College student satisfaction: the impact of Facebook and other factors

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College Student Satisfaction: The Impact of Facebook and Other Factors

by

Seth J. Powless, MBA, M.Ed.

Submitted to the Graduate Faculty as partial fulfillment of the requirements for

the Doctor of Philosophy in Higher Education

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May 2011
An Abstract of
College Student Satisfaction: The Impact of Facebook and Other Factors

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Seth J. Powless, MBA, M.Ed.

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This study examined the impact of undergraduate college student Facebook usage on college student satisfaction. Participants in the study completed an electronic survey to determine academic Facebook usage tendencies, non-academic Facebook usage tendencies, levels of involvement with in-person college-related activities, and feelings of being connected to the college or university environment. Both academic and non-academic Facebook usages, and level of satisfaction with the college experience were also topics of focus. Participants were undergraduate college students who were enrolled in Ohio colleges and universities during the spring of 2010. This study found that undergraduate college student Facebook usage impacts college student satisfaction, mediated by student’s feelings of being connected to his or her college or university.

Data from this survey (Appendix B) are discussed in conjunction with an extensive study on student involvement, social media websites, and student satisfaction.

Participants reported using Facebook both for academic and non-academic purposes. Participants also reported using Facebook regularly, often multiple times a day for various activities. Data analysis conducted within this study suggest that participants who used Facebook regularly are more satisfied with various facets of their college
experience, including academic and social experiences. This increase in level of satisfaction among participants appears to be mediated by feelings of being connected to the college or university environment. Results from the study have implications for both academic and student affairs professionals, concerning policy decisions on how college or university stakeholders utilize social media for academic purposes including pedagogy, recruiting, student learning, and student outreach.
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Chapter One

Introduction

As a result of the seismic shift in higher education funding nationwide, colleges and universities are constantly under stress to be more accountable to their stakeholders (Burd, 2003). State and local governments, contributing alumni, and business leaders continue to examine higher education outcomes such as retention, job placement, matriculation rates, and student satisfaction. In addition, students, the major stakeholders within colleges and universities, are becoming increasingly conscious of the value of their college experience. Consequently, universities are becoming more aware of the need to measure student perceptions of their overall college experience, paying attention to which areas students are involved in and how this involvement impacts their college experience (Astin, 1993; Heiberger & Harper, 2008, 2003; Tinto, 1993).

While college student involvement became a researchable focus for academic stakeholders in the late 1950s and 1960s (Astin, 1977; Boyer, 1987; Chickering & Reisser, 1993), it remains a pivotal topic in academic circles today because of numerous changes and growth within higher education (e.g., targeted student involvement, stricter budgetary analysis). The original intent of research on college student involvement (CSI) was to identify the variables related to the college experience and how these variables impact students, including the extent of this impact (Astin, 1993; Chickering & Reisser, 1993; National Survey of Student Engagement, 2009; Pascarella & Terenzini, 1991, 2005; Tinto, 1993). Historically, CSI research focused on an array of specific college involvements including curricular (e.g., attending class, working on projects, meeting with faculty), extracurricular (e.g., attending sports events, participating in clubs), and living arrangements (e.g., residence halls, off-campus).
Ensconced within all of these areas of involvement were numerous traditional college experiences as they existed over extended periods of time. These included dormitory living, classroom interactions, social activities with peers, participating in college functions, and faculty-student interactions both inside the classroom and in other locations on campus (Astin, 1993; Chickering & Reisser, 1993). Widely accepted, Astin’s theory on college student involvement (1977, 1993) concluded that the more involved a student is with his/her college experience, the greater the level of his/her achievement, satisfaction, and retention.

**Student Involvement**

Astin’s theory of college involvement (1977, 1993) postulates that student involvement exists on a continuum, with students exhibiting varying levels of involvement with various activities offered at their respective institutions. Student satisfaction enters into the theory by linking high involvement with high student satisfaction. The more involved a student becomes, the greater satisfaction a student will report with his/her overall college experience. Involvement includes social, academic, athletic, and all other college-related activities (Astin, 1993; Tinto, 1987). Thus, at the center of this long-standing exploration is the concept that higher student involvement correlates strongly to higher overall college student satisfaction (Astin, 1977, 1993; Brown & Mazzarol, 2009; Pascarella, 2001; Pascarella & Terenzini, 2005; Stevic & Ward, 2008). As a result of the findings regarding the importance of student involvement, universities nationwide utilize both national and institution-specific instruments that measure these topics in an attempt to gauge levels of involvement, levels of satisfaction, and the impact these have on resource allocation (Astin, 1993; National Survey for Student Engagement, 2009; Noel-Levitz, 2009a; Ullah & Wilson, 2007). Today, both student involvement and student satisfaction are widely investigated topics, crossing many disciplines and methodologies.
**Student Satisfaction**

While there is a host of student outcomes an institution can choose to examine (e.g., graduation rates, retention), students’ perceptions of their academic experience at their respective university is an important construct because one of the primary purposes of the modern college is to provide a positive overall college experience for students (Astin, 1977, 1993; Boyer, 1987, Chickering & Reisser, 1993). In contrast, students who are dissatisfied with their college experience are more likely to report this to their peers, and are more reluctant to return to that institution (i.e., they drop out). Furthermore, high attrition rates due to declining enrollment will impact institutional funding in a negative direction, as state funding to colleges and universities is directly related to number of enrolled students (Astin, 1993, Noel-Levitz, 2009b; Pascarella, 2001; Horowitz, 1987).

Many institutions employ surveys measuring student satisfaction (National Survey for Student Engagement, 2009; Noel-Levitz, 2009a). However, academic administrators continue to treat student satisfaction as an auxiliary goal rather than as a primary one (Astin, 1993). Universities nationwide utilize existing quantitative measurements like the Noel-Levitz Student Satisfaction Inventory (2009a) and the National Survey for Student Engagement (2009). While substantive satisfaction data continues to emerge, quantity and quality of involvement measurements are limited (Astin, 1993; Sun, Liu & Lacost, 2004; University of Virginia IAS, 2009) because of the broadly focused nature of these instruments. Identifying activities that students are highly involved in, or rarely involved in, is important in determining if a relationship exists between specific activities and overall satisfaction. Finally, measuring student satisfaction is crucial when determining if a university is following through on its intentions of meeting the
needs of its students, following and accomplishing its mission, and providing positive growth and challenges for its students.

Currently, there exists a lack of empirical data measuring student satisfaction as it relates to specific involvements available to the modern college student. Seminal works by Chickering (1969), Feldman and Newcomb (1969), Astin (1977), and Pascarella and Terenzini (1991) have consistently furthered the notion that the more involved a college student is with his/her college experience, the greater his/her satisfaction level. The challenge in today’s academic environment is to keep up with changing college involvements (e.g., technology use, full-time employment) and to continue to explore the impact of student involvement on student satisfaction. Combined, all activities have been shown to have some semblance of a relationship with student satisfaction; there are no individual variables that can explain student satisfaction (Sun, Liu, & Lacost, 2004). What makes this topic so pivotal today is that as state budgets shrink, academic institutions must contend with fewer resources leading to greater cuts in student activities. Likewise, student satisfaction becomes more important; the more satisfied a student is, the more retainable that student is, and the more likely he or she is to promote the university to their peers (Astin, 1993, Tinto, 1987). Given the consistent challenge of retaining students, exploring student satisfaction as it relates to newer college involvements can identify areas of improvement for university stakeholders, as well as impact retention rates (Holland & Huba, 1991; Legg & Wilson, 2009).

Social Connectedness

A consequence that is often overlooked in the literature on student involvement and student satisfaction is that of social connectedness. Social connectedness is often defined as a unique sense of interpersonal closeness and belongingness with the person’s social environment (Lee & Robbins, 1998, 2000). College students acquire this sense of connectedness by attending
extracurricular college functions (e.g., sporting events, joining clubs), engaging peers in and out of the classroom, and developing and maintaining relationships with peers, faculty, staff, and various other college stakeholders (Pascarella & Terenzini, 2005). Thus, students who exhibit high levels of involvement typically feel more connected to their social environment (Allen, Robbins, Casillas, Oh, 2008). In addition, students who feel more connected to their college or university also report higher levels of satisfaction with their college experience (Allen et al. 2008).

**Measuring Student Satisfaction**

The most predominant measurement of student satisfaction within universities today is the Noel-Levitz Student Satisfaction Inventory (SSI; Noel-Levitz, 2009). The survey measures student satisfaction on a host of areas through a comprehensive questionnaire. Once completed and returned, the SSI system ranks the importance of each item using a 12-point scale (Noel-Levitz, 2009a). The SSI is often used in efforts to address retention issues within individual universities. Many universities use the results of this survey with in-house faculty and/or staff surveys to gauge students’ perceptions about faculty and staff. The SSI is very thorough with regard to broad-based student satisfaction in both curricular and extracurricular activities, but it is limited in scope with regard to newer activities involving technology-driven activities (e.g., university-sponsored websites, college-related websites). Also, it does not allow for a detailed level of involvement measurements. For example, it would be enhanced if it included contemporary areas of involvement like website usage, job-related questions given that so many students work while in college, and examined level of involvement with these areas.

Attempting to build on the predominant satisfaction focus of the SSI, the National Survey of Student Engagement, or NSSE, (2009) examines level of student involvement with common
curricular and co-curricular activities, and then measures student satisfaction as they relate to those variables. These involvements include student-faculty interactions, students’ use of administrative resources (e.g., counseling centers, medical centers), and social activities (e.g., student government, clubs). Although the NSSE is more current with respect to the modern college environment, akin to the SSI, it does not focus or relate well with technology-based involvements like the use of college student social networking websites (SNS).

**Congruence between Involvement and Student Satisfaction**

Numerous universities engage in measuring both student satisfaction (Noel-Levitz, 2009a) and student involvement (NSSE, 2009) in part because of decreasing national retention rates (Holland & Huba, 1991; Lotkowski, Robbins, & Noeth, 2004). Despite these measurements, there remains a lack of practical support relating student involvement and student satisfaction (Astin, 1993). Countless theorists hypothesize that institutions render satisfaction and involvement unimportant due to a myriad of other concerns to deal with, such as graduation rates, student retention, and financial concerns (Astin, 1993; Belch, Gebel, & Maas, 2001; Boyer, 1987, Braxton, 2000; Holland & Huba, 1991; Horowitz, 1987; Levine & Cureton, 1998; Lotkowski, Robbins, & Noeth, 2004). Examining the relationship between involvement and student satisfaction is crucial with regard to institutional spending and improving student-institution relations in an ever-growing, financially challenging environment (Levine & Cureton, 1998).

**College Involvements Today**

When Astin began exploring student involvement and satisfaction, traditional environments and involvement opportunities were the norm. For example, the vast majority of students either lived on or off campus and with or without roommates (Astin, 1993; Boyer, 1990;
Noel-Levitz, 2009a; Tinto, 1987). Students participated in college-sponsored activities including clubs, athletics, and academic activities. Students rarely worked full-time while attending college, and there was little mention of technological activities such as electronic research and broad-based use of the Internet, both for college-related and non-college related activities (Heiberger & Harper, 2008). This was due in part to the technology not being fully realized yet. As such, both college staff and students have had to adapt to the recent cultural paradigm shift in academe. Today, many college students commute, never live on campus, and in certain instances rarely set foot on campus for anything extracurricular (Astin, 1993). Full-time employment is much more common, coinciding with the part-time college student dynamic (Levine & Cureton, 1998). Combined, the significant shift in the college experience that exists today has brought about new approaches to student learning, to the way students engage with their peers and faculty, and the way students spend their time. Because these newer involvements continue to evolve (Heiberger & Harper, 2008), it is critical to continue exploring the new dimensions of student involvement in today’s ever-changing university landscape. One such dominant evolutionary change in student involvement is the emergence of electronic mediums, particularly the use of online social networking websites, and their importance to college students (Heiberger & Harper, 2008).

**Online Social Networking Websites**

In the past 10 years, usage of SNS has become a dominant activity for college students (Aragon, 2007; Boyd & Ellison, 2007; Heiberger & Harper, 2008). SNS usage commenced in the mid-1990s as a novel form of online communication and, by 2003, incidents of communication on SNS surpassed the rate of in-person interactions among college students, who were now responsible for over 80% of SNS usage (Boyd, 2004; Boyd & Ellison, 2007). In the
beginning, SNS were created around specific topics and forums, ranging from politics to special interest groups (Chafkin, 2007).

Friendster was the first mainstream SNS to focus on all societal markets including college students. MySpace, arguably, was the foremost SNS, as evidenced by the mass exodus of users from an array of website chat rooms to the MySpace online community. MySpace started as a music community for aspiring musicians to share their music (Chafkin, 2007), but quickly gained traction as a universal social network, with millions of users signing up for free accounts at a rapid pace (Chafkin, 2007). Today, the electronic rolodex movement (McConnon, 2007) emphasizes overall community building, with MySpace and Facebook dominating the electronic market with respect to number of users and frequency of use (Chafkin, 2007; Junco & Cole-Avent, 2008).

For a host of reasons, Facebook has become the primary SNS among college students, leaving MySpace in its wake (Boyd & Ellison, 2007; Junco & Cole-Avent, 2008; Read, 2004; Stein, 2007). Facebook’s emergence is due in part to its original intent, which was to provide a social network only for college students. MySpace evolved for anyone and everyone, while Facebook stuck to its college student focus, including alumni. What is even more fascinating about this trend is the emergence of business and academic professionals who have migrated to Facebook in order to reach out to this growing demographic (Hof, 2007). Business professionals utilize Facebook to create target demographics in order to track marketing preferences. Companies like Microsoft, Best Buy, and Google have implemented best practices designed at capturing audiences on Facebook for sales and marketing data mining (Hof, 2007). In academia, college professors have begun utilizing Facebook to communicate with students, conduct broader research across multiple universities, and to demonstrate their collegiality with their students.
through relationship building (Charnigo & Barnett-Ellis, 2007; Heiberger & Harper, 2008; Read, 2004). SNS involvement is quickly surpassing the use of email (Boyd & Ellison, 2007).

Students utilize Facebook for primarily social reasons, but a growing trend among students is the use of Facebook for co-curricular activities. Academic clubs, groups, class announcements, and invitations to academic engagements are all being fostered by students, for students (Bugeja, 2006; Sisson & Wiley, 2007). This growing usage no doubt impacts student involvement with existing activities, along with impacting the overall college student experience (Astin, 1993; Chickering & Reisser, 1993; Tinto, 1993). As Facebook involvement grows among university stakeholders, an electronic community is emerging that could create a host of implications for student learning, graduation rates, and student satisfaction (Mazer, Murphy, & Simonds, 2007; Read, 2004). Already, there are preliminary studies examining the impact of Facebook on grade point average (Karpinski, 2009) and faculty across the country are beginning to utilize Facebook as a medium for student learning (Heiberger & Harper, 2008; Mazer, Murphy, & Simonds, 2007).

Positive effects aside, there remain a host of negative outcomes associated with this progression of SNS usage among college students. In-person communication among students, and between students and faculty or staff, is becoming an almost secondary choice to online communication (Heiberger & Harper, 2008). As a result, college students are slowly losing some of their communication skills (Massimini & Peterson, 2009). Second, the greater amount of time spent on SNS results in less time socializing in-person and, as a result, more college students are reporting feeling a sense of isolation from their peers (Baker & Moore, 2008). Third, students who use Facebook are likely substituting this usage time for previous in-person activities, studying, or a host of other more fulfilling college-related engagements (Karpinski,
Lastly, SNS communication has spawned an entire new form of language, often informal and student-jargon centered. The use of this language may impede a student’s academic career (Boyd, 2007) such that students may begin incorporating this language in assignments. While SNS usage may provide broad networking opportunities, technological advances among students, and inexpensive mediums for communication, the potential for negative effects such as lower grades and communication breakdowns should not be discounted.

Regardless of how SNS usage is viewed, this growing trend of electronic involvement and communication has implications for existing research on student involvement as well as where it may be headed in the future (Astin, 1999; Boyd, 2008; Heiberger & Harper, 2008; Hunt, 2003; Jones, 2002). In a more recent study, the existing body of research was furthered with regards to Astin’s Involvement Theory (1999), which contended that faculty engaging students electronically (i.e., email, web-based classroom discussions) impact student engagement and could enhance student learning. Researchers in increasing numbers are beginning to explore both the academic effects of spending too much time on SNS (Heiberger & Harper, 2008) and the social and academic outcomes associated with avoiding SNS (Bigge, 2006).

**Statement of the Problem**

Facebook usage has tremendously increased among college students, impacting them both positively and negatively. While a handful of studies have made some progress in identifying and documenting the impact (Bigge, 2006; Heiberger & Harper, 2008), little has been done with these studies, including relating the impact to college student outcomes. The demand for accountability from university stakeholders has made college student outcomes a critical issue within higher education. Consequently, student satisfaction, as it relates to academic success and other crucial student outcomes, has become an ever-growing topic for discussion in
higher education. Student satisfaction remains an increasingly important variable in the student retention challenges within colleges and universities today. In addition, reasons for this examination include an evolving higher education climate that emphasizes electronic mediums, like email and SNS (Heiberger & Harper, 2008), along with a greater emphasis on newly minted student involvement variables like social media usage among college students. Furthermore, identifying strengths of SNS usage among college students, including a students’ feeling of institutional connectedness, could improve university efficiency with respect to identifying student satisfaction strategies and approaches. This detection could, in effect, play a large role on fiscal policies within universities. There is little argument that electronic communication mediums are becoming more popular among faculty, staff, and students (Boyd & Ellison, 2007; Jones, 2002). As such, examining SNS is just one of the ways the academic populace can utilize this technology for the common good of all academic stakeholders.

This examination was conducted within the relevant electronic environment. Furthermore, instead of emphasizing past college environment variables related to student satisfaction (e.g., dormitory environment, extracurricular involvements) this study examined involvement as it pertains to SNS, focusing on the impact SNS usage has on student satisfaction, consistent with Astin’s conceptual framework on student involvement and student satisfaction (Astin, 1999; Heiberger & Harper, 2008).

**Purpose of the Study**

This study aims to further our understanding of the influence that online social networking websites, such as Facebook, have on college student satisfaction at four-year public institutions of higher education in Ohio. Higher education administrators would be able to make more informed decisions about financial resources and support of Facebook initiatives through
better understanding of Facebook’s impact on college students. Determining whether or not a relationship exists between student Facebook usage and college student satisfaction, as well as the impact of this relationship, is perhaps the first step. This process of understanding Facebook’s impact begun by utilizing Astin’s theory of involvement (1993) to determine the level of involvement with Facebook and how well Facebook usage and impact related to student satisfaction. Regression analysis, which allows for relationships between specific, independent variables like Facebook usage and dependent variables like student satisfaction, was utilized to quantitatively test Astin’s involvement theory. Second, to better understand Facebook usage and impact, electronic data collection procedures were employed to determine student’s Facebook usage frequency, the level of student’s Facebook usage exhibited, and student’s perceptions of their overall Facebook usage. Facebook was the chosen medium because of its predominance over its competition, along with its validated representation of all SNS (Boyd, 2007; Chafkin, 2007; Hieberger & Harper, 2008). Third, student connectedness, the concept of a student’s feeling a belonging or closeness to his or her college or university, was also examined with respect to its role in the Facebook usage-student satisfaction relationship.

