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A Mixed Method Investigation of the Relationship Between Facebook Use, General Self-Efficacy, and Autonomy Development Among Undergraduate College Students

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A MIXED METHOD INVESTIGATION OF THE RELATIONSHIP BETWEEN
FACEBOOK USE, GENERAL SELF-EFFICACY, AND AUTONOMY DEVELOPMENT
AMONG UNDERGRADUATE COLLEGE STUDENTS

A Dissertation

Submitted to the School of Graduate Studies and Research

in Partial Fulfillment of the

Requirements for the Degree

Doctor of Education

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Title: A Mixed Method Investigation of the Relationship Between Facebook Use, General Self-Efficacy and Autonomy Development Among Undergraduate College Students

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Student development and identity formation have long been considered an important outcome of attending college. However, the introduction of web-based social networking technologies has played a significant role in fundamentally altering many aspects of campus life. The most popular social networking site, Facebook.com was initially developed on a college campus, specifically for use by other students. Despite Facebook's prevalence on campus and beyond, little is known about the impact that Facebook may be having on student development.

This mixed-method study examined variables associated with undergraduate college student Facebook use in relation to perceived sense of general self-efficacy and autonomy development. General self-efficacy is a construct that implies feelings of preparedness to deal with small and large hardships and challenges and is generally considered a fundamental characteristic of individuals who are thought to have attained autonomy.

The first stage of the study involved 311 full-time undergraduate students at a medium sized university in Eastern Pennsylvania who completed the Facebook Influence on Coping and Adaptation Scale (FICAS) survey instrument. Semi-structured interviews were then conducted with 20 volunteers from the group that completed the survey. The FICAS was developed to assess participants' activities and level of

engagement on Facebook.

Quantitative analysis of survey data found no significant relationships between the various FICAS subscales and general self-efficacy, however qualitative analysis of interview data revealed that Facebook use does appear to be associated with experiences related to the development of autonomy within the specific constructs of venturing and instrumental autonomy. These constructs represent specific ways to describe experiences that have been found to be related to the development of autonomy. These results appear to indicate that specific uses of Facebook may be beneficial for enhancing opportunities for autonomy development among undergraduate college students. However, it did not appear that Facebook was responsible for students' high levels of autonomy. Rather, participants' profiles served as extensions of self and those that appeared to have well-developed autonomy tended to use Facebook in more constructive and innovative ways than those who appeared to have a less developed sense of autonomy.

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By its very nature, completing a dissertation requires the involvement of many people. Some roles, such as those of the participants, are relatively limited, while others, like that of my committee, are much more far-reaching and significant. A heartfelt thank you goes out to all who influenced this project in both small and large ways. There is no way that I can adequately express my gratitude for your involvement.

Despite the involvement of others, I will admit that there were times that I felt very alone in this endeavor. Looking back, I realize those times of solitary questioning were necessary to allow me to work through issues that could have stood in the way of my completion. My committee members, Dr. Jennifer Rotigel, Dr. Doug Lare, and Dr. Rick Wesp guided and supported me when I needed it, but more importantly, challenged me to independently work out issues when it was necessary for the sake of the project. Their varying perspectives and generosity in providing feedback were essential to developing a study that I could be proud of.

I learned valuable lessons from all of the faculty mentors who guided me through this process, however I consider myself particularly fortunate to be one of the last few doctoral students to complete a dissertation under Dr. Rotigel's supervision before (during and after) her retirement. Her encouragement and willingness to go above and beyond in providing me feedback, was essential to my successful completion of this dissertation. As is the case with most great teachers, her legacy will live on in the viewpoints of countless educators who were fortunate to have their thinking shaped by her perspective.

I would be remiss if I did not also mention the influence of Dr. David Rheinheimer

on this dissertation. Without his knowledge, patience, and friendship I would not have been able to extend my quantitative research skills to the point of carrying out the selected research design. Again, I am better off for having had an opportunity to learn from him and look forward to the opportunity to collaborate with him again in the future.

A lot can happen in seven years! In the time since I began this doctoral program as a newlywed in my late twenties, I have experienced buying (and selling a house), becoming a father, and dealing with a myriad of the large and small personal and professional crises that make up what we generally refer to as 'life'. The experience of completing this dissertation in spite of all of those potential distractions epitomizes the idea that we can rarely control what happens to us, but we often have full control of how we respond to it. Without Amy, the love of my life, beside me to remind me of the things that I can control and those that I cannot, as well as the reasons why I started this, I certainly would not have finished. Her belief in me was the only thing that kept me going at times. My belief in her has never been stronger.

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CHAPTER 1

THE PROBLEM

The availability and widespread use of the internet has infiltrated almost every aspect of civilized human societies worldwide. One of the most dynamic characteristics of the internet is its ability to support the creation of virtual communities that allow users to “type oneself into being” (Sundén, 2003, p. 3), by creating a profile that allows individuals to interact with other users. The virtual communities primarily characterized by a user’s ability to create profiles that represent their identity, their relationships with others, and other personal details are specifically referred to as social networking sites (SNS) (boyd & Ellison, 2007). The fast pace at which these technologies have been adopted is unprecedented. The most popular SNS, Facebook.com, boasts approximately 1.49 billion active users worldwide (Facebook.com, 2015). With the recent proliferation of mobile technologies, it is very likely that more individuals will begin using SNS, and those already using them will increase their usage (Rosen 2012).

In the relatively short time that they have been available, SNS have fundamentally altered almost every aspect of modern life, including how people relate to and communicate with others (Cotten, 2008; Pempek, Yermolayeva, & Calvert, 2009; Ryan, J. A. 2008), how individuals form and represent their personal identity (boyd, 2007; Gardener & Davis 2013; Grasmuck, Martin, & Zhao, 2009; Zhao, Grasmuck, & Martin, 2008; Pempek, Yermolayeva, & Calvert, 2009; Turkle, 2011), and even the manner in which political opinions are shaped (Hampton et al., 2011 ; Pempek, Yermolayeva, & Calvert, 2009; Valenzuela, Park, & Kee 2009). Early research indicates that SNS use is re-shaping human behavior.

Ironically, the places where SNS originated and have the strongest foothold, colleges and universities, have also been one of the slowest domains to recognize and adapt to the changes that the use of social networking have initiated. A recent large study revealed that 90% of the students sampled at 126 US and Canadian universities used social networking sites, with 97% of these students reporting that they use Facebook (Smith & Borreson-Caruso, 2010). Another study involving almost 2,000 higher education faculty revealed that although over one-half of faculty visited Facebook during the last month, less than 5% reported using it in class (Moran, Seaman, & Tinti-Kane, 2011). As the online virtual campus continues to blend with the traditional campus environment, university faculty and administrators must understand the ways that the environments interact with each other in order to continue to support student development (Junco & Chickering, 2005).

Although the use of social networking sites has blended into the overall campus culture at virtually every American college and university, the online relationships that occur between faculty, administrators, and students are challenging to navigate. Students often see faculty or administrator presence on Facebook as an inappropriate invasion of privacy (Dahlstrom, E. 2012; Gettman & Cortijo, 2015; Martínez-Alemán & Wartman, 2009; Sleight, Smith, & Laboe, 2013). As a result, colleges and universities have largely taken a reactive approach to the phenomena of online social networking and therefore have not played an integral role in shaping the online behaviors of students. Increased understanding of the ways that students use SNS may assist college personnel to take advantage of the promise that these technologies have in

regard to increasing student involvement, learning, and development; particularly among students who primarily attend classes in an on-line format.

Regardless of higher education's overall response to SNS, social networking has become an essential component of campus life for the vast majority of college students (Cain, 2008; Mazer, Murphy, and Simonds, 2007; Martínez-Alemán & Wartman, 2009; Trottier, 2011). Based on current rates of use, social networking is poised to maintain its influence on college students' attitudes, perceptions, and behaviors (Hampton et al., 2011; Pempek, Yermolayeva, & Calvert, 2009; Rosen, 2012). The development of a foundation of rigorous descriptive research is necessary to provide a basis for understanding why these technologies have been so influential in reframing relationships and communication. This understanding is necessary to respond appropriately to both the problems and opportunities that these new ways of communicating have brought to higher education.

Background of Study

There are a number of factors that should be considered when attempting to understand the potential impact that the use of technology is having on the perceptions and behaviors of undergraduate college students. These factors represent a context that form the basis for both examining and understanding the potential ways that technology may be impacting college students.

Higher Education's Continued Focus on Student Development

The collection of frameworks that have been developed in an attempt to explain the ways in which college students grow in psychological and social maturity are generally referred to as student development theories. Over time, these models have

become widely adopted as the theoretical base for the practice of student affairs within the majority of colleges and universities (Evans, Forney, Guido, Patton, & Renn, 2010). Student development theories provide a context through which both productive and maladaptive student behaviors can be viewed and acted upon in empathetic and constructive ways (Knefelkamp, 1984). This context can then serve as a means to identify and address student needs and help to develop proactive policies and programs that encourage psychosocial growth (Evans, Forney, Guido, Patton, & Renn, 2010), while advancing a campus culture that is capable of providing an appropriate mix of challenge and support. According to Pascarella and Terenzini (2005), such an environment has been shown to be conducive to the advancement of each student's systems of self, including their sense of identity, self-concepts, relational abilities, autonomy, locus of control, interpersonal relations, leadership, and overall adjustment.

Since their initial development over 50 years ago, student development theories have also occupied an integral place in research centering on the impact that college has on an individual. The theories can be classified into four categories: 1. psychosocial developmental theories, 2. cognitive-structural theories, 3. typological models, and 4. person-environment interaction models (Knefelkamp, Widick, and Parker, 1979). While there are considerable similarities and differences among these four categories, the basic nature of development as a process of increasing complexity is reflected within all four general categories of developmental theories and models. Each category of theory has been shown to have value in helping to explain the changes that occur within students as a result of attending college, however the primary theoretical frameworks that are used to underpin the analysis of the use of SNS in the higher educational

environment in the present study will be Bandura's (1994) theory of social learning as well as Chickering and Reisser's (1993) theory of psychosocial development.

Digital Natives

Marc Prensky (2001) coined the term 'Digital Natives' to refer to the cohort of individuals that were born after 1980 and therefore have been immersed in various forms of technology since a very early age. Pointing to the cumulative hours that this generation has spent watching television, playing video games, surfing the internet, and using cell phones, Prensky asserts that the ways in which 'Digital Natives' socialize and process information is vastly different than previous generations. This shift in cognitive and relational characteristics has created a divide between 'Digital Natives' who experience an intimate relationship with technology that allows them to view technology as an extension of themselves and 'Digital Immigrants' who experience a detached view of technology and regard it as merely a tool to accomplish specific tasks.

Prensky bases his primary arguments on two concepts that originated in the fields of neurobiology and social psychology. Neuroplasticity, the idea that the brain changes its structure in response to stimuli, and malleability, the theory that different environments produce different thinking patterns, are used as proof that the brains of digital natives have changed as a result of the influence of technology. This possible reorganization of the brain, it is asserted, has created a generation of students that prefer to have information quickly presented in a random manner that allows them to process various pieces of information simultaneously. While the examples that accompany these reflections are compelling and plausible (particularly when presented through the lens of popular media), they do not provide the necessary empirical basis

for the complete restructuring of our educational systems that Prensky claims are needed (Bennett, Maton, & Kervin 2008).

While Prensky's conclusion may be premature, a growing body of literature does show the presence of differences in the ways that younger generations relate to technology. While numerous pundits and scholars have publicly extolled the benefits and opportunities that technology has brought to society, a growing number of voices now view the effects of technology on society more critically. These skeptics fear that rather than enhancing the range of human possibility, we will instead become limited by dependence on technology for virtually every activity of daily life (Gardener & Davis, 2013).

