviors. Therefore, this study provided rich information about how students use IM and how IM might be used in place of traditional behaviors associated with academic and social integration.

<center>Organization of the Study</center>

This study is divided into five chapters. The first chapter includes the introduction, purpose, significance, and limitations of the study. The next chapter explores existing literature about academic integration, social integration, and Instant Messenger. Chapter Three provides information about the sample, instrumentation, data collection, and data analysis. The results of the study are summarized in Chapter Four. Chapter Five includes a discussion of these results and implications for future practice and research.

CHAPTER TWO

Literature Review

The present study explored several objectives. First, I examined the instruments often associated with measuring academic and social integration. Next, I explored how students use Instant Messenger (IM). Lastly, these uses were contrasted to Gatz's (1998) lists of traditional behaviors. Gatz (1998) identified these behaviors from valid instruments to explore how students might use email in lieu of behaviors associated with academic and social integration. I planned to apply the same lists to explore whether students use Instant Messaging to supplement behaviors associated with academic and social integration.

The literature review is organized around these objectives. First, three instruments frequently used to measure academic and social integration are described. Next, research that used these instruments to measure student academic and social integration is explored. Attention is then given to the second objective of the study, technology and the Internet. Lastly, a discussion about the technology at the center of the present study, IM, is reviewed.

Academic and Social Integration Instruments

For purposes of this study, Gatz's (1998) list of traditional behaviors was consulted to compare how students use IM to supplement traditional behaviors related to academic and social behavior (Appendix A). Gatz (1998) developed this comparative list after reviewing three valid instruments. The following overview describes each instrument.

The first instrument is known as the Student Developmental Task and Lifestyle Inventory (SDTLI) (Winston, Miller, & Prince, 1987). It measures outcomes related to

career choice, and student emotional, physical, intellectual, and social development. The main purpose of this instrument is to measure the specific behaviors that traditional-aged students (17-23 years old) acquire while in college.

The SDTLI (Winston, Miller, & Prince, 1987) consists of 140 true-false questions. These questions can be divided into the categories of Academic Autonomy, Establishing and Clarifying Purpose, and Developing Mature Interpersonal Relationships. The authors established reliability and validity from data collected from undergraduates at 20 different colleges in North America. Short term test-retest coefficients ranged from.70 to .87. Long term (one year) coefficients ranged from .53 to .80.

The second instrument measures outcomes associated with student intellectual, emotional, and social development. Known as the Student Opinion Survey (SOS) (American College Testing Program, 1990), the instrument also examines involvement in college life and satisfaction with that experience. The purpose of the SOS is to measure traditional-aged students' satisfaction with their college experience and their opinion of their college's environment, services, and programs.

The SOS (American College Testing Program, 1990) includes 42 multiple-choice questions, a rating scale, and checklist items. These are divided into sections about biographical information, satisfaction with the college environment, and frequency of use of college services. Validity was established through pilot tests, literature, and discussion with content experts. Reliability coefficients on test-retests ranged from .90 to .98.

The third instrument is known as The College Student Experiences Questionnaire (CSEQ) (Pace; 1979, 1990). This instrument was designed to measure involvement in college life, satisfaction with the college experience, and social and intellectual

development. The overall purpose for the CSEQ (Pace; 1979, 1990) is to examine how students spend their time while in college.

The CSEQ (Pace; 1979, 1990) consists of 190 Likert-type scale items. These items are organized by biographical information, college environment, estimate of gains, college activities, and opinions about college. Reliability and validity have been set for this instrument after administering it 20,000 times. The reliability coefficient ranges from .79 to .90 for all scales.

Research on Academic and Social Integration

Considering the overview of the instruments measuring academic and social integration, it is important to explore how researchers have used them. First, the overview focuses on the research related to academic integration and second on social integration.

Research on Academic Integration

The SDTLI (Winston, Miller, & Prince, 1987) has been used in several studies regarding academic integration. For example, after the instrument was administered to 173 students at a large university, findings suggested that involvement in academic learning leads to academic success. Being involved and active in the learning process stimulates a stronger interest of succeeding and persisting. (Niles, Sowa, & Laden, 1994; Gatz,1998).

Gatz (1998) noted that researchers used the SOS (American College Testing Program, 1990) to examine factors that contribute to college student persistence. After surveying a single sample of first year students, the researchers found that a positive experience with an academic advisor contributed to persistence.

Mohammadi, Lee, and Schaffer (1996) used the CSEQ (Pace; 1979, 1990) to investigate persistence rates of community college students. They found that these

students had a greater persistence rate when they used academic services. Likewise, Pfnister (1988) found that students who regularly contact faculty about career plans reported a higher degree of enthusiasm about their institution.

Research on Social Integration

The SDTLI (Winston, Miller, & Prince, 1987) was employed in a longitudinal study of students involved in extra-curricular activities. The study revealed that the more involved students are in such activities the more social growth they experience. (Cooper, Healy, & Simpson, 1994). The SDTLI was also administered to survey student employees and student volunteers of student union extra curricular groups. The study found that both student employees and student volunteers expressed greater satisfaction after being involved with the institution (Alperin 1990).

In regards to African- American students, researchers using the SDTLI (Winston, Miller, & Prince, 1987) have found that Black students better adjust at historically Black colleges and universities (HBCUs) as compared to predominantly White schools (PWIs). A lack of group identification and social interactions that are often minimal at PWIs affect how Black students establish interpersonal relationships (Evans, Forney, & Guido-DiBrito, 1998).

Nettles, Theony, and Gosman (1994) used the SOS (American College Testing Program, 1990) to explore the persistence rates of White and African-American students. The results suggested that Black students need greater social integration than their White counterparts. Greater social integration among Black students stemmed from the need for connection and inclusion. Finding a community of students who share the same experiences provided a support system for Black students at predominantly White

institutions. Such social integration behaviors included attending cultural programs, new student orientation, and being involved in residence life.

With respect to social integration researchers have found that students involved in organizations report higher levels of satisfaction with the college experience and a sense of connection to the institution (Astin, 1978). Likewise, researchers using the CSEQ (Pace; 1979, 1990) found that students make substantial progress after meeting different kinds of people when involved with their institution (Pascarella & Terenzini, 1991).

Given this overview of the literature regarding instruments used to measure academic and social integration, I turned to the second objective of the study. I will review literature on technology and the Internet.

Technology in Higher Education

Technology has essentially changed the ways in which the world now communicates. People now have the ability to stay in contact with family, friends, and co-workers in close proximity or across nations (Vicario, Henninger, Austin, & Chambliss, 2002) thanks to the Internet. For higher education in particular, the Internet provides students, faculty, and administration with an easy way to go about daily routines. To this end, cyberspace is both a private and public place where users can argue about politics, fall in love, communicate with other users through a listserve, strategize a meeting, or discuss the finer points of class meeting in one sitting (Jones, 1997). Since the present study was designed to examine one form of technology, I wanted to explore the literature on technology and the Internet.

Use of the Internet in Higher Education

Students who report being academically or socially integrated often spend time communicating with faculty, staff, and other students. Communication has traditionally

taken place both in and out-of-class (Pascarlla & Terenzini, 1991). With the introduction of technology, and more specifically, the Internet, communication is no longer limited to taking place in office meetings, telephone discussions, or lunchrooms.

The Internet was first conceptualized in the late1960s. At that time, the Internet simply linked a few universities and defense labs together to communicate. By the mid 1990s, the Internet averaged 30 to 40 million users (Parks & Floyd, 1996). Now, according to World Internet Usage Statistics News and Population Stats (2007), the internet has grown into a global network that connects more than 1.2 billion people. It is because of this growth that the Internet has become a second culture or community. It has its own language, symbols, and rituals (Wilson 1996). McQuillen (2003) argues that the Internet has essentially become synonymous with pop culture.

When it comes to higher education and the Internet, Wilson (1996) says that higher education can account for most of the popularization of the Internet in the early 1990s. In 1987, computers were used for general purposes of all kinds. These purposes included finding a book in the library and typing a paper. Today's college students, in particular, exhibit a high proficiency for computer usage (Howe & Strauss, 2003). Most students use the computer in ways that are appropriate to the tasks they need to get done. Additionally, their familiarity with computers often lends to positive socialization skills, positive attitudes about the college environment, and a greater desire to learn more at the college level (Kiesler & Sproull, 1987).

According to Frand (2002), students entering college today are more far more comfortable with working on a computer than a notebook. He also speculates that today's college student is more likely to want to receive information from a computer screen than paper media. He claims that for today's college students, the computer, and more

specifically the Internet, is their primary source of information. In fact, Farmer (2005) reported that 50% of people between the ages of 18 and 24 chose the Internet as their preferred media choice.

Researchers also say that having Internet access has become an expectation for today's college students because they have grown up with in a "dot com" culture (Farmer, 2005; Howe & Strauss, 2003). Upon arrival onto many college campuses, students receive an email account and are encouraged to communicate with peers, faculty, and the institution through this medium (Wilson 1996).

This explosion of the Internet has captured the attention of many educators. The Internet is now becoming a regularly used tool in the classroom as well. Oftentimes, the Internet is used to react to readings, participate in discussions, post class announcements, and send questions to the instructor. For these reasons, students spend extensive amounts of time on the Internet to complete class work and do research. On the Internet, a student has the ability to solve a problem, find an answer, and communicate the given answer to other students in class (Wilson 1996).

For instance, Zagorsky (1997) noted that professors have begun to integrate electronic materials and communication in the classroom. He argued that the convenience to engage each other electronically stems from a busier lifestyle that controls the daily routine of students and faculty alike. For example, it is now very common for students to participate in live lectures held on the Internet. In this virtual environment, students experience collaborative learning and problem solving, heterogeneous groups, and a higher order of thinking (Van Dusen, 1997).

While the Internet continues to become more popular in the classroom, Gemmill & Peterson (2006) report that the most common reason college students use the Internet

is to communicate with friends. They claim that three-quarters of college students spend between one to three hours a week socially communication on the Internet. The other one-quarter spend more than three hours a week socializing online.

Studies have examined some of the pros and cons related to college students' high-usage of the Internet. In regards to potential benefits, LaRose, et al. (2001) found that Internet communication increases a students social support network. Researchers have also found that communicating online helps college students safeguard against stressful life circumstances they face in the college environment (Cotten, 2001; Harris Interactive, 2004). Some evidence suggests that these technologies help students at better managing the stresses of college life (Gemmill & Peterson, 2006).

Other studies have reported findings about the negative effects of high Internet usage has on college students' academic achievement. Some studies have found that large amounts of time spent on the Internet interfered with students' grades, sleeping cycles, and class attendance. Spending too much time on the Internet caused disruptions to the students' ability to complete schoolwork as well. As a result, students' academic success decreased and students experienced an increased amount of stress instead (Gemmill & Peterson, 2006).

Instant Messenger (IM) as a Form of Techonolgy

Instant Messenger (IM) is a form of technology that allows people to correspond and communicate in real time. IM affords users with instant gratification because unlike email, one does not have to wait for responses, one can chat right away in real time (Goldsborough, 2001). It is an advanced way for people to stay connected to loved ones and peers. With its increasing popularity, IM has begun to receive more attention from scholars (McQuillen, 2003).

Farmer (2005) details several different findings related to the growing popularity of IM. He reports that 62% of 18-27 year-old Internet users have used Instant Messenger. In another statistic, he notes that more than 50 million Americans use IM. According to Farmer it is also estimated that the number of IMs sent on a daily basis will increase to 46.5 billion by the year 2009. That is a significant growth in number from the 13.9 billion IMs sent daily in 2005.

IM has been popular with younger people since 1988. That year, a Finnish man created Internet Relay Chat (IRC), commonly known as IM today (Goldsborough, 2001). In the beginning it was used primarily by computer science majors who sent messages to each other between terminals while working alone. It provided the students with a support system even when hard at work (Keisler &Sproull 1987). One of the first popular IM services was ICQ (I Seek You). American Online (AOL) can be credited with popularizing IM with its AOL IM (AIM) service. AOL claims more than 100 million people use their AIM service (Cohn, 2002). Other popular services are MSN Messenger and Yahoo Messenger (Branzburg, 2003).