This study also contributes to current research efforts in higher education. Although many studies have explored the relationship between student involvement and student satisfaction (Astin, 1993; Boyer, 1990, Evans, Forney, & Guido-DiBrito, 1998; Reisser, 1995; Tinto, 1993), few have explored more contemporary types of student involvement including technology, social media, and website usage (Boyd, 2007; Heiberger & Harper, 2008). SNS usage has increased exponentially over the past five years (Boyd, 2007, Heiberger & Harper, 2008) and has become a college electronic environment analogous to variables Astin introduced throughout his research on both student satisfaction and involvement (e.g., in-person peer
communication, involvement with clubs; 1977, 1993). Furthermore, focusing on a specific technology-based activity such as Facebook, and its impact on student satisfaction, was groundbreaking research territory because this technology is only recently being harnessed by such a large audience for multiple academic and social functions.

**Significance of the Study**

This study adds to the extensive body of research that exists on student involvement and student satisfaction. It furthers the strength of the argument that student involvement is a critical field of study with respect to student outcomes. More importantly, this study introduces to the body of research a new phenomenon within higher education: technology-driven involvement activities. Because there is such paucity in the research on technology-based activities such as Facebook, this study paves the way for more detailed examinations of the impact of technology on the college experience.

Findings from this study have implications for college students, faculty, and senior academic administrators within individual universities. Astin demonstrated longitudinally (1977, 1999) that a relationship exists between student involvement and satisfaction. Universities benefit from homing in on this relationship to better serve its students. Students may benefit from this analysis by coming to understand the importance of utilizing SNS as well as understanding how Facebook usage impacts his or her college experience.

Faculty can also benefit by learning how to harness such technology to improve their role in student satisfaction. These technology-driven types of involvements allow for faculty to foster new strategies of mentorship and relationship-building with students, a key element of student satisfaction (Astin, 1993, Boyer, 1990, Tinto, 1987, Pascarella & Terenzini, 2005).
Academic administrators, including department chairs and academic deans, may also find utility in the results of this study. They may choose to emphasize academic usage of Facebook in order to improve faculty-student relationships through peer mentorship. Administrators may utilize Facebook for recruiting and retention efforts in an attempt to reduce expenses for these tasks, as most SNS are free of charge. Finally, converging technology with existing curricula (i.e., Facebook usage as a part of a course curricula) could boost academic outcomes, including demonstrating a more technology-friendly academic environment. In addition, considering that much research suggests that advisor-student relationships are pivotal to student satisfaction, student service offices may start to utilize Facebook and other SNS to provide an innovative and useful approach to student outreach and relationship building.

By contrast, findings that suggest a negative effect of SNS usage could also be a benefit with respect to relying on these SNS more in the future. Faculty and staff who currently promote SNS usage related to student satisfaction could begin to truncate the benefits of SNS usage, and highlight the challenges associated with SNS usage. Students who utilize SNS could be made aware of the numerous dangers associated with SNS and, in turn, be encouraged to reduce their usage. Administrators may choose to restrict SNS availability on campus, and reduce their own usage for academic purposes.

Large numbers of college students are migrating to Facebook, utilizing it as a communication tool as well as an activity (Bugeja, 2006; Heiberger & Harper, 2008). Thus, this area of involvement is very innovative and, regardless of the risks, appears to be here to stay in the college environment. Examining this phenomenon is critical given the mass appeal among college students, the financial implications of a free technology medium encompassing so many students, and the reality that if college students are utilizing this, university administrators should
explore the implications and effects of this involvement (Astin, 1993). Thus, this study served as a beginning point for future research on Facebook.

**Underlying Assumptions of the Study**

Several assumptions about the survey instrument and theoretical constructs are utilized in this study. The first assumption was that Astin’s theory of student involvement is a valid and practical theory in studying student satisfaction. The second assumption was that the contemporary research, suggesting that students are migrating to Facebook as a more popular communication medium, is accurate and still relevant today. Next, it was assumed that Facebook is the dominant form of SNS communication among college students. Fourth, it was assumed that students view Facebook as a college environment variable, and that Facebook fits Astin’s (1993) definition of a college environment variable. Lastly, it was inferred that Facebook is a sufficient representative of all SNS and does not deviate from the vast majority of SNS with respect to content and purpose.

This investigation also made assumptions about population, demographics, and statistical analysis. The population of students who are accessible through Facebook, and attend a four-year college or university in Ohio in the spring of 2010, was assumed to be a representative sampling of all undergraduate students. Regarding the demographics, it was assumed that students who created a Facebook page, and participated in the study, identified their characteristics accurately and responded truthfully to the survey questions. Lastly, it was assumed that a multiple regression analysis is both a valid and practical approach to exploring the relationship and comparison between student satisfaction and Facebook usage by college students.
Research Questions

1. How do undergraduate college students utilize Facebook?
2. To what extent does the level of undergraduate student Facebook usage impact undergraduate college student satisfaction?
3. To what extent does the level of undergraduate student Facebook usage impact students’ perceptions of feeling socially connected to their college or university?
4. What other factors impact undergraduate college student satisfaction?

Limitations

This study had restrictions due to the theoretical framework and research design. First, the population was narrowly defined. undergraduate college students who attend a college or university in the state of Ohio were the focus of this research study. Second, students who do not have a Facebook account were, in effect, excluded from this study of Facebook usage and impact. Third, the population defined in this study, while large and geographically diverse, typically was homogenous with respect to what reported demographics utilize Facebook, particularly with respect to race. Fourth, detailed curricular and extracurricular involvements (e.g., specific clubs, specific interactions with peers) and institution-specific activities were not considered. Finally, the research study did not attempt to validate all aspects of Astin’s involvement theory.

Definitions and Operational Terms

*College Student Involvement* refers to the amount of physical and psychological time or energy used by a college student devoted to a particular college-related experience or activity (Astin, 1993).
*Involvements* refer to the specific involvement variables themselves, which include both physical (i.e., in-person) and electronic (i.e., SNS usage) involvement variables (Astin, 1993; Heiberger & Harper, 2008).

*College Student Satisfaction* refers to the level of enjoyment or realization of a requirement, aspiration, or expectation involving the college experience (Astin, 1993).

*Social Connectedness* or *Connectedness* refers to the unique sense of interpersonal closeness and belongingness to a person’s social environment (Lee & Robbins, 1998, 2000). This study will focus on the college environment as the dominant social environment.

*College Environments* refer to all college-related experiences including academic, extracurricular, and co-curricular which coalesce both academic and extracurricular (Rodgers, 1990).

*Social Media* refers to a group of websites based on user participation and content. They include social networking sites like MySpace or Facebook and other sites that are centered on user interaction.

*Online Social Networking* is treated as the concept of individuals being able to access existing social network websites, construct a public or semi-public profile within the website, engage in communication with other users, and connect with other individuals whose electronic profiles they have examined within the social network (Boyd & Ellison, 2007).

*Social Networking Sites (SNS)*. websites housed on the Internet designed to foster social interactions among users through electronic messaging, live chat-room web links, and the creation and maintenance of a self-designed electronic profile. Information within this profile can include demographics, personal feelings, choices, points of interest, and social, academic, and/or professional opinions.
Facebook is a social networking website designed by college students for college student interaction, networking with peers, and identity-sharing (Boyd & Ellison, 2007).

Summary

Universities nationwide remain under a lot of strain to produce greater positive outcomes including increased academic success and satisfaction among its students. Because of an increased presence of state officials examining these outcomes (Commission on Higher Education and the Economy, 2004), the focus on outcomes by university administrators continue to grow in importance. In addition to this increased focus on outcomes by administrators and state officials, due in part to financial concerns, the evolving higher education environment has brought about changes within the academic community. The college experience continues to evolve, which challenges student services professionals and faculty to constantly update their approaches to academe. Lastly, today’s college student has evolved as a result of the changing college environment, which is heavily dependent on technology. Whereas student involvement and satisfaction research from the 1960s through the 1990s explored the impact of physical college variables such as dormitory living and interactions with faculty and peers on the college outcomes, today’s research comes up short with respect to newly minted electronic environments like electronic mail, text messaging, and SNS usage.

Astin’s (1977, 1993) seminal work on student involvement, as it relates to student satisfaction, has been thoroughly studied over the past 30 years and is considered highly validated. His theory on student involvement was used as a theoretical framework to understand how new college environments and involvements impact college outcomes, particularly academic success. A large component of academic success is student satisfaction (Astin, 1993, Boyer, 1990, Tinto, 1993). Because electronic communication and web-based environments
emerged (e.g., email, web-assisted classrooms) only in the past 10 years, there exists a gap in the involvement and satisfaction research with respect to these new environments (Heiberger & Harper, 2008).

Today, Facebook, an SNS, has become the dominant medium that students utilize for social interaction (Boyd & Ellison, 2007; Heiberger & Harper, 2008). Faculty and administrators, aware of this Facebook trend, are becoming a significant demographic on the Facebook network, both for personal and professional communication (Heiberger & Harper, 2008). Students, faculty, and staff are devoting more time and energy to online social networking websites and this trend is only increasing (Boyd & Ellison, 2007; Jones, 2002; Heiberger & Harper, 2008). Current research (Fogg, 2008; Lipka, 2007) suggests that with college students’ migration to SNS on the rise, faculty and administrators will continue to follow suit. Facebook represents the dominant SNS as reported through the limited research on social media (Bugeja, 2006; Heiberger & Harper, 2008).

The purpose of this study was to gain a better insight into how Facebook and other SNS fit into Astin’s theory on involvement and student satisfaction at public universities in Ohio. The results of this study serve as an important piece of the ever-growing but limited literature on SNS, online environments, and their relationship with student satisfaction. The implications of this relationship may impact all academic stakeholders including students, faculty, and administrators.
Chapter Two

Literature Review

Introduction

College student involvement continues to be an important focus for all higher education stakeholders including faculty, staff, and higher education policy administrators. Existing literature dates back to the 1970s and emphasizes which college involvements impact college student satisfaction, a significant predictor of college success (Astin, 1977, 1993; Curtler, 2001; Pascarella, 2001; Pascarella & Terenzini, 2005; Tinto, 1987). Whereas many of these studies are multi-institutional, single-institution studies conducted by graduate students and faculty alike remain the dominant body of research (Belch, Gabel, & Maas, 2001). In addition, a growing interest in web-based engagements and activities has emerged in part because of the increased number of online activities available to college students (Boyd & Ellison, 2007; Heiberger & Harper, 2008). These include college-sponsored online courses, web-based college administration (e.g., electronic registration, bill-pay), and both college-sponsored (e.g., Epsilen academic environments, academic-share websites) and non-college sponsored web-based social networking sites (i.e., Facebook).

The implications for both compulsory electronic student immersion and optional electronic engagements are broad, and could impact numerous aspects of higher education, particularly college success. Because students routinely choose to spend greater quantities of time on non-compulsory electronic engagements such as Facebook, focusing on the SNS area of the electronic environment is practical.

Different approaches to examining college students’ SNS usage and its relationship to overall college student outcomes can be applied. One such approach is to treat SNS usage as a
college involvement and explore Astin’s Involvement Theory (1977, 1993). Examining college involvements as Astin defined them, and introducing more contemporary involvements such as technology, is perhaps the most reasonable approach to determining the impact of such a relationship.

**Astin’s Talent Development**

Within the parameters of college student involvement lies the premise that colleges and universities boast a central tenet of developing certain aptitudes of its students (Astin, 1993). These talents can include academic abilities, personal goal attribution, and/or civic duties undertaken by students. Talent development exists in a range that commences with the first day of college and concludes with the student finishing his/her academic program (Astin, 1993). Astin contends that colleges and universities are responsible for offering a host of talent development opportunities of both the curricular (i.e., academic-related opportunities) and extracurricular (e.g., social events, recreation programs) nature. The dominant talent development variable of a college experience is academic in nature (Bowen, 1977), but it is supported by a host of extracurricular engagements (Astin, 1993). Colleges and universities can choose what talents they wish to emphasize, but what cannot be ignored is that students who engage in the overall college experience, both academic and supporting involvements, will likely gain many of these talents (Astin, 1993).

**College Student Involvement**

As a field of study, college student involvement arguably emerged with the creation of student relations, dean of student positions, and student personnel departments within academe in the late 1930s and through the 1960s (American Council on Education, 1937). Examining overall student development became a legitimate concern within higher education. A large part
of this research emerged in the 1970s with Astin’s seminal work on college involvement and its relationship to college outcomes such as graduation, student satisfaction, and student retention (Astin, 1977, 1993; Tinto, 1987). Defined, student involvement “refers to the amount of physical and psychological energy that the student devotes to the academic experience (Astin, 1985, p. 134). Student involvement includes decisions students make regarding their college experience, from choosing classes to participating in extracurricular activities (Belch et al., 2001).

While there exist variations on Astin’s theory of involvement (Rodgers, 1990), the central theme is college student participation, interaction, engagement, and/or attendance in college-related activities, which begin when a student starts his/her college experience. Examples of involvement include attending classes, associating with friends, meeting with faculty and staff, attending social events, and participating in sports, to name just a few (Astin, 1993). In addition to quantity of involvements, there is also a quality component. Levels of involvement impact college outcomes as well (Astin, 1977, 1993). These levels of involvement can range from little or no participation, to extensive, in-depth participation on a daily or multi-daily basis.

**Involvement Theory**

Astin contends that there are five principles that comprise involvement theory and remain representative of all aspects of student involvement, including academic and extracurricular involvement (Astin, 1977, 1991):

1. Involvement involves the amount of physical and psychological energy invested in various activities.
2. Involvement occurs along a continuum within the student’s college experience, with students exhibiting varying degrees of involvement that is contingent upon the individual student and individual activity.

3. Involvement is a qualitative and quantitative measurement.

4. Individual student characteristics (e.g., educational path, level of growth) related to specific programs or activities are comparable to the quantitative and qualitative involvement levels in that specific program or activity.

5. Effective educational policies and practices decided by administrators are related to the level of student involvement these policies and practices accord.

The overall theme of involvement theory is that student’s growth will be positively affected by becoming meaningfully involved in an institution’s environment; meaningful involvement thus has a positive impact on student satisfaction, graduation rates, and student retention (Pascarella & Terenzini, 2005; Tinto, 1993). The primary challenge validating involvement theory is to identify specific kinds of involvement related to student participation, and then measure the impact, if any, of these different types of involvements. Once identified, connecting measurable involvement levels to specific student outcomes (e.g., level of participation in sports and its impact on student satisfaction) follows.

**Student Involvement Measurements**

The concept of student activities encompasses all activities at or on a university campus and varies based on a host of factors, including location of the university, the type of institutional culture, and the availability/popularity of activities. Despite the variance, there are universal areas of involvement in universities including participation in social groups, academic groups/clubs, athletic-related programs, volunteer activities, and individualized participatory
activities (Anaya, 1999; Astin, 1993, Kuh, 2001; Pascarella & Terenzini, 2005). The existing research has always been consistent in this regard, examining broad facets of student involvement within the aforementioned categories (e.g., academic social, athletic) and, thus, not reaching the crux of what specific involvement variables within these categories impact student outcomes directly (Astin, 1993, Curtler, 2001, Tinto, 1987). This includes both quantitative and qualitative examinations, with survey research appearing to be the most common method for examining student involvement. Astin (1977, 1993) developed numerous surveys in his exploration of the topic, including entrance surveys for incoming freshmen and exit surveys for graduating students. In addition, qualitative researchers (Belch et al., 2001, Tinto, 1987) have employed interviews, observations, and focus group methods in their study of student involvement.

Although extensive qualitative and quantitative research exists on student involvement at specific institutions, via theses and dissertations, as well as at the state and national level (Astin, 1993, Pascarella & Terenzini, 2005), these examinations have not been employed consistently each year. As a result, the paucity of current student involvement research includes limited exploration on newly minted student involvement variables, particularly the emergence of technological involvements (Boyd & Ellison, 2007; Heiberger & Harper, 2008). In addition, national studies serve as an outline for specific institutions to model (Astin, 1985), but often lack localized characteristics (e.g., geographic location, climate-related activities) endemic to specific institutions. Consequently, in light of the recent and perhaps continued budget shortfalls in academia, statewide examinations could prove useful for state governments with respect to statewide higher education budget cuts and decisions.
Measuring SNS Involvement

There are countless research instruments in existence that measure student involvement at both the local level as well as at the national level (Astin, 1977, 1993; National Survey of Student Engagement, 2009; Noel-Levitz, 2009a). These constructs include localized, institution-specific instruments created by faculty and/or additional internal stakeholders (Astin, 1993) or national-level instruments designed for broad-based examinations created with multi-institutional measurement in mind (National Survey of Student Engagement, 2009; Noel-Levitz, 2009a). These instruments are often outmoded, usually relying on a generalized list of prescribed activities that are ongoing and validated within dominant categories such as academic, social, and athletic. Some of the methods for measuring involvement in these activities include counting members, surveying participants, and documenting attendance (Belch et al., 2001; Kuh, 2001).

SNS usage or involvement with SNS can be measured using any or all of the aforementioned methods. For example, if an institution desired to know the number of students who have SNS accounts or utilize SNS, a simple survey of students could be administered and the data submitted to the institution. This technology phenomenon of SNS usage is a new concept in academe, and the emergence of substantial increased technology usage among college students is only recently becoming an explored research topic. The evidence for student involvement with technology is substantial (Boyd & Ellison, 2007; Bugeja, 2006; Heiberger & Harper, 2009). Determining both the quantity and quality of student involvement with SNS would be beneficial for an institution because it may be possible to utilize SNS for academic and administrative purposes.
Defining Student Satisfaction

Student satisfaction can be defined as the relationship between students and their college experience (Astin, 1993). There exist multiple levels of satisfaction that can vary by institution, specific variables (e.g., sports, faculty, dormitory living), and demographic characteristics (e.g., gender, age). While researchers over the past 30 years have acknowledged the import role that student satisfaction plays on a host of college outcomes (e.g., retention, academic success), colleges and universities continue to limit resource allocation dealing with low student satisfaction findings (Astin, 1993; Kuh & Hu, 2001; Terenzini, Pascarella, & Blimling, 1996; Tinto, 1993). However, just as low student satisfaction has implications, high student satisfaction can impact a host of student outcomes, particularly student retention, student academic success, and social connectedness.