Based on her research as the director of the MIT Initiative on Technology and Self, Sherry Turkle cautions against the social and psychological effects of technology. In her 2011 book, *Alone Together: Why we Expect More from Technology and Less from Each Other*, Turkle argues that although most people are more connected through social networking, the nature of most of these connections is superficial and unfulfilling. When individuals look to virtual environments for intimacy needs, their sense of responsibility to relational ties becomes less clear. As a result, our collective notion of community, previously considered a geographically bound group with shared concerns and real consequences, has shifted to include membership in online forums and social networking sites. According to Turkle, this shift has led individuals to define the obligations of membership in real communities by virtual community standards.

Significant bodies of research have supported the idea that different college experiences will lead to different developmental outcomes (Evans et al., 2010). The

nature and level of engagement within a campus community also play a large part in defining individual student outcomes (Pascarella & Terenzini, 2005). Virtually all foundational theories that define the ways in which higher education enhances psychosocial development took place before the expansion of SNS. SNS have extended the traditional campus into the digital realm and fundamentally altered the ways that traditional college students interact with and experience the campus environment. The perceptions, attitudes, and behaviors of the current cohort of college students, as some of the first members of post-digital society to attend college, can provide important insight into the impact that SNS have had on the college experiences and reveal the relationships that may exist between the use of digital technology and college student development.

The App Generation

Numerous recent studies provide evidence of the rapid change that has occurred in the ways in which college students approach issues related to development. Howard Gardener and Katie Davis (2013), argue in their recently released book that the Net Generation would be more aptly referred to as the 'App Generation' as an homage to the packaged identities that they frequently present through profiles on Social Networking Sites. This packaged persona is a polished representation of self that is risk averse and focused on appearance rather than reflection and contemplation (Gardener and Davis, 2013).

The resulting culture is more focused on engaging in activities that bolster and publicly support the on-line personas that were previously created. This pattern of behavior, Gardener and Davis (2013) argue, can challenge the development of personal

autonomy and prevent the creation of a genuine sense of self. According to Chickering and Reisser (1993), the development of autonomy “implies mastery of oneself and one’s powers” (p. 118) and is an essential basis for future development.

Within the literature, numerous theoretical and conceptual perspectives form the basis for research focusing on autonomy, independence, locus of control, and self-efficacy. These constructs are used to explore the extent to which college students are vulnerable to external influences. Despite the differences among the perspectives, all share a central concern over the extent to which “students believe themselves to be in control of their lives” (Pascarella & Terenzi, 2005 p. 222).

The level of control that an individual believes that they have over their life as well as the general confidence that one has in their abilities to deal with adversity is believed to be the result of real world experiences (Bandura, 1994; Chickering & Reisser, 1993). Dealing with a difficult professor, managing finances, and even embarking on a spontaneous road trip can offer experiences that test capabilities and build self-efficacy with relatively few long-term consequences. Recent research implies that college students today participate in these activities less frequently than their predecessors did (Gardener & Davis, 2013).

In addition, when contemporary college students are involved in these activities, they are heavily supported through technology (Hofer & Moore, 2010; Turkle, 2011). The difficult professor is often handled by a parent e-mail to the dean, frequent parental contact monitors spending, and Global Positioning Systems prevent the possibility of being lost (Hofer & Moore, 2010). Turkle (2011) asserts that the near constant flow of reassurance that is mediated through technology disrupts the formation of a sense of

self. Gardener and Davis (2013) warn of an over-dependence on technology for basic needs which they assert can result in premature foreclosure of an individual's identity.

Other researchers have found evidence that bolsters these critical interpretations of the impact of technology and seems to indicate that contemporary college students express autonomy in ways that are fundamentally different than recent previous generations. Sivak and Scoettle (2012) attribute the significant decrease that they identified in the number of college-aged individuals possessing a driver's license over the last three decades to factors associated with internet use. Specifically, between 1983 and 2010, the number of 19 year olds who possessed a driver's license dropped almost 20%, from about 87% in 1983 to 70% in 2010. Between 2008 and 2010 alone, the number of 18 year olds with driver's licenses dropped five percent. These drops, the researchers note, are inversely related to the number of internet users.

Hofer and Moore (2012) also provide support to these assertions. Through a series of studies focused on current undergraduate students, recent graduates, and their parents, Hofer and Moore learned that college students were in contact with their parents an average of 13.4 times per week. They also found that college students who use digital devices to maintain contact with parents tend to be less autonomous (Hofer and Moore, 2012).

These findings are particularly important for college personnel to understand and evaluate since they seem to imply a concerning decrease among contemporary college students' perceived influence over the events that impact their lives. An individual's belief in their ability to act competently and independently to address challenges, adversity, and novel tasks is referred to as self-efficacy (Bandura, 1994) and is viewed

as an essential aspect of autonomy development in college students (Chickering and Reisser, 1993; Pascarella and Terenzi, 2005). An individual's perceived sense of self-efficacy has also been found to be positively associated with academic performance and persistence (Pascarella & Terenzi, 2005, Multon & Brown 1991). As college personnel begin to acknowledge the use of SNS as part of their professional roles, it is important that they understand the ways that SNS use may impact this well-defined and established developmental outcome associated with attending college.

Social networking sites have in many ways created an online campus culture that both parallels and deviates from the traditional environment (Martínez-Alemán & Wartman, 2009). Recent empirical research outlined in Chapter 2 of this dissertation appears to indicate that the influence that SNS use has on the development of autonomy and feelings of interdependence with others is dependent on a number of factors including time spent using and the ways in which the social networking sites are used. An increased understanding of these phenomena is essential to inform the roles that higher education professionals should play on the virtual campus.

Statement of the Problem

Student development and identity formation have long been considered an important outcome of attending college (Evans et al., 2010; Pascarella & Terenzi, 2005). Over the last 30 years, researchers and scholars have shed substantial light on the perceptions, behaviors, and college environments that assist in advancing development and formation of identity. However, the introduction of web-based social networking technologies has played a significant role in fundamentally altering many aspects of campus life. Despite the pervasiveness and use of various forms of SNS on

college campuses, including by the institutions themselves, there is a paucity of empirical research focusing on how the use of social networking sites affect students' psychosocial development.

The changes in people's perceptions, attitudes, and behaviors that these technologies have had are readily apparent in relation to college student use of SNS (Debatin, Lovejoy, Horn, & Hughes, 2009; Joinson, 2008; Junco, 2012a; Lampe, Ellison, and Steinfield, 2008; Pempek, Yermolayeva, & Calvert, 2009; Smith, 2011). In just over ten years, social networking sites have evolved into a virtual campus environment in which the average college student spends at least a portion of their day (Debatin, Lovejoy, Horn, & Hughes, 2009; Joinson, 2008; Junco, 2012b; Lampe, Ellison, and Steinfield, 2008; Smith, 2011). This virtual campus both parallels and deviates from the actual campus environment and can therefore complicate the role and authority of the college/university (Cain, 2008; Junco, 2011; Martínez-Alemán & Wartman, 2009; Mazer, Murphy, & Simonds, 2007; Trottier, 2011; Turkle, 2011). The professional obligation for individual college personnel to act on information presented in online formats, whether they consist of threats of harm to oneself, violations of codes of conduct, or other maladaptive behaviors, also remains unclear (Turtle, 2011).

Research investigating the use of SNS by college students has not kept up with the pace that college students have adopted these new technologies into their daily lives (Gardener & Davis, 2013). This has left college personnel to make educated guesses regarding the development of policy in reaction to issues surrounding the use of SNS on campus (Junco & Chickering, 2010). These guesses can contradict the mission of developing students' competencies through potentially discouraging use of

technologies that may in fact have benefits that outweigh the risks associated with using them (Mazer, Murphy, and Simonds, 2007; Trottier, 2011). Greater insight may help to develop opportunities through which college personnel can attempt to shape student behavior away from detrimental SNS activities and behaviors and towards those that appear to have a positive impact on overall functioning and development (Presnky, 2012).

Because of their ability to broadcast certain aspects of their perceived identity to others, SNS have had a powerful impact on how college students relate to their social connections (Vitak, Ellison, & Steinfield, 2011). Identity markers coupled with a user's list of friends can provide immediate and detailed information about an individual's life that before social networking sites, may have been revealed over time as the relationship developed (Donath & Boyd, 2004). In other cases, online profiles represent a carefully crafted image that neglects aspects of an individual's identity and creates a sense of incongruence between the actual and online self (Gardener & Davis, 2013; Rosen, 2012). The fast pace in which these technologies have been adopted by college students has deterred significant analysis of the issues that these new ways of relating to one another have brought to the higher education environment.

Purpose of the Study

The purpose of this study is to investigate the ways in which full-time undergraduate college students use Facebook relative to their general self-efficacy as rated on the online Facebook Influence on Coping and Adaptation Scale (FICAS) survey and apply these findings to semi-structured interviews designed to further explore a sub-sample of survey participants' Facebook use as it relates to experiences

that are aligned with autonomy development. Specific focus was placed on identifying factors of Facebook use that may be related to enhancing or delaying the development through four constructs that have been found to be aligned with the development of autonomy: self-efficacy, venturing, instrumental autonomy, and interdependence (Chickering & Reisser, 1993; Pascarella & Terenzi, 2005).

Student development theories underpin the majority of extra and co-curricular activities and programs within colleges and universities in the United States (Chickering & Reisser, 1993; Evans et al., 2010; Pascarella & Terenzi, 2005). The virtual campus that has been created as a result of the near universal adoption of the SNS, Facebook, by college students has created significant challenges for higher education administrators and faculty in their efforts to support psychosocial developmental outcomes (Martínez-Alemán & Wartman, 2009). Development of autonomy involves increases in self-efficacy, emotional and instrumental autonomy, as well as an enhanced awareness of one's role and impact on the welfare of the larger community (Chickering & Reisser, 1993). It is the objective of this study to provide insight into the ways that college students' use of Facebook is related to their attainment of autonomy. Such insight is essential to support the goals of higher education professionals, understand ways in which Facebook can be used constructively, and clarify the value and possible dangers associated with these new technologies.

Research Questions

This study examined undergraduate college student autonomy development in relation to the ways in which they use Facebook. The study took place at Eastern University, a public, mid-sized institution of higher education located in Eastern

Pennsylvania. The data collected through the use of a survey and semi-structured interviews were used to address the following research questions:

1. Are the self-reported patterns of activity on Facebook as measured by the Viewing, Interacting, and Participation/Management subscale scores predictive of perceived general self-efficacy as measured by the General Self-Efficacy subscale score of the Facebook Influence on Coping and Adaptation Scale (FICAS)?
2. Is the perceived level of importance of Facebook, as measured by the Frequency, Duration, and Engagement subscale scores predictive of perceived general self-efficacy as measured by the General Self-Efficacy subscale score of the Facebook Influence on Coping and Adaptation Scale (FICAS)?
3. In what ways is Facebook use related to college student experiences that are aligned with Chickering and Reisser's (1993) third vector of development, *Autonomy Towards Interdependence*?

Sub-question 3a: In what ways is Facebook use related to college student experiences that are aligned with 'venturing', a dimension of Chickering and Reisser's (1993) third vector of college student development?

Sub-question 3b: In what ways is Facebook use related to college student experiences that are aligned with the development of 'instrumental autonomy', a dimension of Chickering and Reisser's (1993) third vector of college student development?

Sub-question 3c: In what ways is Facebook use related to college student experiences that are aligned with the development of 'interdependence', a

dimension of Chickering and Reisser's (1993) third vector of college student development?