These free services allow real time chats among unlimited number of users. Visually, an IM chat looks much like a playwright's script (Appendix J and K). Each line of an IM begins with the sender's computer nickname, commonly referred to as a screen name (Jones, 1997). Since IM allows users to have live, text-based interactions, it has increasingly become one of the most popular services on the Internet (Branzburg, 2003).

One of the many attractive features to IM includes real live chats. IM also allows participants to come and go as they please. The sender and recipient can be online simultaneously so that the moment one sends a message the other sees it instantly on his or her screen (Johansen, Vallee, & Spangler, 1979).

IM continues to upgrade its capabilities to keep up with the rapid advancements in technology. IM now has the capability to allow people to view one another in real time through web cameras. IM also allows participants to send files (i.e., pictures, song files, papers) instantly. Audio and video files have become popular to send amongst IM users as well. In addition, IM users now have the ability to send and receive IM messages on their to mobile devices (i.e., cell phones and PDAs) when they are signed onto IM but away from their computers (Branzburg, 2003; Farmer, 2005).

Despite its cutting edge technology, Instant Messaging takes away from the aspects of traditional face-to-face conversations. IM tends to be void of all nonverbal communications such as physical contexts, body language, physical appearance, change in tone of voice, and facial expressions. In short, IM conversations lack the visual and audible cues traditional forms of communication frequently present (Jones, 1997; McQuillen 2003).

The written nature of IM also causes a certain sense of impersonality because it is in contrast to traditional ways of communication. For example, during face-to-face interaction or telephone conversations there are more cognitive demands due to the spontaneity and simultaneousness of these communication styles. IM, on the other hand, allows its participants to edit and carefully craft their conversations. As a result, IM discourse can be seen as too planned and well scripted (Wilkins, 1991; McQuillen, 2003).

In light of its criticisms about IM being a written and less personal form of correspondence, some argue that IM is simply a new way to communicate. On IM people are free to experiment with different types of communication and self-representation. Letters, words, and symbols such as emoticons (i.e., ☺ ☹) are used to convey physical contexts. Similarly, tone of voice can be implies through capital letters,

asterisk/parenthetical descriptions, bold face type, and exclamation marks (i.e., *smile*, BOO!) (Rice & Cove, 1987; Parks & Floyd, 1996; Jones, 1997).

Instant Messenger (IM) is one of the primary Internet tools used by college students for interpersonal communication. IM has become a major part of their social lives. Therefore, students have begun to bring this technology with them when they enter college (Howe & Strauss, 2003; Guirdy, 2004; Jones, 2002).

In terms of higher education and Instant Messaging usage, Branzburg (2003) suggests that IM could be used several different ways. He argues that IM could help with test reviews and last minute questions the night before an exam. Students and/or teachers could meet in a private chat for group tutorials and question and answer sessions. IM could also incorporate parents by allowing parents and teachers to discuss a student's progress over the Internet.

Serious attention to the potential applications for IM usage among student affairs professionals is increasing as well. For example, Cohn (2002) suggests that IM could be beneficial for recruiting and admissions initiatives. Farmer (2005) offered some insights about the same idea. He implies that Admissions counselors could benefit greatly by connecting with an entering freshman class. Staying in contact with that population's preferred medium of contact could increase the counselor's chances of encouraging the potential students to attend their respective college or university.

In regards to academic initiatives, Cohn (2002) also proposes that higher education institutions consider using IM for tele-advising and student-faculty consultations. She cites her own success with using IM to connect with students about elements of the class and personal issues preventing academic progress. Other investigations revealed that class work collaborations with fellow students lead to

increased dedication to the major project and higher interactions with fellow classmates (Farmer, 2005; Guidry 2004).

Conclusion

Despite the available research on academic and social integration, technology in higher education, and IM in particular, an extensive review of the literature revealed no research on the usage of IM as it relates to academic and social integration of college students. Academic and social integration have received attention when it comes to out-of class meetings, involvement in student groups, and socializing with faculty and peers, but no research has been conducted on achieving academic and social integration through the use of IM. The present study seeks to address this gap in the existing literature on academic and social integration among college students. Considering the advent of Instant Messaging, and the ever-increasing use of technology among college students, research on this topic is both appropriate and significant.

CHAPTER THREE

Method

The purpose of this study was to examine how college students use Instant Messenger (IM). Specifically, I wanted to explore if college students use IM to supplement traditional behaviors associated with academic and social integration. Students' IM conversations were examined to see if they could be linked to traditional behaviors that help students socialize and achieve academically.

The data consisted of emailed IM conversations; log sheets that track the time spent on IM, the relationship between participants and sender/receivers of the IM conversation, content of the conversation; and answers to IM survey questions. The results of the analysis of these data were compared to Gatz's (1998) lists of traditional behaviors associated with academic and social integration. These comparative lists were developed through an analysis of items on three reliable and valid instruments used to measure academic and social integration. Those three instruments were the Student Developmental Task and Lifestyle Inventory (SDTLI) (Winston, Miller, & Prince, 1987), the Student Opinion Survey (SOS) (American College Testing Program, 1990), and the College Student Experiences Questionnaire (CSEQ) (Pace; 1979, 1990). Gatz assigned items found on each instrument into themes that reflected traditional behaviors associated with academic and social integration. After each behavior was grouped into a theme, it received a code number that identified that academic or social integration theme, the instrument it came from, and the item number from which it appears on the instrument. For example, under the social integration theme "Miscellaneous Social Activities", the behavior listed as "Voted in a student election" is coded as item IC83 found on Gatz' (1998) comparative list of academic and social behaviors. Therefore "Voted in a student

election" can be found under "Category I" on Gatz' themed list as well as item number 83 on the CSEQ (Pace; 1979, 1990).

The present study was designed to examine the following research questions:

1. How do college students use IM?

2. Do college students use IM to supplement traditional behaviors associated with social integration?

3. Do college students use IM to supplement traditional behaviors associated with academic integration?

Considering the nature of this study, two methods for collecting data were selected. The first method included Gatz's (1998) traditional list of behaviors associated with academic and social integration. The instruments used to create Gatz's (1998) list have been used in previous studies on academic and social integration. The instruments were examined to develop a framework for data analysis. The instruments assisted Gatz (1998) in creating a comparative list of themed traditional behaviors regularly associated with the academic and social integration of college students. The second data set to be selected in the study was Instant Messages (IMs), an IM log sheet, and responses to an emailed survey.

Selection of the Comparative List of Academic and Social Integration Themes

For purposes of this study, Gatz's (1998) categorical list of traditional behaviors associated with academic and social integration were employed to examine how students use IM (Appendix A). Gatz (1998) developed this list of behaviors from valid and reliable instruments that measure academic and social integration. She used the three instruments to look at email usage and its affects on academic and social integration. After consulting with three student affairs professionals, it was agreed that using the same

list of themes to study a new technology's affects on social and academic integration was timely and appropriate.

Participant Selection

The population to be examined in this study was undergraduate students at a large, public, research institution. There were more than 8,900 students living on campus at the time of this study. The sample for this study included traditional-aged (17-23 year-old) students. All participants residing on campus had access to the Internet.

Sample Recruitment

Volunteers were solicited through flyers that were posted in residence halls on campus (Appendix B). Flyers were posted in all residence halls because these facilities were all equipped with Internet access. This approach was taken because all of the residence halls had the same type of access to the Internet.

Sample Selection

This study required participants who use IM through an Ethernet connection. Students were required to consistently use IM on a single computer so that they were able to keep a complete log of their IM conversations on a single machine. This meant that participants had to have their own computers.

The recruiting flyer asked students to contact me by phone if they were interested in participating in the study. Upon expressing their interest, the students were screened to see if they met the requirements for the study (Appendix C). The series of questions included the necessary requirements that needed to be met to participate in the study (i.e., do they live on campus, do they use IM). I also verified whether the students lived on campus and were enrolled at the institution in the spring of 2004.

Further questions were asked of the potential participants to ensure that they had their own computer or were able to access their IM service throughout the data collection period (April-May). I verified that potential participants were able to log their IM conversations during the data collection period and that they agreed to answer relevant survey questions about their IM usage when prompted.

If the potential participants answer "No" to any of the screening questions, they were informed that they did not meet the qualifications for the study. I thanked them, but did not select them for the study. If callers met the qualifications for participation in the study and were interested in participating, they were selected to participate. The selection process was repeated until there were 15 participants. This sample size was chosen because I believed that the sample size would yield a significant amount of data that was manageable. Furthermore, the students selected for participation were asked to select the times for an informational meeting. Attending the informational meeting was a requirement for participation.

Data Collection Procedure

Two separate methods for data collection procedures were conducted for the present study. First, I used Gatz's (1998) list of themed traditional behaviors associated with academic and social integration to examine how students use IM to achieve socially and academically. This categorical list was developed by analyzing items on three valid and reliable instruments (Appendix A). Second, participants collected data on the Instant Messaging use.

Participant Data Collection

Participant data were collected in four stages: Initial Preparations and Participant Solicitation and Screening; Informal Meetings; Collection of Data by Participants, and the Compilation of Participant Data.

Initial Preparations and Participant Solicitation and Screening

First, I made initial preparations and solicited participants. Approval to conduct the study was obtained from the Institutional Review Board for Research Involving Human Subjects (IRB) at the institution being studied (Appendix L). Once participants were selected and IRB approval was secured, I was ready to conduct the informational meetings.

Informational Meetings

After participants agreed to attend informational meetings during their initial screening, reminders were sent to all participants through email with the location, date, and time of the meeting.

Meetings included a review of requirements and responsibilities of the participants. These responsibilities included: being available to collect data during the collection period, agreeing to send example IM messages when prompted, agreeing to keep a log of all IM conversations during the collection period, and answering email survey questions sent to them by me (Appendix D).

Participants were required to provide two sets of data to me, both relating to the IM conversations they had during the data collection period. One set of data was a log of information regarding the nature of their relationship with other individuals involved in the given IM conversation. They also logged details about the nature of the each conversation. These data allowed me to categorize how students were using IM and

examine whether IM is used to supplement the traditional behaviors associated with academic and social integration. The second element was an emailed submission of a social and academic IM conversation experienced during the day when they are prompted to send them. The purpose of the emailed IM conversations was two fold. First, I planned to use selected conversations to serve as illustrations of IM conversations for the final preparation of the study. Second, I was able to use the example IM conversation to verify that the participants were logging their IM activity properly. Instructions for sending sample IM conversations were described to the participants (Appendix D).

I provided directions for maintaining the log sheets the participants were required to keep. Additional log sheets were available upon requests (Appendix E). Procedures for identifying the relationship of fellow IM conservationists were discussed. A list of possible categories for IM conversation participants was distributed. These categories included, friends, family, faculty, and acquaintance contacts. Students were encouraged to expand the list if necessary and to be as detailed as possible (Appendix F).

I instructed the participants on how to describe the general content of the IM conversation. For example, if one conversation was about school, relationships, and weekly plans, the corresponding entry should reflect those topics.

The participants were also required to answer a series of emailed survey questions that provided me with further data about the research questions posed in the study. The survey questions were relevant to the study and sent out periodically during the data collection period. Steps for responding to the survey were described. I explained that the purpose of the emailed survey questions were to gather supportive information about further attitudes related IM use, and how they perceived its role in their lives (see Appendix G).

A sign reminding the participants about their involvement was distributed to all participants. The sign was designed so that the students could keep it near their computer screen to serve as a visual reminder to log IM conversations for the duration of the study (see Appendix H).

The incentive for participates in the study was a raffle for a $100 prize. At the completion of the data collection period, participants' names were entered into a raffle. I randomly picked a name and awarded the winner with the cash prize after all relevant documentation was submitted. If a participant did not meet all of the data collection criteria explained in the informational meetings, they were considered ineligible to enter the $100 raffle. For example, failure to answer all of the emailed survey questions would disqualify a participant from the raffle. To plan for attrition, I planned to accept as many as 25 participants to ensure that the participation numbers stayed within the desired amount.

Each participant was asked to sign an agreement to complete the study, log IM conversations, and answer periodic survey questions sent to them by the researcher. If any requirements were not completed, participants agreed to accept their ineligibility to win the $100 raffle. Participants also signed an informed consent form before leaving the meeting (Appendix I).