Student satisfaction and retention. Retention refers to the ability of a college or university to keep its students in college, year after year, until their college education is complete at the undergraduate level (Astin, 1993, Tinto, 1993). Growing competition, increased costs associated with both recruiting and keeping students, and a decrease in state budget allocation to higher education overall are just a handful of the reasons student retention remains a pivotal challenge in higher education. There is little doubt however that student satisfaction is a significant indicator of why students drop out or transfer to a different college or university (Astin, 1993, Moore, Lovell, McGann, & Wyrick, 1998; Tinto, 1987). Today, student satisfaction is viewed as an outcome that can be properly examined, directly impacts a college or university, and affects change to the student retention challenge.

Student satisfaction and academic success. One consistent primary goal of any college or university is the success of its students from an academic perspective (Astin, 1993; Pascarella,
1985, 1991; Pascarella & Terenzini, 2005). Academic success can include degree completion, high grade point average, ability to speak intelligently about one’s primary discipline, and confidence in academic abilities for the future (Kuh, Kinzie, Schuh, & Whitt, 2005).

Historically, students who exhibit high satisfaction with their current college experience also experience greater levels of academic success (Braxton, 2000; Kuh, Schuh, & Whitt, 1991; Pascarella & Terenzini, 1991, 2005).

**Student satisfaction and social connectedness.** There has been a large amount of research dedicated to the impact social relationships and social belonging have on the college experience (Braxton, Johnson, & Sullivan, 1997; DesJardins, Ahlburg, & McCall, 2002; Pascarella & Terenzini, 2005). Combined, the research concludes that students who feel socially accepted by their peers have greater academic success, higher retention, and higher overall satisfaction (Astin, 1993; Pascarella & Terenzini, 2005). This feeling of social acceptance is often defined as social connectedness, or, a unique sense of interpersonal closeness and belongingness to the social world (Lee & Robbins, 1998, 2000) and thus a greater sense of attachment to the college or university itself (Allen et al. 2008; Pascarella & Terenzini, 2005).

**Student satisfaction measurements.** There is a host of student satisfaction instruments that universities employ, though the dominant survey methods nationally are either the satisfaction-focused SSI (Noel-Levitz, 2009a) or the hybrid satisfaction/engagement measuring NSSE (2009). Hundreds of colleges or universities currently utilize one or both of the aforementioned instruments (National Survey of Student Engagement, 2009; Noel-Levitz, 2009a) when measuring student satisfaction. The surveys quantitatively examine a wide array of topics, and then rank the importance of each using a 12-point scale. These instruments can be utilized to gauge both student satisfaction as well as faculty/staff perceptions, thus creating a
comparison of the two. Although comprehensive, the SSI is limited in scope to institution-specific activities as well as more contemporary activities, including technology involvements like SNS usage. The NSSE examines student satisfaction as it relates to student engagement with a wide array of general college variables such as living arrangement and amount of time spent in the classroom. The NSSE is perhaps limited from a research perspective because it does not emphasize more current involvements, including student involvement with technology.

Few colleges or universities effectively assess student satisfaction (Astin, 1993). Even those that measure student satisfaction do not utilize the data productively, often choosing to report the levels and conclude the assessment with that report (Astin, 1993, Outcalt & Skewes-Cox, 2002). Thus, it can be inferred that colleges or universities do not consider student satisfaction to be a necessary measurement despite its usefulness and validation. Finally, when student satisfaction is examined, faculty and higher education administrators continue to overlook associated relationships like satisfaction and retention or satisfaction and academic success (Astin, 1993; Outcalt & Skewes-Cox, 2002).

**Student Involvement and Satisfaction**

Astin’s work on involvement hypothesizes that the greater the involvement in a college-related activity, the greater quantity and quality of talents a student may develop and reveal, including higher academic success (e.g., better grades, confidence in academic coursework), stronger social relationships, and defined personality traits (Astin, 1985, 1991). Simply put, students who get involved with college-related activities experience greater levels of overall talent development, which will likely impact student satisfaction along the same continuum (Astin, 1985). Thus, an inference can be made that students who exhibit higher levels of involvement will also exhibit higher levels of satisfaction with their college experience.
Conversely, the less involved a student is with college activities, the less satisfied they will be with their college experience.

As previously mentioned, there exist a number of student satisfaction instruments and many colleges and universities conduct these survey measurements. One prevalent challenge however is that little research exists on the quantity and quality of student involvements introduced by these instruments. Establishing the relationship between students’ involvement with specific areas of the college experience overall satisfaction levels would be useful for a number of reasons, particularly resource allocation and faculty/staff emphasis of these involvements. Astin, among other higher education researchers (Astin, 1993; Boyer, 1987; Stevic & Ward, 2008; Tinto, 1993), argues that the level of involvement is also pivotal in measuring student satisfaction. Current measurements are limited in this respect, often examining whether or not students are satisfied with specific activities (Astin, 1993; Noel-Levitz, 2009a) versus how involved students are with these activities.

Finally, identifying if a relationship between student satisfaction and involvement exists would serve both the institution as well as all stakeholders, particularly students, faculty, and staff members. Validating such a relationship would allow students to make more informed decisions about potential activities and engagements. Furthermore, if faculty and/or staff members were able to discern what relationships exist between student satisfaction and specific involvements, they too could employ these involvements in curricular-based pathways including utilizing these activities in their course planning, participating in these activities when possible, and marketing these activities to their students.

Despite this obvious benefit of targeted marketing of activities that could impact retention, guide financial planning, and enhance the college experience, studying the relationship
between satisfaction and involvement is not a priority for most college and universities (Astin, 1993, Moore, Lovell, McGann, & Wyrick, 1998). This lack of interest among university stakeholders could be in part because college and university administrators have budget cuts, attrition, and other vital issues to address. However, a parallel can be drawn to the contemporary issues institutions face today and student satisfaction and involvement. For example, if a specific type of college involvement is deemed not to impact student satisfaction, or impact it negatively, that type of involvement could be eliminated, thus benefiting the institution financially. Conversely, if a college activity is highly popular and related to high student satisfaction, resources could be reallocated to that activity to further promote it.

Colleges and universities can benefit from studying student satisfaction and its relationship to specific college involvements. This relationship can prove helpful in aiding colleges and universities with respect to allocating ever-decreasing financial resources as well as providing a blueprint for faculty and staff to assist with the development of students’ individual talents. In addition, this blueprint of sorts could transfer to other universities throughout the country, which would allow for better informed decisions with regard to program elimination and how to cultivate students’ talents more effectively.

The basis for studying specific areas of student satisfaction and involvement is derived from associating the benefits of college attendance with specific non-academic college activities (Astin, 1993; Boyer, 1987; Kuh, Schuh, & Whitt, 1991). In Astin’s seminal work (1977), conclusions were made that social interactions among students were attributable to higher student satisfaction with the college experience. This included being involved in clubs, organizations, attending parties, attending sporting events, interacting with peers, and many other extracurricular activities (Astin, 1993). Astin’s research paved the way for individual colleges
and universities to measure and assess student satisfaction and involvement on their respective campuses.

Even more fascinating, Astin (1985) found that all forms of student involvement were related to personality changes within students. The more students got involved with academic activities (e.g., attending class, academic groups) and extracurricular engagements (e.g., attending sporting events, frequenting the student union), the more socialized they became, and the more socially connected they felt to their peers (Pascarella & Terenzini, 2005). Therefore, students strongly benefitted from being involved with the college experience. Despite the academic demands of college, students do not spend the majority of their time on academics. Thus, specific non-academic activities become all the more relevant when examining student satisfaction and involvement. National researchers (Astin, 1977, 1993; Heiberger & Harper, 2008; Tinto, 1987) have concluded that there is a relationship between student satisfaction and extracurricular involvements (e.g., attending sporting events, playing in recreational sports), as well as with curricular involvements (e.g., engaging faculty in the classroom, working on group projects). The question that remains, however, is whether this relationship includes more contemporary types of student involvements that exist in today’s college experience, particularly involvement with technology-driven social networking websites.

**Technology-Based Involvements in College**

Technology growth is perhaps the most significant change to the overall college experience today (Heiberger & Harper, 2008). Technological changes commenced with colleges and universities utilizing computers and intranets (i.e., a private composite of websites available to internal stakeholders only) for business dealings (e.g., tuition payments, registration), for research purposes, and for developing pedagogy (e.g., email, co-curricular Internet requirements).
that incorporates technology (Berg, Bergaum, & Christoph, 2007; Heiberger & Harper, 2008). Faculty and staff began engaging students and one another via email and through websites as part of this initial growth in technology use. The initial use of technology as a medium for communication produced a substantial technology movement; entire college classes became electronic, and the success of these online class offerings spawned all-inclusive electronic universities (Chafkin, 2007). As a subcomponent to these online classes and entire universities, online communities were introduced as part of a course, department, or university. These online communities, akin to a community-wide email distribution, often serve as an intermediary for information distribution.

Today it is quite common for a student to conduct almost all of his/her administrative requirements (e.g., registration, paying tuition, buying books) electronically, and, due to cost containment, administrators encourage this technological dependence. Within the academic side of college, there exist countless electronic research databases to foster student learning and supplement in-class learning and reading. Virtual libraries are a component of university library systems, and online research journals are growing exponentially. In addition, numerous faculty members have their own Internet websites, promoting research and resources for students and colleagues alike.

Student services have not fallen behind in the technology movement either. Student clubs, groups, and activities are all promoted through university-sponsored websites. Registration for participating in university-sponsored activities, purchasing tickets to university-sponsored events, and finding out more information about student activities are all available as electronic offerings (e.g., websites, intranets). As a result of all of this technological emergence and expectation of use in colleges and universities, students have succumbed to this
technological shift; today’s college students have been appropriately titled the “Facebook Generation” or the “YouTube Generation” (Boyd, 2006a; Boyd & Ellison, 2007; Heiberger & Harper, 2008). This equates to a generation of students raised primarily on technology. In addition to email and text messages, websites and virtual communities of all varieties (e.g., Facebook, LinkedIn) have exploded onto the technology scene, and continue to grow in popularity and use (Heiberger & Harper, 2008).

The Internet in the college and university environment did not fully take shape until the late 1990s (O’Leary & O’Leary, 2008) with the emergence of online research mediums. While the Internet and the concept of web pages have been around since the 1960s and early 1990s, respectively (O’Leary & O’Leary, 2008), it was the mainstream media that allowed them to evolve into the necessary components of society that they are today. News and information websites emerged and grew as they became popular. College students began using the Internet for academic purposes (e.g., research, writing assistance), and the web pages they procured consisted of information and data tangential to their academic careers (Berg, Bergaum, & Christoph, 2007). This electronic information could include articles, book reviews, and career search data all obtained from the Internet. At the heart of the Internet explosion among college students was the emergence of email correspondence and, later, social networking websites. From chat room websites to entire online communities, the Internet has transformed college students’ social experience, both before beginning their college careers, and throughout (Boyd & Ellison, 2007).

It can be argued that email was really the first dominant social networking website (SNS or SNS) to hit college campuses in the early 1990s (Boyd & Ellison, 2007; Chafkin, 2007). Students would procure email address databases either from their host institution, or from
meeting individuals in person, and an email relationship would follow. Email had its limitations however, particularly timeliness of delivery and a cumbersome technology platform. As a result of the popularity of email, rapid technological advances paved the way to SNS utilizing basic email principles (e.g., electronic communication, text-oriented messages) to create advanced social intranets (Boyd & Ellison, 2007). These SNS also had an email-dominant component, but were unique in that they required signing up to be a part of the Intranet. In addition to relative exclusivity, these SNS had advanced features, including the creation of profiles (Lampe, Ellison, & Steinfeld, 2007). Profiles typically consisted of personal data (e.g., name, location), opinions (e.g., favorite music, books), and personal photographs. These profiles initially were open to all SNS community members (Lenhart & Madden, 2007) and today still over half of all college students allow all SNS community members access to their profiles (Lenhart & Madden, 2007).

While email can be considered the first SNS, these newly minted SNS, complete with closed communities of individuals who had signed up and had created profiles, really became relevant in the mid to late 1990s (Boyd, 2004, 2006; Boyd & Ellison, 2007). The first of these advanced personalized SNS centered on specific topics and forums, ranging from politics to special interest groups (Chafkin, 2007). The primary purpose of these SNS was that of connection among various demographics, spread over large geographical borders with the intent on collaboration and outreach (Chafkin, 2007). Tangential to email, this electronic rolodex movement (McConnon, 2007) spawned a new generation of SNS users, notably college students, business professionals, and researchers. With a maintained emphasis on community building, college students across the United States began employing the most populated SNS of that time to establish and maintain social connections (Chafkin, 2007). Whereas researchers could utilize SNS for research and scholarship on specific areas, marketing and other business professionals
could utilize SNS for marketing and business purposes (Hof, 2007). This movement among the business community has quickly transformed SNS from a primary social involvement to both a social and a business tool for numerous purposes (Hof, 2007).

Regardless of the intended purposes of SNS users, there existed dominant SNS that initially emphasized a specific purpose (e.g., political discussions, music interests) and became populated primarily with college students. Today many of these SNS remain, and continue to serve as the dominant form of social networking among college students (Charnigo & Barnett-Ellis, 2007). As more college students utilize SNS for entertainment, communication, and/or networking tools, it is apparent that there will be implications associated with this increased usage. Determining the effects and implications of increased SNS usage, including its relationship with the college experience (e.g., student satisfaction, student involvement), is a concern among current researchers today (Heiberger & Harper, 2008; Lenhart & Madden, 2007; Scissors, 2007).

Social Networking Sites Defined

Social networking websites can be defined as websites housed on the Internet, designed to foster social interactions among users through electronic messaging, live chat-room web links, electronic activities, and the creation and maintenance of a self-designed electronic profile (Boyd & Ellison, 2007). Information within these profiles often includes personal demographics, an individual’s points of interest, and social, academic, and/or professional opinions (Lampe, Ellison, & Steinfeld, 2007). SNS are typically personalized by the user with respect to both the design and content of the website. In addition, most SNS require individuals who wish to be part of that SNS to register for an account and create their own webpage. SNS originally utilized the existing technology of email and developed additional mediums including instant messaging.
(IM), online chatting options, and the ability for registered users to create individualized web
pages within the SNS network (Boyd, 2007).

While each SNS is distinct, there are similarities among almost all, including IM and
e-mail capabilities, along with user profiles and added webs-page content created by users. All
SNS create an online community of virtual users. SNS are distinct from one another in that each
SNS requires participants or members to register, create a profile, and voluntarily engage others
within the SNS community. Joining the SNS community is typically free, and comes with an
email address solely to that SNS. Once registered, the user can then utilize all features within the
SNS. Today, over 80% of SNS users in the United States reside on one of two of the founding
SNS. MySpace and Facebook (Chafkin, 2007). While MySpace began as the dominant SNS
among college students, Facebook has overtaken MySpace and today enjoys a much faster
growth rate and popularity among college students (Chafkin, 2007).

**MySpace and Facebook.** MySpace was the first SNS to gain a significant website
market share of users. In 2003, there existed a SNS called Friendster, which at its peak, housed
27 million community members (Cottrell, 2009). While the size of Friendster was significant at
the time, it is important to remember that MySpace burst on to the SNS scene in the same year
and very quickly surpassed Friendster’s size. As a result, Friendster was given the distinct title
of phenomenon rather than being compared with MySpace, which was the first dominant SNS
(Cottrell, 2009). MySpace launched in 2003 by a small group of programmers looking to create
an SNS, emphasizing boutique musicians in an attempt to create an online music community
(Pace, 2006). What made MySpace so popular was the ability of individuals to customize their
profile page to their specification (Cottrell, 2009). MySpace was open to anyone in the world,
though its initial focus was on musicians and artists. Because of MySpace’s open policy, soon
the online community had millions of users. MySpace had challenges due to their open policy, including interactions between children who were minors and older adults. These kinds of challenges lead to other SNS instituting restrictions aimed at privacy, security, and protection of individuals on the SNS (Boyd & Ellison, 2007).

Built on similar technology and parallel goals of MySpace, Facebook was created by a small group of Harvard University students in 2004 in an attempt to socially network Harvard students, thus building a collegial community from within (Boyd, 2006a; Cassidy, 2006). It slowly expanded to welcome all students who possessed an email address that ended with an education domain (i.e., .edu), which was exclusive to college students at that time (Boyd, 2007). In mid-2005, Facebook went beyond its college student population and allowed high-school students, who had a valid high school email address, to join. These individuals had to be invited by someone who was already in the Facebook community. Because Facebook was essentially a student-only SNS, it became much more popular and consequently graduating high-school students entering college rushed to join the community because of the elusive perception of being for college students only (Boyd, 2007). Thus, the demand for Facebook among college students became well-known to high-school students and existing college students alike. This led to the belief among both high-school and college students that Facebook and college were almost synchronous (Boyd & Ellison, 2007; Heiberger & Harper, 2008).

Today, Facebook has surpassed MySpace, not just in the 300% annual growth compared to the leveling off of MySpace, but also with more than 500 million users compared to 114 million users of MySpace (Facebook, 2010; Musgrove, 2008; Stein, 2007). The original SNS member, Friendster, remains but has become almost irrelevant in the SNS world due to its limitations and lack of funding sources. While MySpace can still be seen as a competitor of
Facebook, the flexibility Facebook enjoys due to limited external pressures allows it to continue to grow. Facebook, unlike MySpace, is not accountable to business shareholders or advertisers and thus enjoys greater autonomy. In addition, Facebook continues to update its technology, allowing it to maintain compatibility with numerous other technologies (e.g., text message linking to Facebook, website linking to Facebook). Finally, the perception of security, coupled with the college student-only roots of Facebook, has enabled it to become the SNS of choice for college students nationwide (Boyd, 2007; Bugeja, 2006; Heiberger & Harper, 2008; Stein, 2007). In 2004, it was estimated that 85% of all college students have a Facebook account (Arrington, 2005). In 2006, Facebook was utilized at over 2,000 colleges and universities in the United States (Cassidy, 2006). An electronic question submitted to Facebook President Chris Hughes in early 2009 turned up an estimate that over 85% of all registered college students have a Facebook account (Ortland, 2009).