Framework

According to Evans et al. (2010), Chickering and Reisser's seven vectors of development provide a comprehensive basis for understanding college student psychosocial development. Chickering (1969) views the establishment of an individual's identity to be the central issue in relation to development that occurs during the college years. As such, the experiences that students have during college, and the personal meaning that is attached to those experiences, form the basis for addressing later developmental processes.

Although it has been almost twenty-five years since its last revision, Chickering and Reisser's theory (1993) remains an appropriate lens through which to view and attempt to understand students' use of Facebook because of its focus on students' interactions with the college environment and the manner in which individuals grow in complexity as a result of these interactions. Self-presentation, self-management, and influence of others play a central role in both the use of social networking sites and the resolution of Chickering and Reisser's (1993) vectors. Very few developmental theories have received as much attention in empirical research as has Chickering and Reisser's theory of psychosocial development (Evans, et al. 2010; Pascarella & Terenzini, 2005) which makes it an ideal framework to view and attempt to understand the phenomena of social networking sites and how college personnel may be able to use these sites to foster essential cognitive and affective outcomes.

Definition of Terms

App Generation: a term used by Gardener and Davis (2013) to describe the cohort of young people who have grown up immersed in apps and view their world as a string of ordered apps

Autonomy (Independence): the degree of freedom students feel from the influence of others (defined as peers, parents, & institutions) in their choices of attitudes, values, and behaviors (Pascarella & Terenzi, 2005)

Emotional Independence: freedom from continual and pressing needs for reassurance, affection, or approval from others (Chickering & Reisser, 1993)

Facebook: a social networking site (SNS) created by Mark Zuckerberg while he was a student at Harvard University in 2004 that has become the most popular social networking site in the world

Friends: the various connections that an individual is mutually linked to on Facebook; friends are typically notified of updates and activity of other friends within their network

iGeneration: a term used by Larry Rosen (2012) to describe the generation of young people born after 1994 who have grown up using technology extensively

Instrumental Autonomy: the ability to carry on activities and solve problems in a self-directed manner, and the freedom and confidence to be mobile in order to pursue opportunity or adventure (Chickering & Reisser, 1993)

Interdependence: an awareness of one's place in and commitment to the welfare of the larger community (Chickering & Reisser, 1993)

Locus of Control: the extent to which individuals are self-directed, believing themselves to be in control of their own fate (Pascarella & Terenzi, 2005).

Network: The set of connections or associations defined by college or university, high school, workplace, or geographic region

Pages: Facebook Profiles representing businesses, organizations and brands; Users who 'Like' Pages receive updates about their activity

Privacy Policy: Refers to the disclosure statement that Facebook provides in relation to the personal information that is collected and how it is sold to third parties

Privacy Settings: Allow users to limit or filter the audience that is able to view their Facebook content and updates

Profile/Home Page/Timeline: A Facebook user's online virtual representation of themselves; typically includes a cover photo, basic information, status, photos, friends, and Facebook activity

Self-efficacy: "individuals' beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives" (Bandura, 1994, p. 71)

Social Capital: the potential benefits arising from the ties that one shares with their relationships which serve as important resources for assistance and information from a variety of contexts (Vitak, Ellison, & Steinfield, 2011)

Social media: a general term broadly used to describe any form of online media that allows users to generate some or all of the content that is provided and have that content displayed to all users of the site

Social networking sites (SNS): A specific term used to describe online websites that allow users to create profiles that represent their identity through the posting of content

such as status updates, comments, pictures, list of connections and other forms of media

Tagging: a Facebook feature of that allows users to tag photos uploaded to the site with the name and link to the profile of other Facebook users who are included in the photo (Facebook.com, 2013)

Venturing: a construct developed to assess college students' openness to new challenges and experiences and are not dependent on others to meet their emotional needs (Chickering, 1968)

Virtual campus: A term used to describe the campus that is created through the use of social networking sites by individuals that are affiliated with the campus and through which activities, discussions, and relationships that are affiliated with the particular institution occur.

Professional Significance

Recent studies indicate changes in the development of autonomy among college students. For example, fewer college students arrive on campus possessing a driver's license today than at any other point in the last thirty years (Sivak & Scoettle, 2012). The current generation of college students are more connected to their parents while away at college (Hofer & Moore, 2010) than those of previous generations, and they increasingly move back into the family home following graduation (Levine & Dean, 2012). Despite this evidence, it is not known whether these phenomena relate to delayed development of autonomy or imply changes in the manner in which autonomy is developed. A number of scholars as outlined in this and the following chapter assert that these changes are related to increases in the use of digital technologies. The

nature of social network sites, as 'places' where individuals create a virtual representation of their perceived self in order to interact socially with others, has clear implications on factors associated with psychosocial development.

Social networking sites represent one of the most widely adopted digital technologies among college students. Studies show that more than 90% of college students use social networking sites (Smith & Borreson-Caruso, 2010). Although the pace of adoption and quickly evolving nature of their use prevents accurate estimations regarding the actual time spent specifically using SNS, descriptive studies show that the majority of students log onto the largest SNS, Facebook, at least once per day. Roughly one quarter of college students log in to Facebook multiple times per day (Hampton et al., 2011 ; Pempek, et al., 2009), and more than half of the time that is spent on Facebook is spent interacting with content posted on another person's profile (Hampton, Goulet, Rainie, & Purcell, 2011).

The rapid adoption of social networking sites on college campuses has created a virtual environment in which a notable number of campus activities occur (Martínez-Alemán & Wartman, 2009). The situations that occur in the traditional campus spill over into the virtual campus (and vice versa), creating a blended campus environment. This blended campus blurs the lines of traditional roles and increases the integration and influence of those previously considered outside of the traditional campus such as parents and high school connections (Hofer & Moore, 2012). Although there have been a variety of studies conducted that help describe SNS users and the activities that they engage in online, very few of these studies were designed specifically to gain insight into the potential ways in which SNS use is affecting the ways in which college students

approach development. Additionally, the completed studies that deal with developmental outcomes have not attempted to link specific SNS activities and behaviors to specific developmental outcomes. Detailed information relating to the effect that the use of social networking sites and Facebook in particular, is having on college students' development of autonomy is needed in order to assist post-secondary personnel to continue to foster the advancement of this essential higher educational outcome.

This is a mixed-method study examining the effect that various levels and types of Facebook use have on college students' movement through autonomy towards interdependence. It is significant because very few studies have attempted to examine the relationship between the use of social networking and college students' apparent decrease in autonomy. Developmental advancement, particularly with regard to increased levels of autonomy, has long been considered a positive outcome associated with attending college. Numerous studies that identified changes in the manifestation of autonomy imply delayed development of the recent generation of college students; particularly in regard to increases in instrumental and emotional independence. However, no other study has attempted to measure self-efficacy in relation to use of SNS and triangulated this data with student narratives that explore the ways that Facebook use influences experiences typically related to autonomy development.

Summary and Organization

This dissertation is a report of a mixed method study that was conducted to investigate the relationship between college student use of Facebook and movement through autonomy towards interdependence (Chickering & Reisser, 1993). It is divided

into five chapters that contain detailed and specific information relating to the study.

This first chapter of the dissertation presented the background for the study, identified the problem that this study is attempting to address through a series of research questions and provided a basis for the significance of the study.

The second chapter will provide a review of pertinent literature associated with college student psychosocial development. A detailed review and analysis of the body of work involving college student use of social networking sites is provided with an emphasis on those studies that specifically examine the use of Facebook among college students.

The third chapter provides information relating to the methodology of the study including details regarding research design, selection of subjects, instrumentation and protocols used, as well as the procedures used to collect both quantitative and qualitative data. An overview of the data analysis methods is also provided within Chapter Three.

The fourth chapter of the dissertation provides details relating to the results of the study. The fifth chapter includes a detailed discussion of the findings of the study including an analysis of the implications of the findings on the higher education environment. Recommendations for further research on the topic conclude the chapter and the study.

CHAPTER 2

REVIEW OF RELATED LITERATURE

This chapter presents a review of the literature related to college student use of SNS and Facebook, the most popular SNS. The purpose of this study is to examine the relationship between the nature of college student use of Facebook and their development of autonomy. This chapter is organized into four sections. The first section reviews the short history and evolution of SNS. The second discusses the manner and motivations for the use of Facebook among American college students. Section three reviews the literature pertaining to college student development theories, and the fourth section examines the current literature that describes the relationship between the use of Facebook and psychosocial development.

Social Networking Sites

Social Networking Sites (SNS) are characterized by their ability to allow users to create profiles within a specified web page that they can then share within a user-specified network of other site users. According to Donnath and boyd (2004), these “public displays of connection” (p. 71) are one of the defining characteristics of SNS as it allows users to view and interact with their connections. There are significant variations in the format and design of each site, but all social networking sites share the essential characteristics related to the presentation of oneself through a profile or homepage, and the ability to network with others (Donath & boyd, 2004).

Evolution and History

Based upon these specific characteristics, SNS have only been available on a wide-spread basis since 1997 (boyd & Ellison, 2007), when SixDegrees.com was

created. This site combined the features that gave users the ability to create profiles, display lists of connections and affiliate with larger groups such as educational institutions, within the parameters of one site (boyd & Ellison, 2007).

Following the lead of SixDegrees.com, a variety of sites were launched over the next five years that were based on the ability to create profiles that represent the user's real or imagined identity. Numerous features were developed that expanded the user's ability to interact with one another, however most of the sites developed during this time still had an implicit purpose to their existence such as dating or professional advancement. Features that allowed various forms of communication between members could be 'unlocked' for premium users who paid a fee. Although this practice helped create revenue for the site, it resulted in limiting the pool of regular users and their ability to interact (boyd & Ellison, 2007).

It was not until 2003, and the launch of Myspace.com, that social networking began to see widespread use. Myspace.com introduced innovative features that allowed users the opportunity to personalize their page in order to present aspects of their identity. In addition, Myspace's revenue was based on the sale of advertising and marketing data which allowed the users to network with others for free. The lack of fees for membership as well as the developer's responsiveness to user feedback helped to increase Myspace's popularity (boyd, 2007). Its discovery by independent musicians as a tool to effectively promote their albums and concerts contributed significantly to the site's dominance of the SNS scene between 2003 and 2005 (boyd & Ellison, 2007).

Facebook.com

The creation of Facebook occurred at Harvard University in 2004. Its intent was to provide an exclusive forum for members of the Harvard community to easily meet one another. The platform proved to be very popular among users and quickly spread to other colleges, high schools, corporations, then the general public (boyd & Ellison, 2007). The primary innovation that Facebook contributed to the SNS movement was the ability for 3rd party, outside individuals, to develop their own applications for use within the system. This feature allowed users to further personalize their profile thereby creating a virtual representation of themselves which, when coupled with the public display of their network connections (boyd, 2007), provide others with significant insight into various aspects of a person's identity.

Facebook's popularity quickly outpaced that of its competitors. Its adaptable platform and consistent introduction of new features helped it to become the dominant SNS worldwide. A recent study by Hampton, Goulet, Rainie, & Purcell, (2011) reinforced the extent of Facebook's popularity through their finding that of the 59% of adult internet users within their sample that reported using a SNS, 92% of them used Facebook. Despite the prevalence of Facebook use within society, it is difficult for researchers to fully understand the various aspects related to use based upon the fast pace at which both usage patterns and technical platforms evolve.

For instance, a study that was initiated less than 6 months after Hampton et al. (2011) and utilized a similar sample and methodology, found that the percentage of adult internet users reporting using social networks increased from the 59% found by Hampton et al. (2011) to 65% of all adult internet users (Smith, 2011). In addition to the

fluctuations in the population of SNS users, changes in the ways that users interact on the site seem to be influenced by the user's context and intentions regarding use (Pempek et al., 2009).