Collection of Data by Participants

Data were collected for a week between April and May 2004. During the week, participants logged their Instant Messenger use and sent the example of an academic and social IM conversation to me when prompted. The participants also answered emailed survey questions during the collection period. The survey questions were designed to gather further information about how students use IM in their lives.

Compilation of Participant Data

At the end of the data collection period, a final email was sent to the participants notifying them about the procedures for submitting their collected data. Participants were asked to bring all printouts and completed logs to a central location. When the participants submitted their data, they were checked for accuracy and legibility. After confirming accuracy and total completion of their participation, I placed the participant's name in the $100 raffle.

Data Analysis Procedures

Two sources of data were analyzed. The first source of data consisted of three instruments used to generate a themed lists of traditional behaviors associated with academic and social integration. These lists were used to categorize participant behaviors when using Instant Messenger. The second set of data consisted of Instant Messenger usage logs, IM printouts, and answers to the emailed survey questions.

Analysis of Comparative List Data

A previous study analyzed three valid and reliable instruments to identify sections that relate to behaviors associated with academic integration. These instruments were the STDLI (Winston, Miller, & Prince, 1987), the SOS (American College Testing Program, 1990), and the CSEQ (Pace; 1979, 1990). All three were analyzed to identify sections that relate to social integration. These themed lists of behaviors served as a method for categorization to examine whether students use IM to supplement traditional behaviors related to academic and social integration (Gatz, 1998).

Academic Integration

All three instruments were used to indentify behaviors related to academic integration. Repeated words, phrases, and ideas, in the items listed on the instruments were examined. These words, phrases, and ideas were then assigned a theme.

For example, the SDTLI (Winston, Miller, & Prince, 1987) contained several items identified as containing descriptions of academic integration behaviors. Some of the items listed in this section are: "I have a mature working relationship with one or more members of the academic community"; "I have formed a personal relationship with one or more professors"; "Within the past three months I have had a serious discussion with a faculty member concerning something of importance to me." These items were assigned to the theme "Faculty Contact."

Social Integration

The same three reliable instruments were also used to identify sections related to behaviors associated with social integration. Repeated words, phrases, and ideas in the items listed were examined on each instrument. These words, phrases, and ideas were then assigned to a theme (Gatz, 1998).

For example, the SDTLI (Winston, Miller, & Prince, 1987) contains several descriptions of social integration. Some of the items listed in this section are: "I have attended a play or classical music concert within the past year when not required for a class"; "within the past 12 months I have visited a museum or an art exhibit when not required for a class"; "during the past year I have participated in cultural activities on a regular basis." These items were assigned to the theme "Multicultural, Fine Arts Activities, and Speakers." Appendix A provides details about the Gatz's (1998) comparative list of traditional behaviors associated with academic and social integration.

The codes found on the list identify both the instrument from which the items came from as well as number of that specific item on its respective instrument.

Analysis of Participant Data

The IM logs were analyzed for information regarding how the participants use IM in their collegiate lives. All logged usage were assigned to a category that describes the relationship the participant had with the other individual in the IM conversation. For example, if the IM conversation took place between the participant and a family member, that particular entry was assigned to a "Family" category. The same conversation was then be assigned to a subcategory. For instance, within the category of Family, there were sub-categories such as: mom, dad, brother, sister, cousin, etc.

Next, the IM usage logs were examined for information regarding the general content of each IM conversation. I looked for keywords in the participants' descriptions of the conversation. The keywords were compared to the list of behaviors generated from three nationally used instruments related to academic and social integration. These keywords were used to see how they match the themes on the list of traditional behaviors. For example, if a participant logged that one IM conversation included a discussion about homework, working out, and meeting for breakfast, I matched those 3 conversation topics with the appropriate theme on the list of traditional academic and social behaviors. Once all keywords in each logged IM conversation were assigned, I made deductions from the compiled data about how students used IM to supplement traditional behaviors associated with academic and social integration. This was achieved by examining the number of times keywords were assigned to matching categories.

The randomly emailed examples of academic and social IM conversations sent to me served several functions. The first function was for the study to have examples of how

IM conversations happen. The second reason for the emailed conversations was to serve as illustrations of how IM conversations look as well as how the students talk in conversations. Lastly, I decided upon soliciting examples of IM conversations to establish trustworthiness of the participants' logged IM conversations.

Finally, I used the emailed survey questions to further explore how the participants felt they used IM to achieve academic and social integration. The survey questions asked informants to discuss their perceptions of IM. For example, a question asked participants to describe the advantages of IM usage in their college life. Keywords found in those responses were assigned to matching categories located on the list of traditional behaviors associated with academic and social integration. I employed the same methods to analyze the IM log sheets, by looking for keywords in the responses an then assigned them to categories that matched or did not match the traditional behaviors list generated from the three instruments.

Trustworthiness and Authenticity

Authenticity in the present study was enhanced in two ways. First, the IM logs of IM conversations were a primary source of data. They allowed little violation of the participants' privacy; therefore, the participants had very little reason to manipulate the records. Second, the emailed survey questions were taken from a previous study about email and its affects on academic and social integration (Gatz, 1998). In that study, a panel of experts agreed the questions would elicit data relevant to the study and research questions.

Trustworthiness was achieved though the triangulation of the data. The data were extracted from three sources. In this study, data were college through logs, an email

survey, and sample IM messages. This triangulation enhanced the trustworthiness of the study.

CHAPTER FOUR

Results

The current study's research questions asked, how were students using Instant Messaging (IM), were students supplementing traditional social behaviors with IM, and were students supplementing traditional academic behaviors with IM. To explore how students use IM for academic and social purposes, participants kept log sheets, submitted answers to emailed survey questions, and provided me with examples of IM conversations. The log sheets were kept for a week. During the week, participants recorded the IM conversations' duration, the conversations' content(s) of each IM conversation they had, and the relationship of the persons with which they conversed. Over the week, participants also answered five survey questions that helped the researcher analyze and further substantiate the place IM has in the academic and social lives of the students. Lastly, the IM conversation examples were used to provide the study with an illustration of how IM conversations look and how students talk in these interactions.

The results from the data collection are presented in this chapter. First, a profile about the study's participants will be described. Second, the results of the data collected from the IM logsheets are provided. The detailed analysis is broken down into the participants' general activity, the relationships of the persons the participants Instant Messaged, content analysis of the IMs and their academic or social purposes, and an examination of the responses to the emailed survey questions about IM usage.

Participants

Participants were solicited through the methods explained in Chapter Three. Fifteen traditional-aged students took part in the study. This group included eight

females and seven males. Racially the group was fairly well mixed. There were six White participants, six Black participants, two Middle Eastern participants, and one Hispanic participant. The students also ranged in academic classifications as well. The participants included nine sophomores, five juniors, and one senior.

All 15 participants attended an informational meeting held before the data collection period. All participants collected data during the determined week as requested. Once all the data were collected the data analysis began. All IM conversations were counted and the content of the conversations were categorized based on their academic and social key word matches using the instrument developed by Gatz (1998). Finally, participant answers to the emailed survey questions were analyzed in the same way as the log sheets.

Log Sheet Analysis

The 15 participants recorded a total of 276 IM conversations during the week of data collection. The participants' usage of IM varied during the course of the week. See Table 1 for a detailed outline of the daily IM usage. Each day of collection had at least 26 IM conversations. The day with the most IMs was Wednesday (64 conversations). Monday and Friday followed closely with 42 IM conversations on those days respectively. The most active time for IM conversations during data collection was 8pm-10pm. During that time, the participants recorded 116 IMs. The time with the least amount of IM conversations was 10am-12pm with 38 IMs.

During the examination of daily usage, I discovered that some days and times had little to no IM activity at all. For example, during 10am-12pm on Monday, participants recorded no IM conversations. Likewise, Tuesday from 10am-12pm only had 2 IM conversations according to the log sheets. Overall, Sunday had the least amount of IM

conversations recorded with 26 IMs. Table 1 provides the summary of the participants' IM conversation numbers based on the logsheet's day and time breakdown.

I also examined the amount of time (in hours) the participants spent on IM. In total, the 15 participants spent 160 hours and 52 minutes using IM. That translated to about 6.6 days, or almost a whole week of non-stop Instant Messaging. The length of time spent on IM varied greatly. Some conversations were only a minute. Other conversations were recorded as being as long as 5.5 hours. Table 2 summarizes the number of hours per day the participants spent on IM.

Analysis of Relationships Between Participants and IM Conversation Correspondents

All participants were asked to log the relationships of their IM correspondents during the data collection period. During the informational meeting, instructions included suggestions of how to categorize the relationship of any person the participants Instant Messaged. Overall, the relationships with the participants and their IM correspondents were grouped into 3 categories: "Family", "Friends", and "Acquaintances." Of the 276 total IM conversations recorded, 8 conversations (<1%) were assigned to the "Family" category. The "Friends" category accounted for 183 conversations (66%), while 85 conversations (30%) were assigned to the "Acquaintance" category.

The most IM conversations found in the "Family" category happened with the participants' mothers (3 conversations). Of the 183 total messages assigned to the "Friends" category, 108 (39%) conversations were with Virginia Tech friends. In the "Acquaintance" category, 30 (11%) of the 85 messages took place with classmates. Table 3 provides a detailed explanation of the number of IM conversations assigned to correspondence category and subcategory.

Table 1

Number of Instant Message (IM) Conversations Correlating by Day and Time

	Number of IM Conversations by Day							
Number of IM Conversations By Time	Sun	Mon	Tues	Weds	Thurs	Fri	Sat	Total
12am-2am	3	10	9	20	7	4	3	56
10am-12pm	3	0	2	9	4	11	9	38
3pm-5pm	6	8	6	11	15	13	7	66
8pm- 10pm	14	24	15	24	12	14	13	116
Subtotal	26	42	32	64	38	42	32	276

Table 2

Number of Hours Participants Spent on Instant Messenger by Day

Days	Hours
Sunday	9.08
Monday	27.90
Tuesday	19.76
Wednesday	45.90
Thursday	33.20
Friday	15.98
Saturday	8.70
Total	160.52

Table 3

Participant Relationship to Instant Message (IM) Conversation Correspondents

Relationship Type	IM Conversations n(%)
Family	
Mom	3 (<1)
Sister	2 (<1)
Brother	1 (<1)
Cousin	2 (<1)
Subtotal	8 (<1)
Friends	
Virginia Tech Friends	108 (39)
Friends at Another College	49 (17)
Best friend	26 (10)
Subtotal	183 (66)
Acquaintances	
Roommate	7 (<1)
Classmate	30 (11)
Significant Other	28 (10)
Co-Worker	3 (<1)
Fellow Executive Officer	17 (<1)
Subtotal	85 (30)
Total Number of Instant Message Conversations	276

Analysis of Academic and Social Behaviors Exhibited in IM Conversations Topics

Analyses focusing on the content of the IM conversations were based on the recorded descriptions provided by the participants on log sheets. I instructed participants to provide me with the general content of the IM conversations they had during the period of data collection. All log sheets were checked to ensure that all logged IM conversations contained a corresponding description about the content. All recorded conversations had a matching content correspondence.

The Instant Messages content were then appropriately assigned to the following five categories: "Academic Match", "Academic Addition", "Social Match", "Social Addition", or "No Match." First, keywords were identified in the log sheets. Then, the key words were compared with the list of behaviors developed by Gatz (1998). If the key words matched a traditional academic behavior found on the list, the content was placed in the "Academic Match" category. Contents that did not match the traditional behaviors list but were of an academic nature and could be considered as having an academic purpose in the participants' life was assigned to the "Academic Addition" category. If the key words matched a traditional social behavior, the message was assigned to the "Social Match" category. If there were keywords that did not match Gatz' (1998) list of traditional social behaviors but could add to the social integration of the participant were placed in the "Social Addition" category. Messages that were not able to receive an assignment to the list of traditional academic or social behaviors were placed in the "No Match" Category.