Facebook is a significant part of the entire college experience today. Faculty utilize Facebook for both research and student outreach (Hewitt & Forte, 2006; Sisson & Wiley, 2007; Van Der Werf, 2007), and often for personal reasons as well; faculty use Facebook for networking with colleagues, communicating with friends and family, and reaching out to individuals who may share their research interests. College staff members, particularly student services employees, are utilizing Facebook to reach out to students in a more contemporary fashion (Abel, 2005; Heiberger & Harper, 2008; Sisson & Wiley, 2007); college staff members use Facebook to filter out student services-sponsored announcements and involvement opportunities for students. Students themselves have evolved from simply engaging one another for social purposes, to engaging Facebook pages, which can be club, team, and organization-specific. Students who belong, or desire to belong, are encouraged to become members of these
specific pages on Facebook. Students continue to connect with their peers at their home institutions, but are also reaching out to peers nationwide, furthering their social networks through Facebook (Boyd, 2007). Finally, students are engaging one another, as well as faculty and staff who are in the Facebook community, in electronic games and skills-based activities (Boyd & Ellison, 2007).

It has been suggested that Facebook usage among college students serves as yet another college type of involvement (Heiberger & Harper, 2008). Facebook was created by college students for college students. In addition, college students are continuing to join and utilize Facebook in mass numbers (Boyd & Ellison, 2007; Heiberger & Harper, 2008). Although Facebook now allows for a wider demographic to subscribe and join the Facebook community, college students still espouse intrinsic ownership of the entire Facebook environment (Heiberger & Harper, 2008), followed closely by college alumni and college-educated professional persons (Beer, 2008). Modifications to Facebook are conducted in consultation with college students, and college students are the primary sounding board for Facebook successes and failures. Even more fascinating is the growth not just of college alumni, business professionals, political leaders, and celebrities nationwide, but faculty at universities nationwide, who have migrated to the Facebook community (Beer, 2008; Berg, Bergaum, & Christoph, 2007; Hof, 2007). Despite this open access movement, and the college student continued ownership of the community, college students have welcomed the diversity of the community, viewing this as an opportunity for advanced networking (Boyd, 2008).

Arguably, Facebook is the most consistently used website on college campuses because of its usability among its stakeholders, who are primarily college students (Boyd & Ellison, 2007; Heiberger & Harper, 2008). Facebook is very efficient, consisting of email, Instant
Messaging (IM) features, and options for personalization (e.g., pictures, personal information). Facebook also has countless applications consisting of games, quizzes, and surveys that members can participate in or utilize. Facebook remains a relatively closed system, with all registrants required to have a valid email address. This address can be a public email address, but in order to become part of a specific community (e.g., a specific college, specific group), members must have an email that is associated with that specific community. Members who wish to be a part of a specific college or university network must have a college or university email. Members who desire to join a specific club or activity-based community must have proof of being a part of that community (e.g., approval from an administrator, email address). This limited form of filtering out who can be a part of the Facebook community provides a sense of security, albeit limited, to Facebook users. There are two considerations here. 1) Facebook usage has grown so much that there exists entire Facebook communities comprised solely of college, company, and/or club-specific users, and 2) Facebook allows for a reasonable perception of security by having these administrative checks. Together, these advances enable even greater recruitment of new Facebook users and retention of existing community members.

Another distinct advantage of Facebook is the bulletin or mass message feature. Facebook users can create a mass message and choose who receives this message, when the message will be sent, and how long the message will be up. Called a bulletin board message, students often utilize this feature when they are selling products (e.g., books, lab supplies), going on vacation, moving addresses, seeking members of a team, or simply sharing their daily activities and/or emotions. College faculty members have begun utilizing these same features to announce class assignments, changes in syllabi, dates, and speaker engagements (Bugeja, 2006; Heiberger & Harper, 2008). College staff members have begun to utilize this feature for
administrative announcements such as registration dates, events offered to the students, and changes in student services. Facebook offers this service, along with all other aspects of the SNS, free of charge.

Because Facebook is a registration-required SNS, there is a greater likelihood that members believe their content is more protected than standard email or other SNS. Thus, messages within Facebook may be more likely received by members compared to standard email that could be susceptible to private email filters and/or going to the wrong email account. In addition, while many students have multiple email accounts, which often lie dormant or are subject to filters, Facebook users maintain one account and check this account often multiple times daily (Boyd, 2008). All of this perceived security has transitioned Facebook from a basic SNS, comparable to MySpace, to an ever-growing community of like-minded individuals (Boyd, 2004, 2006; Boyd & Ellison, 2007).

Facebook has become an online social environment as well as a website comprised of both college and non-college related activities (Facebook, 2010). As a result, college students continue to migrate to this website and are spending more time on this than any other website (Zuckerberg, 2007). Facebook’s growth and higher usage rates over other websites is due in part to the ability to personalize individuals’ Facebook pages. Facebook allows all users to upload photographs, list preferences, add quotes and web links, and essentially place any personal, professional, and/or academic information about themselves throughout their personal website (Ellison, Steinfield, & Lampe, 2006; Facebook, 2009). This personalization leads to college students spending an increased amount of time on Facebook as well as the promotion of greater relationship-building with peers (Boyd & Ellison, 2007).
There are very few distinctions between faculty members who use Facebook and students using Facebook. Faculty members can also upload personal photographs and preferences if they choose, cite an array of preferences, share details about themselves, and choose whether or not to let students view this information. One drawback of such electronic intrusion is the profiling that may occur. Both faculty and students alike can form judgments about one another before an in-person meeting ever happens, simply by perusing one’s photographs, favorite quotes, hobbies, and associations, to name just a few of the Facebook variables (Abel, 2005; Bugeja, 2006). What is significant about both the quality and quantity component of Facebook is that it is increasing in both areas, use by both faculty and students alike (Boyd, 2007, Heiberger & Harper, 2008).

**Facebook as a Type of Involvement**

It has become clear that SNS like Facebook have emerged as a dominant use of time by college students nationwide (Boyd, 2007; Heiberger & Harper, 2008). Students report using or participating in Facebook-related activities multiple times each day (Zuckerberg, 2007). Regardless if they are using it for academic-supported purposes (e.g., networking with professionals, engaging faculty) or merely for social outreach, Facebook usage is increasing (Heiberger & Harper, 2008). There are numerous implications associated with this increase, particularly the impact on students’ college experience.

From an academic perspective, students may be affected in the classroom as a result of spending a great deal of time on Facebook. If students are spending large amounts of time on Facebook activities, this could certainly take away from their study time (Berg, Bergaum, & Christoph, 2007). Students who spend much time engaging the Facebook community may fall behind in their academic work (Bugeja, 2006).
Conversely, students may be using Facebook to interact with fellow students and possibly faculty members. As a result of engaging fellow students and faculty members, students may increase their capacity for learning. Simply talking with faculty on a consistent basis has a direct relationship with increased student learning (Astin, 1993). Students who engage faculty members on Facebook may experience the same effect. If students are on Facebook interacting with fellow students and/or faculty, this may motivate them to work harder on academic tasks.

From a social perspective, students who are spending an inordinate amount of time on Facebook may not be interacting with their peers in person, choosing an electronic medium over physical interactions. This could become a larger challenge with respect to carrying on relationships and interacting in the classroom. Conversely, students may achieve higher levels of social acceptance as a result of increased Facebook interactions, making friends on Facebook that they would not have otherwise made in person, which could lead to in-person relationships born out of Facebook (Boyd, 2008).

Clearly there exist strengths and weaknesses of students utilizing Facebook. Achieving higher levels of personal gratification, gaining belief in their abilities to socialize, acquiring modern information technology skills, and meeting or congregating electronically with an array of peers that they would not otherwise have had the chance to engage in person, are just some of the associated strengths (Heiberger & Harper, 2008). Weaknesses of Facebook use include a loss of in-person social abilities, becoming addicted to Facebook, and spending too much time on Facebook, leading to other aspects of the college experience suffering (e.g., lower grades, fewer engagements). Combined, Facebook usage is certainly both a college involvement as well as a non-college involvement and, as such, impacts involvement-related student outcomes.
When Astin (1977, 1993) explored and later revisited student involvement and student satisfaction, he concluded that college student outcomes rely heavily on an ever-changing college dynamic, which encompasses the overall college experience. Academic competence, developing relationships with peers, and becoming independent were integral to academic success (Reisser, 1995). Variables include student’s relationships with peers and faculty, student’s involvement with an array of physical activities, and interest and abilities in their respective majors and courses (Astin, 1993). While the majority of research focused, and perhaps continues to focus, on consistent student involvement activities and variables, and despite Astin’s call for examining technology-based activities as they relate to student outcomes (Astin, 1999), there exist few national research studies on technology involvements such as Facebook usage. The effects of Facebook usage and its impact on student outcomes were, and to some extent remain, unknown (Boyd, 2008; Heiberger & Harper, 2008).

What is known is that college students benefit from engaging both their peers and their faculty members, and they benefit from activities that promote collegial engagement (Astin, 1993). What is also known is that college students are using Facebook for a host of reasons, and this usage is ever-increasing (Arrington, 2004; Boyd & Ellison, 2007; Heiberger & Harper, 2008). It can be inferred that time spent on Facebook by college students could otherwise be spent doing college-related activities including studying, attending sporting events, frequenting student recreation centers, or simply socializing with peers. Thus, Facebook has become a necessary evil of sorts, worthy of examining as a college involvement, and invading, at the very least, extracurricular involvement. The implications of Facebook involvement may primarily affect time spent on extracurricular activities but could certainly also affect all facets of the overall college experience, both positively and negatively.
SNS Involvement and Social Connectedness

Another facet of the increase in SNS usage by students is the impact this increase could have on students’ sense of belongingness with their college or university. Social connectedness has always been a topic emphasizing in-person relationships with social contacts, including friends, peers, faculty, staff, and family members (Lee & Robbins, 1998, 2000). College-specific research explored the impact of social relationships between college students, college students and faculty members, and college students and college staff members (Astin, 1993; Pascarella & Terenzini, 2005). More recently there has been research on the relationship between college student social connectedness and drop-out rates (Allen et al. 2008) concluding that students who feel more connected to their college or university have higher satisfaction with their college experience, higher academic success (e.g., grades, grade point average) and thus, drop out at a lower rate. The relationship between social connectedness, involvement, and satisfaction is widely known and accepted (Allen et al. 2008; Astin, 1993, Pascarella & Terenzini, 2005; Tinto, 1987) but the emphasis is usually on in-person social engagement. There are few widely accepted studies on the implications of SNS involvement and its impact on student connectedness. Exploring Facebook usage by college students and relating it to belongingness could further impact college student satisfaction.

Implications

Facebook use is increasing among college students, and this trend appears to be indefinite (Heiberger & Harper, 2008). College students are utilizing Facebook on a regular, daily or multiple-times daily basis (Boyd & Ellison, 2007; Zuckerberg, 2007). Facebook continues to evolve, becoming perhaps more user-friendly and enjoyable for its community members, leading to greater retention and usage. Facebook has become a top destination for professional
networking for business, community, and academic leaders and this is translating into more usage among students who are hoping to expand their networks. Colleges, universities, and entire academic departments are joining the Facebook community; this, in effect, encourages students to engage Facebook (Heiberger & Harper, 2008).

As such, the impact of Facebook on the college experience is likely to continue, and perhaps increase in the years to follow. Determining this impact, including how it affects academic success and student satisfaction, is an integral challenge for student affairs professionals (McElvain & Smyth, 2006). Identifying Facebook usage as a college involvement, including the level of involvement among students, could prove useful. Student affairs professionals could receive support in this area which would also further higher education research (McElvain & Smyth, 2006). For example, student affairs professionals could be assigned to SNS committees that are responsible for overseeing content and utilizing SNS for both curricular and co-curricular purposes, for example.

There is research to suggest that positive relationships between Facebook usage and the college experience exist (Heiberger & Harper, 2008). As more students are joining the Facebook community, new relationships are emerging. Often, these relationships are only fostered through Facebook, and would not have occurred in-person. These relationships include faculty-student relationships as mentors/mentees, and student-to-student relationships of varying types (e.g., friends, professional; Abel, 2005; Bugeja, 2006). In addition, the skills and abilities acquired through Facebook usage by college students can translate into the professional world as well. Students may develop greater technological skills and abilities through Facebook engagements, and can appear much more technologically proficient to potential employers.
The implications of Facebook usage by college students exist regardless of whether they are positive or negative. College students are utilizing Facebook at a constantly increasing rate (Boyd, 2008; Heiberger & Harper, 2008). This increase is going to continue regardless of the strengths and weaknesses attributable to involvement as defined by Astin (1993). Accepting Facebook involvement as part of the college experience within Astin’s theory on involvement (1977, 1993) allows for research to commence that will aid in determining the effects of SNS usage. Finding out if there is a relationship between Facebook usage and student outcomes is pivotal. Tangential to past research on involvement theory and student satisfaction, Facebook should be explored akin to existing college involvements, to determine where its position is with respect to involvement theory.

**Contributions of the Current Study**

There exist numerous studies on student involvement, particularly examining traditional college involvements including faculty-student relationships, extracurricular activities, and academic engagements (Astin, 1993; Belch et al., 2001). While these existing types of involvements are still relevant, more contemporary involvements have emerged in higher education. Because this is a very recent evolution, national surveys fail to effectively measure these modern involvements, including technology usage. Given the conclusions that involvement with college-related activities, both academic and extracurricular, improves student outcomes, focusing on newer more up-to-date involvements like SNS usage would better serve colleges and universities today (Astin, 1993). While a national study would prove beneficial to the paucity in research, starting at the state level is much more realistic and feasible with respect to contemporary research methods (e.g., sampling size, response rate; Crowl, 1996).
As colleges and universities continue to struggle with financial challenges that impact student outcomes, technology utilization may increase by all academic stakeholders (i.e., faculty, staff). Technology use can save money, time, and resources and thus academic stakeholders may be encouraged to utilize technology more both in and out of the classroom. Student affairs professionals may rely more on Facebook for marketing and recruiting instead of traveling and using expensive print media. Research has shown the dependence on technology is increasing by all college stakeholders and as a result, usage is increasing (Heiberger & Harper, 2008). A large part of this technology increase rests with SNS usage.

Because of this technology emergence trend, examining student satisfaction and student involvement with social networking sites, such as Facebook, is a useful beginning. This study sheds light on how Facebook is used by college students and how this impacts student satisfaction. This study also looks at how Facebook usage impacts students’ sense of feeling connected to their college or university. This study also allows for inferences to be made about today’s modern college environment with respect to technology. Finally, the findings from this study could impact how a college or university should invest its financial and human resources with respect to technology use in the college environment.

This study also contributes to the study of the relationship between student involvement and student satisfaction from a more contemporary perspective. It identifies how involved students are with Facebook, as well as measure the strength of the relationship between Facebook involvement and overall student satisfaction. This study also explores how connected students feel to their respective college or university and whether Facebook usage impacts this sense of connectedness. In addition, consistent with student satisfaction and student involvement
research, this study examined whether demographic characteristics of students, including gender, age, and class-standing, impact student’s satisfaction with the overall college experience.

**Summary**

Astin’s influential work on college student involvement (1977, 1993), and more current modifications to the theory (Astin, 1999; Heiberger & Harper, 2008), is useful for examining college student outcomes from various perspectives. The theory suggests that the more involved with college-related activities a student becomes, the more satisfied he or she will be with the overall college experience. Concurrently, the more involved students are with their college experience, the greater success students will have in college. This success includes higher academic achievement, stronger relationship skills, and more confidence in their mastery of their respective disciplines (Astin, 1993, Reisser, 1995). Finally, the theory includes both academic and extracurricular involvements and strongly suggests that both facets of involvement are equally important to a student’s success in college.

College student involvement has been studied for the past 30 years (Astin, 1977; Chickering, 1969). Faculty-student interactions, students attending class, and participation in extracurricular activities are just a handful of college involvements that have been exhausted in the research. These existing college involvements remain a part of today’s college experience. However, a new facet of the college experience has emerged as a result of technological advances. Astin (1999) suggested that new involvements may be introduced in the college experience, particularly with the evolution of technology. Astin concluded in the early 1990s, that target studies focusing on student email usage could prove useful as a subpart of college student involvement research. Email was quickly replaced by the emergence of college-focused social networking websites (Boyd & Ellison, 2007). Today, students are engaging technology in
a variety of ways and one of the most consistent and dominant technology mediums that nearly all college students engage is Facebook (Heiberger & Harper, 2008).

SNS emerged in the late 1990s as a means of collaboration, and relationship building, among individuals dispersed geographically across large distances (Boyd, 2006b; Boyd & Ellison, 2007). College students became the dominant demographic on several SNS and, as a result, these particular SNS remain. MySpace and Facebook emerged in the early 2000s and remain today’s largest SNS for almost all individuals who wish to be a part of an electronic or online community (Junco & Cole-Avent, 2008). Facebook, started by college students for college students, is the largest SNS in existence today. College students self-report spending hours every day engaging Facebook, either for social, academic, or leisure purposes (Boyd, 2007; Heiberger & Harper, 2008). In addition to a communication vehicle, Facebook has numerous programs that stakeholders can engage, from intellectual and academic games, to numerous surveys gauging interest in a variety of topics. Furthering all of these electronic engagements, and this growing trend of usage, is the increase in faculty and staff who are utilizing Facebook for both academic- and student services-related purposes. This can be in the form of student outreach, assignments through Facebook, and entire college groups or clubs being fostered through Facebook marketing.

College students are increasingly spending their time engaging the Facebook community and included in that community are faculty and peers (Abel, 2005; Bugeja, 2006; Heiberger & Harper, 2008; Van Der Werf, 2007). Faculty and staff, having sensed this technological evolution, have begun to flock to Facebook as well. Because students voluntarily spend such an inordinate amount of time on Facebook and other SNS, social networking websites represent a dominant student involvement variable to consider (Heiberger & Harper, 2008). Whereas
research on existing involvements like amount of time spent on extracurricular activities, dormitory living, and faculty-student interactions have sufficient research validating their role in the college student experience (Astin, 1977; 1993; Chickering & Reisser, 1993; Tinto, 1987), technology variables like SNS usage are limited in the research. In addition, little is known about SNS usage and its impact on students feeling more or less socially connected to their college or university. The lack of research on SNS usage among college students is surprising. Numerous anecdotal research studies suggest an increase in SNS usage among college students. Furthermore, SNS are invading college campuses at a growing rate. Specific departments within specific colleges have SNS representation, and this trend continues. Exploring both the quantity and quality of a student’s SNS usage not only furthers the body of research, but also helps determine where SNS usage fits in the overall college student experience, and its impact on college outcomes.
Chapter Three
Methodology

Introduction

The purpose of this study was to understand how the use by college students of Facebook and other social networking websites (SNS) impacts the overall college experience. Because there are multiple approaches to examining the overall college experience, college student satisfaction and involvement with college-related activities were the central outcomes chosen for this research study. Astin’s college student involvement theory (1977, 1993) served as the theoretical framework for this study. Further, this study explored Astin’s college student involvement theory and its impact on college student satisfaction as a dominant student outcome. Included within this exploration was the impact SNS usage or involvement has on student social connectedness. While involvement with existing college-related variables was included in this study, the primary involvement variable for exploration was SNS usage, or, more specifically, Facebook usage. This study utilized Astin’s initial and continued research (1977, 1993) to determine how Facebook usage fits within Astin’s college student involvement theory. The present study examined Facebook usage, both academic and non-academic usage, to determine its impact on satisfaction with the college or university experience. Therefore, there are four research questions that this study addresses:

1. How do undergraduate college students utilize Facebook?
2. To what extent does the level of undergraduate student Facebook usage impact undergraduate college student satisfaction?
3. To what extent does the level of undergraduate student Facebook usage impact student’s perceptions of feeling socially connected to their college or university?