The Facebook environment, despite its apparent ease of use, is actually quite complex. The center of Facebook for all users is their Timeline/Profile Page. This page was initially very basic and included a user's name, photo, school, and other demographic information (Facebook.com, 2013). Over time, additional methods of communicating through the profile page were added and enhanced. At the time of this writing, Facebook users are able to access a wide range of communication tools through their profile page. These tools allow for expressive public communication such as status updates, wall posts, and photo albums, as well as opportunities for private communication such as 'pokes', private messages, and chatting.

The Profile Page is explicitly focused on presenting an identity or online self. However a significant portion of the tools that may be accessed through the profile page are designed to inform the user of the online activity of their connections. In addition, tools such as 'search' and 'graph search' provide strong capabilities to find specific profiles of other users. The amount of profile information that is available to other users is based on the privacy controls that an individual selects for their personal profile (Facebook.com, 2013). However, the findings of Debatin, Lovejoy, Horn, & Hughes, (2009), reveal that although 69% of the 119 college-aged Facebook users in their sample had adjusted the default privacy settings by limiting access only to confirmed 'friends', the majority of respondents reported more than 200 'friends' (62%). Debatin and his colleagues (2009) further note that even when privacy controls are set on the

most restrictive options, all activity and information posted by the user continues to be channeled to vast databases to be analyzed for the purposes of targeted marketing, advertising, and public relations (Debatin, et al. 2009).

Facebook use on campus. Facebook.com was designed specifically for use within the higher education environment and although more than half of adult SNS users are now older than 35 years old (Hampton et al., 2011), SNS and particularly the Facebook platform continue to be a dominant presence on college campuses. More than three-quarters of American college students consistently use Facebook. More than half of these students log in to the site daily; most log in multiple times a day (Dahlstrom, 2012; Debatin, Lovejoy, Horn, & Hughes, 2009; Pempek, Yermolayeva, & Calvert, 2009; Hampton, Goulet, Rainie, & Purcell, 2011).

An annual report produced by the Educause Center for Applied Research (ECAR) has been tracking the rapidly evolving relationship that college students have with technology for the last decade. The report provides a glimpse into the changing patterns of technology use within higher education. Based on data gathered from random, mostly representative samples, the ECAR study has followed the technology use of undergraduate college students since 2004. According to ECAR (Smith & Borrenson-Caruso, 2010), use of social networking sites by undergraduates in 2006 was reported by almost 75% of the sample. By 2008, the percentage of undergraduates reporting SNS use had risen to almost 89%, the vast majority of them using Facebook. The 2011 report involved a stratified random sample of 3,000 college students from 1,179 colleges and universities and found that Facebook was used by 90% of the respondents (Dahlstrom, 2012).

The findings by ECAR regarding the prevalence of Facebook use on college campuses mirror those of a number of significant smaller studies. Kolek & Saunders (2008) were able to identify a Facebook profile for 82% of the 464 students contained in their sample. Lampe, Ellison, and Steinfield (2008) found in their study that more than 95% of the participants used Facebook. The majority of research has identified women as slightly more likely to use Facebook, however no significant differences between users based upon race and ethnicity have been identified (Kolek & Saunders, 2008; Lampe, Ellison, and Steinfield, 2008; Pempek, Yermolayeva, & Calvert, 2009).

It is clear that Facebook has a significant presence on the campuses of colleges and universities. Further, it appears that the amount of time that an individual engages with Facebook seems to be related to the perceived importance of the site (Debatin, Lovejoy, Horn, & Hughes, 2009). For the majority of college students, Facebook has become an important aspect of daily campus life. Recent studies have found that college students spend anywhere between 26 minutes (Junco, 2013) to 117 (Pempek, Yermolayeva, & Calvert, 2009) minutes per day on Facebook. The total amount of time spent on Facebook is rarely accumulated during one uninterrupted block of use (Dahlstrom, 2012; Debatin, Lovejoy, Horn, & Hughes, 2009; Junco, 2012a; Junco, 2013; Lampe, Ellison, and Steinfield, 2008; Pempek, Yermolayeva, & Calvert, 2009; Hampton et al., 2011) but rather over as many as 7 separate log-ins throughout the course of a day (Junco, 2013).

An obvious underlying issue associated with establishing accurate estimations regarding use of Facebook among students is that there exists substantial variability across and within studies that attempt to estimate the amount of time students spend

actively interacting with the site, tracking both changes and behaviors associated with use. Lampe, Ellison, & Steinfield (2008) in their investigation of perceptions and attitudes towards Facebook found that self-reported usage patterns by college students on Facebook were primarily affected by changes in the features offered through the site as well as the perceived audience for the individual's profile. The Facebook environment is constantly evolving as features are added, modified, and discontinued. Due to this constant fluctuation in environment, it may be impossible for researchers to gain a specific understanding of the typical ways that Facebook is used by college students within a given period of time. Lampe and his colleagues also discovered evidence that usage patterns tend to evolve based on a need for increased privacy and/or changing social contexts (Lampe et al., 2008).

The findings of Lampe et al. (2008) support the likelihood that evolving patterns of use are related to factors associated with increasing maturity and psychosocial development. It should be noted however, that these findings were based on a sample that was drawn from only one campus. Also, it was not clear whether Facebook use by the participants in their study changed in productive or maladaptive ways.

Reynol Junco (2013) puts forth a different theory to explain the variability found among data tracking levels of Facebook use. Junco notes that the inconsistency of reported Facebook use across studies is a major limitation associated with research in this area. He asserts that the use of self-reported measures of use were partly responsible for this variability. In an attempt to address this, Junco received permission from a small sample of students ($n = 49$, 8% of the total sample) to install monitoring software on their computers that tracked their use of Facebook. Participants reported

using Facebook for an average of 145 minutes per day; however the software indicated average actual usage of 26 minutes per day. As Junco points out, these findings closely parallel the findings by Pempek, Yermolayeva, & Calvert, (2009) who used student journal entries to track usage to find that students averaged 27.93 minutes on weekdays and 28.44 minutes on weekends. Since Junco installed tracking software on the student's computer only, he was unable to track usage through other devices. The phenomena of accessing Facebook and other SNS through mobile devices was also not likely represented as a factor in the estimations of time spent using the sites by Pempek et al. since smartphone ownership was not as common in 2009 as it is currently (Duggan, 2013). Such devices allow SNS users to stay logged in to the site throughout the day.

In addition to the variability found across studies, there is also significant variability within samples in relation to time spent using. For instance, although the average reported time spent on Facebook in Pempek et al. (2009) was approximately 28 minutes, Facebook use within their sample ranged from 2 to 117 minutes on weekdays and from 0 to 165 minutes on weekends. An earlier study by Junco (2012) that relied on self-reported measures of time spent using Facebook found that students reported a mean of 101.09 minutes on the site per day, however the standard deviation of 99.16 indicated there was also significant variability within the sample. Large standard deviations for time spent using Facebook are evident in a number of other studies that attempt to track use (Junco, 2013; Lampe et al., 2008; Pempek, et al., 2009; Hampton et al., 2011) and provide evidence for significant variability among college students in regard to the amount of time they spend using Facebook.

It is clear that time spent on Facebook is highly variable. In addition, it seems that the activities that students engage in while on Facebook are also highly variable. Facebook itself is a constantly evolving virtual environment. The effects that changes to the platform, including the addition or removal of features, have on patterns of use are largely unknown due to the lack of longitudinal data. This literature review did not uncover any study with a nationally representative sample that describes the nature of use of Facebook specifically among college students.

Despite this, a number of themes have begun to emerge from the few studies that have been completed to date that focused on the motivations for use among students and the activities that they most commonly engage in when on the site. The most commonly reported reason for Facebook use found in these studies involves social interaction, particularly related to the ability to communicate efficiently with other members with whom the user has an established off-line relationship (Debatin, Lovejoy, Horn, & Hughes, 2009; Joinson, 2008; Junco, 2012a; Lampe, Ellison, and Steinfield, 2008; Smith, 2011).

The nature of Facebook use. The Facebook platform is designed to encourage user's engagement with both a user's personal profile as well as the profiles of their network connections (Debatin et al. 2009). Although users have the opportunity to interact with the site through a variety of methods including games, polls and general applications, the literature pertaining to Facebook use by college students indicates that students tend to utilize only a few of these options regularly (Junco, 2012a; Lampe et al. 2008; Pempek et al., 2009).

Based on mostly self-reported data, the perceived primary intention of Facebook use among college students is focused on social interaction (Dahlstrom, 2012; Debatin et al., 2009; Joinson, 2008; Junco, 2012a; Lampe et al. 2008; Pempek et al., 2009; Urista, Dong, & Day, 2009), however a number of researchers have found evidence that a significant portion of time spent on Facebook actually involves passive viewing of content posted by others (Joinson, 2008; Junco, 2012a; Lampe et al. 2008; Pempek et al., 2009). Pempek, Yermolayeva, & Calvert (2009) reported in their descriptive study of Facebook uses by undergraduate college students that primary motivation for use of the site is to communicate with friends who are both on campus and those who are off campus and seen rarely (84%). The second most commonly reported Facebook use in Pempek, Yerolayeva, and Calvert's study involved posting or looking at photos (35.87%). Finding out about or planning events and entertainment were the third most common reason for using Facebook (25%).

Other data collected by Pempek et al. (2009), point to a potential disconnect between students' perceived intended uses, as evidenced by their self-reporting on the survey instrument and their actual use of the site, as indicated by their journal entries. Specifically, when respondents were asked how frequently they participated in specific Facebook activities within the last week, almost half of the sample (44.57%) reported that they spent 'quite a bit' of time viewing content on other profiles without interacting with them in any way. The authors refer to this behavior as lurking and report that in addition to the number of students that state that they participate in this behavior 'quite a bit,' almost 20% report that they engage in lurking 'a whole lot'.

The significant amount of time spent on Facebook watching, as opposed to participating, is also reflected in the diaries that the participants were asked to keep, as well as responses related to a survey item regarding the amount of time that participants spent posting information during the previous week. Less than 30% of participants stated that they posted content on Facebook either 'quite a bit' or 'a whole lot' (Pempek, Yermolayeva, & Calvert 2009). The tendency for undergraduate college students to engage in this virtual people watching (Joinson, 2008) is evident in a number of additional studies (Debatin, Lovejoy, Horn, & Hughes, 2009; Lampe, Ellison, & Steinfield, 2008; Martínez-Alemán & Wartman, 2009) and may implicate the importance of Facebook for learning about other people that they are already acquainted with through off-line interactions. Engagement with the Facebook platform is reinforcing and what is learned may not be limited to objective profile content. Through observation and viewing of content posted on other profiles, it is likely that individuals are also being exposed to wide array of both pro-social and maladaptive behaviors (Rosen, 2012).

Albert Bandura's well validated Social Learning Theory provides a framework that may help explain the potential motivations for such voyeuristic behaviors. Social Learning Theory posits that the experiences that individuals observe and the people that they associate with play a major role in the learning of behaviors (Bandura, 1971). According to Bandura, the more attractive a model of behavior is, the more influential it will become in compelling behaviors. A mechanism for the development of new behaviors is the ability to remember the observational experiences that delivered them. An accurate memory of modeled behavior coupled with anticipation of some type of

actual or vicarious reward to act as reinforcement for performing the behavior creates a powerful learning paradigm. Bandura (1971) correctly prognosticated the growing influence that mass media such as film and television would have in shaping behavior. Termed symbolic modeling, Bandura realized that the ability to produce on demand depictions of activities through media may result in a reduced influence of traditional social learning models including parents and teachers (Bandura, 1971, p. 10).