Although there were a total of 276 conversations recorded, IM conversations could contain multiple topics. Therefore, the actual number of different topics of content in each IM conversation recorded totaled to 322. Of the 322 topics analyzed, 47 topics

(14.6%) were assigned to the "Academic Match" category and 3 topics (0.9%) were

assigned to the "Academic Addition" category. Another 244 topics (75.8%) were

assigned to the "Social Match" category and the remaining 5 (1.5%) topics were assigned

to the "Social Addition" category. The other 31 (9%) messages were designated to the

"No Match" category. Table 4 exhibits the academic and social matches found in the IM

conversation topics recorded by the participants.

Academic Behaviors Exhibited in IM Conversation Topics

IM Conversation topics were placed in either the "Academic Match" or

"Academic Addition" category if I considered them to be academic in nature. Topics

were then matched with one of the traditional academic behaviors developed by Gatz

(1998). While Gatz' (1998) list included 5 subcategories of academic integration on her

instrument, only two subcategories received academic matches. Those categories were

"Furthering Academic Experience" and "Tutoring and Other Success Strategies."

For example, topics recorded as "project talk", "project details", "project info",

and "making plans to meet for project" were designated to the subcategory "Furthering

Academic Experience." Another example of a message assigned to "Furthering

Academic Experience" was "planned to go to Home Depot for a project." The remaining

"Academic Match" conversation topics were assigned to the "Tutoring and Other Success

Strategies" subcategory. Some example topics designated for this subcategory were

"discussing homework", "checked homework answers", "questions about class

assignment", and "discussed OCHEM lab."

Table 4

Academic and Social Behaviors Exhibited in Instant Message (IM) Conversation Topics

Behavior	IM Conversation Topics n (%)
Academic Match	47 (14.6)
Academic Addition	3 (.9)
Social Match	244 (75.8)
Social Addition	5 (1.5)
No Match	31 (9)
Total	322

The topics "exam review", "exam stuff", and "setting up time to work on a lab" were also placed in the "Tutoring and Other Success Strategies" subcategory. Table 5 details the number of topics designated in the "Academic Match" by subcategory. Appendix J provides examples of emailed sample conversations considered academic in nature.

Social Behaviors Exhibited in IM Conversation Topics

IM conversation topics I considered a match with items on Gatz' (1998) traditional list of social behaviors were assigned to either the "Social Match" or "Social Addition" categories. Eight of the ten subcategories of social integration behaviors were used in matching the IM conversation topics. Those subcategories were "Student Organization Involvement", "Making and Interacting with Friends", "Interaction in Residence Halls & Dining Commons", "Recreational Activities and Exercise", "Self-help Activities", "Career Exploration", "Multicultural, Fine Arts Activities, and Speaker", and "Miscellaneous Social Activities."

An example of an IM conversation topic assigned to the "Student Organization Involvement" subcategory was "discussed meeting topics." Another example of a topic designated in this subcategory was "talked about S.I.A. elections."

Some of the recorded topics assigned to the subcategory "Making and Interacting with Friends" were "talked about school, life, and love", "talked about the day", "talked about random things with friend", "saying what's up", and "questions about Black stereotypes." Other examples of topics placed in this subcategory were "figured out plans for the night", "discussed a recent phone call", "caught up with a friend I haven't seen in a while", and "talked about a birthday party coming up this weekend."

Table 5

Academic Integration Subthemes Matched with Instant Message (IM) Conversation Topics

Subtheme	Academic IM Conversation Topic n (%)
Faculty Contact	0 (0)
Furthering Academic Experience	7 (14.9)
Advising	0 (0)
Library Research	0 (0)
Tutoring & Other Success Strategies	40 (85.1)
Total	47

An example of an IM conversation topic assigned to the "Student Organization Involvement" subcategory was "discussed meeting topics." Another example of a topic designated in this subcategory was "talked about S.I.A. elections."

Some of the recorded topics assigned to the subcategory "Making and Interacting with Friends" were "talked about school, life, and love", "talked about the day", "talked about random things with friend", "saying what's up", and "questions about black stereotypes." Other examples of topics placed in this subcategory were "figured out plans for the night", "discussed a recent phone call", "caught up with a friend I haven't seen in a while", and "talked about a birthday party coming up this weekend."

A topic that was assigned to the "Interaction in Residence Halls & Dining Commons" was "asking if we were going to the ice cream exam breaks." A few other examples of topics deemed for this subcategory were "made lunch plans", "talked about going to dinner", "asked to borrow a glass bowl", and "made plans to meet at Dietz."

The "Recreational Activities and Exercise" subcategory had IM conversation topics assigned to it such as "decided to go play a cricket match." Another example of topics found in this group were "made promise to go to next Virginia Tech football game" and "planned to go to gym later."

The subcategory "Self-help Activities" included conversation topics such as "chatted about being stressed about school work" assigned to it. There were few correspondences about reaching out for self-help.

Other messages were assigned to the "Career Exploration" subcategory. An example of a topic classified in this group was "asked about internships." Another topic placed in this subcategory was "planned to narrow down graduate schools."

An example of an IM conversation topic assigned to the subcategory "Multicultural, Fine Arts, and Speakers" was "discussed the recent Ludacris concert." Other examples of topics designated for this subcategory were "talked about music" and "conversed about songs and movies."

Finally, the subcategory "Miscellaneous Social Activities" was assigned topics like "shared volunteer opportunities at the YMCA" and "told friend how a party the night before turned out." The topic "discussed recent Phi Beta Sigma program" was also assigned to this subcategory. Table 6 summarizes the subcategories of social matches found in the IM conversation topics logged by the participants. Appendix K provides examples of emailed sample conversations considered social in nature.

New Social and Academic Behaviors Exhibited in IM Conversation Topics

IM conversations that were not categorized as an "Academic Match" or a "Social Match" were placed in either the "Social Addition" and "Academic Addition" groupings.

The data collected provided by the participants included three IM conversation topics categorized in the "Academic Addition" category. Examples of these messages were "asked a friend if he could open a file", "had computer problems", and "questions about study abroad."

Five IM conversation topics were placed in the "Social Addition" category. Examples of messages deemed as a "Social Addition" were "shared songs through IM" and "sent friend some pictures."

Behaviors Considered as No Matches with Academic or Social Integration

IM conversation topics that did not match the four major categories, "Academic Match", "Academic Addition", "Social Match", and "Social Addition." were assigned to the "No Match" category. The topics that were assigned to the "No Match" category were

Table 6

Social Integration Subthemes Matched with Instant Message (IM) Conversation Topics

Subtheme	Social IM Conversation Topics n (%)
Student Organization Involvement	4 (1.6)
Making & Interacting with Friends	187 (76.6)
Interaction in Residence Halls & Dining Commons	23 (9.4)
Recreational Activities & Exercise	4 (1.6)
Self Help Activities	1 (.4)
Leadership Activities	0 (0)
Career Exploration	8 (3.3)
Multicultural, Fine Arts Activities, and Speakers	13 (5.3)
Miscellaneous Social Activities	4 (1.6)
Organization of Time	0 (0)
Total	244

varied and/or reflective of pop culture at the time of data collection. For example, I noticed that a good number of the participants made note of when they left an away message up for others to read. Away messages serve as a way to let people know if you are busy, away from the computer, or on the phone for example. Sometimes, the participants left quotes or song lyrics expressing their feelings that day. Other times participants noted when they responded to a friend's away message if it were funny or left them with some concern.

I also noted the varied topic contents that were random conversations can get between friends. For example, many of the topics were assigned to the "No Match" category were like "discussed kinds of gum" and "conversed about The Apprentice." Other examples of topics designated to this category were "sent a happy belated birthday message" and "reminded friend to pick me up from Walmart."

Analysis of Responses to Emailed Survey Questions about IM

Key words found in the responses to the five emailed survey questions were categorized much like the IM conversations recorded on the log sheets. These keywords were then assigned to the categories of "Academic Match", "Academic Addition", "Social Match", "Social Addition", and "No Match." Table 7 details the matching of the answers to the survey questions to traditional academic or social integration behaviors.

Academic

Survey answers that matched the traditional academic behaviors on the academic integration list developed by Gatz (1998) were assigned to the "Academic Match" category. If the response could not be matched to the traditional list of behaviors, but could be considered as a new contribution to academic integration, it was assigned to the "Academic Addition" category.

Table 7

Academic and Social Integration Behaviors Exhibited in Emailed Survey Responses

	Academic Email Survey Responses
Match	42 (84%)
Addition	8 (16%)
Total	50

	Social Email Survey Responses
Match	87 (85%)
Addition	15 (15%)
Total	102

	Email Survey Responses
No Match Total	51

The following statements were illustrative of responses to the emailed survey questions that were assigned to the "Academic Match" category:

When I had chemistry lab a few years ago I used to IM my partner so we could finish the labs together.

We used IM to convey some of our ideas and also to set up meeting times to get together.

Survey responses that were not considered an academic match, but were academic in nature were assigned to the "Academic Addition" category. The following statements serve as examples:

You can work on group projects in chat rooms.

It is nice if you are working on a group project and it is sometimes easier to send the data files over Instant Messenger than through email and what not, especially over the LAN line, it's quicker.

Social

Emailed survey responses pertaining to IM that matched Gatz' (1998) list of traditional social behaviors were assigned to the "Social Match" category. If the answer was social in nature but could not be matched to the traditional behaviors list, it was assigned to the "Social Addition" category. The following were examples of responses assigned to the "Social Match" category:

I usually use it (IM) to find out if a friend wants to go to dinner or if they know of something fun to do on the weekend.

It's easy to keep in contact with fellow staff members (RAs) through IM.

Survey answers that were social in nature but unable to be assigned to the "Social Match" category were designated in the "Social Addition" classification. For example:

I use IM for planning activities, group discussions in chat rooms, or just talking

. Even when you're not there you can use it to plan for things by saying let me

know about this or that as well as ask someone to meet you somewhere.

I would have to say I use Instant Messenger for my social needs mainly to keep in

touch with friends I have around the country. It's cheaper than calling and for sure

cheaper than a plane ticket.

Summary

This chapter consists of findings about the ways in which college students are

using Instant Messenger to supplement traditional academic and social behaviors.

Participants provided me with interesting developments related to college students and

IM usage. The next chapter will include a discussion about these results and their

implications for further research and practice.

CHAPTER FIVE

Discussions and Implications

The purpose of this current study was to examine the ways in which college students are using Instant Messenger (IM) and to investigate how students use IM for social and academic integration purposes. Data were collected from 15 undergraduates using logsheets describing IM conversations for one week, emailed survey questions asking the participants to further elaborate on their usage of IM, and emailed examples of academic and social IM conversations.

This chapter provides discussion of the study's findings in five sections. First, the comprehensive results of the data collected are discussed. Second, the data is compared with the original research questions posed in the study. The third section includes the study's findings as it relates to previous research. Implications for future studies and practice based on the study's results are discussed in the fourth section. Finally, in the fifth section, the study's limitations are presented.

Comprehensive Results

It appears that participants are using IM quite frequently and regularly. For example, in Chapter Four I reported that according to the total length of conversations recorded by the participants, IM conversations could have happened for almost a whole week, nonstop. This finding also takes into account that I only asked the participants to capture their IM habits during four designated times of the day.

Most of the time spent on IM happened during the late afternoon and evening hours. The total number of conversations that happened from 3pm-5pm and 8pm-10pm was 182. Therefore, 66% of the IM conversations recorded in the study happened in the latter part of the day. One could argue that traditionally, higher instances of socializing

occurs at night after many classes are completed and students have either congregated in their residence halls, dining halls, lounges, and the like. Therefore, these findings seem to suggest that they share some parallels with the overwhelmingly social nature that the participants used IM for in this study.

The least amount of time spent on IM happened during the morning hours. The total number of IM conversations that happened during the 12am-2am time slot and 10am- 12pm time slot was 94. Therefore, 34% of the IM conversation recorded by the participants happened in the earlier part of the day. Those findings may indicate that when students are in class or sleep, IM conversations are probably less likely to occur.