4. What other factors impact undergraduate college student satisfaction?

The rest of this chapter focuses on the methods and procedures for this study. Areas to be covered include research methods, population and sampling, dependent variable, independent variables, and statistical analyses.

**Research Methods**

This study utilized quantitative methods of data collection and analysis. A comprehensive literature review of relevant research was the first step to answering the research questions. Searches within the Academic Search Complete database housed within OhioLink, the Education Abstracts, and the PsycINFO databases were conducted. Journal articles were acquired through the Ohio Library Information Network from the Carlson Library at The University of Toledo, along with interlibrary loan services of various universities in Ohio. The results from the literature review were presented in great detail in Chapter Two.

Because there is very little existing data on SNS usage as it relates to college student involvement, Facebook, the most researched and popular SNS introduced in Chapter Two, was utilized as the medium for conducting the study. Facebook also served as the medium for reaching participants who took part in this research study. Data was collected from an electronic survey administered via website, and participants were recruited through Facebook email.

This study utilized a web-based or Internet questionnaire to gather information from undergraduate students with regards to their level of involvement with Facebook. Existing college involvements, derived from past student involvement research, including the National Survey of Student Engagement (NSSE, 2009), were included in this study. These existing
college types of involvements allow for a comparison between Facebook involvement and the existing college involvements. This comparison is necessary because the NSSE (2009) has demonstrated across many universities that a relationship exists between existing college involvements and student satisfaction. Consistent with higher education research, and comparable to the NSSE (2009), these existing college involvement variables were categorized into 5 distinct groupings.

1. Level of academic challenge
2. Active and collaborative learning
3. Student-faculty interaction
4. Enriching educational opportunities
5. Supportive campus environment

Astin’s student involvement theory (1993) served as the theoretical framework for this dissertation on student involvement and SNS research. A quantitative methodology in the form of survey research was employed. A larger number of participants were desired; the variables that were measured are better assessed using closed-ended items (Crowl, 1996). Because the number of variables that were assessed is relatively small, and the desired sample was relatively large (Crowl, 1996), electronic surveying was most affordable method for this study.

The Survey Instrument

The instrument that best addressed this dissertation topic is an Internet survey that was comprehensive with respect to the independent variable being tested. Vovici surveys (Vovici, 2009) was the electronic medium chosen because of its ability to centralize feedback data collection, build user-friendly survey instruments through the use of social networking technology, and because of Vovici’s focus on satisfaction studies. Because SNS involvement
has not been thoroughly researched from an academic perspective, a newly-constructed electronic survey using Vovici electronic surveys was created. The research instrument consisted of closed-ended items based on Astin’s work on college student involvement (1993), the NSSE (2009), the previously described research questions, and student demographics. Student connectedness questions items were based on Lee and Robbins seminal works on social connectedness (Lee & Robbins, 2000). The Facebook-specific questions were derived from a qualitative ad-hoc study consisting of interviewing college students and faculty who use Facebook. These interviews allowed for the most common uses of Facebook, including recognizable terminology, to be included on the research instrument.

The first section of this survey was an invitation via Facebook email (Appendix A), which listed the criteria needed for participation, and the instructions for participation, including informed consent. Participants who proceed to the enclosed Internet address had to read additional instructions as part of the survey on filling out the survey. The final instructions also included a raffle option. participants had the option of including some form of contact information (e.g., email address) in order to be included in a monetary raffle for participating. Through the raffle instructions, participants who wished to be included were assured that their survey submission did not directly link to their contact information, thereby ensuring confidentiality.

The second section of this survey (Appendix B) consisted of the questionnaire itself, with the first subset consisting of Facebook involvement variables (e.g., frequency of use, level of use). Following the Facebook involvement variables were the in-person, traditional involvement variables including academic and extracurricular involvements. Social connectedness variables followed. Satisfaction measurement questions derived from both Astin (1993) and the NSSE
(2009) were next. Demographics were also included at the conclusion of the involvement, connectedness, and satisfaction measurements. While not central to this research, demographic questions allowed for a more detailed analysis of subgroup satisfaction including gender, age, type of institution, GPA, housing type, and class standing (Astin, 1993).

**Population and Sample**

All undergraduate college students in the state of Ohio who were enrolled both full- or part-time during the spring 2010 semester, and had a registered Facebook address, were solicited to participate. There were several reasons for this choice. Ohio college students reasonably comprised a representative sample of college students nationwide because of the large number of higher education institutions and large number of enrolled college students in Ohio. Second, Ohio college students were reasonably accessible by the researcher due to location. Due to the nature of this study, which was administered through Facebook, there was a strong chance that the population who would be able to participate would be very large. Because this was a single state study population (i.e., Ohio college students), a sample of approximately less than 1% of the population was expected to be utilized for data analysis. Because electronic surveys have the potential to reach a greater audience, coupled with the potential for higher response rates, it was expected that a response rate of approximately .5% to 1% would be usable data (Crowl, 1996).

Participants were recruited based on their Facebook availability. They were selected based on their college classification (i.e., undergraduate, currently enrolled). In addition, traditional email correspondence was sent out to student affairs leaders at over 20 colleges and universities in Ohio requesting that these individuals forward the Facebook email to students. Potential participants received an invitation email within Facebook that described the purpose and requirements of the study, along with an Internet address of the study. Participation was also
encouraged through the use of a monetary raffle. The Internet address that housed the survey ensured confidentiality of responses. While Facebook emails went out to all potential participants, those who chose to participate had to navigate to another website that housed the survey, data, and ensured privacy and anonymity of data (Vovici, 2009).

**Dependent Variable**

The impact Facebook usage has on college student satisfaction was the focus of this study. Therefore, overall or general college student satisfaction is the dependent variable. Previous research on student satisfaction served as the basis for forming the derivatives for measuring the dependent variable within this dissertation. To avoid participant confusion with overall student satisfaction questions, participants were asked about their satisfaction levels with specific aspects of the college experience (e.g., extracurricular, academic) and satisfaction index scores were created combining these responses. Consistent with research on overall student satisfaction, there were three specific values of the dependent variable examined in this study including social, academic, and general or overall satisfaction. These values became three distinct dependent variables and were treated as such.

**Independent Variables**

Existing literature on both student involvement and social connectedness, as well as the limited research on social media and social networking, served as the basis for the independent variables selected. The dominant independent variable for this study was Facebook usage and there were 10 values of this experimental variable. Included within these 10 values were two distinct types of Facebook usage, academic Facebook usage and non-academic Facebook usage. The secondary independent variables included five existing college involvements and two
student connectedness variables. Based on the conceptual model of this study, the independent variables comprised three categories and one mediating effect variable.

1. Academic and non-academic Facebook tendencies (e.g., level of involvement, types of involvement)
2. Non-Facebook involvements (e.g., academic, extracurricular)
3. Social Connectedness as a mediating variable
4. Student demographic characteristics

Tables 1, 2, 3, and 4 provide operational definitions for the independent variables.

Table 1

*Operational Definitions of Independent Variables. Facebook Tendencies (both academic and non-academic)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebooksignin</td>
<td>A discrete variable that represents the student’s self-reported number of times signed in to the Facebook website. The variable is coded 1 = Never, 2 = Several times a week, 3 = Several times a day, 4 = Rarely log off.</td>
</tr>
<tr>
<td>Academicfacebookusage</td>
<td>A discrete variable that represents the student’s self-reported amount of Facebook usage related to academic experience. The variable is coded 1 = 0%, 2 = 1 – 25%, 3 = 26 – 50%, 4 = More than 50%.</td>
</tr>
<tr>
<td>Facebookupdate</td>
<td>A discrete variable that represents the student’s self-reported amount of Facebook usage related to updating their Facebook page. The variable is coded 1 = Never, 2 = Several times a week, 3 = Several times a day.</td>
</tr>
<tr>
<td>Facebookcheck</td>
<td>A discrete variable that represents the student’s self-reported amount of Facebook usage related to viewing their Facebook page. The variable is coded 1 = Never, 2 = Several times a week, 3 = Several times a day.</td>
</tr>
</tbody>
</table>
Table 1 Operational Definitions (continued)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebookchat</td>
<td>A discrete variable that represents the student’s self-reported amount of Facebook usage related to chatting on Facebook. The variable is coded 1 = Never, 2 = Several times a week, 3 = Several times a day.</td>
</tr>
<tr>
<td>Facebookothers</td>
<td>A discrete variable that represents the student’s self-reported amount of Facebook usage related to reading other Facebook pages. The variable is coded 1 = Never, 2 = Several times a week, 3 = Several times a day.</td>
</tr>
<tr>
<td>Facebookemail</td>
<td>A discrete variable that represents the student’s self-reported amount of Facebook usage related to using Facebook email. The variable is coded 1 = Never, 2 = Several times a week, 3 = Several times a day.</td>
</tr>
<tr>
<td>Facebookcomment</td>
<td>A discrete variable that represents the student’s self-reported amount of Facebook usage related to writing and/or reading comments on Facebook. The variable is coded 1 = Never, 2 = Several times a week, 3 = Several times a day.</td>
</tr>
<tr>
<td>Facebooksearchacquaintances</td>
<td>A discrete variable that represents the student’s self-reported amount of Facebook usage related to searching for known acquaintances on Facebook. The variable is coded 1 = Never, 2 = Several times a week, 3 = Several times a day.</td>
</tr>
<tr>
<td>Facebookfacultystaffcontact</td>
<td>A discrete variable that represents the student’s self-reported amount of Facebook usage related to contacting or having contact with faculty or staff on Facebook. The variable is coded 1 = Never, 2 = Several times a week, 3 = Several times a day.</td>
</tr>
</tbody>
</table>
Table 2

*Operational Definitions of Independent Variables. Non-Facebook*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collegeactivities</td>
<td>A discrete variable that represents the student’s self-reported number of times they attended college-sponsored activities in the past 6 months. The variable is coded 1 = 0 – 1, 2 = 2 – 5, 3 = 6 – 9, 4 = 10+.</td>
</tr>
<tr>
<td>Facultyadvice</td>
<td>A discrete variable that represents the student’s self-reported number of times they sought out faculty for academic or career advice in the past 6 months. The variable is coded 1 = 0 – 1, 2 = 2 – 5, 3 = 6 – 9, 4 = 10+.</td>
</tr>
<tr>
<td>Facultyinteraction</td>
<td>A discrete variable that represents the student’s self-reported frequency with faculty interactions. The variable is coded 1 = Never, 2 = Sometimes, 3 = Often, 4 = Very often.</td>
</tr>
<tr>
<td>Studentinteractionsacademic</td>
<td>A discrete variable that represents the student’s self-reported frequency with student interactions related to academics. The variable is coded 1 = Never, 2 = Sometimes, 3 = Often, 4 = Very often.</td>
</tr>
<tr>
<td>Cocurricularparticipation</td>
<td>A discrete variable that represents the student’s self-reported frequency with participation in co-curricular activities. The variable is coded 1 = Never, 2 = Sometimes, 3 = Often, 4 = Very often.</td>
</tr>
<tr>
<td>Extracurricularparticipation</td>
<td>A discrete variable that represents the student’s self-reported frequency with extracurricular activities. The variable is coded 1 = Never, 2 = Sometimes, 3 = Often, 4 = Very often.</td>
</tr>
<tr>
<td>Levelacademicchallenge</td>
<td>A discrete variable that represents the student’s self-reported level of academic challenge at their current institution. The variable is coded 1 = Not at all, 2 = Somewhat, 3 = Quite a bit, 4 = Very.</td>
</tr>
</tbody>
</table>
Table 3

**Operational Definitions of Independent Variables. Social Connectedness**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Togetherness</td>
<td>A discrete variable that represents the student’s self-reported level of togetherness with people at their college or university. The variable is coded 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree.</td>
</tr>
<tr>
<td>Joininggroups</td>
<td>A discrete variable that represents the student’s self-reported level of desire to join groups for friendship. The variable is coded 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree.</td>
</tr>
<tr>
<td>Facebookuse</td>
<td>A discrete variable that represents the student’s self-reported level of Facebook participation and its impact on building social networks. The variable is coded 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree.</td>
</tr>
<tr>
<td>Facebookconnect</td>
<td>A discrete variable that represents the student’s self-reported level of connectedness with their college or university and Facebook. The variable is coded 1 = Strongly Disagree, 2 = Disagree, 3 = Agree, 4 = Strongly Agree.</td>
</tr>
</tbody>
</table>

Table 4

**Operational Definitions of Independent Variables. Student Demographic Characteristics**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduation</td>
<td>A discrete variable that represents whether or not the student expects to graduate within 5 years. The variable is coded 1 = Yes, 2 = No.</td>
</tr>
<tr>
<td>GPA</td>
<td>A discrete variable that represents the student’s self-reported college average. The variable is coded 1 = Over 4.0, 2 = 4.0 – 3.5, 3 = 3.4 – 3.0, 4 = 2.9 – 2.5, 5 = 2.4 – 2.0, 6 = Below 2.0.</td>
</tr>
<tr>
<td>Residence</td>
<td>A discrete variable representing student housing arrangement. The variable is coded 1 = On campus, 2 = Off campus without roommates, 3 = Off campus with roommates who are not family, 4 = Off campus with family.</td>
</tr>
</tbody>
</table>
Table 4 Operational Definitions (continued)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutionstate</td>
<td>A discrete variable representing state where institution is located.</td>
</tr>
<tr>
<td>Institutiontype</td>
<td>A discrete variable representing type of institution. The variable is coded 1 = Public 2-year, 2 = Private 2-year, 3 = Public 4-year, 4 = Private 4-year.</td>
</tr>
<tr>
<td>Religious</td>
<td>A discrete variable representing institutional religious affiliation. The variable is coded 1 = Yes, 2 = No.</td>
</tr>
<tr>
<td>Age</td>
<td>A discrete variable representing the student’s age in years.</td>
</tr>
<tr>
<td>Enrollmentstatus</td>
<td>A discrete variable that represents current enrollment level. The variable is coded 1 = Full-time, 2 = Part-time, 3 = Not currently enrolled.</td>
</tr>
<tr>
<td>Class</td>
<td>A discrete variable that represents class standing. The variable is coded 1 = Freshman, 2 = Sophomore, 3 = Junior, 4 = Senior, 5 = Graduate Student.</td>
</tr>
<tr>
<td>Sex</td>
<td>A dummy variable coded 1 = female, 0 = male.</td>
</tr>
<tr>
<td>White</td>
<td>A dummy variable coded 1 = White, 0 = other ethnic background.</td>
</tr>
<tr>
<td>Black</td>
<td>A dummy variable coded 1 = Black or African American, 0 = other ethnic background.</td>
</tr>
<tr>
<td>Asian</td>
<td>A dummy variable coded 1 = Asian, 0 = other ethnic background.</td>
</tr>
<tr>
<td>NativeHawaiian</td>
<td>A dummy variable coded 1 = Native Hawaiian or Other Pacific Islander, 0 = other ethnic background.</td>
</tr>
<tr>
<td>Hispanic</td>
<td>A dummy variable coded 1 = Hispanic or Latino, 0 = other ethnic background.</td>
</tr>
<tr>
<td>Americanindian</td>
<td>A dummy variable coded 1 = American Indian or Alaskan Native, 0 = other ethnic background.</td>
</tr>
<tr>
<td>2ormoreraces</td>
<td>A dummy variable coded 1 = 2 or More Races, 0 = other ethnic background.</td>
</tr>
</tbody>
</table>
Data Collection

The Internet-based survey was created and distributed using the Vovici survey system administered through the University of Toledo’s Office of Institutional Research. Initial distribution was administered through a Facebook email sent by the researcher to the entire population. The population was also encouraged to use respondent-driven sampling, which encourages participants to forward the survey to their respective peers. Because this research study focuses on undergraduate populations, survey questions allowed for exclusion of non-undergraduate participants. Finally, respondent-driven sampling was utilized. Respondent-driven sampling consists of asking participants to send or forward the survey to any of their peers if they are willing (Salganik & Heckathorn, 2004). The intention is to reach study participants peers and thus, increase the potential for sample size. Respondent-driven sampling was included in the methodology because it is considered highly effective in electronic research methods as long as there are questions that allow for the exclusion of non-eligible participants (e.g., graduate students, not-currently enrolled; Salganik & Heckathorn, 2004).

The overall web-based survey method is useful and valid because a software program already exists (Vovici, 2009) that creates and administers the survey in electronic form. The administrative site is electronic and thus no physical resources were needed. Once the survey was administered and the data entered, results were transferred to the Statistical Package for the Social Sciences (SPSS) for the cleaning of data (e.g., omitting excluded sample participants, deleting incomplete responses) the selection of a sample (i.e., currently enrolled undergraduate students in an Ohio institution), and final data analysis.
Statistical Analysis

With the potential for such a large population, it was expected that the study sample would consist of 700-1,000 survey participants. Independent variables that were missing values were replaced with the mean and any cases missing dependent variable values were excluded from the data analysis, which is the norm in statistical analyses. The analysis was conducted in multiple parts. First, factor analyses were run on all variables that were intended to be combined to form factor scores or indices, notably, connectedness and satisfaction variables. Second, descriptive data, including frequencies and percentages among both the independent and dependent variables, were presented and discussed. Multiple regression analyses were then conducted to determine the extent of the relationship between Facebook usage and college student satisfaction. Within the regression model, student connectedness was included to determine its effect, if any, on the relationship between the independent and dependent variables. All Facebook variables were treated separately, including differentiating between academic and non-academic Facebook usage. SPSS was used to perform all statistical calculations. Figure one, consistent with existing research, represents the designed and proposed data model.

Figure 1. Proposed data analysis model. Adapted from Astin’s Input-Environment-Output (I-E-O) model on college student satisfaction (1993).
The multiple regression analysis performed using the proposed data analysis model (Figure 1) was both a logical and analytical test for this dissertation as there is one dependent variable selected which could be influenced by numerous independent variables.