Bandura's conceptualization of the symbolic modeling that can occur through media use, while applicable to our understanding of the influence of SNS on learning, has received little regard in the present available research. Facebook presents an environment rich in attractive observational experiences as well as an opportunity to replay model behaviors as necessary. The power of such an environment as a catalyst for social learning, while anticipated by Bandura, has not yet been fully investigated. An important consideration in regard to the potential impact of Facebook on social learning deals with the nature of the observational experiences available through the site and how students reflect on these experiences.

For example, an analysis of Facebook profiles of university students in the northeast United States by Kolek & Saunders (2008) found that more than half of the profiles they examined (53.6%) contained a photograph of someone drinking alcohol. More than one third of the profiles reviewed contained positive references in the text contained on the profile to alcohol (Kolek & Saunders, 2008). Observation of such models can create a powerful stimulus for future behaviors and influence perceptions of the campus environment.

Implicit in the tendency of young adults to spend significant amounts of time viewing content on other people's Facebook profile is the occurrence of social learning. The potential problems associated with learning about social norms and conventions through SNS have become a recent focus of a number of researchers. They have gathered compelling evidence that the increased acceptance of social voyeurism can have a number of negative effects on development (Martínez-Alemán & Wartman, 2009; Gardener & Davis, 2013; Rosen, 2012). These impacts range from increased feelings of inadequacy (Gardener & Davis, 2013) to full blown psychiatric disorders (Rosen, 2012) and appear to be related to specific patterns of use.

Howard Gardener and Katie Davis's (2013) research, based on interviews and focus groups with both young people and adults who work with young people, found that individuals who are part of the App Generation (young people who have grown up immersed in apps and view their world as a string of ordered apps) are highly focused on presenting a carefully crafted and refined on-line image that minimizes any personal attribute that is perceived to be detrimental. The nature of this performance of an idealized identity through SNS profiles is illustrated in multiple studies and appears to require significant maintenance to remain relevant (Pempek et al. 2009; Turkle, 2011).

Turkle (2011) provides further insight into the impact that the mixture of living in both a virtual and physical world is having on the nature of our face to face interactions. She describes the ways in which the current generation of college students has been primed to expect less from relationships through simulated pets that they experienced as children and are therefore more willing to accept the limitations of virtual connections. These limitations had little impact on re-defining relationships until recently

because they required a person to be in a location in which a computer and means of connecting to the internet were available. Relational expectations remained grounded in the face to face due to the necessity of wired connections in order to access social networks.

The recent advances in mobile technology have reduced these limitations and further distorted the lines between real and virtual. Through advances in mobile technology, individuals are more connected to one another than at any other point in time. Turkle (2011) and others argue that the nature of these connections are segmented and superficial despite the amount of time that is spent maintaining them. In addition, the 'always on' (Turkle, 2011) nature of these connections reduces opportunities for personal reflection and unsupported challenge that are necessary for the development of autonomy (Gardener & Davis, 2013). Such experiences have been previously associated with occurring during the college years.

Theoretical Framework

It is a widely accepted expectation that along with increases in cognitive complexity and academic knowledge, individuals who enroll in higher education will benefit from personal advances in maturity, resilience, tolerance, and other affective categories (Evans et al., 2010). Students who enter college as late-adolescence teens exit four years later as self-reliant young adults. Those who experience the greatest development emerge from the college years with a strong sense of 'who they are' and confidence in the direction that they are living their lives. These individuals tend to behave in ways that are congruent with their perceptions of themselves and are guided by internal rather than external controls (Pascarella & Terenzini, 2005). The models that

have been put forth to organize and explain the affective and behavioral advances that occur during college are collectively referred to as student development theories (SDT).

Foundations of Human Development Theory

German Psychologist Erik Ericson is credited as the first clinical psychologist to focus on the development of a theory to describe identity formation from adolescence through late adulthood (Evans, Forney, Guido, Patton, & Renn, 2010). Ericson's early career was devoted to the study and practice of psychoanalysis. He was a colleague and patient of Anna Freud who assisted him in addressing conflicts related to his early childhood. Despite his training and involvement in the psychoanalytic movement, which focuses primarily on the self, Ericson began to recognize the role of environment, situations, and context as factors that have a significant relationship to the formation of an individual's identity.

Ericson (1980) developed his theory of psychosocial development around eight hierarchical stages that rest on his assumption of an epigenetic principle which asserts that anything that is alive is guided by a plan that is not complete until all parts have consolidated to a functioning whole. Each stage of Ericson's theory of development involves a psychosocial crisis that must be resolved by balancing the needs of the self with that of the external environment. The process of resolving these conflicts results in a heightened level of functioning that serves as the basis for addressing future conflicts.

As each conflict is resolved, commitment to an established identity becomes stronger. This commitment includes aspects of sexual orientation, ideological stance, and vocational direction (Evans et al., 2010). According to Ericson, identity is constantly evolving; as it does, there is a sense of congruence within oneself as well as a sharing

of certain aspects of self with others (Ericson, 1980). Due to its focus on both the self and the environment, Ericson's theory is categorized as a psychosocial developmental theory.

Ericson's stages represented the first comprehensive attempt to describe appropriate and maladaptive development throughout the lifespan. Although these eight stages have been criticized as being too general and complex (Evans, Forney, Guido, Patton, & Renn, 2010), the basic elements of each stage have served as the basis for the formulation of the major psychosocial theories that specifically focus on the development of college students, most notably by Arthur Chickering and Linda Reisser (1993). In particular, Ericson's characterization of the developmental crisis as a period of life that requires focused and intentional consideration of the decisions that must be navigated, complimented the cognitive-structural theories that had begun to influence colleges and universities in the late 1960s and early 1970s.

Where psychosocial development is primarily concerned with the resolution of conflicts, cognitive structural theories emphasize the ways in which individuals take meaning from these conflicts and shift their methods of reasoning as a result (Evans, Forney, Guido, Patton, & Renn, 2010). The force of these paradigms initiated a renewed focus on the changes that occur within an individual based on exposure to the college environment and ushered in a time of increased scholarship on the topic of college student development.

Higher Education's Focus on Development

Berkeley Psychologist Nevitt Sanford is credited as the first scholar to attempt to consider Ericson's ideas regarding development specifically within the context of

postsecondary education (Evans et al., 2010). Sanford sought to develop a framework that could be used to enhance understanding of the increases in complexity and maturity that typically occur as a result of an individual's interaction with the higher educational environment. Sanford conceptualized the role of the environment as an essential piece to development based upon the level of challenge and support that is available within that environment. If excessive challenge is presented without adequate support, individuals may regress to earlier stages of behavior, resort to maladaptive behaviors, and attempt to escape the environment, or ignore the challenge.

Alternatively, if an individual is not appropriately challenged, they may experience comfort and satisfaction but do not advance developmentally (Sanford, 1967). Sanford (1967) defined development as “the organization of increasing complexity” (p. 47) that allows an individual to successfully address increasingly complex challenges and to integrate beliefs and behaviors. According to Sanford (1967), development is different from *change*, which implies only an altered condition, and *growth*, which involves expansion. The altered conditions resulting from change and the expansion resulting from growth can be in either positive or negative directions and can have a detrimental effect on overall functioning.

Sanford's ideas rested on the notion that development is a process that consists of cycles of differentiation and integration that involve students' discovery of the personality traits that make up their individual identities (Sanford, 1967). An institution's role in fostering development involves the establishment of an environment that is capable of providing appropriate levels of challenge and support. Such an environment will allow for the promotion of both tension and relief experienced through resolution of

challenging experiences. The influential role that environment plays in the fostering or inhibiting of development is also reflected in the work of Douglas Heath (1968) who focused on the concept of maturity.

Informed by his research on undergraduate men at Haverford College, Heath (1968) defined the characteristics of a mature person and suggested that individuals mature along five dimensions: becoming better able to represent experience symbolically, becoming other-centered, becoming integrated, becoming stable, and becoming autonomous. The specific areas in which this growth is hypothesized to occur are intellect, values, self-concept, and interpersonal relationships. Like Sanford, Heath's observations led him to strongly advocate for the impact that environment has on the developmental process of maturing. Although his theories were lacking in specificity, they provided a beginning framework for more thorough examination of the external influences on student development (Evans et al., 2010).

By the mid-1960s, a shift in attitudes regarding the responsibility of colleges and universities to intentionally facilitate development was occurring. Spurred by the consistent finding that characteristics related to the higher education environment were directly responsible for advancing student development, a number of new initiatives aimed at enhancing development were developed. This change was in stark contrast to the general laissez-faire attitude regarding student development that was common in most of post-secondary education prior to this time; most believed that development would simply occur on its own as a byproduct of increased academic knowledge (Evans et al., 2010). The work of Sanford, Heath and other theorists emphasized the necessity of a more intentional approach to creating conditions favorable to development.

The intentional focus on development by college and universities is informed by an almost unanimously shared decision regarding the characteristics that constitute development. At its most basic level, development involves a “chain of stimulus and response” (Pascarella & Terenzini, 2005 p. 34) that serves some type of adaptive function to enhance survival. These cognitive and behavioral chains are usually organized into a specific sequence of stages that compel an individual into increasingly complex stages of differentiation, reorganization, and integration. Stages can manifest in various ways, but usually require a challenge, conflict, or decision that requires individuals to evaluate current attitudes and behaviors in light of the new situation. While disagreement exists as to whether such stages progress in one direction or involve regressions to previously held beliefs or behaviors, developmental growth is widely regarded as a favorable outcome of higher education (Pascarella & Terenzini, 2005).

Based on the developing understanding of student development and higher education’s role in the creation of environments suitable for fostering development, a number of professional associations made statements encouraging colleges and universities to take responsibility for the emotional growth and psychological development of their students (Evans et al., 2010). In addition, according to Evans et al., (2010), the American College Personnel Association (ACPA) convened Tomorrow’s Higher Education Project (T.H.E.) around this time, which was tasked with exploring the potential of student development as a philosophy for the practice of student affairs. It was hoped that such refocusing of philosophy would serve as a means to ensure that development of the whole student remained a priority within the academy (Evans et al., 2010).

Education and identity. The theory of psychosocial development initially put forth by Arthur Chickering is arguably one of the best known and most researched college student developmental theories (Evans et al., 2006). Based on his research with students attending Goddard College in the early 1960s, Chickering began to view development during college as a dynamic time in which the establishment of identity is the central issue that must be addressed. In recognition of the necessity of developing a framework to inform further inquiry into the complex changes that Chickering was observing within students during this time, he expanded his research to other institutions of higher education and published his findings in his 1969 text, *Education and Identity*. The initial text expanded Ericson's fifth stage of development into seven vectors of development that typically occur during the college years. In 1993, Chickering teamed up with Linda Reisser to update his theory in response to the findings of research as well as criticisms that the theory did not adequately consider diverse perspectives (Chickering & Reisser, 1993; Evans et al., 2006).

According to Evans et al. (2006), the revised vectors of development present a comprehensive picture of the ways in which college students develop in relation to their environment during the college years. The vectors are cyclical in nature, interact with one another, and ultimately build on one another. Individuals who are highly developed and exhibit greater complexity in their thinking and their perceived self are integrated with their actual self. College students may move through the vectors at different rates, may address more than one vector at a time, and may revisit previously addressed vectors. Due to their usefulness in both defining the challenges that students face and ability to inform programming that fosters development, the revised vectors of

development have become an essential theoretical framework for the practice of student affairs within higher education (Chickering & Reisser, 1993; Evans et al., 2006).

The first vector of Chickering and Reisser's Theory, *The Development of Intellectual, Physical, and Interpersonal Competence* is typically addressed during the first year of college. Acquisition of academic knowledge and gains in the ability to critically think and reason fulfill the intellectual aspects of this vector. An independent ability to lead a healthy lifestyle involving athletics, recreation, and other kinesthetic activities is associated with improvement of physical skills. Development of interpersonal competence is evidenced by enhanced skills in the areas of communication, leadership, and ability to work effectively with others (Chickering and Reisser, 1993).