Considering the frequent IM activity evidenced in the data, it can be assumed that the participants spent a great deal of time using IM. For example, the participants logged IM conversations for every day of the data collection period. These data seem to suggest that IM has become an integral part of the students' life at college. The data also reveal that students have made technology a major part of their college experience. What does this suggest about students who do not use IM? Are they considered disconnected? Even more so, are students expected to use IM as a means to communicate? Two participants offered the following observations about technology and the college experience:

> With everything a student does being computer based, and more than half of a college student's career spent in front of a computer monitor, it only makes sense to be able to talk to someone when they are there without any real interruptions from other sources.
>
> In college it seems like people are much more willing to give their [IM] screen name than their phone number.

This suggests that students are communicating and connecting often through this specific type of technology. As a result, less time appears to be spent communicating in traditional face-to-face encounters. What are the possible outcomes of this behavior? Will IM stunt students' development of other interpersonal skills? Will we see an increase in socially awkward citizens? If students are using IM to communicate with others so regularly, does this suggest a shift of the ways in which students traditionally develop socially while in college? Participants offered the following observation about such notions:

> I have found that IM is very in-personal. You can say anything over IM and it could mean something to you and something totally different to the other person. It is also the lazy person's way of communication instead of face-to-face communication.

> IM can sometimes dissuade someone from having face-to-face social contact by talking on the computer all the time. I think conversations are definitely made to be had in person, but computers and Instant Messaging are making that more and more difficult.

> IM can make relationships very passive and dysfunctional. People say things online that they would never say to your face. I think it's made my generation more passive and less able to communicate directly to their friends and the community.

With regards to academic integration, according to the data collected in this study, the results imply that participants are not using Instant Messenger very much for academic purposes. Only 15.5% of the total number IM conversation topics recorded by

the participants were considered academic in nature. Therefore, it would appear that students are using IM in fractional ways to achieve traditional academic behaviors.

Of the five academic integration subthemes found in Table 4, only two emerged as academic behaviors the participants engaged in through Instant Messenger. Those subthemes were "Furthering Academic Experience" and "Tutoring and Other Success Strategies." These data suggest that participants used IM for academic intentions when they wanted to discuss and ask questions about their classes. The participants also appear to use IM when making plans for meetings about projects and class work. The following statements were indicative of how the participants use IM for some of their academic needs:

> I use Instant Messenger to see if someone in my class is online when I might have a quick question about an assignment from the class. It is also a quick way to see if they are around and if they might want to work together on the assignment.
> I don't use IM a lot for academic needs. What I usually use it for is just to ask a quick question to a classmate or to communicate with group members while working on a big project/paper.
> It is also very easy to find someone in one of your classes who has IM. You can add those people to your buddy list and ask them about homework you may have missed during class.

Interestingly, none of the IM conversation topics fell into the other three academic integration subthemes, "Faculty Contact", "Advising", and "Library Research." Particularly in regards to faculty contact, the results suggest that faculty and students are not using IM to communicate with each other. Could this be because faculty members feel that IM would not be effective in helping students outside of class? Possibly the data

indicate that since IM is a relatively new phenomenon, it has yet to become apart of the academic culture of college. The data may also imply that faculty is not willing to give up their time to spend time on IM with students.

This study also revealed that students appear to use IM for social purposes a majority of the time. Of the total amount of IM conversation topics recorded by the participants in this study, 77.3% of them were categorized as a "Social Match" or a "Social Addition." Therefore, when students are using IM as a social tool, they most often used it to stay connected with their friends in a very convenient way since the social subtheme category most often matched with conversation topic keywords was "Making and Interacting with Friends."

Participants offered the following comments about IM and how it helps meet their social needs:

I use IM for many reasons, but the biggest reason is for my social needs. I use IM to see what my friends are doing and also to find out where they are, especially on the weekends. When I am not online or my IM is down, I feel like I have no connection to the world. I feel lost without IM.

I have a large social group of friends and usually our plans for the weekends are made over IM just so that 8 or 9 people don't have to get called.

It's a good thing to use just to talk about really random stuff with friends. My best friend here on campus and I talk throughout the day on IM just talking about random weird stuff.

I would say keeping in touch with friends is the most valuable and important part of my social needs from Instant Messenger. I guess Instant Messenger just makes it easier to see what people are up to and to get on the fun wagon with them.

These comments suggest that the participants are using Instant Messenger to correspond mostly with friends. This correspondence was evident in the content of the conversations and in the recorded relationships of their IM correspondences. The relationships between the participants and their IM correspondents are the final trend found among the general findings of the study.

The individuals most often IMed in this study fell under the category of friends. Of the total number of IM conversations recorded by the participants, 66% of them occurred with someone considered a friend. The specific friend group IMed the most in the study were identified as Virginia Tech Friends (39%). The data revealed that the participants in the study frequently IM friends who were located on campus. Interestingly, it could be assumed that friends from one's own campus would be easily accessible for face-to-face interactions. The following participant comments seem to address these observations about communicating with friends over IM:

> I usually use my IM to talk to friends that are either on or off campus and rarely for friends at home. I prefer to call them instead, including my family. I do this because I don't see them often and it is more personal to talk on the phone than online. Folks that you see almost every other day, however, are worth just talking to online in order to see what the plans are for that night, if they want to hang out, help with homework, and the like.

> Basically, instead of calling up every friend on campus on the phone, you can just shoot them an Instant Message and you will quickly know what they are up to for the night.

> Instant Messenger is important when it comes to social lives. It is the best means

of communication. I can spread the word about parties real fast to my friends on campus.

There are times when you need to talk to so many friends across campus about things regarding personal stuff, work, or school and so little time to do it. IM allows you to do it all at once unlike the phone or in person.

These comments underscore that students are finding convenient and accessible ways to connect with the peers who share the same college experience as them. Perhaps the convenience of IM now aids students in finding meaningful personal connections to feel socially integrated to their college environment. As a result, one might assume that this technology seems to serve as an indirect tool of retention that encourages students to find reasons to stay and enjoy college.

Responding to the Research Questions

With these general findings in mind, it was important to examine the data as they relate to the research questions posed in the study. The first question asked how students are using Instant Messenger. The results of this study seem to suggest that students are clearly using IM as a socializing tool more so than for academic purposes. IM conversation topics of an academic nature accounted for 15.5% of the total recorded. Those topics fell into either the "Academic Match" and "Academic Addition" categories. IM topics that fell into the "Social Match" or "Social Addition" categories for 77.3% of the total amount of logged conversation contents.

Not only are participants using IM for largely social reasons, but they are also using the technology quite frequently. According to the data collected for this study, it appears that participants use IM on a daily basis. The results also suggest that students use IM more at night than during the day.

When participants are using IM, the data revealed that they corresponded the most with friends. IM conversations had with friends made up 66% of the total relationship correspondences recorded. Of those friends participants were talking to over IM, the majority were Virginia Tech friends. That friend group made up 39% of the total IM conversation correspondents logged by the participants. Other frequently recorded correspondents included friends at another college (17%), classmates (11%), best friends (10%), and significant others (10%). These data seem to suggest that students are far more likely to correspond with certain friends and acquaintances than others.

The second research question of this study asked if students use IM to supplement traditional behaviors associated with social integration. The data seemed to suggest that participants used IM to supplement some traditional social integration purposes. Of the total amount of IM conversation topics recorded, 75.8% were traditional matches and 1.5% were new behaviors.

While the data implied that participants use IM for largely social purposes, it also reveals that they use IM for some social intentions more than others. The social integration subthemes that had the most IM conversations match up with their category were "Making and Interacting with Friends" (76.6%), "Interaction in the Residence Halls and Dining Commons" (9.4%), and "Multicultural, Fine Arts Activities, and Speaker" (5.3%). Still, 8 of 10 social subcategories were addressed in the data.

For example, many of the social integration correspondences were traditional in that participants spent time on IM talking about their day or about things going on in their lives with a friend. Other correspondences were quick in nature. These exchanges were dedicated to setting up a meeting time or confirming a friend's dinner plans. What these data seem to indicate is that students are using IM to maintain and/or enhance their

relationships as well as their social lives while in college. These observations are supported by the following participant statements about IM and social integration:

> Mainly I use Instant Messenger as a socialization tool. I use it to talk to friends who are away and that I can't talk to over the phone.

> I mostly use IM for personal conversations with friends and to keep in touch.

> I like to talk to good friends over IM and see what activities they are doing on the weekends or invite them to something I know about on the weekday or weeknights.

Participants are using IM for largely social reasons as suggested by the data in the study. What the findings also suggest is that students are not using IM to a large extent to achieve academic purposes. This revelation addressed the final research questions posed in this study, which asked if students are using IM to supplement traditional behaviors associated with academic integration. Of all the IM conversation topics recorded for this study, 14.6% were considered traditional academic behaviors and 0.9% were new.

However, the participants used IM for only some academic purposes. Only two academic integration subthemes emerged after matching IM conversation contents with the categories. Those subcategories were "Tutoring and Other Success Strategies" (85.1%) and "Furthering Academic Experience" (14.9%). Participants did not match up the other three subcategories, "Faculty Contact", "Advising", and "Library Research" with any of the IM conversation topics logged.

In regards to academic integration, participants seem to be using this specific technology to discuss their studies mainly with classmates or friends as evidenced by the data collected. However, students do not appear to use IM when it comes to contacting faculty, advisors, or library resources. One could argue that while IM is convenient and

productive for some academic purposes, there may be certain academic tasks that cannot be achieved solely by using IM. For example, IM might limit the ways in which a faculty member or advisor could successfully tutor or answer questions about a student's academic concern. The following comments are indicative of some of the limiting factors IM can present when it comes to certain academic purposes:

> However, sometimes IM is useful to initiate conversation and discussion about a homework assignment but in the end it's much easier to finish the problem on the phone or by discussing the topic face-to-face. Sometimes describing the problem over IM can be difficult.

> At times it can be hard to get homework help over IM. Sometimes the explanations are hard to understand. In these circumstances a phone or meeting would be best.

Relation to Previous Literature

There is an absence of research on how college students use Instant Messenger. This lack of research makes it hard to compare the current study with any others. However, this study does offer an interesting perspective in light of the previous literature available about technology and its benefits as it relates to college life.

For example, Kiesler & Sproull (1987) reported that computers are a vital tool in college success. They also stated that the computer makes it possible for people to use it in a way that allows for specific tasks to get done how they need. The current study supports this claim in that participants' appear to use the computer, and more specifically IM, to get certain social and academic tasks completed in productive and expedient ways. Whether those tasks included getting help on a project, borrowing a kitchen utensil, or

getting together for dinner, it seems that students use this technological medium to achieve some aspects of social and academic success in college.

Gatz (1998) examined the role email played in helping students achieve academically and socially. According to Gatz, students did not appear to use email to achieve in either form of integration. However, the current study's findings suggest that when students use IM, they use it for predominantly social reasons. Interestingly, both Gatz and the current study did find that students are spending a large amount of time using technology in college. As a result, students have made technology an integral part of their college student life.

Two previous studies looked specifically at how the Internet and IM help students achieve academically. Wilson (1996) identified the Internet as a place where students can solve a problem, the answer, and communicate those findings with other students in the class. Branzburg (2003) mentioned many of the same academic purposes when it comes to IM usage among students. He argued that IM could help students with test reviews and last minute questions the night before an exam. The participants in this study seemed to mostly use IM to achieve academic integration when it comes to working on class assignments, discussing homework problems, and reviewing exam materials.

Branzburg also offered an interesting suggestion about sending files instantly through IM. This study's results revealed that in both the "Social Addition" and "Academic Addition" categories, participants used IM to open a file, send pictures, and send song files.

Previous research has also revealed that when it comes to social integration, students make substantial progress after meeting different kinds of people when involved with their institution (Pascarella & Terenzini 1991). The participants in this study seem to

be interacting with lots of different groups of people. Most of those correspondences happened with friends on their college campus. Therefore it might be inferred that connecting and staying in touch with various people at one's institution aids in both social progress and development.

Howe & Strauss (2003) reported similar findings in their research about the Millenials generation. This particular group of students is considered the vast majority of traditional aged individuals currently entering higher education. They stated that Millenials use the Internet to increase their ability to connect with people. More specifically, Howe & Strauss referred to Instant Messaging as one of the frequently used technologies to maintain relationships with peers. In the current study, the data suggest that the participants talked mostly with their friends and acquaintances over IM. When it came to family members, faculty, or advisors, the participants interacted with them either seldom or not at all using this technology.