**Limitations**

There were several limitations to this study. First, students who do not utilize Facebook, do not have a public Facebook profile, and/or do not check their Facebook email regularly were excluded from this study. Students were sent an invitation email to participate in this study, with a reminder email to follow one week after the initial email. It was assumed that some students did not check their email and thus were not able to participate. Second, there was an assumption that college students desire to participate in an Internet-based survey on their Facebook usage, which may be amplified by financial motivation (i.e., opportunity to participate in the monetary raffle). Nevertheless, there were students who perhaps had little interest in this type of study. Third, this study was multi-institutional but only in regards to the state of Ohio. As a consequence of electronic research methods emphasizing confidentiality and anonymity, it was not possible to determine what institutions participants were enrolled at. Thus, the multi-institutional approach cannot be completely confirmed. Fourth, this study was not longitudinal and thus did not reflect future considerations such as the continued evolution and growth of Facebook and its impact. Fifth, it was assumed that Facebook is a sufficient representation of all SNS that college students utilize. Finally, self-reporting data, such as this study utilized, assumed subjects were honest, did not harbor biases, and were not confused with the parameters of this study or its instrument.
Conclusion

Chapter Three reiterated the purpose of this study, briefly discussed the research questions, identified and described the survey instrument, and validated the data collection process and analyses. The following chapter provides sufficient analysis of all variables including results.
Chapter Four

Results

The purpose of this study was to determine the impact that college student SNS usage has on college student satisfaction. Descriptive statistics were computed for the independent variables, and correlation coefficients were determined for all variables examined. Then, a multiple regression model was developed to define the proportion of variance in college student satisfaction that can be explained by the extent of college student SNS usage. Descriptions of participants, measurements and analyses, and findings from the regression model are discussed in this chapter.

Participants

The respondent characteristics are presented below in Table 5. The final sample of 843 participants was composed of 54.6% females (n = 460) and 45.4% males (n = 383). Age of participants ranged from 18 – 21 (M = 20). Participants also reported their current academic class standing. 32.1% were freshman, 19.1% were sophomores, 21.4% were juniors, and 21.2% were seniors. Almost 93% of respondents were enrolled full-time at their college or university, and 7.4% were enrolled part-time. Almost all participants were enrolled in a public, four-year college or university (94.6%, n = 798). Most participants were Caucasian (79%, n = 665), followed by Black/African American (9.6%, n = 82), Asian (4.5%, n = 38), and Hispanic or Latino (3.8%, n = 32), with a small proportion reporting two or more races (2.7%, n = 23). There were 853 individuals who responded to this survey. Ten individuals did not meet the requirements of being a registered undergraduate student currently enrolled, and therefore were excluded from the analyses that follow. To summarize, the typical respondent was a 20-year old
white male or female in his or her freshman or sophomore year who was enrolled in school full-time at a public 4-year college or university.

Table 5

Respondent Characteristics

<table>
<thead>
<tr>
<th>Respondent Characteristics</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>383</td>
<td>45.4</td>
</tr>
<tr>
<td>Female</td>
<td>460</td>
<td>54.6</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White (not Hispanic or Latino)</td>
<td>665</td>
<td>79</td>
</tr>
<tr>
<td>Black/African American</td>
<td>82</td>
<td>9.6</td>
</tr>
<tr>
<td>Asian</td>
<td>38</td>
<td>4.5</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>32</td>
<td>3.8</td>
</tr>
<tr>
<td>American Indian/Alaskan Native</td>
<td>3</td>
<td>0.4</td>
</tr>
<tr>
<td>2 or more races</td>
<td>23</td>
<td>2.7</td>
</tr>
<tr>
<td>Class Standing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>271</td>
<td>32.1</td>
</tr>
<tr>
<td>Sophomore</td>
<td>161</td>
<td>19.1</td>
</tr>
<tr>
<td>Junior</td>
<td>181</td>
<td>21.4</td>
</tr>
<tr>
<td>Senior</td>
<td>179</td>
<td>21.2</td>
</tr>
<tr>
<td>Enrollment Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time</td>
<td>781</td>
<td>92.6</td>
</tr>
<tr>
<td>Part-time</td>
<td>52</td>
<td>7.4</td>
</tr>
<tr>
<td>Institution Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public 4-year</td>
<td>798</td>
<td>94.6</td>
</tr>
<tr>
<td>Public 2-year</td>
<td>23</td>
<td>0.3</td>
</tr>
<tr>
<td>Private 4-year</td>
<td>21</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Measurement and Scaling

The satisfaction variables in this study were factor analyzed in order to examine their dimensionality. Using a varimax rotation, with the criterion of achieving simple structure (Cureton & Mulaik, 1974), three distinct factors emerged and were labeled. 1) social satisfaction,
2) academic satisfaction, and 3) general satisfaction. These three factors will be used as the key outcomes within the analysis, and treated as three dependent variables. The standardized factor pattern matrix is presented below in table 6.

Table 6

Standardized Factor Pattern

<table>
<thead>
<tr>
<th></th>
<th>General Satisfaction</th>
<th>Academic Satisfaction</th>
<th>Social Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>How satisfied are you with your overall experience at your college or university?</td>
<td>0.885</td>
<td>0.138</td>
<td>0.218</td>
</tr>
<tr>
<td>How satisfied are you with your choice to attend your current college or university?</td>
<td>0.862</td>
<td>0.249</td>
<td>0.115</td>
</tr>
<tr>
<td>How satisfied are your mastery and/or understanding of your discipline, career, and/or major?</td>
<td>0.081</td>
<td>0.883</td>
<td>0.194</td>
</tr>
<tr>
<td>How satisfied are your academic experiences (e.g., grades, assignments)?</td>
<td>0.343</td>
<td>0.742</td>
<td>-0.159</td>
</tr>
<tr>
<td>How satisfied are you with the social relationships you formed with peers during your college experience?</td>
<td>0.219</td>
<td>0.04</td>
<td>0.95</td>
</tr>
</tbody>
</table>

Note. Coefficients in bold-face type define the underlying factor.

Theoretical Model

In order to estimate the impact of academic Facebook usage on student satisfaction, a model was constructed that hypothesized the directional relationships among the variables in the study (Appendix C. Figure C1 and Table C2). Given the lack of correlation between general Facebook usage and the satisfaction measures, the focus here is on academic Facebook usage. It was hypothesized that academic Facebook usage (as well as general Facebook usage) had a direct impact on all three satisfaction measures as well as on two other variables analyzed.
Connectedness related to Facebook usage and non-Facebook-related connectedness. These two variables are addressed in research question two. As shown in Table 9, academic Facebook usage does not directly influence the three satisfaction measures under the assumptions of the model. However, as shown in Table 7, academic Facebook usage indirectly impacts both social satisfaction (.14, p < .05), and general satisfaction (.08, p < .05). Thus, the specific nature of this impact is addressed in the second research question.

All of the variables have been previously reported and discussed in chapter two and three. Because of multicollinearity, some of the variables had high intercorrelations, which precluded them from being in the same equation. For example, the variables related to the traditional measures of connectedness were combined to form a single scale in order to promote efficiency. The new variables created, including their specific names used in the analysis, follow.

**Operational Definition of Outcomes**

As a result of the data analysis model, seven defined outcomes and outcome variables emerged:

1. *Academic Facebook Usage (acadface).* amount of student Facebook usage that is primarily academic-related.

2. *General Facebook Usage (genface).* amount of student Facebook usage that is general and non-academic related.

3. *Facebook Connectedness (facecon).* student’s feelings of connectedness to their college or university that is related to, or because of, Facebook usage.

4. *Non-Facebook Connectedness (nfcon).* student’s feelings of connectedness to their college or university that is non-Facebook related, but rather, related to their overall college experience.
5. *Academic Satisfaction (acadsat)*. Level of satisfaction a student has towards his or her college or university academic experiences.

6. *Social Satisfaction (socialsat)*. Level of satisfaction a student has towards his or her college or university social experiences.

7. *General Satisfaction (gensat)*. Level of satisfaction a student has towards his or her overall college or university experience.

**Model Estimation**

The standardized regression coefficients are shown in Table 7. The dependent variables of this study are shown in the first column on the left. The independent variables are shown in the top row. As expected based on previous research studies, academic (.10), social (.28), and general satisfaction (.14) were all significantly impacted by non-Facebook connectedness. Table 7 is further discussed when the research questions are addressed.

**Table 7**

*Standardized Regression Coefficients*

<table>
<thead>
<tr>
<th>Variable</th>
<th>acadsat</th>
<th>socialsat</th>
<th>gensat</th>
</tr>
</thead>
<tbody>
<tr>
<td>class</td>
<td>0.09</td>
<td>0.02</td>
<td>-0.01</td>
</tr>
<tr>
<td>age</td>
<td>-0.02</td>
<td>-0.09</td>
<td>0.06</td>
</tr>
<tr>
<td>Gender</td>
<td>0.10*</td>
<td>0.16*</td>
<td>0.10*</td>
</tr>
<tr>
<td>GPA</td>
<td>-0.01</td>
<td>-0.09</td>
<td>0.32*</td>
</tr>
<tr>
<td>housing</td>
<td>0.09</td>
<td>0.03</td>
<td>0.02</td>
</tr>
<tr>
<td>schooltype</td>
<td>0.03</td>
<td>-0.01</td>
<td>0.07</td>
</tr>
<tr>
<td>acadface</td>
<td>0.26*</td>
<td>0.13*</td>
<td>0.05</td>
</tr>
<tr>
<td>genface</td>
<td>0.34*</td>
<td>-0.05</td>
<td>0.12*</td>
</tr>
<tr>
<td>facecon</td>
<td>0.10*</td>
<td>0.28*</td>
<td>0.14*</td>
</tr>
<tr>
<td>nfcon</td>
<td>0.05</td>
<td>0.02</td>
<td>0.02</td>
</tr>
</tbody>
</table>

*Note: * indicates significance at the 0.05 level.*
Table 7 Standardized Regression Coefficients (continued)

<table>
<thead>
<tr>
<th>Variable</th>
<th>acadface</th>
<th>genface</th>
<th>facecon</th>
<th>nfcon</th>
<th>acadsat</th>
<th>socialsat</th>
<th>gensat</th>
</tr>
</thead>
<tbody>
<tr>
<td>acadsat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.35*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>socialsat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.27*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* *p < .05.*

Although all of the necessary information for addressing the research questions is contained in Table 7, more details from the regression analysis are shown in appendices C2 through C8.

Table 8 shows the standardized total effects for the model. These effects consist of the standardized direct effects (betas) and the effects that were mediated by other variables. For example, gender, while not directly influencing facecon (.01), appears to indirectly influence facecon through genface (total effects = .08). Table 8 is further discussed when the research questions are addressed.

Table 8.

*Standardized Total Effects*

<table>
<thead>
<tr>
<th>Variables</th>
<th>acadface</th>
<th>genface</th>
<th>facecon</th>
<th>nfcon</th>
<th>acadsat</th>
<th>socialsat</th>
<th>gensat</th>
</tr>
</thead>
<tbody>
<tr>
<td>class</td>
<td>0.09</td>
<td>-0.10</td>
<td>0.08</td>
<td>0.06</td>
<td>0.10</td>
<td>0.07</td>
<td>0.06</td>
</tr>
<tr>
<td>age</td>
<td>-0.02</td>
<td>-0.13</td>
<td>-0.13</td>
<td>-0.02</td>
<td>0.05</td>
<td>-0.06</td>
<td>0.06</td>
</tr>
<tr>
<td>gender</td>
<td>0.10</td>
<td>0.16</td>
<td>0.08</td>
<td>0.04</td>
<td>0.03</td>
<td>-0.01</td>
<td>0.02</td>
</tr>
<tr>
<td>GPA</td>
<td>-0.01</td>
<td>-0.09</td>
<td>-0.06</td>
<td>-0.04</td>
<td>0.31</td>
<td>-0.04</td>
<td>0.12</td>
</tr>
<tr>
<td>housing</td>
<td>0.09</td>
<td>0.03</td>
<td>0.07</td>
<td>0.11</td>
<td>0.04</td>
<td>0.12</td>
<td>0.09</td>
</tr>
<tr>
<td>schooltype</td>
<td>0.03</td>
<td>-0.01</td>
<td>0.10</td>
<td>-0.02</td>
<td>0.03</td>
<td>-0.01</td>
<td>0.06</td>
</tr>
<tr>
<td>acadface</td>
<td>0.26</td>
<td>0.13</td>
<td>0.02</td>
<td>0.14</td>
<td>0.02</td>
<td></td>
<td>0.08</td>
</tr>
<tr>
<td>facecon</td>
<td>0.34</td>
<td>-0.05</td>
<td>0.04</td>
<td>0.02</td>
<td></td>
<td></td>
<td>-0.02</td>
</tr>
</tbody>
</table>
Table 8 Standardized Total Effects (continued)

<table>
<thead>
<tr>
<th>Variables</th>
<th>acadface</th>
<th>genface</th>
<th>facecon</th>
<th>nfcon</th>
<th>acadsat</th>
<th>socialsat</th>
<th>gensat</th>
</tr>
</thead>
<tbody>
<tr>
<td>genface</td>
<td>0.12</td>
<td>0.20</td>
<td>0.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>nfcon</td>
<td>0.10</td>
<td>0.28</td>
<td>0.25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>acadsat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>socialsat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.27</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* Standardized Indirect and direct effects (direct effects are presented in Table 7)

**Model Analysis**

There were seven outcomes of interest in this study. Based on the theoretical approach taken here, the model that was estimated did the best job of explaining Facebook-related connectedness (facecon) and general satisfaction (gensat), yielding $R^2 = .28$, and .29 respectively. These $R^2$’s are shown in Table 9.

Table 9

*Squared Multiple Correlations*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>acadface</td>
<td>0.02</td>
</tr>
<tr>
<td>genface</td>
<td>0.07</td>
</tr>
<tr>
<td>facecon</td>
<td>0.28</td>
</tr>
<tr>
<td>nfcon</td>
<td>0.03</td>
</tr>
<tr>
<td>acadsat</td>
<td>0.14</td>
</tr>
<tr>
<td>socialsat</td>
<td>0.15</td>
</tr>
<tr>
<td>gensat</td>
<td>0.29</td>
</tr>
</tbody>
</table>

*Note.* The table presents R-squares for each outcomes (endogenous variables) corresponding to the dependent variables in the first column (the corresponding regression coefficients are presented in Table 7).
Research Questions

Research question one investigated how undergraduate college students utilize Facebook. Tables 10 and 11 show the different types of Facebook usage, academic and non-academic Facebook usage. Tables 10 and 11 also include level of involvement with individual Facebook variables included on the questionnaire.

Participants were asked how often they sign on to their Facebook pages. Over 60% (n = 527) of respondents reported signing in several times each day. Almost one-fourth of respondents reported signing in several times a week, and 9% reported rarely logging off Facebook altogether. The smallest percentage of respondents (4.3%) reported never signing on to Facebook. A general question asked respondent about their academic-related usage of Facebook. three-fifths of respondents (n = 545) reported a range of 1% - 25% of their usage as academic-related. Over 20% reported that less than one-fourth of their Facebook usage is academic-related. Almost 11% of respondents reported their Facebook usage for academic purposes as falling between 26% and 50%. These two questions were general, with a follow-up set of specific questions distinguishing between general and academic-related Facebook usage.

Level of student academic Facebook usage. Table 10 includes the frequency of academic Facebook usage for each Facebook activity included on the survey. The data here demonstrates that students in general do use Facebook for academic-related purposes, though not as often as general usage (see Table 11). On all but one of the items on the questionnaire asking about academic-related Facebook usage, well over 50% of respondents reported never using Facebook for anything academic. Over 72% of all respondents reported never updating their Facebook page for academic reasons, and over 60% reported never reading or reviewing Facebook pages, or emailing on Facebook. Searching for peers on Facebook, chatting on
Facebook, checking and commenting on Facebook pages, and writing Facebook email were the most popular Facebook activities that were academic-related, with over 30% of respondents reporting doing these activities several times a week. The most popular activity being conducted several times a day was checking Facebook pages, with 13% of respondents reporting this, followed by reading or reviewing other’s Facebook pages (6.8%) and chatting on Facebook (5.7%).

Table 10

*Academic Facebook Usage Frequency*

<table>
<thead>
<tr>
<th>Academic Facebook Usage Percentages</th>
<th>Never</th>
<th>Several Times a Week</th>
<th>Several Times a Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Update FB Page</td>
<td>72.8%</td>
<td>23.0%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Check FB Page</td>
<td>51.3%</td>
<td>33.5%</td>
<td>13.4%</td>
</tr>
<tr>
<td>Chat on FB</td>
<td>53.2%</td>
<td>39.3%</td>
<td>5.7%</td>
</tr>
<tr>
<td>Read/Review Other’s FB Page</td>
<td>60.5%</td>
<td>30.7%</td>
<td>6.8%</td>
</tr>
<tr>
<td>Read/Write FB Email</td>
<td>60.5%</td>
<td>33.6%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Comment on Other’s FB Page</td>
<td>59.3%</td>
<td>33.9%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Search for Peers on FB</td>
<td>44.2%</td>
<td>49.0%</td>
<td>4.6%</td>
</tr>
<tr>
<td>Contact Faculty/Staff on FB</td>
<td>83.7%</td>
<td>13.7%</td>
<td>0.6%</td>
</tr>
</tbody>
</table>

n = 843

**Level of student general Facebook usage.** Table 11 includes the frequency of general Facebook usage for each Facebook activity included on the survey. The data clearly demonstrates that students use Facebook quite frequently and in a variety of ways that are non-academic related. Over half of all participants reported updating their Facebook page, chatting on Facebook, reading or reviewing other’s Facebook pages, and reading or writing Facebook email several times a week. Over 60% of respondents reported commenting on other’s Facebook
pages or searching for peers on Facebook several times a week for non-academic purposes. Finally, overall 16% of respondents reported contacting faculty or staff several times a week, also for non-academic purposes. The most popular non-academic Facebook activities, defined as those conducted several times a day, were checking Facebook pages (61.9%), reading or reviewing other’s Facebook pages (36.9%), followed by chatting on Facebook (26.3%) and updating Facebook pages (17.1%). Almost one-third of respondents reported never reading or writing Facebook email, and almost one-fourth of respondents reported never updating their Facebook pages. In addition, almost one-fifth of respondents reported never searching for peers on Facebook. Not surprisingly, regarding general or non-academic Facebook usage, three-fourths of all respondents never contact faculty or staff on Facebook.