Chickering and Reisser's second vector, *Managing Emotions*, involves an increased awareness and acceptance of one's emotions. The understanding of appropriate ways to express and control emotions is enhanced through navigation of this vector and forms the basis for navigation of the third stage of development, *Autonomy Towards Interdependence*. Autonomy is characterized by a person's confidence in their chosen direction, ability to solve problems, and reduced need for acceptance by others. Relationships with others represents an important aspect of identity development and is reflected in the fourth vector, *Developing Mature Interpersonal Relationships*.

Tolerance and appreciation for differences allow for the development of stable and reciprocal relationships with others that are the hallmarks of mature relationships. Such relationships are typically developed in the second and third year of college.

These stable relationships compel an individual to begin to move into the fifth vector of development, *Establishing Identity*. Individuals who have reached this vector of development have confidence in expressing the various factors that make up their personal identity including gender, sexual orientation, ethnicity, as well as various other affiliations that are either selected or inherited.

Chickering and Reisser's sixth and seventh vectors of development typically occur during the final years of college and serve to prepare an individual for development into middle adulthood. The sixth stage, *Developing Purpose*, is navigated by making significant commitments to specific personal interests and activities, including a vocation. *Developing Integrity*, Chickering and Reisser's final vector, involves the recognition that needs must be balanced with others. An individual that has resolved this vector possesses a strong sense of their personal values yet respects the beliefs and perspectives of others. An individual's behaviors are in line with their values and personal needs and are balanced with the needs of a community.

The third vector *Moving Through Autonomy Towards Interdependence*, forms the basis for the current study. According to Chickering and Reisser (1994), an individual who has successfully addressed this vector is capable of physical and emotional independence. However, the ability for individuals to consistently stay connected with others through technology may reduce opportunities to be alone with one's feelings, thereby decreasing situations in which emotional independence can be developed. There appear to be numerous intersections between the constructs aligned with the development of autonomy and the constant connection that Facebook makes possible, making it an ideal vector for analysis.

Higher education's impact on psychosocial development. In their exhaustive review of over three decades of research, Ernest Pascarella and Patrick Terenzi (2005, p. 629) identified a number of areas in which a net change was reliably seen in individuals who were exposed to college. These areas encompass academic, attitudinal, career and economic domains, as well as factors associated with quality of life such as health, savings, and feelings of well-being. Within the psychosocial domain, Pascarella and Terenzi's (2005) review of the literature found evidence of changes attributable to attending higher education in a variety of domains including: academic and social self-concept, self-esteem, independence, sense of control over one's life, interpersonal skills and leadership skills. Overall, students appear to develop complexity and awareness in relation to their personal identities as a result of attending college. These changes persist even when adjusted for the influence of other variables not related to the college environment. Pascarella and Terenzi (2005) caution, however, that identified changes across studies were small and did not always proceed in a linear direction.

The evidence for the effects of college on psychosocial development as outlined by Pascarella and Terenzi (2005) is compelling and comprehensive. However, it is important to note that all of these studies occurred before SNS technologies gained widespread use. Due to the use of these technologies by college students, (and the subsequent adoption of them by college faculty and staff) it is no longer possible to reliably generalize the results of these and many other studies. SNS technologies have created a virtual campus in which there appears to be an increasing portion of campus life takes place (Martínez-Alemán & Wartman, 2009). It remains unclear how the

presence of this virtual campus can enhance or undermine the traditional campus environment and the outcomes that higher education strives to achieve. An important outcome of college that the use of Facebook appears to be influencing relates to the attainment of developmental outcomes. A small, but growing body of research examines the ways that SNS use has altered the campus environment.

Facebook and the Campus Community

Chickering and Reisser (1993) emphasized that environmental aspects of the institution play an important role in the fostering of psychosocial development. These environmental influences include factors associated with the institution's consistency in values and philosophy, size, and the relationships students have with faculty and one another. The institution's faculty play a particularly important role in both delivery of a diverse curriculum and providing the necessary feedback, challenge, and support necessary to cultivate development along the vectors.

It seems unlikely based on the findings of a number of recent studies that point to a disconnection between faculty and students on social networking sites that Facebook use is enhancing student - faculty relationships. Although more than 70% of faculty report using five or more social media sites (the authors included sites such as youtube.com in their definition of social media) within the last month, less than half reported using Facebook for any type of professional use, whether in class or in some other capacity (Moran, Seaman, & Tinti-Kane, 2011). Based on these findings, it appears that faculty prefer to keep their Facebook use separate from their professional lives. Not surprisingly, students appear to feel the same way.

A study completed by Mazer, Murphy, and Simonds (2007) found evidence within their sample to suggest that students anticipate more affective learning and a comfortable classroom climate in the classroom of a professor who was classified as having a high rate of disclosure on their Facebook profile. Participants also paradoxically shared concerns in another part of the study in relation to the credibility and professionalism of professors who posted personal and informal content on the page (Mazer, Murphy, and Simonds, 2007). Such ambiguity in relation to online relationships appears to be a source of anxiety for both faculty and students as they present both practical and ethical dilemmas (Cain, 2008; Junco, 2011; Trottier, 2011; Turkle, 2011).

For example, the authority of the institution in enforcing behavioral expectations for online activities remains unclear and is often viewed as inconsistent by students (Mazer, Murphy, and Simonds, 2007; Trottier, 2011). Despite this, many professionals and departments have attempted to 'go where the students are' (Heiberger & Harper, 2008) by creating a professional presence through a departmental page or creation of a profile for the implicit purpose of connecting with students through this medium (Junco, 2011; Cain, 2008). This presents a challenge to institutional efforts to maintain consistent values and a unified philosophy (Cain, 2008; Trottier, 2011). Among other issues, the question of whether participation in the Facebook platform by higher educational professionals on behalf of the institution is a de facto endorsement of Facebook's privacy policy has not been addressed. Debatin (2009) argues that in other contexts, individuals (and by extension, colleges and universities) would be much less likely to release the amount of personal information that is uploaded voluntarily each

day on Facebook. This data, Debatin (2009) notes, is aggregated and organized for the purposes of marketing and tracking consumer behaviors. Multiple scholars have stressed the importance of privacy in relation to identity development (Evans, et al., 2010; Pascarella & Terenzi, 2005; Turkle 2011). The obligation of institutions of higher education to promote such ideals has not been considered in many cases, (Cain, 2008).

Facebook use is a fact of life on college campuses, regardless of the potential issues surrounding the access that it provides to students' personal data. The potential for the use of Facebook in ways that enhance the development of friendships and student communities within the campus environment has been investigated by a number of researchers as a means to capitalize on its presence. A notable study by Junco (2012a) involving 2,368 college students found that the amount of time spent on Facebook and the frequency of using it was negatively predictive of student engagement with the campus community. This finding conflicts with findings by the Higher Education Research Institute (2007) as well as Heiberger and Harper (2008) who found a positive association between Facebook checking and duration and engagement.

Cain (2008) summarizes the limited pool of research that explores the issues associated with using Facebook as a tool to encourage student engagement. His analysis of the ways in which Facebook has been used by college and university personnel to investigate incidents occurring on or around campus, participation in drug and alcohol use, or evaluate character, stand in stark contrast to higher education's efforts to create community, build relationships and encourage involvement. Facebook

creates a virtual campus that gives students another setting in which to learn about and connect with other students on campus. Heiberger and Harper (2008), McElvain and Smyth (2006), and others, likening Facebook to a virtual student union, argue that it is necessary for higher educational administrators to become more involved in the Facebook milieu as a means to connect with students.

Arguments that laud Facebook as tool to support late adolescent identity development note the ability of the site to facilitate communication and maintain relationships among old and new friends as a significant asset to the enhancement of the campus community (Cain, 2008). Kolek and Saunders (2008) found that approximately 40% of the 339 profiles they examined contained positive references to the university's structure or activities, 25% contained at least one positive reference to academics, and almost two-thirds of all student profiles contained at least one positive reference to the university as a whole. Such references likely have a direct impact on the overall campus community and may have possible implications for enrollment and retention.

The use of Facebook has also been found to have supportive functions on the adjustment of foreign students enrolled in an intercultural exchange program (Wen, Lee, Kim, & Kim, 2010). Participants posted wall status updates on each other's walls throughout the program to request and provide support among other participants enrolled in the program. In addition to providing the ability for participants to compare and contrast their experiences, the researchers also found that Facebook was useful in helping the students to learn about campus activities and manage their time (Wen et al., 2010). Overall, the use of Facebook appeared to be an asset to the adjustment of

students to the foreign campus community. Despite the apparent benefit to feeling less stress associated with integration into a new culture, it is important to note the tendency of the participants to communicate with others in their native languages. Heiberger and Harper (2008), despite their visibly pro-SNS stance, point out the ability of Facebook to help individuals seek out familiar groups resulting in largely homogeneous networks and affiliations.

The conflicting findings on Facebook and student involvement are consistent with the contradictions found throughout the emerging body of research that focuses on the complex relationships that college students have with SNS. The paradoxical effect of the influence of Facebook is readily apparent in consideration of the influence it has had on the college community. While Facebook usage seems to help students maintain and potentially strengthen relationships with others and increase connectedness to the institution, (Cain, 2008), it appears that it may also be reducing diverse interactions (Wen et al., 2010). Such interactions have long been cultivated as an important part of the college experience (Pascarella & Terenzi, 2005).

Facebook and College Student Development

Facebook's ability to present various aspects associated with an individual's identity through features designed to facilitate social interaction make it an ideal platform for investigation into the ways in which such technologies are influencing the ways that we see both ourselves and others. Through features embedded within the user's profile, other users can formulate a detailed picture of their connection's relationships, interests, preferences, and recent activities (Wohn et al., 2011). Facebook also allows users to efficiently communicate with a diverse network of connections

through a variety of methods. Pempek, Yermolayeva, & Calvert (2009) assert that this increased ability to display markers of identity and receive feedback from peers strengthens relationships and enhances development.

Relationships with Others

Donath and boyd (2004) were among the first scholars to attempt to describe the qualitative nature of virtual social network relationships. Noting the public nature of SNS connections as the most salient feature of the profiles created to support interaction on the sites, the authors differentiate SNS relationships as representing either strong or weak ties consisting mainly of people that an individual already has some type of relationship within the physical world. Donath & boyd (2004) postulate that the ways in which SNS increase efficient communication among connections will have a positive impact on the number of weak tie relationships with others that an individual can maintain. Weak ties relationships result from specific and typically limited contexts which require less effort to maintain, but can provide access to information and opportunities. In comparison, strong ties are those that an individual shares with close friends and family and although they require more time and effort to maintain, they typically result in more supportive benefits. (Donath & boyd, 2004). Ellison, Steinfield, & Lampe (2011) refer to the overall potential resources that are available to an individual through their strong and weak tie relationships as social capital.

The construct of social capital has been used as a basis for a number of investigations into the effects that SNS such as Facebook may have on the various types of relationships individuals maintain with others (Ellison, Steinfield, & Lampe, 2011; Valenzuela, Park, & Kee, 2009; Vitak, Ellison, & Steinfeld, 2011; Young,

2011). These relational benefits associated with social capital are classified into two categories within the research, bonding capital and bridging capital (Vitak, Ellison, & Steinfield, 2011). Bonding capital describes the potential benefits arising from the strong ties that one shares with their closest relationships and implies a more significant level of support than may be available from weak ties. While the benefits of bonding social capital are more consistent, benefits arising from weak ties, referred to as bridging social capital, also serve as an important resources for information from a wide variety of contexts (Vitak et al., 2011).