In fact, Vicario, Henninger, Austin, & Chambliss (2002) found that family members who share the same household experience a decrease in communication when there is an increase in Internet usage. While this study's findings who suggest family members are not often talking with students over IM, the findings do not confirm if students are talking with their families less or more through other mediums of communication (i.e., phones, email, etc.)

<div align="center">Implications</div>

The implications in this study are applicable to both future research and practice. This study reveals there are various areas in which research could be done. For example, the current study examined how the general population of students uses Instant Messenger. A study that focuses on how IM is used amongst more specific populations

might reveal further interesting findings about this technology as it relates to certain college students. Such investigations could focus specifically on gender, academic classifications (e.g., first years), ethnic backgrounds of other demographics.

This study was also conducted at Virginia Tech a large, pubic, research institution. Results of a similar study might yield different results about IM usage of college students at varying institution types (i.e., private or single-sex). The outcomes of such studies would provide a greater breadth to this topic.

Another consideration not focused on in this study is the different type of technologies used by students to communicate and connect with each other. Currently, this study focuses on Instant Messenger's influence on students' traditional academic and social college experiences. However, with the increasing popularity of other cyber communities such as Facebook and Myspace, investigations about how these technological social outlets impact the social and academic integration of students might reveal even more interesting ways in which students are interacting in college.

Lastly, this study examined social and academic usage as it relates to student IM usage. A more focused study about IM could explore the ways in which it may be helping or hurting the development of mature interpersonal relationships, the development of social skills, and the development of communication skills of college students. Likewise, a study could also concentrate on how IM culture and the use of abbreviated language affect the writing and reading competencies of college students (see Appendices J & K for examples).

In regards to this study and implications for future practice, one suggestion relates to establishing connections with hard to reach students. The results revealed that students are using IM to connect with others on a daily basis. The results also suggest that students

are having IM conversations during the day and night. Since IM is a relatively private and confidential medium, student affairs professionals may find it more effective to connect with students who may be too ashamed to come to their office or center. IM could be the first step at establishing a trusting relationship with students in need of help.

This study seems to indicate that IM is an untapped resource that may provide faculty more ways to connect and help student academically. Perhaps faculty could set up both office hours and IM hours for students. Office hours could remain in their traditional form as the time in which students stop by to ask for in-depth help. IM hours might serve as time for faculty to help answer quick questions students might have about assignments or an exam.

Since this study seems to suggest that students are spending a significant amount of time on IM, administrators should consider new practices that address how IM may be impeding academic integration. Specially, student affairs practitioners should develop programs that address how IM could have potentially negative effects on a student's academic success. Such negative results could include the impact of how the lack of sleep and a decrease in study time affects a positive academic experience. For example, programs that provide students with information about maximizing their free time may help students learn how to strike a healthier balance between schoolwork and the time they spend on IM.

Students' seemingly regular usage of IM should also prompt administrators to address the importance of face-to-face relations. Sessions about effective communication and positive face-to-face interactions would prove valuable so that students can successfully continue in their development of mature interpersonal relationships. In addition, placing some focus back on in-person exchanges could help with those students

who may be isolating themselves from the rest of the college environment. Perhaps residential life personnel should consider beginning of the year icebreakers or programs that force students to get to know each other for a reward. For example, if students go to the dining hall with one floor mate, attend a sporting event with others, and spend time at the library studying with different group from their floor, the students could win a bookstore gift certificate or even free laundry for a month.

Legally, implications for practice might also encourage administrators to focus on whether institutions can and should monitor their students' IM conversations and what ethical ramifications may result. IM is currently a relatively private and confidential medium. Therefore, if a student has expressed some distress or plans of destruction an institution may not receive that necessary warning unless the individual that the student revealed the alarming information with calls the proper authorities. In light of recent events, one question to consider is should a school have the right to monitor IMs in order to protect its students. Similarly, should an institution have the right to monitor and act on illegal activities shared over IM? What if the student is only playing around and not being serious? Would this monitoring call the rights of a student's privacy into question?

In light safety, student affairs professionals might also consider creating programs about safe online practices. These programs could focus on identifying risky online behaviors, traveling in groups to meet new Internet friends, and protecting sensitive contact information (i.e., residence hall or residence hall room). Supplying this information could aid students in being both smart and proactive when it comes to meeting and connecting with new people from the Internet.

Limitations

This study is not without some limitations, as with all research. For example, the study consisted of a small participant pool. Had the participant pool been larger the results of this study might have been much different.

The data for the study were collected in a short period of time. If the data had been collected for a longer period of time, the outcomes of this study might have revealed other findings. Likewise, the data were collected toward the end of the school year. This is a stressful and busy time for most students as they wrap-up the year. With this in mind, the data might not be as accurate or extensive as they could have been. Therefore, results may have varied if data were collected at a different time of the academic year.

The logsheets used to collect data about IM usage only focused on four segments of the day. Results might have differed is the researcher had required participants to collect data for 24 hours.

The students who participated in this study were volunteers. The participants who volunteered may have differed in their familiarity and usage of IM than non-volunteers. These considerations may have resulted in different outcomes of the study as well.

Lastly, the participants were asked to provide a brief description of the IM conversation on the logsheets provided to them. Since whole IM conversations were not analyzed, the results of the studies could have varied in the amount of conversation topics analyzed due to such methods.

Despite the limitations of the study, the results exposed some interesting behaviors regarding students and IM usage. First, participants seem to be having IM conversations on a daily basis. Second, participants talk with Virginia Tech friends and classmates the most during IM sessions. Lastly, IM appears to be used far more

extensively for social integration purposes and not for academic integration. The findings reveal that students are spending a lot more time on the computer to interact with the world than they are in traditional face-to-face settings. With so many students finding social outlets through the Internet, student affairs professionals and faculty should seek to find ways in which they can continue to be effective and encouraging in the holistic development of today's college students.

References

American College Testing Program. (1990). *Student Opinion Survey*. Iowa City, IA:

    American Testing Program.

Astin, A.W. (1978). *Four critical years.* San Francisico: Jossey-Bass.

Biocca, F., & Levy, M.R. (1995). *Communication in the age of virtual reality.* New

    Jersey: Lawrence Erlbaum Associates.

Branzburg, J. (2003). Using IM services. *Technology & Learning, 23*(4), 48.

Cooper, D.L., Healy, M.A., & Simpson, J. (1994). Student development through

    involvement: Specific changes over time. *Journal of College Student*

    Development, 35(2), 98-102.

Cohn, E.R. (2002). Instant messaging in higher education: A new faculty development

    challenge. Retrieved June 22, 2007, from

    http://www.ipfw.edu/as/tohe/2002/papers/cohn2.htm.

Evans, N.J., Forney, D.S., & Guido-DiBrito, F. (1998). *Student development in college.*

    San Francisco: Jossey- Bass.

Farmer, R. (2005). Instant messaging: I'm online! r u? *EDUCAUSE Review, 40*, 49-62.

Frand, J.L. (2000). The information-age mindset: Changes in students and implication

    for higher education. *EDUCAUSE Review, 35*, 14-24.

Gatz, L. (1998). Academic and social integration in cyberspace: A qualitative study.

    Master's thesis, Virginia Polytechnic Institute and State University, Blacksburg,

    Virginia.

Gemmill, E., & Peterson, M. (2006). Techonology use among college students:

    Implication for student affairs professionals. *NASPA Journal, 43*(2), 280-300.

Goldsborough, R. (2001). Instant messaging for instant communications. *Black Issues in Higher Education, 18*(2), 44.

Guirdy, K.R. (2004, November). Instant messaging: Its impact on and recommendations for student affairs. *Student-Affairs Online, 5*(4). Retrieved June 22, 2007, from http://studentaffairs.com/ejournal/Fall_2004/InstanstMessaging.html.

Howe, N., & Strauss, W. (2003). *Millenials go to college*. USA: American Association of College Registrars and Admissions Officers.

Johansen, R., Vallee, J., & Spangler, K. (1979). *Electronic meetings: Technical alternatives and social changes.* Massachusetts: Addison-Wesley Publishing Company.

Jones, S. (2002). The internet goes to college: How students are living in the future with today's techonolgy. Retrieved June 20, 2007, from http://www.pewinternet.org/pdfs/PIP_College_Report.pdf.

Jones, S. G. (1997). *Virtual culture: Identity and communication in cybersociety.* California: Sage.

Jones, S. G. (1998). *Cybersociety 2.0: Revisiting computer mediated communication and community.* California: Sage.

Kiesler, S., & Sproull, L. (1987). *Computing and change on campus*. New York: Cambridge University Press.

McQuillen, J.S. (2003). The influence of technology on the initiations of interpersonal relationships. *Education (Chula Vista, California), 123*(3), 616-623.

Mohammadi, A., Lee, M., & Shaffer, B. (1996). *Perceived academic and social gains: Quality efforts by students.* Martinsville, VA: Patrick Henry Community College,

Office of Institutional Planning, Research, and Evaluation. (ERIC Document Reproduction Services No. ED 400 878)

Niles, S.G., Sowa, C.J., & Laden, J. (1994). Life role participation and commitment as predictors of college student development. *Journal of College Development, 35*(3), 159-163.

Pace, C.R. (1979). *College Student Experiences Questionnaire.* Los Angeles: Center for the Study of Evaluation.

Pace, C.R. (1990). *College Student Experiences Questionnaire.* Los Angeles: Center for the Study of Evaluation.

Parks, M.R., & Floyd, K. (1996). Making friends in cyberspace. *Journal of communication, 46*(1), 80-97.

Pascarella, E.T., & Terenzini, P.T. (1991). *How college affects students.* San Francisco: Jossey- Bass.

Pfinster, A.O. (1988). *Uses of college student experiences questionnaire in institutional research and evaluation, accreditation, assessment.* Paper presented at the Annual Meeting of Association for the Study of Higher Education, St. Louis, MO. (ERIC Document Reproduction Service No. ED 303 101)

Rice, R.E. & Cove, G. (1987). Electronic emotion: Socioemotional content in a CMC network. *Communication Research, 14*(1), 85-108.

Spitzberg, B.H., & Cupach, W.R. (1984). *Interpersonal communication competence.* Beverly Hills: Sage.

Tinto, V. (1987). *Leaving college: Rethinking the causes and cures of student attrition.* Chicago: University of Chicago Press.

Van Dusen, G.C. (1997). *The virtual campus: Technology and reform in higher education.* Washington, D.C.: Office of Educational Research and Improvement. (ERIC Document Reproduction Service No. ED 412 815)

Vicario, T., Henninger, E., Austin, M., & Chambliss, C. (2002). *College students' responses to new communication techonologies*. Ursinius College. (EDRS Document No. 463 469).

Whitt, E.J. (1997). *College Student Affairs Administration.* Massachusetts: Simon & Schuster Custom Publishing.

Wilkins, H. (1991). Computer talk: Long-distance conversations by computer. *Written Communication, 8*(1), 56-78.

Wilson, B. (1996). *Cultural assimilation of the Internet: A case study.* Washington, D.C.: Association for Educational Communications and Technology. (ERIC Document Reproduction Services No. ED 397 848)

Winston, R.B., Miller, T.K., & Prince, J.S. (1987). *Student Developmental Task and Lifestyle Inventory.* Athens, GA: Student Development Associates.

World Internet Usage Statistics News and Population Stats. (2007). Retrieved September 29, 2007, from http://www.internetworldstats.com/stats.htm.

Zagorsky, J.L. (1997). Email, computer usage, and college students: A case study. *Education (Chula Vista, California), 188*, 47-55.