Table 11

**General Facebook Usage Frequency**

<table>
<thead>
<tr>
<th>General Facebook Usage Percentages</th>
<th>Never</th>
<th>Several Times a Week</th>
<th>Several Times a Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Update FB Page</td>
<td>22.9%</td>
<td>55.9%</td>
<td>17.1%</td>
</tr>
<tr>
<td>Check FB Page</td>
<td>4.0%</td>
<td>29.4%</td>
<td>61.9%</td>
</tr>
<tr>
<td>Chat on FB</td>
<td>17.5%</td>
<td>51.9%</td>
<td>26.3%</td>
</tr>
<tr>
<td>Read/Review Other's FB Page</td>
<td>9.1%</td>
<td>50.1%</td>
<td>36.9%</td>
</tr>
<tr>
<td>Read/Write FB Email</td>
<td>29.2%</td>
<td>55.7%</td>
<td>10.4%</td>
</tr>
<tr>
<td>Comment on Other's FB Page</td>
<td>10.6%</td>
<td>60.7%</td>
<td>24.3%</td>
</tr>
<tr>
<td>Search for Peers on FB</td>
<td>19.5%</td>
<td>64.4%</td>
<td>11.5%</td>
</tr>
<tr>
<td>Contact Faculty/Staff on FB</td>
<td>75.3%</td>
<td>16.3%</td>
<td>3.8%</td>
</tr>
</tbody>
</table>

| n = 843                           |        |                       |                     |

Research question two investigated how the level of student Facebook usage impacts college student satisfaction. As previously stated, Facebook usage was divided into two
categories based on the items on the survey. academic Facebook usage and general Facebook usage. College student satisfaction was divided into three categories based on the results of a factor analysis. 1) social satisfaction, 2) academic satisfaction, and 3) general satisfaction. Table 12 includes Pearson Product Moment correlations that were run between general satisfaction and level of Facebook usage.

Before addressing the impact of student Facebook usage on student satisfaction, the relationships among these variables were examined. As shown in Table 12, we see that academic Facebook usage has a significant positive relationship with social satisfaction (r = .15, p < .01) and general satisfaction (r = .09, p < .01). General Facebook usage did not have any significant relationships with the three satisfaction measures. Thus, it appears that academic Facebook usage is more important than general Facebook usage in understanding student satisfaction.

Table 12

*Correlations between Satisfaction and Facebook Usage*

<table>
<thead>
<tr>
<th></th>
<th>acadface</th>
<th>genface</th>
<th>socialsat</th>
<th>acadsat</th>
<th>gensat</th>
</tr>
</thead>
<tbody>
<tr>
<td>acadface Pearson Correlation</td>
<td>1</td>
<td>.381*</td>
<td>.154*</td>
<td>.048</td>
<td>.086*</td>
</tr>
<tr>
<td>N</td>
<td>805</td>
<td>756</td>
<td>801</td>
<td>799</td>
<td>798</td>
</tr>
<tr>
<td>genface Pearson Correlation</td>
<td>.381*</td>
<td>1</td>
<td>.062</td>
<td>-.025</td>
<td>-.015</td>
</tr>
<tr>
<td>N</td>
<td>756</td>
<td>786</td>
<td>782</td>
<td>780</td>
<td>779</td>
</tr>
<tr>
<td>socialsat Pearson Correlation</td>
<td>.154*</td>
<td>.062</td>
<td>1</td>
<td>.130*</td>
<td>.362*</td>
</tr>
<tr>
<td>N</td>
<td>801</td>
<td>782</td>
<td>849</td>
<td>843</td>
<td>842</td>
</tr>
<tr>
<td>acadsat Pearson Correlation</td>
<td>.048</td>
<td>-.025</td>
<td>.130*</td>
<td>1</td>
<td>.436*</td>
</tr>
<tr>
<td>N</td>
<td>799</td>
<td>780</td>
<td>843</td>
<td>847</td>
<td>841</td>
</tr>
<tr>
<td>gensat Pearson Correlation</td>
<td>.086*</td>
<td>-.015</td>
<td>.362*</td>
<td>.436*</td>
<td>1</td>
</tr>
<tr>
<td>N</td>
<td>798</td>
<td>779</td>
<td>842</td>
<td>841</td>
<td>846</td>
</tr>
</tbody>
</table>
In order to estimate the impact of academic Facebook usage on student satisfaction, a model was constructed that hypothesized the directional relationships among the variables in the study (Appendix C; Figure C1). Given the lack of correlation between general Facebook usage and the satisfaction measures, the focus here is on academic Facebook usage. It was hypothesized that academic Facebook usage (as well as general Facebook usage) had a direct impact on all three satisfaction measures as well as on two other variables analyzed. Facebook and non-Facebook connectedness. These two variables are addressed in research question three. As shown in Table 9, academic Facebook usage does not directly influence the three satisfaction measures under the assumptions of the model. However, as shown in Table 7, academic Facebook usage indirectly impacts both social satisfaction (.14, \( p < .05 \)), and general satisfaction (.08, \( p < .05 \)). Thus, the specific nature of this impact is addressed in the third research question.

Research question three explored level of student Facebook usage and its impact on perceptions of feeling socially connected to their college or university. Facebook usage was divided into two categories consisting of academic-related Facebook usage and general Facebook usage. In addition, there were two distinct dimensions of connectedness. Facebook connectedness and non-Facebook connectedness. Facebook connectedness represented student’s feeling of being connected to their college or university through the use of Facebook, and non-Facebook connectedness represented student’s feeling of being connected to their college or university apart from anything Facebook related.

Before addressing the impact of student Facebook usage on connectedness, the relationships among these variables were examined. As shown in Table 13 below, academic Facebook usage has significant positive relationships with both non-Facebook connectedness (r
= .12) and Facebook connectedness (r = .41). General Facebook usage has a significant positive relationship with Facebook connectedness (r = .45) and is not significantly related to non-Facebook connectedness.

Table 13

**Correlations between Facebook Usage and Connectedness**

<table>
<thead>
<tr>
<th></th>
<th>acadface Pearson Correlation</th>
<th>genface</th>
<th>NFcon</th>
<th>Facecon</th>
</tr>
</thead>
<tbody>
<tr>
<td>acadface</td>
<td>1</td>
<td>.381*</td>
<td>.122*</td>
<td>.405*</td>
</tr>
<tr>
<td>N</td>
<td>805</td>
<td>756</td>
<td>805</td>
<td>801</td>
</tr>
<tr>
<td>genface</td>
<td>.381*</td>
<td>1</td>
<td>.035</td>
<td>.445*</td>
</tr>
<tr>
<td>N</td>
<td>756</td>
<td>786</td>
<td>786</td>
<td>783</td>
</tr>
<tr>
<td>nfcon</td>
<td>.122*</td>
<td>.035</td>
<td>1</td>
<td>.155*</td>
</tr>
<tr>
<td>N</td>
<td>805</td>
<td>786</td>
<td>853</td>
<td>848</td>
</tr>
<tr>
<td>facecon</td>
<td>.405*</td>
<td>.445*</td>
<td>.155*</td>
<td>1</td>
</tr>
<tr>
<td>N</td>
<td>801</td>
<td>783</td>
<td>848</td>
<td>848</td>
</tr>
</tbody>
</table>

*Note.* *p* < .05.

In order to estimate the impact of Facebook usage on connectedness, the direct effects shown in Table 9 need to be further examined. As can be seen, academic Facebook usage directly influences Facebook connectedness (.26, *p* < .05) and non-Facebook connectedness (.13, *p* < .05). General Facebook usage has a direct influence on Facebook connectedness (.34, *p* < .05). General Facebook usage has no influence on non-Facebook connectedness. It should be noted that the betas from the aforementioned variables are smaller than the correlations between the two variables because they were computed controlling for certain demographic variables.
including class, age, gender, GPA, housing, and type of college or university (i.e., private, public). Thus, the data analysis model itself was impacted by the demographic variables.

The results related to the third research question also inform the second research question. Examining Table 7, the influence of academic Facebook usage on social satisfaction is mediated by Facebook connectedness (total effect = .14). In addition, academic Facebook usage has a small influence on general satisfaction mediated by both Facebook connectedness and social satisfaction (total effects = .08). Research questions two and three are now addressed.

Research question four examined other factors that may impact college student satisfaction. These other factors included demographics, and the connectedness variables.

Table 9 shows the impact of connectedness on satisfaction. Consistent with previous studies, non-Facebook connectedness significantly impacts academic satisfaction (.10, p < .05), social satisfaction (.28, p < .05), and general satisfaction (.14, p < .05). When controlling for non-Facebook connectedness (as well as other variables), Facebook connectedness significantly impacts social satisfaction (.20, p < .05) and academic satisfaction (.12, p < .05). Furthermore, as shown in Table 7, Facebook connectedness indirectly affects general satisfaction (.11, p < .05), mediated by academic and social satisfaction.

As shown in Table 9, Class status, age, gender, housing, and school type do not have any significant direct effects on the three satisfaction measures. GPA, on the other hand, had a sizable effect on academic satisfaction (.32, p < .05) as expected. One indirect effect did emerge as shown in Table 7. GPA indirectly affects general satisfaction (.12, p < .05), mediated by academic satisfaction.

In the next chapter, a discussion is provided that integrates the findings of this study with the theory and research introduced in Chapter Two. A summary is provided that outlines the
topics covered in the first four chapters. Conclusions are drawn from the findings including limitations of the current study and methodological alternatives for future research. Finally, the implications of this study for policy and practice, and for theory, are discussed along with the conclusions that may be drawn.
Chapter Five

Discussion, Conclusions, and Recommendations

As a consequence of the growing shift in higher education funding nationwide, colleges and universities must find ways to maximize their effectiveness in retaining college students. Retention challenges continue in academia and, as a result, remain a current issue that is constantly being reviewed by higher education administrators. One pivotal approach to retention is focusing on college student satisfaction, a dominant focus of the retention puzzle in higher education. Astin (1993) defined student satisfaction in the 1970s and referred to it as the level of enjoyment or realization of expectations involving the college experience. Satisfaction has a direct relationship with student retention in that students who report high satisfaction with their college experience also are more readily retained. Astin’s Involvement Theory (1985, 1993) provides a consistent and useful method of exploring college student satisfaction. The relationship between students who get involved with their college experience and satisfaction is well documented, and directional. the higher the involvement level, the higher the satisfaction (Astin, 1993). In sum, college student involvement relates to college student satisfaction which in turn impacts college student retention.

Although many studies have examined college student involvement and college student satisfaction, very few have examined more current ways students get involved, particularly electronic involvements that have only recently emerged. In addition, very few studies explore the mediating effect of this involvement; namely, whether this involvement encourages feelings of connectedness both to the actual involvement and the college or university itself. Connectedness refers to the sense of belonging and closeness a college student feels towards his or her college environment (Lee & Robbins, 2000). Finally, few studies have used a specific
electronic environment for gathering data. In this study, the electronic website environment, Facebook, was treated as a specific college involvement activity and thus served as the independent variable. Facebook also served as the electronic medium. Participants were recruited on Facebook and data was collected within Facebook.

The purpose of this study was to better understand college student Facebook usage and its impact on college student satisfaction to determine if higher education stakeholders can employ Facebook with the higher education environment. This purpose was met by determining how well Facebook usage by college students predicts student satisfaction when factoring in demographics, academic variables, in-person involvements, and mediating effects like feelings of connectedness. The significance of this study is that Facebook usage by college students is rising exponentially, and colleges and universities may be able to harness this technology as a tool for numerous outcomes: recruiting students, improving retention, and college student satisfaction.

The methodology employed in this study was a web-based survey instrument that integrated questions on involvement, connectedness, Facebook usage, demographics, and satisfaction. Involvement referred to the amount of time college students spend on particular college-related activities. Connectedness referred to college students’ feelings of belonging and closeness to their college or university. Facebook usage is the amount of time college students spent using Facebook, either for academic or non-academic purposes. Demographic questions referred to student and institutional characteristics including gender, GPA, and race. Finally, satisfaction questions emphasized students’ feelings of enjoyment and completion of aspirations related to the college experience (Astin, 1993). These questions were supported by numerous existing research studies on involvement, connectedness, and satisfaction (Allen et al. 2008; Astin, 1993,
Facebook usage questions were derived from a small qualitative pilot study using undergraduate students, faculty, and staff members who consistently use Facebook. The survey instrument was composed electronically utilizing Vovici, a web-based survey and data development program (Vovici, 2009), and distributed to the final sample through Facebook email, postings, and invitations.

The population of all Ohio college students who have a registered Facebook website was used to create a final sample of 843 subjects. Descriptive statistics were calculated for all predictor variables, Pearson product moment correlations were computed for all variables under consideration, and a multiple regression model was utilized to determine the proportion of variance in student satisfaction that can be explained by the extent of Facebook usage.

The population in this study is comparable to the population of traditional-aged college students entering four-year colleges and universities nationwide. The population was largely female (54.6%), the average age was 20 years, and ethnicity was primarily Caucasian (79%). Academically, well over 90% of the population was enrolled full-time at public, four-year colleges or universities. The class standing distribution was fairly equal, with a small majority of the population being freshman (32.1%) followed by juniors (21.4%) and seniors (21.2%)

**Discussion**

Chapter Four summarized findings that help address the four research questions. Research question one focused on how undergraduate college students use Facebook. The study distinguished between academic and general Facebook usage, and separated college student satisfaction into three categories: social, academic, and general. The study assessed 10 Facebook activities across both academic and general usages (see Tables 10 and 11). Between 14% and 49% of respondents indicated engaging in these various activities several times a week for
academic purposes. Between 16% and 64% of respondents indicated engaging in these various activities several times a week for general purposes. Combined, these two types of Facebook usage demonstrate a varying level of student involvement in a wide array of Facebook activities. The activities that had the highest levels of involvement for academic purposes were updating one’s own Facebook page, searching for classmates, commenting on other’s Facebook pages, and chatting on Facebook. General Facebook usage was much higher than academic use, with the highest levels of involvement going to updating or making changes to one’s own Facebook page, searching for classmates, commenting on other’s Facebook pages, checking or reading other Facebook pages, and reading or writing Facebook email. The popularity of these activities, particularly those that appear to cross both academic and general usage, could be due in part to the ease of use these activities require. immediately after signing in, these areas of Facebook are most readily accessible. Also, these activities which respondents reported high usage of, correspond with national trends of Facebook usage, as discussed in the literature review.

Research question two focused on level of undergraduate student Facebook usage and its impact on college student satisfaction. The first step in determining the level of student Facebook usage and its impact on college student satisfaction was to examine the relationship between the two variables. Facebook usage and college student satisfaction. What emerged, as stated earlier, were distinctions within these variables. Notably, Facebook usage was divided into two categories. academic Facebook usage and general Facebook usage. Academic Facebook usage referred to Facebook usage that was primarily academic-related, and general Facebook usage referred to non-academic Facebook usage. Satisfaction was divided into three distinct areas. social, academic, and general satisfaction. Social satisfaction referred to student’s
level of satisfaction with social aspects of the college experience; academic satisfaction referred to student’s level of satisfaction with academic-specific aspects of college, and general satisfaction was a broad measurement, referring to satisfaction with the overall college experience. The mediating variable of connectedness, as previously defined, was categorized as non-Facebook and Facebook connectedness. Non-Facebook connectedness represented student’s perceptions of feeling connected to their college or university devoid of Facebook. Facebook connectedness addressed how Facebook usage itself relates to feelings of connectedness to a student’s college or university.

When analyzed, academic Facebook usage had a significant relationship with both social and general satisfaction, but general Facebook usage did not relate to any of the three satisfaction areas. Consequently, academic Facebook usage is more central to understanding student satisfaction. Thus, within the data analysis model, it was hypothesized that academic Facebook usage had a direct impact on all three satisfaction areas as well as the connectedness variables which served as mediating variables, discussed in Chapters Two and Three. As previously mentioned, connectedness variables were divided into two categories. Facebook and non-Facebook connectedness. The connectedness measures became crucial because there was no direct influence by academic Facebook usage on the three satisfaction areas. Academic Facebook usage indirectly impacted both social and general satisfaction. This indirect relationship was affected by the connectedness measures which comprised a second and related research question.

Research question three asked whether level of undergraduate student Facebook usage impacted students’ perceptions of feeling socially connected to their college or university. As was the case with paring Facebook usage down to general and academic, social connectedness
was measured in the form of Facebook and non-Facebook connectedness. Relationships between the variables were examined. Academic Facebook usage had a significant relationship with both dimensions of connectedness. Academic Facebook usage by college students directly influenced both Facebook and non-Facebook connectedness. General Facebook usage also had a relationship with Facebook connectedness.

Thus, research question two related to research question three. Academic Facebook usage influenced social satisfaction, but was mediated or influenced by Facebook connectedness. Without a direct relationship between academic Facebook usage and social satisfaction, Facebook connectedness becomes pivotal. In addition, academic Facebook usage narrowly influenced general satisfaction but again was mediated by Facebook connectedness, as well as social satisfaction. These interrelationships demonstrate that while there is no direct relationship between general satisfaction and overall Facebook usage, there are indirect relationships when student’s perceptions of connectedness are included in the data analysis model (Appendix C1). The more a college student uses Facebook for academic purposes, the more connected he or she will feel to their college or university. As the research has shown, the more connected a student feels towards his or her college or university, the more satisfied that student will be (Allen et al. 2008; Astin, 1993; Pascarella & Terenzini, 2005).

Research question four examined other factors that impact college student satisfaction. Within this study, other factors included demographics and connectedness variables. It was expected that non-Facebook connectedness would impact academic satisfaction because this is analogous to numerous previous studies (Allen et al. 2008; Astin, 1993; Pascarella & Terenzini, 2005). The more connected a college student feels towards his or her college or university, the more satisfied they are with their overall college experience, including academic experiences.
Non-Facebook connectedness also impacted social and general satisfaction as well. The more connected a student felt towards his or her college or university, the higher their academic, social, and general satisfaction levels. Facebook connectedness had an indirect effect on general satisfaction, mediated by academic and social satisfaction. What this says is that with respect to Facebook connectedness, the three dimensions of satisfaction relate to each other.

There were few demographic questions that had any impact on the three satisfaction dimensions. GPA did have a large effect on academic satisfaction which was somewhat intuitive and consistent with previous research (Astin, 1993). GPA also indirectly affected general satisfaction but this was mediated by academic satisfaction which again, was not surprising.

The findings of this study indicated that all four classes of college students (e.g., freshman, sophomore) utilize Facebook regularly and this distribution is somewhat equally represented by both male and female college students. This regular Facebook usage crosses numerous specific Facebook activities and ranges from several times a week to several times a day. College students utilize Facebook for general, non-academic purposes far more than they do for academic purposes, and this was expected given the nature of Facebook and the freshness of the website. Academic ventures into Facebook are only just beginning. There were some surprises with respect to academic Facebook usage. Over one-third of participants check their Facebook page, chat on Facebook, read or review other’s Facebook pages, and read, write, or comment on other’s Facebook pages. There could be some overlap between academic and general Facebook usage and thus, participants may not be doing these activities solely for academic purposes. However, the general Facebook usage percentages for these same activities were consistently higher and thus, a distinction appears to have been made by respondents.
It was somewhat surprising to learn that under the assumptions and design of the data model, general Facebook usage did not have a direct impact on any of the three areas of satisfaction, while Facebook usage indirectly impacted social and general satisfaction. This again could signify that college students do distinguish between using Facebook for academic purposes and general purposes. Why this is surprising is because the nature of Facebook can almost be construed as entertainment, a communication tool, or a social media. The boundaries between academic and general use of Facebook appear to be blurring, but further research would be needed to support this notion.