According to Ellison, Steinfield, & Lampe (2011), Facebook and other SNS present an ideal environment in which to amass social capital. Such sites represent an efficient method to coordinate and maintain a much larger network of both strong and weak social ties than would otherwise be possible (Vitak et al., 2011). Vitak, Ellison, & Steinfield (2011) claim that the various ways in which individuals may communicate on Facebook such as status updates, wall posts, private messages, and chat features provide ample opportunities to request or provide a variety of support to other members of their network.

Numerous studies have indicated a connection between intensity of Facebook use and general well-being (Burke, Marlow, & Lento, 2011; Ellison, Steinfield, & Lampe, 2011; Steinfield, Ellison, & Lampe, 2008). Facebook intensity refers to a composite score resulting from three measures of Facebook use: time spent on Facebook, number of Facebook friends, and habit strength, which pertains to frequency of checking the site (Larose, Arts, Lansing, Wohn, Ellison, & Steinfield, 2011). Charles Steinfield (2008) and his colleagues at Michigan State discovered in their longitudinal study of 286

undergraduates that intensity of Facebook use during freshman year was positively related to bridging social capital in sophomore year. Participants in the study who had the lowest levels of self-esteem benefitted the most from Facebook use in regards to bridging capital (Steinfeld, et al., 2008). Although the specific impact of Facebook use may differ based on personal characteristics of the individual, Facebook use as rated through the Facebook intensity measure seems to positively impact social relationships and perceptions related to them.

Hampton, Goulet, Rainie, & Purcell (2011) shed considerable light on the perceptions that are related to enhanced bonding and bridging capital possibilities through Facebook use. Their research, based on telephone interviews with 2,255 adults in late 2010, found that frequency of Facebook use has a positive impact on multiple factors related to social functioning. Specifically, frequent (multiple times per day) Facebook users were significantly more trusting of others, reported more close relationships than other internet users, and scored higher than other demographically similar internet users on multiple dimensions of social support (Hampton et al., 2011). These outcomes are apparently tied to a user's network of Facebook friends, with the average user in the study reporting 229 such connections. The average person's friend list was comprised of connections from high school (22%), extended family (12%), coworkers (10%), college friends (9%), immediate family (8%), people from voluntary groups (7%), and neighbors (2%). It is important to note that approximately 31% of connections were not able to be classified in these categories and 7% of the average survey participant's friend list consisted of people they had never actually met in person (Hampton et al., 2011).

Two additional studies were published in 2011 that lend additional support to the already compelling evidence of a positive relationship between Facebook use and social capital. These studies attempted to identify the specific tools and activities on Facebook that lead to the increased social support. Vitak, Ellison, & Steinfeld's (2011) study of 325 undergraduate students at a large Midwestern university found that simple disclosure related behaviors on Facebook such as providing status updates did not elicit support along the three social provisions identified by the authors: attachment to others, reliable alliance and access to tangible assistance, and an adequate network to rely upon for guidance and advice (Vitak et al., 2011). However, the authors found that engaging with others through commenting on content posted by the other user was a significant predictor of both guidance and attachment to others. Finally, the authors found that having at least one family member among a user's Facebook connections was positively related to the reliable alliance provision.

Young's (2011) qualitative interviews among mostly working adults (only 3 of the 18 participants identified as full time students) found a consensus among the participants regarding the efficiency of Facebook communication, particularly in providing an ability to stay connected to geographically or contextually distant relationships. Interview participants highlighted the benefits of using Facebook to provide social support to other users through posting on their wall, as well as through the use of status updates as a means to initiate engagement with connections (Young, 2011). Participants in Young's study were also nearly unanimous in their appreciation for Facebook's ability to assist in planning and organizing events. These findings appear to conflict with studies that are focused exclusively on college students that report less

overall interest in these activities (Junco, 2012b; Pempek, et al., 2009). Interestingly, Young's finding regarding the prevalence and acceptability of 'stalking' profiles of other users without posting mirrors that of multiple other studies focused only on college students and suggests that the tendency for social voyeurism (Rosen, 2012) may be a common activity among all generations in relation to their Facebook use.

Young (2011) and others note the ability of Facebook users to maintain relationships that would have otherwise ended. The implications of Facebook use on an individual's ability to end relationships and leave one life context behind in favor of a new one (such as sometimes occurs when individuals attend college) is a specific area in need of further research. Sibona and Walczak (2011) provide a glimpse into some of the challenges in this area based on their preliminary findings in relation to the nature of ending relationships on Facebook. Noting the primary reasons for 'unfriending' of others may involve either online and offline transgressions, the authors point out that ending Facebook relationships, in comparison to traditional relationships, requires a conscious and public decision. An inability for an individual to move beyond a particular relationship or context may hinder their future development (Evans et al., 2010).

Academic Competence

Investigations into the relationship between Facebook use and academic outcomes have so far proven to be inconclusive. The four relevant studies contained within the literature that attempted to investigate the relationship between Facebook and academic achievement yielded conflicting results. (Junco, 2013; Kirschner & Karpinski, 2010; Kolek & Saunders, 2008; and Pasek, More, & Hargittai, 2009). Both Pasek et al. (2009) and Kolek and Sanders (2008) found no relationship between Facebook use and

grades while Kirchner and Karpinski (2010) found that Facebook users reported a lower average GPA than those who did not use Facebook. However, none of these studies attempted to relate academic performance to specific activities on Facebook.

Junco (2013), in an attempt to fill this gap in the research related to various uses of Facebook, investigated academic success in relation to type and frequency of Facebook use. His findings suggest that time on Facebook and number of times checking Facebook are inversely related to academic achievement. Junco (2013) also found that college students who engage in specific Facebook activities such as posting status updates and engaging in 'chat' features are more likely to have a lower GPA while other aspects of Facebook use were positively associated with academic achievement. These activities were mostly related to gathering and sharing information, leading the author to conclude that such behaviors are complimentary to the educational process or enhancement of academic skills (Junco, 2013). Another possibility, based on Junco's (2013) research, though not specifically highlighted by the author, is that better students may use Facebook in different ways than less academically competent students.

The manner of use is emerging as an important factor in the literature that seeks to identify the outcomes associated with social networking sites and technology as a whole. Mark Prensky (2012) bases his most recent book on the idea that technological innovation is beneficial to all without question, but that the problems arise when individual use of technology is inappropriate, careless, or unimaginative. In his book, *Brain Gain: Technology and the Quest for Digital Wisdom*, Prensky identifies eleven potential categories in which the relationship between the human mind and technology

have combined to create enhanced cognitive abilities. These categories encompass both remedial and aspirational uses of technology to overcome objective and subjective weaknesses of the human body and mind. In order to advocate for an increased recognition of the ways in which technology can enhance humankind, Prensky explores the impact that fire had on the evolution of humans. Technology, like fire, can be dangerous when used inappropriately, but extremely advantageous when used appropriately (Prensky, 2012). According to Prensky, the particular manner in which individuals positively interact with and use technology is referred to as '*digital wisdom*' and implies an enhanced understanding of the ways in which technology should be used in order to serve as a benefit to the individual.

Prensky's approach to the pertinent questions regarding the actual impact that technology is having on young adults is broadly philosophical. As such, it lacks a strong basis of empirical support for the augmentative impacts that technology may have on the vast majority of college students. A number of the categories in which Prensky asserts that '*digital wisdom*' is emerging undeniably represent some of the best outcomes of human use of digital technology. Few can find fault among the positive impacts associated with the use of electronic devices to supplement the reading ability of people experiencing dyslexia or blindness. The benefits of the communication technologies that allow deployed soldiers to see and talk to their families in real time who are thousands of miles away certainly outweigh any potential risks. However, other categories of emergent '*digital wisdom*' defined by Prensky (2012), such as enhanced communication skills, improved relationships, and better decision making skills lack a consistent foundation of empirical support.

For example, a 2010 dissertation completed at the University of North Carolina (Kramer-Duffield, 2010) that sought to understand college student perceptions regarding the use of tagging, found evidence that despite familiarity with the practice through their experiences on Facebook, very few students generalized tagging strategies to academic or professional uses. As explained in the definition of terms, tagging on Facebook is a feature of that allows users to tag photos uploaded to the site with the name and link to the profile of other Facebook users who are included in the photo (Facebook.com, 2013). However, the use of tagging may also be used as a means to organize large quantities of related information (Kramer-Duffield, 2010).

The author found that participants unanimously regarded tagging as a social communication and recognition tool specifically related to the Facebook context. The majority of college students in their sample, 92% of the 347 participants, reported only using tagging within the Facebook context. Further, only 15% of the participants had used websites and services that are focused around tagging as a means of information organization. Findings such as these appear to indicate that technological skills and methods developed in an SNS context are not typically transferred to broader applications, even when such applications may be beneficial.

Identity

Facebook is often regarded as an ideal tool for adolescents and young adults to assist in the development of identity (boyd, 2007; Pempek et al., 2009; Zhao, et al., 2008). However, Gardener and Davis (2013) argue that the intentional and measured ways in which young people construct their online identities can result in a narrowed view of personal identity and leave individuals overly-susceptible to influence from

others. Their research indicates that youth are less likely to 'try on' identities that may be viewed less favorably by the various social ties that form their online network. In addition, those who freely explore their identities through technology may be tied to specific identity markers even after the individual has moved beyond these particular perceptions of self.

The digital environment provides a new setting in which identities can be explored. However, the development of a digital self through the Facebook profile can become less about who we are and more about who we want to appear to be (Turtle 2011). MIT scholar Sherry Turtle argues that the things that people choose to post or not post can act as a modern version of the Rorschach test that is capable of providing insight into the underlying psyche, particularly in relation to dysfunction. Support for Turtle's argument can be found in Buffardi and Campbell's (2008) investigation of the ways that narcissism manifests on Facebook. Their findings, based on comparison of narcissism scores to ratings of specific elements of 156 undergraduate Facebook profiles, revealed relationships between specific types of Facebook content and narcissism. Specifically, a user's narcissism score predicted higher levels of social activity on the site as well as more self-promoting posts (Buffardi & Campbell, 2008). Buffardi and Campbell (2008), also note that the level of an individual's narcissism was accurately predicted by a group of other undergraduates based on viewing the individual's profile.

While the findings of Buffardi and Campbell (2008) cannot determine whether Facebook use actually increases narcissistic tendencies, the findings do appear to indicate that Facebook has made narcissism more identifiable. Other researchers also

investigating the intersection between Facebook and narcissistic tendencies identify evidence supporting the increased prevalence of individuals possessing the personality traits associated with an inflated self-concept (Buffardi & Campbell, 2008). Twenge and Campbell's (2010) analysis of over 16,000 college student scores on the Narcissistic Personality Inventory (NPI) found that students attending college after the year 2000 had higher scores on the NPI than the previous two decades. In addition, two-thirds of post-millennial college students had higher than average scores on the NPI while only half of those completing the inventory in the 70s and 80s scored above average (Twenge and Campbell, 2010).

Rosen (2012), provides further insight into the relationship between narcissism and SNS use. Rosen and his colleagues at California State University, Dominguez Hills found that young people, those from what he terms as the *iGeneration*, that use social networks regularly were significantly more narcissistic than individuals from any other generation; regardless of whether they were SNS users or not. Rosen goes on to report that more narcissistic people of all generations were more anxious when not checking Facebook and other technologies than those who were less narcissistic.

While narcissistic tendencies are common in those that experience anxiety in relation to their checking of technological devices, the problem of anxiety produced from an inability to check devices is not solely rooted in such tendencies. Rosen (2012) reports that teenagers (28%) and young adults (29%) were almost three times as likely to experience moderate to high anxiety when not able to check their social networks when compared to older adults (10% of Generation Xers and 6% of Baby Boomers). Strong emotions related to the 'fear of missing out' can lead to obsessive thoughts that

can manifest in compulsive patterns of use in relation to the various communication modalities available to them. Approximately half of the teenagers and young adults in one of the studies profiled by Rosen (2012) in *iDisorder*, reported checking text messages “all the time” (the next frequent interval was every 15 minutes) and 27% of teenagers and 32% of young adults reported checking Facebook and other SNS “all the time” (Rosen, 2012).