APPENDIX A:

List of Traditional Behaviors Associated with Academic and Social Integration

Codes for Traditional Academic Integration

Category A: Faculty Contact

Code	Item
AS31	I have a mature working relationship with one or more members of the academic community (faculty ember, student affairs staff member, administrator).
AS41	I have formed a personal relationship (friend acquaintanceship) with one or more professors.
AS51	Within the past three months I have had a serious discussion with a faculty member concerning something of importance to me.
AC27	Talked with a faculty member.
AC28	Asked your instructor for information related to a course you were taking (grades, make-up work, assignments, etc)
AC29	Visited informally and briefly with an instructor after class.
AC30	Made an appointment to meet with a faculty member in his/her office.
AC31	Discussed ideas for a term paper or other class project with a faculty member.
AC32	Discussed your career plans and ambitions with a faculty member.
AC33	Asked your instructor for comments and criticisms about your work.
AC34	Had coffee, cokes, or snacks with a faculty member.
AC35	Worked with a faculty member on a research project.
AC36	Discussed personal problems or concerns with a faculty member.
AC96	Asked an instructor for advice and help to improve your writing.
AC97	Made an appointment to talk with an instructor who had criticized a paper you had written.

Category B: Taking an Interest in Furthering my Academic Experience

Code	Item
BS12	When I don't think I am learning what I should in a course, I take the initiative to do something about it.
BS21	I take advantage of opportunities to enter into class discussions.
BS62	Within the past three months I have read one or more non-required publications related to my major field of study.
BC38	Participated in class discussions.
BC42	Worked on a paper or project where you has to integrate ideas from various sources.
BC46	Did additional readings on topic that were introduced and discussed in class.
BC68	Used the lounge(s) or meeting rooms to meet with a group of students for a discussion.
BC120	Tested your understanding of some scientific principle by seeing if you could explain it to another student.
BC121	Read articles (not assigned) about scientific theories or concepts.

Category C: Advising

Code	Item
CO17	(have used) Academic advising services
CS22	I have taken the initiative to set up conferences with an academic advisor within the past twelve months.
CS72	Within the past twelve months I have discussed, *in depth*, my educational objectives or plans with an academic advisor.

Category D: Library & Research

Code	Item
DO22	(have used) Library facilities and services
DC17	Used the library as a quiet place to read or study materials your brought with you.
DC18	Used the card catalogue or computer to find what materials there were on some topic.
DC19	Asked the librarian for help in finding material on some topic.
DC23	Found some interesting material to read just by browsing in the stacks.

Category E: Tutoring & Other Success Strategies

Code	Item
EO25	(have used) College-sponsored tutorial services
EO35	(have used) Computer services
ES123	My grades are not as good as they could be because I don't like asking for help.
EC89	Used a dictionary or thesaurus to look up the proper meaning of words.
EC93	Asked other people to read something you wrote to see if it was clear to them.
EC94	Referred to a book or manual about style of writing, grammar, etc.
EC95	Revised a paper or composition two or more times before you were satisfied with it.
EC145	Studied with other students in the residence unit.
ES11	I know all the basis requirements for graduating with a degree in my academic major/academic concentration.
ES18	I set aside time each day to deal with schoolwork and assignments.

Codes for Traditional Social Integration

Category A: Student Organization Involvement

Code	Item
AS25	I am a member of at least one club or organization that specifically related to my chosen occupational field.
AS40	I am actively involved in two or more different organized activities in addition to my academic studies.
AC81	Read or asked about a club, organization, or student government activity.
AC82	Attended a meeting of a club, organization, or student government group.
AC86	Discussed reasons for the success or lack of success of student club meetings, activities, or events.
AC88	Met with a faculty member advisor or administrator to discuss the activities of a student organization.

Category B: Making & Interaction with Friends

Code	Item
BC61	Met your friends at the student union or student center.
BC62	Sat around in the union or center talking with other students about classes or other college activities.
BC100	Discussed with other students why some groups get along smoothly and other groups don't.
BC101	Sought out a friend to help you with a personal problem.
BC106	Asked a friend to tell you what he/she really thought about you.
BC109	Made friends with students whose academic major field was very different from yours.
BC110	Made friends with students whose interests were very different from yours.
BC111	Made friends with students whose family background (economic and social) was very different from yours.
BC112	Made friends with students whose age was very different from yours.
BC113	Made friends with students whose race was difference from yours.
BC114	Made friends with students from another country.
BC116	Had serious discussions with students whose religious beliefs were very different from yours.
BC117	Had serious discussions with students whose political opinions were very different from yours.
BC118	Had serious discussions with students from a country different from yours.
BC139	Gone out with other students for a late night snack.
BC141	Participated in discussions that lasted late into the night.

Category C: Interaction in Residence Halls & Dining Commons

Code	Item
CO28	(have used) Residence hall services and programs
CO29	(have used) Food services
CC59	Had meals, snacks, etc at the student union

CC143   Borrowed things (clothes, records, posters, books, etc) from others in the residence unit.

CC144   Attended social events put on by the residence unit.

CC147   Worked on some community service or fund raising project with other students in the residence unit.

CC138   Had a lively conversation about various topics during dinner in the dining room or cafeteria.

Category D: Recreational Activities and Exercise

Code	Item
DO21	(have used) Recreational and intramural programs and services
DS77	I plan my week to make sure that I have sufficient time for physical exercise.
DC70	Followed a regular schedule of exercise, or practice in some sport, on the campus.
DC71	Used outdoor recreational spaced for casual and informal individual athletic activities.
DC72	Used outdoor recreational spaces for casual and informal group sports.
DC73	Used facilities in the gym for individual activities (exercise, swimming, etc.).
DC76	Played on a intramural team.
DC78	Was a spectator at college athletic events.

Category E: Self-Help Activities

Code	Item
EO18	(have used) Personal counseling services
EO23	(have used) Student health services
ES7	I have one or more effective techniques (not involving alcohol or drugs) that I use to help me relieve stress.
ES9	I don't hesitate to seek help in dealing with the pressures of college life.
EC104	Read articles or books about personal adjustment and personality development.
EC105	Taken a test to measure your abilities, interest, or attitudes.
EC107	Been in a group where each person, including yourself, talked about his/her personal problems.
EC108	Talked with a counselor or other specialist about problems of a personal nature.

Category F: Leadership Activities

Code	Item
FS48	I have been active on at least one committee at college in one or more college groups within the past six months.
FC85	Worked in some student organization or special project (publications, student government, social event, etc.).
FC87	Worked on a committee.
FC146	Helped plan or organize an event in the residence unit.

Category G: Career Exploration

Code	Item
GO19	(have used) Career planning services
GO20	(have used) Job placement services
GO27	(have used) Student employment services
GS3	I know where to find information about the prospects for employment in any occupational field.
GS15	In the past year I have discussed my career goals with at least two professionals in the field that interests me most.
GS43	Within the past month I have read an article or book that deals with some aspect of a career I am considering or have decided upon.
GS64	I have sought out leisure time activities for the purpose of helping me obtain an indication of my career interest.
GS69	Within the past six months I have undertaken either an independent study or serious project on my own.
GS74	While in college I have visited a career center or library to get information about possible careers or detailed information about a career area I have chosen.

Category H: Multicultural, Fine Arts Activities, and Speakers

Code	Item
HO31	(have used) Cultural programs
HS32	Within the past twelve months I have attended a lecture or program dealing with a serious intellectual subject which was not required for any of my courses.
HS50	I have attended a play or classical music concert within the past year when not required for a class.
HS60	Within the past twelve months I have visited a museum or an art exhibit when not required for a class.
HS70	Over the past year I have participated in cultural activities on a regular basis (several times a month).
HC47	Talked about art (painting, sculpture, architecture, artists, etc.) with other students at the college.
HC48	Gone to an art gallery or art exhibit on the campus.
HC49	Read or discussed the opinions of art critics.
HC50	Participated in some art activity (painting, pottery, weaving, drawing, etc.).
HC51	Talked about music(classical, popular, musicians, etc) with other students at the college.
HC52	Attended a concert or other music event at the college.
HC53	Read or discussed the opinions of music critics.
HC54	Participated in come music activity (orchestra, chorus, etc.)
HC55	Talked about the theater (plays, musicals, dance, etc.) with other students at the college.
HC56	Seen a play, ballet, or other theater performance at the college.
HC58	Participates in or worked on some theatrical production (acted, danced, worked on scenery, etc.).

| HC65 | Attended a social event in the student union or center. |
| HC98 | Submitted for publication an article, story, or other composition you had written. |

Category I: Miscellaneous Social Activities

Code	Item
IO20	(have used) College mass transit services
IO30	(have used) College sponsored social activities
IS78	I made a positive contribution to my community (campus, neighborhood, or hometown) within the past three months.
IC60	Looked at the bulletin board for notices about campus events.
IC64	Seen a film or other event at the student union or center.
IC66	Head a speaker at the student union or center.
IC67	Played games that were available in the student union or center (ping-pong, cards, pool, pinball, etc.).
IC79	Looked in the student newspaper for notices about campus events and student organizations.
IC80	Attended a program or event put on by a student group.
IC83	Voted in a student election.
IC84	Discussed policies and issues related to campus activities and student government.

Category J: Organization of Time

Code	Item
JS19	I organize my time well enough for me to get everything that needs to be done completed.
JS20	I make time in my schedule for my hobbies.
JS30	In my leisure time I regularly read novels or magazines.

APPENDIX B:

Solicitation Flyer

Want to win $100?

DO YOU USE INSTANT MESSENGER?

DO YOU LIVE ON CAMPUS?

I'm a graduate student looking for volunteers to participate in my research for my master's thesis.

Please call me at 951-2111 if you are interested in participating.
Thanks, Kia

Research Project
Kia @ 951-2111

Research Project
Kia @ 951-2111

Research Project
Kia @ 951-2111

Research Project
Kia @ 951-2111

Research Project
Kia @ 951-2111

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Research Project
Kia @ 951-2111

Research Project
Kia @ 951-2111

Research Project
Kia @ 951-2111

APPENDIX C

Screening Questions for Potential Participants

Thank you for calling. I appreciate your interest in participating in my research. I will need to ask you a few screening questions that will take about 5 mins to answer. This step is necessary so that I can make sure that you meet the requirements of my study. Is that ok?

Caller #_____   Name_____

1. Are you currently enrolled as a Virginia Tech Student? YES   NO (if yes, continue to next question)

2. Do you live on campus? YES   NO (if yes, continue to next question)

3. Which residence hall do you live in?

East AJ	Harper	Payne
West AJ	Hillcrest	Peddrew – Yates
Barringer	Johnson	Pritchard
Brodie	Lee	Rasche
East Campbell	Miles	Slusher Tower
Main Campbell	Monteith	Slusher Wing
Cochrane	Newman	Thomas
Main Eggleston	New Residence Hall East	Vawter
West Eggleston	O'Shaughnessy	

4. Do you use IM? YES   NO (if yes, continue to next question)

5. Do you have your own computer? YES   NO (if no, they are not able to participate in the study.)

6. For the purposes of this study, and to enter to win the $100 raffle, you will be asked to:
Keep a log of your IM conversations during the times designated on the logsheet
Keep a log of the nature of the relationship between you and the person you are IMing
Keep a log of the duration of each IM conversation
Keep a log of the general content of each IM conversation
Answer five emailed survey questions sent to you throughout the week of data collection
Email an example of an academic and social IM conversation when prompted
Attend an informational meeting that will last about an hour
Submit your logsheets to me at the end of the data collection period
Are you still interested? YES   NO (if yes, continue to next question)

7. The research will be conducted from April 29-May 6. Will you be available to log your IM activity during those dates? YES   NO (if yes, continue to next question)

8. Which informational meeting can you attend?
April 27 @ 9pm   April 28 @ 9pm
        Meetings will take place at WAJ in the Imaginarium.
(if the caller cannot make it to either session, they will not be able to participate in the study)

9. Would you be willing to participate in this study, log your IM activity during the data collection period, answer emailed survey questions, and sign a consent form? YES   NO (if yes, continue to the next question)

10. Congratulations, you have met my qualifications for the study. Are you still interested in participating? YES   NO (if yes, continue to next question)

11. Phone Number:_____ Email Address: _____
IM Screen Name: _____

SELECTED   NOT SELECTED

APPENDIX D:

Informational Meeting Agenda

Informational Meeting Agenda

- Thank participants for attendance and interest
- Review the purpose of the study
- Review requirements and responsibilities of participants
    - Attending this informational meeting that will last about an hour
    - Keep a log of your IM conversations during the times designated on the logsheet
    - Keep a log of the nature of the relationship between you and the person you are IMing
    - Keep a log of the duration of each IM conversation
    - Keep a log of the general content of each IM conversation
    - Answer five emailed survey questions sent to you throughout the week of data collection
    - Email an example of an academic and social IM conversation when prompted
    - Submit your logsheets to me at the end of the data collection period
    - Be available to log IMs and answer emails from April 29-May 6
    - Sign a consent form and agree to complete the study.
    - Full completion of requirements enters qualified participants into $100 raffle

- Logsheet Instructions
    - How to record the time IM conversations began and ended
    - How to indicate the relationship between the participant and the person they are Iming
    - How to describe the general content of IM conversations
    - Extra Logsheets are available from me, if needed.