Because Facebook serves as an Internet-based community, the connectedness idea became pivotal. College students are connecting to one another through the use of Facebook. It was not surprising to learn that connectedness became a mediator between Facebook usage and college student satisfaction. Connectedness was divided into Facebook-related and non-Facebook-related connectedness. College students who use Facebook for academic purposes felt more connected both as a result of using Facebook as well as related to in-person, non-Facebook involvement, and this connection was strong. Thus, academic Facebook usage had a positive impact on feelings of connectedness among college students. To summarize, the more a college student uses Facebook for academic purposes, the more connected he or she will feel to their college or university, and the more satisfied he or she will be with their college or university.

There were consistencies with the previous theories and research conducted on student satisfaction and connectedness, as discussed in chapter two. Higher involvement with college-related activities correlates to higher college student satisfaction (Astin, 1985, 1991). Higher involvement with college-related activities also correlates with greater feelings of connectedness (Allen et al., 2008; Tinto, 1993). Finally, when students report higher levels of connectedness to
his or her college or university, they typically also report higher levels of satisfaction, including social, academic, and general satisfaction (Allen et al., 2008; Astin, 1993, 1999). Additionally, GPA had a significant effect on academic satisfaction but this again supports existing research and was not unexpected (Astin, 1993; Tinto, 1993).

**Policy and Practice Implications**

The results of this study do not just address the research questions; they also provide suggestions for policy implications for Facebook promotion and adoption in higher education from an administrative perspective. The findings from this study could benefit colleges and universities from a practical standpoint. The data from this study support the conclusions that Facebook usage among college students is high, growing, and impacts certain aspects of the college experience. Therefore, there are investments of additional resources that could be made towards Facebook at individual colleges or universities. Knowing that Facebook usage among college students impacts college student satisfaction and college students’ feelings of college or university connectedness is useful for practical purposes. Colleges, universities, and individual departments can utilize Facebook essentially for free. With financial challenges growing in higher education, utilizing resources like Facebook could help offset expenditures, provide wider outreach to institutional stakeholders (i.e., college students, future college students), and demonstrate a commitment by administrators to technology and student trends.

Additionally, data from this study suggests that students who use Facebook for academic use exhibit stronger feelings of connectedness to their college or university, and higher levels of general satisfaction with their college or university. Combining this study with Astin’s student involvement research and its impact on student development (Astin, 1993, 1999; Heiberger & Harper, 2008) could offer assurances to administrators that shifting policies, resources, or
directions for Facebook inclusion is fruitful. These policies and resources could focus on Facebook use for recruiting, networking or outreach, and implementation at a host of levels including department, college, and university. Concurrently, this study along with Astin’s previous work could validate faculty member’s decisions to utilize Facebook more, particularly for academic purposes.

**Student affairs practices.** Facebook has become a tool for reaching out to both current and prospective students alike. There are empirical, single-institution examples of student affairs departments creating Facebook pages that provide information, opportunities for participation, and recruitment initiatives (Facebook, 2010). These department-level pages often have links to university-supported pages that parallel the department pages. Often managed by student affairs practitioners, the costs associated with Facebook are minimal, changes can be instantaneous, and feedback from these pages is readily available. Examples of content on these Facebook pages include contact information, department or university demographics, times and dates for activities, and student feedback. Given current methods of these same tasks still involve the use of physical resources (e.g., printing announcements, materials) and can be limited in the scope of outreach, adopting Facebook practices could save financial resources, provider greater outreach, and create an instant feedback loop between information distribution and information reception. Assessment of these Facebook practices would be more efficient as a result, and this would also satisfy university and state administrators with respect to creating more efficient processes.

**Academic affairs practices.** There is evidence that faculty and academic researchers are beginning to utilize Facebook for academic purposes (Heiberger & Harper, 2008; Mazer, Murphy, & Simonds, 2007). This is due in part to both the implicit and explicit belief among faculty that students are using Facebook frequently, and reaching out to students on Facebook is
only sensible. Faculty members, with relative ease, can upload reading materials, assignments, videos, and other academic resources to their Facebook pages as attachments, and provide this material to their students. Faculty members can also provide current research interests and other relative content directly to their Facebook pages so that students will see this material upon signing in to their own Facebook page. In addition to information dissemination on Facebook, faculty members can essentially see what their students are doing on Facebook, reach out to them through Facebook, and perhaps influence attendance, recruitment, and college student satisfaction initiatives. While there are implications for privacy and faculty-bias issues as a result, Facebook has become yet another medium for faculty to engage students (Heiberger & Harper, 2008).

As this research study demonstrated, Facebook has become an instrument for a host of research areas. There are large populations on Facebook, including non-college students. Because of the growing diverse population that uses Facebook, large amounts of information emerge about these individuals. Often this information is provided by Facebook users themselves, ranging from personal preferences, interests, hobbies, and technology usage. Disciplines like marketing, culture studies, education, and sociology are just some of the areas that could benefit from studying this data provided by Facebook use. In addition, Facebook is a medium with which research can occur from within, much like this study. There are few limitations to engaging in research on Facebook; surveys can be widely distributed on Facebook, and this approach to research is certainly cost-effective.

**Limitations**

The research study has filled a significant gap in research on social media like Facebook, and the implications of college students using Facebook at a growing rate. There are a small
sampling of single-institution studies that provide suggestions at a very basic level, but do not sufficiently measure Facebook usage and its impact on college students. While this study proved effective in determining the impact Facebook usage has on overall student satisfaction as well as feelings of connectedness, this study is limited in scope to Ohio based college and universities that were readily accessible and had students who utilize Facebook. The final sample was almost all public college students and thus, a study that had more private college students could prove more useful for shaping wide-scale policies in higher education. Furthermore, because Facebook usage among college students crosses all national boundaries, multi-institutional studies at the national level could also prove useful in shaping academic policies and providing credence to Facebook implementation in higher education.

This study focused solely on Facebook as the dominant social media website. While current research validates Facebook as the dominant college social media website in use, there exist others like MySpace and Twitter which could have an impact. Future studies could categorize social media websites and include multiple examples (e.g., Facebook, MySpace).

As is typically the case with quantitative versus qualitative studies, a larger sample can be reached but perhaps at the expense of a more in-depth analysis and understanding of the variables. Conducting interviews or focus groups could provide more comprehensive information and absorption on how students use Facebook, what Facebook activities they engage in the most, and how this impacts their overall student satisfaction. In addition, concepts like connectedness are not often clear and a qualitative approach could further eliminate any clarity issues that may have arose on the survey.

Another argument could be made that a longitudinal study using the same parameters of the current study would provide further support. A longitudinal study that measured the relationship
between Facebook usage and student satisfaction would aid in discovering if this relationship evolves. With the average college student spending between four and six years at the undergraduate level, other variables emerge within that time period that impact college student satisfaction, feelings of connectedness, and levels of Facebook involvement. These variables include student development, academic growth, and personal maturation through experiences. Investigating Facebook usage and its impact over a greater duration could provide a more in-depth measurement of Facebook’s impact.

Finally, though the use of electronic mediums like email and social media websites is increasing in research studies, there are some drawbacks. Not every research subject is comfortable answering questions electronically and thus sampling bias can occur. Email and Facebook are readily accessible but not everyone utilizes these tools with regularity. Surveys that arrive through email or Facebook may be construed as junk mail and discarded. A mixed method approach that includes electronic research methods and perhaps qualitative approaches like could strengthen this study, as well as the use of traditional, in-person surveys.

**Recommendations for Future Research**

Data from this study as well as the existing, single-institution studies that examined the relationship between Facebook usage and specific college variables (e.g., GPA, faculty-student relationships) is a significant tool for university stakeholders as well as for higher education policy makers. As fiscal conservancy becomes the standard in higher education, due in large part to reductions in state funding (Burd, 2003), colleges and universities will be more accountable to higher education policy makers and thus, seek opportunities to utilize technology in order to reduce spending. Facebook represents one such technology medium that thus far, appears to have some semblance of relationship with various college variables like student
satisfaction, and student connectedness. These findings can assist colleges and universities in directing resources and emphasis to areas of technology including Facebook.

The increased utilization of Facebook across numerous areas of higher education will have an impact on a variety of areas: recruiting, retention, outreach, engagement, information distribution, and the increased creation of Astin’s (1993) concept of a community of scholars. As more faculty and administrators migrate to Facebook, college students may feel more communal within their college or university as a result. Findings from this study support Astin’s (1993, 1999) research on college student involvement as well as Heiberger and Harper’s research (2009) on Facebook as an involvement. Findings from this study also suggest that more research should be conducted on Facebook use among college students, particularly how Facebook should be treated. Facebook started as a communication tool for college students, but has since evolved into both a communication tool as well as an activity that college students spend large amounts of time engaging. The impact of this increase in Facebook use will certainly affect the college experience.

**Relationships.** It is recommended that future research should focus on Facebook use and its impact on relationships. With cohorts, faculty, and administrators all increasing their use of Facebook, it is conceivable that this may impact in-person relationships. College students may feel more comfortable with their faculty in class as a result of engaging faculty on Facebook, and vice versa. In addition, the same construct could hold true for cohorts and administrators. Students may misconstrue relationships in person as a result of Facebook interactions. Furthermore, the lines between students and faculty may become distorted as a result of the mutual use of Facebook. Discovering personal details about faculty, from a student’s perspective, could either enhance or harm the student-faculty relationship. Conversely, faculty
may acquire biases towards students for data mined from student’s Facebook pages. Thus, separate research studies could examine the impact of Facebook use on faculty-student relationships, and student-student relationships.

**Academics.** Karpinski and Duberstein (2009) began the discussion at the Ohio State University last year by examining Facebook use and its relationship to grade point average. While this was a single-institution, basic study, a more advanced examination of this relationship is certainly overdue. College students are using Facebook frequently and in some instances, excessively. The time spent on Facebook is perhaps coming from the time that could be spent on academic work. Research studies on this relationship between Facebook use and academic progress would be interesting if it was first discovered that academic progress has diminished over the past 10 years. This would coincide with the emergence of technology use among college students. As such, a quantitative analysis of the relationship between Facebook use and academic progress would shed some light on Facebook’s impact.

**Communication.** One of the central facets of the college experience is communication (Astin, 1985, 1993). College students communicate largely with their cohorts, but also with faculty and staff. With the emergence of technology mediums like email and Facebook, the communication paradigm may have shifted. Determining if college students prefer e-communication opposed to in-person communication would have some merit. more colleges and universities are relying on web-assisted learning and communication. As a result, students are often forced to engage cohorts and faculty electronically. In-person administrative functions are slowly being replaced with electronic administration, including registration, paying tuition, and communication. It can be inferred that electronic communication may be received differently than in-person communication, and this could include academic instruction. Finding out if
college students prefer faculty and staff communication on Facebook or email instead of, or supplemented by, in-person communication, could further enhance the college experience.

**Conclusions**

The findings from this research study support the following conclusions. College students are using Facebook quite frequently and for both general and academic purposes. College students who utilize Facebook for academic purposes feel more connected to their college or university. Consequently, students who utilize Facebook for academic purposes are more satisfied with their overall college experience as a result of this feeling of connectedness. This study furthered and supported the existing body of research on student involvement, Facebook as a college involvement, connectedness, and college student satisfaction (Allen et al. 2008; Astin, 1993; Heiberger & Harper, 2008).

College student involvement with Facebook is a widely prevalent and accepted premise, but remains in large part, an understudied phenomenon. Single institution studies exist at the very basic level, and statistics exist that support the conclusion that the vast majority of college students utilize Facebook for a variety of purposes. This study was perhaps one of the first steps toward providing further awareness and understanding into Facebook use among college students and its relationship to feelings of connectedness and consequently, student satisfaction. The information acquired from this study can help colleges and universities identify avenues of technology use that should be promoted to faculty and staff. The outcome of the promotion of technology use includes better use of resources, particularly monetary distribution. This study also provided an introductory blueprint for examining Facebook use in both other states and nationally. There are additional college experience-related variables that could be examined with respect to Facebook, particularly academic progress and student relationships. Building
from this study could yield not only a more responsible resource allocation design, but also a better college experience for students. Facebook and technology are certainly part of the future of academe and harnessing these technologies in a positive way is imperative.
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Appendix A

Invitation E-mail
Dear Potential Study Participant:

Have you ever thought about how much Facebooking you do, and how it impacts your college experience? Have you considered that your Facebook usage could impact your academic success? Well, here is your chance to be a part of ground-breaking Facebook research and share your Facebook experiences with educational researchers.

My name is Seth Powless and I am a Doctoral candidate at the University of Toledo (UT). I am currently conducting research on Facebook usage by undergraduate students and how it impacts college student satisfaction, and I am requesting your assistance with my current project.

In order to complete the study, I need your assistance with a brief survey. By participating in this study, not only will you be helping me with my research and helping to potentially influence your overall college experience, but I will also enter you in a raffle in which YOU COULD WIN $200. Further instructions are included in the survey. Please read all instructions carefully.

As a researcher, I am ethically bound to keep your responses to this survey completely confidential. Your responses will be combined with those from all other participants, and only the overall results will be reported. The survey should take you approximately 10 minutes to complete.

If you are willing to participate, please go to:

http://vovici.com/wsb.dll/s/15b20g41170

Please feel free to contact me with any questions or concerns.

Sincerely,

Seth Powless
The University of Toledo
Higher Education Program
Appendix B

Survey questionnaire
1. How often do you sign-on to Facebook?
   a. Never
   b. Several times a week
   c. Several times a day
   d. Rarely log off

2. What percentage of your Facebook usage relates to your academic experience (e.g., class-related, project-related)?
   a. 0 %
   b. 1 – 25 %
   c. 26 – 50 %
   d. More than 50 %

Please rate the following questions using the scale below.

Never
Several times a week
Several times a day

3. How often do you update your Facebook page?

4. How often do you check your Facebook?

5. How often do you chat with others on Facebook?

6. How often do you read or review other people’s Facebook pages?

7. How often do you read or write Facebook email?

8. How often do you write a comment on other people’s Facebook page?

9. How often do you respond to the Facebook section “What’s on your mind?”

10. How often do you search for friends, classmates, or people you work with on Facebook?

11. How often do you contact faculty or staff at your college/university on Facebook?
12. How often do you search for contacts that may be on Facebook?

Please rate questions 13 and 14 using the following scale:

0 – 1
2 – 5
6– 9
10+

13. How many college-sponsored activities have you attended in the last 6 months?

14. How many times have you sought out faculty for academic and/or career advice or discussions in the past 6 months?

Please rate questions 15 using the following scale:

Never
Sometimes
Often
Very Often

15. When thinking about this school year at your current college or university, how often do you do the following (Not including Facebook-related):

a. Interact with faculty either inside or outside the classroom

b. Interact with other students either inside or outside the classroom in order to complete class requirements (Presentations, Projects, Assignments, etc.)

c. Participate in co-curricular activities (Campus Organizations, Learning Communities, Student Government, Greek Life, etc.)

d. Participate in extracurricular activities (Sports, Attend Sports Events, Rec. Center, Social Activities)

Please rate question 16 using the following scale:

Not At All
Somewhat
Quite a Bit

Very

16. Thinking about this school year at your current college or university, how challenging is your academic experience (Courses, Readings, Assignments, etc.)

Please rate questions 17 - 20 using the following scale:

Strongly Disagree
Disagree
Agree
Strongly Agree

17. I don't feel a sense of "togetherness" with people at my school.
18. I join groups more for the friendship than the activity itself.
19. My Facebook usage helps me build a strong social support network.
20. My Facebook usage makes me feel connected to the community at my school.

Please rate questions 21 - 25 using the following scale:

Very Dissatisfied
Dissatisfied
Satisfied
Very Satisfied

21. How satisfied are you with your overall experience at your college or university?
22. How satisfied are you with social relationships you formed with peers during your college experience?
23. How satisfied are you with your academic experiences (e.g., grades, assignments)?
24. How satisfied are you with your mastery and/or understanding of your discipline, career, and/or major?
25. How satisfied are you with your choice to attend your current college or university?
26. Do you expect to graduate within five-years from the date you started college?
   a. Yes
   b. No

27. What is your current GPA?
   a. Over 4.0
   b. 4.0 – 3.5
   c. 3.4 – 3.0
   d. 2.9 – 2.5
   e. 2.4 – 2.0
   f. Below 2.0

28. Where do you currently live?
   a. On campus
   b. Off campus without roommates
   c. Off campus with roommates who are not family
   d. Off campus with family

29. In which state is your current college/university located (options are listed)?

30. Please indicate your current age (answer is text box)

31. Please indicate your current enrollment status
   a. Full-time
   b. Part-time
   c. Not currently enrolled

32. Please indicate your current class standing
   a. Freshman
b. Sophomore

c. Junior

d. Senior

e. Graduate Student

f. Already Graduated

33. Please indicate your gender.

a. Male

b. Female

34. Please indicate your race or ethnic background:

a. White (not Hispanic or Latino)

b. Black or African American (not Hispanic or Latino)

c. Asian

d. Native Hawaiian or other Pacific Islander

e. Hispanic or Latino

f. American Indian or Alaskan Native

g. 2 or more races (not Hispanic or Latino)
Appendix C

Model of standardized regression coefficients and table of unstandardized regression coefficients
In order to estimate the impact of academic Facebook usage on student satisfaction, a model was constructed that hypothesized the directional relationships among the variables in the study. Both the exogenous and endogenous variables are presented in Figure C1.

In addition to the standardized regression coefficients presented in Table 7, the following table includes the unstandardized regression coefficients, standard error for the unstandardized regression coefficients, p-values, and the standardized regression coefficients. The seven regression models are identified as panels (e.g., panel 1, panel 2) and are summarized in Table 7.
### Table C1

**Table of Unstandardized Regression Coefficients**

#### Panel 1. Dependent Variable - Academic Facebook Usage

<table>
<thead>
<tr>
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<th>p-value</th>
<th>Beta</th>
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#### Panel 2. Dependent Variable - General Facebook Usage

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#### Panel 3. Dependent Variable - Facebook Connectedness

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*Note.* *p* < .05.
Table C2. Table of Unstandardized Regression Coefficients (continued)

**Panel 5. Dependent Variable - Academic Satisfaction**

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**Panel 6. Dependent Variable - Social Satisfaction**

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**Panel 7. Dependent Variable - General Satisfaction**

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*Note. *p* < .05.*