- Emailed Survey Questions- Instructions for Answering
    - Questions will be emailed to you throughout the data collection period
    - Please answer the questions as thoroughly as possible
    - Send your answers back to me via email

- Sample IM Conversations- Submission Instructions
    - On the last day of data collection, I will ask you to send me a sample of an IM conversation that is social in nature and a sample of an IM conversation that is academic in nature.
    - Please send your sample conversations via email
    - You can copy and paste your selected sample and either attach it to the email or place the sample in the text of the email.

- Ask participants to sign informed consent form
- Distribute packets of logsheets, my contact info, and reminder cards
- Answer any questions

APPENDIX E:

Example of IM Logsheets

Instant Message Log Sheet:
Wednesday
10 AM – 12 PM

IM Conversation Began	IM Conversation Ended	Relationship to Participant	General Content of Conversation

Instant Message Log Sheet:
Wednesday
3 PM – 5 PM

IM Conversation Began	IM Conversation Ended	Relationship to Participant	General Content of Conversation

Instant Message Log Sheet:
Wednesday
8 PM - 10 PM

IM Conversation Began	IM Conversation Ended	Relationship to Participant	General Content of Conversation

Instant Message Log Sheet:
Wednesday
12 AM - 2 AM

IM Conversation Began	IM Conversation Ended	Relationship to Participant	General Content of Conversation

APPENDIX F:

Categories of Relationships Between Participants and IM Correspondents

The following list provides you with examples of the descriptors that should be used in the "relationship to participant" column on your IM logsheets. This list serves as the type of relationship descriptions I'm looking for. These are simply suggestions. You are not restricted to the relationships listed below. Please feel free to provide your own descriptions.

Categories of Relationships of Persons Engaged in IM Conversations with Participant

Family
Mother
Father
Brother
Sister
Grandparent
Cousin
Aunt
Uncle
Stepmother
Stepfather
Step-siblings

Friends
Best Friend
Friend from home
VT friend
Friend at another college
Friend from internet

Acquaintances
Classmate
Roommate
Significant Other
A new relationship/someone I just started dating
Club or Extracurricular Organization members
A new friend from the internet that I haven't met
A new friend I'm getting to know

Faculty or Advisors
Professor (of your class or not)
T.A.
Academic Advisor

Other (please explain)

APPENDIX G:

Emailed Survey Questions about Instant Messaging

Email Survey Questions

1. Describe how you use Instant Messenger as a college student. Give examples.
2. Describe the advantages of using Instant Messenger in your college life.
3. Describe the disadvantages of using Instant Messenger in your college life.
4. Describe how you use Instant Messenger for your academic needs.
5. Describe how you use Instant Messenger for your social needs.

APPENDIX H:

Participant Reminder Card

DON'T FORGET:

Log your IM Conversations for the research project.

Questions? Email: kwood@vt.edu

APPENDIX I:

Informed Consent Form

Informed Consent

Before agreeing to participate in this study, it is important that you review and sign the following form.

The purpose of this study is to examine how college students use Instant Messenger (IM). Specifically, this study plans to explore if college students use IM to supplement traditional behaviors associated with academic and social integration.

Procedures: You will be asked to record your time spent on IM, the relationship between you and the sender/receivers of your IM conversations, and the content of those conversations on a log sheet for one week. You will also be asked to answer five emailed survey questions about how you use IM. Each question should take approximately 10 minutes of your time. Lastly, you will be asked to send an example of an academic IM conversation and a social IM conversation to provide the study with visual examples of IM conversations.

Risks: There are no major risks connected with participating in this study. If you feel uncomfortable about participating at anytime during the data collection period, you are welcome to withdraw from the study without penalty. Simply let the researcher know if you plan to discontinue.

Benefits: By participating in this study, you will contribute to the knowledge base of the student affairs profession. The study's findings will also help to increase student affairs professionals' understanding of student behavior and development. This valuable information may benefit the academic and social environments for both you and future students.

Confidentiality: Your logsheets, survey responses, and IM conversation samples will only be accessible to the researcher. The results of the data collected will be presented as a collective set of findings. Also, all screen names will be excluded from the final publication's section of IM conversation examples.

Compensation: You will be eligible to enter a $100 raffle if the researcher determines that you met all the required responsibilities and requirements for participating in the study.

Participant Responsibilities:
I volunteer to participate in this study. By signing this form I understand that I have the following responsibilities:

- I understand the procedures, benefits, and potential risks associated with the study.
- I will participate fully during the data collection period.
- I have the freedom to withdraw from the study, without penalty, if I feel uncomfortable at anytime.

_____   _____
Participant Signature   Date

APPENDIX J:

Examples of Academically Natured IM Conversations

Example Conversation #1:

Male Participant: hey u there dude
Classmate of Participant: yea
Male Participant: hey I want to check dome stuff for the sim HW
Male Participant: have u done some of it
Classmate of Participant: yea
Classmate of Participant: some of it
Classmate of Participant: duno about last 2
Male Participant: ok the 1st 2 atleast
Classmate of Participant: ok
Male Participant: both ans are not independent right?
Classmate of Participant: first I got reject data
Male Participant: and second
Classmate of Participant: fail to reject
Male Participant: really
Male Participant: what did u get ur z value as
Classmate of Participant: 1.586
Classmate of Participant: b is 31
Classmate of Participant: n is 24 and 26
Classmate of Participant: + and –
Classmate of Participant: respectively
Male Participant: yeah
Male Participant: mu b is 25.46
Male Participant: rite?
Classmate of Participant: yup
Male Participant: and sigma b is 635.72
Classmate of Participant: sigma squared is 12.2
Classmate of Participant: and sigma is square root of that
Male Participant: ok now I get it
Male Participant: cool thnx man
Classmate of Participant: np
Male Participant: yup
Male Participant: later
Classmate of participant: l8r

Example Conversation #2:

Female Participant: i'm not taking the optional exam
Classmate of Participant: yeah I got a 69 on the exam
Female Participant: did you really?
Classmate of Participant: i need a 80 on the option to get an A
Female Participant: ☹
Female Participant: sorry
Classmate of Participant: i feel like i should atleast try the optional, cuz i have a b even if i do worse on the optional
Classmate of Participant: ya know?
Female Participant: right
Female Participant: i mean i got my B… and i'm tying to have a less stressful week
Classmate of Participant: so the final won't help your grade?
Female Participant: i got a 83 on the exam

Classmate of Participant: i wouldnt take it then
Female Participant: i mean, it's not gonna pull me up to an A

Example Conversation #3:

Male Participant: hey, any luck on the project?
Classmate of Participant: yeah, i actually got it all work out
Male Participant: really
Classmate of Participant: one of the main thing is that when i was doing the corporate discount for the function, i had to use = "True", instead of = "TRUE"
Male Participant: yea
Male Participant: case sensitive is a bitch
Classmate of Participant: but the weird thing is that on my worksheet its TUE, so that threw me off for a while
Male Participant: I'm having issues with the calculations on both the form and annual membership
Classmate of Participant: whats not working?
Male Participant: the column for annual membership fee before you program the form to fill it in
Male Participant: mine's all logic errors now
Male Participant: everything works, just not the right way
Classmate of Participant: that's always annoying
Male Participant: yeup
Classmate of Participant: have you debugged it any?
Male Participant: yea
Male Participant: I just probably am missing it cuz I've been looking at it all day and I am tired

Example Conversation #4

Classmate of Participant: class was okay today
Female Participant: can i get the notes from class today
Classmate of Participant: yea u sure can
Female Participant: cool
Female Participant: what she talk about?
Classmate of Participant: do you eant to study together later on this week for finals coming up?
Female Participant: yeah that's cool
Classmate of Participant: ok good
Female Participant: did i miss anything?
Classmate of Participant: naw u didn't miss anything
Female Participant: like did she talk about aggregate supply and demand today
Classmate of Participant: she let us out early today
Female Participant: oh man
Female Participant: i missed it
Classmate of Participant: yea she reviewed it but that was it

APPENDIX K:

Examples of Socially Natured IM Conversations

Example Conversation #1

Female Participant: how was your weekend?
VT Friend: good
VT Friend: i love my car
Female Participant: hows the car?
Female Participant: lol
VT Friend: its cool
VT Friend: and i got a great indian cd with it
Female Participant: air conditioning finally?
VT Friend: like, it was recorded in new delhi
VT Friend: yep, works like a charm
Female Participant: lol
Female Participant: that's good- congrats!
Female Participant: it's silver?
VT Friend: yeah, a silver 2001 honda civic
Female Participant: nice
VT Friend: with a sunroof ☺
Female Participant: uh oh- foxy
Female Participant: i don't mean to ditch you- i'm going to shower though! have a good night!
VT Friend: ok, you too ☺

Example Conversation #2

Female Participant: baby!
Significant Other: yes?
Significant Other: so you going to breakfast with me in the morning?
Female Participant: what time?
Significant Other: I'm getting up at 8
Significant Other: and will probably get there at around 8:20
Female Participant: what time does breakfast end?
Significant Other: 9:30 when I have class
Female Participant: i guess i could go
Female Participant: i just don't want to distract you from studying
Female Participant: b/c i need to study too
Significant Other: so that's even better?
Female Participant: yeah i guess i can do that
Significant Other: ok good
Female Participant: im gonna try and force myself to get up
Significant Other: ok
Female Participant: i love u ☺ ☺
Significant Other: I love you too
Female Participant: nite suga

Example Conversation #3

VT Friend: yo
VT Friend: when do you want to go?
Male Participant: hey
Male Participant: I was going to go dt for a little while
Male Participant: so I might just meet you there

VT Friend: dt?
Male Participant: downtown
VT Friend: gotcha
VT Friend: it starts in like ½ an hr right?
Male Participant: yeah that's right
Male Participant: but there probably be some opening act
VT Friend: lol
VT Friend: alright dude
Male Participant: so I probably won't get there until around 8:30 or 9
VT Friend: k

Example Conversation #4

Male Participant: so how did broomball turn out?
Friend At Another College: we lost… it wasn't on of our better games
Friend At Another College: we all seemed out of it
Male Participant: too many drinks before the game
Friend At Another College: not enough drinks before the game
Male Participant: haha, thats what i like to hear, but also sad to hear
Friend At Another College: yea oh well we'll get em next week
Male Participant nice nice, good to hear
Male Participant: so hows that multitasking working for ya?
Friend At Another College: its alright… ive actually gotten some stuff done
Male Participant: well I think im gonna go and try to get some more work done or maybe go pass out who knows but I'll catch up with ya later
Friend At Another College: ok
Male Participant: have yourself a wonderful night
Male Participant: laaaaaaaaaaater
Friend At Another College: thanks you too
Friend At Another College: peace out

APPENDIX L:
IRB Approval Letter

VirginiaTech
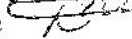VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

Institutional Review Board

Dr. David M. Moore
IRB (Human Subjects)Chair
Assistant Vice Provost for Research Compliance
CVM Phase II- Duckpond Dr., Blacksburg, VA 24061-0
Office: 540/231-4991; FAX: 540/231-6053
email: moored@vt.edu

DATE: April 23, 2004

MEMORANDUM

TO: Steven M. Janosik Educational Leadership & Policy St. 0302

FROM: David Moore

SUBJECT: **IRB Exempt Approval:**   "The Use of Instant Messaging by Undergraduate
            College Students" IRB # 04-242

I have reviewed your request to the IRB for exemption for the above referenced project. I concu
that the research falls within the exempt status.   Approval is granted effective as of April 22, 2(

cc: File
    Department Reviewer M. D. Alexander EL 0302

A Land Grant University Putting Knowledge to Work