Multiple researchers (Gardener & Davis, 2013; Turkle, 2011; Rosen, 2012) have found that young people not only tend to feel more anxious when not able to check their devices on a regular basis, but they also experience anxiety associated with the pressure to maintain social network profiles and an online presence. A number of participants interviewed by Turkle (2011) report profoundly negative feelings over the ever-present necessity of maintaining their online presence. Regardless of whether the maintenance was considered an unwelcome obligation or a thoughtfully constructed online version of self, most participants in Turkle’s research maintained their perceived responsibility to stay connected.

The psychological benefits and costs to young adults associated with constant connection through Facebook and other technologies are not well known. Though numerous researchers readily acknowledge that independent experiences as a child were often anxiety producing, they were also often associated with strong feelings of freedom and independence (Gardener & Davis, 2013; Turkle, 2011; Rosen, 2012). Indeed, every theory developed to help explain college student development has as a central component, the necessity of confronting and resolving major challenge or conflict in order for developmental growth to occur (Evans et al., 2010). Through the use

of technology, these researchers argue that college students are less frequently compelled into such challenges, and when they are, they may be heavily supported by parents or others (Gardener & Davis, 2013).

This support may have advantages in the short term, but frequent, easy success with little effort diminishes the opportunities to develop skills and attitudes that form the basis for addressing the myriad of challenges in life (Bandura, 1994). Constant connection with others also reduces opportunities for aimless exploration and self-reflection (Gardener & Davis, 2013; Turkle, 2011). Ericson (1980) argues that such experiences are fundamental to an individual's ability to balance a sense of self with the way that others view them. Sherry Turkle's astute reflection, "All questions about autonomy look different if, on a daily basis, we are together even when we are alone" (2011, p. 169) epitomizes the subtle ways that technology has altered our understanding of the psychosocial development of adolescents and young adults.

Autonomy

Developmental scholars have consistently emphasized that growth in autonomy is an essential aspect of overall positive development (Ericson 1980, Heath, 1968, Widick, Parker, & Knelfelkamp, 1978). The ability to reliably act on behalf of one's own self-interest towards independently defined goals and objectives has long been considered an important outcome of the college experience (Evans et al., 2010; Pascarella and Terenzi, 2005). The development of autonomy can be considered a keystone upon which a strong personal identity is established. Chickering and Reisser (1993) describe factors associated with autonomy development through the depiction of

their third vector of college student development, *Moving through Autonomy towards Interdependence*.

According to Chickering and Reisser (1993), movement through this vector involves the development of emotional independence, instrumental autonomy, and acknowledgement of one's interdependence with others. In order to attain emotional independence, an individual relinquishes their need for reassurance and approval from others. Instrumental autonomy refers to one's abilities to manage daily priorities and tasks, address issues or problems independently, and feelings of confidence in relation to trying new things. Interdependence, in relation to this vector, involves an "an awareness of one's place in and commitment to the welfare of the larger community" (Chickering and Reisser, 1993, p.117). Progress within this vector involves a distancing of oneself from parents or other caregivers and moves towards a reliance on peers, authority figures, and institutional support systems. Throughout this time, active reflection on choices and decisions typically occurs and may lead to altering initial plans and goals as a greater understanding of one's independence emerges.

Chickering and Reisser (1993) theorize that a college student's progress along this vector typically first involves a distancing of oneself from parents or other caregivers. A greater reliance on peers and institutional systems for support temporarily fills the gap created by the increasing distance between college students and their parents. Throughout this time, an individual engaged in this vector is reflecting on their choices and altering their plans and goals in response to a growing confidence in their abilities (Chickering and Reisser, 1993). Although a key initial step to navigating this vector involves a separation from parents and caregivers, Chickering and Reisser

(1993) point out that the manner in which parents supported autonomy development throughout childhood plays a key role in its growth. Parents who are successful in preparing adolescents to expect and deal with the inevitable stress and ambiguity of life model attitudes of resilience and self-sufficiency.

Parents also enhance autonomy of late adolescents through encouraging responsibility and continuously re-defining their relationships. College students whose parents gradually relinquish unnecessary measures of control over their child's decisions experience greater feelings of autonomy than those students whose parents continue to manage the choices of their college-aged children (Cullaty, 2011). An individual's belief in their ability to successfully navigate challenges inspires a broadening of ideas and goals beyond those previously held (Bandura, 1994).

Relevant literature pertaining to autonomy development assert its importance to success in college due to the implications that such perceptions have on one's ability to forge ahead despite setbacks (Chickering & Reisser, 1993; Evans et al., 2010; Pascarella and Terenzi, 2005). Regardless of the unanimous regard for the positive outcomes associated with autonomy, a number of recent studies demonstrate that contemporary college students exhibit differences in a number of areas typically related to autonomy development in comparison to previous generations. This shift in attitudes regarding autonomy has been abrupt and noteworthy. As noted in the first chapter of this dissertation, Sivak and Scoettle (2012) noted a 25% drop in the number of college-aged individuals possessing a driver's license over the last 30 years.

Although the researchers found correlations between the decreases in college students arriving on campus already in possession of their driver's license and internet

use, it is possible that other factors not considered by the authors may have played a role in this phenomenon. The recent findings of a study completed by the AAA Foundation for Traffic Safety provide additional insight into the specific reasons for the delay in obtaining a driver's license. Based on a representative sample of 1,039 18-20 year-olds, the report found that two of the top five self-reported reasons for delaying a driver's license were specifically associated with cost, while the third, 'not having a car' may also be attributable to considerations involving expense (Hamilton, 2012). The two remaining reasons, 'ability to get around without driving' and 'just didn't get around to it' seem to indicate that it is also possible that declines seen in the number of young adults possessing driver's licenses may in fact be due to the lack of necessity of a driver's license in order to connect with friends and explore their environment.

Additional insight relating to college student autonomy development can be found in a number of Barbara Hofer's published studies on college student autonomy that are reported in a book she wrote with journalist Abigail Moore, *The iConnected Parent: Staying Close to Your Kids in College (and Beyond) While Letting Them Grow Up* (2010). The book is intended to serve as a self-help guide for parents to assist them in navigating the complexities of communication between parents and college students as they re-negotiate their relationships. The findings synthesized within it by Hofer and Moore (2010) present compelling evidence of the recent delays in college student's attainment of autonomy. Specifically, Hofer and Moore (2010) report that college students who have the most frequent contact with parents are less autonomous than other students, rely on parents more for emotional needs, are less capable of independent thinking and decision making, and reflect an inability to take ownership of

their own beliefs and values. The authors found that those participants who were in contact with their parents frequently did not view their parents outside of their parental role, even after leaving for college.

The authors also examined findings that provide insight into the effects of high levels of involvement on the part of parents in their college-aged child's campus life. They found that students who were in contact more frequently with parents lacked self-regulation and were more likely to procrastinate on papers and assignments. Noting the recognized relationship between high levels of self-regulation and academic achievement, the authors express concern over the parents who continue to provide consistent reminders associated with basic life management and self-regulation. A portion of the participants in the study relied heavily on parents for academic support, noting that 19% of participants have parents proofread and 14% edit their college papers. Not surprisingly, students who received daily reminders and assistance with academic tasks were less independent, had lower GPAs and lower scores on emotional autonomy. Students who heavily relied on parents had decreased abilities to manage time and academic requirements (Hofer & Moore, 2010). These students also expressed less satisfaction with their learning and overall college experience.

The conclusion that parental contact and involvement is inhibiting development is supported in both theory and practical findings. Hofer and Moore (2010) assert that students who receive support with daily life management have no need to work towards enhancing self-regulation and appropriate help-seeking skills. Observed decreases in the independence and self-reliance of young people by Gardener and Davis (2013) shows that many students arrive on campus still completely dependent on parents and

others for basic needs. The capabilities of digital technologies to communicate with parents, friends, and other influential people in a young person's life ensure that they are rarely, if ever, in a situation in which advice, direction, or emotional support is not immediately available (Gardener & Davis, 2013).

A number of common themes emerged from the interviews and focus groups that Gardener and Davis (2013) conducted with veteran teachers, therapists, religious leaders, and others engaged in working with adolescents in a variety of settings. These themes focused on a general decrease in the ability of youth to act in autonomous ways. Participants in the focus groups remarked on the propensity of recent youth to be less focused on reflection and developing a purpose for their life. Rather, youth are preoccupied with activities related to daily life management. The identities that youth present, both in the real and virtual world, differ significantly from their actual abilities. Themes related to increased anxiety and avoidance of risk were evident in a number of the focus groups (Gardener & Davis, 2013). Camp directors told stories of concealed digital devices, in opposition to camp rules, that were held onto so that campers could communicate with parents.

Gardener and Davis point to the perceived digital safety net of cell phones with global positioning software as the reason why many youth have never had the experience of being lost. Such an experience can be anxiety provoking at first, but ultimately empowering when one is able to marshal their resources and find their way. The power of recent advances in mobile technology allow for constant connection with others through texting and access to social networking sites. Reduced opportunities for college students to test and hone their ability to independently make choices, think

objectively, and gain trust in their personal insights and feelings, may particularly impede the development of instrumental autonomy.

If social networking sites and other communication technologies have reduced the perceived need of late adolescents to embrace autonomy in the same ways as previous generations, how will individuals gain experience in maintaining control over the direction of their life. Bandura (1994) notes that the most effective way for individuals to gain confidence in their abilities is through experiences that allow them to practice and eventually master skills that will be needed to function independently in the future. The confidence that one gains through participating in gradually more complex experiences, in which an individual, through compulsion or circumstance, is compelled into accepting responsibility for aspects of their lives is referred to as self-efficacy (Bandura, 1994). Various studies indicate that the concept of self-efficacy is closely related to the development of autonomy (Pascarella & Terenzi, 2005) and that it plays an important role in an individual's establishment and attainment of goals (Bandura, 1994).

Self-efficacy. Pascarella and Terenzi (2005) conceptualize self-efficacy among college students as, "the product of multiple personal and comparative factors including students' conceptions of their intellectual and social abilities and their success and failures in previous academic settings, all tempered by comparisons with others" (p.223). The concept of self-efficacy has most commonly been used in higher education research dealing with student learning. Outside of higher education, fundamental aspects of the concept have been widely utilized as a reliable and culturally universal construct to assess current and future functioning within a number of domains. These

domains include response to intervention, dieting success, overall wellness, as well as additional psychological and attitudinal functions such as self-regulation, optimism, and procrastination. (Scholz, Gutierrez Dona, Sud, & Schwarzer, 2002; Schröder, Schwarzer, & Konertz, 1998).

Bandura (1994) theorizes that an individual's conception of their self-efficacy is tied to their willingness to attempt challenging tasks as well as their attitudes regarding them. Such willingness to face perceived difficulty also impacts the level of commitment and effort that individuals will devote to attainment of a given goal. According to Bandura (1994), individuals who experience high self-efficacy will increase efforts when faced with the potential of failure. If failure does occur, it is more often perceived as a temporary setback attributed to a lack of preparation on the part of the individual rather than luck or personal deficiencies (Bandura, 1994). Although failure on the part of individuals who experience high self-efficacy may decrease their confidence, such perceptions are typically only temporary as the individual recovers from failure.

In contrast, Bandura (1994) depicts an individual lacking in self-efficacy as one who attempts to avoid difficult tasks. They more easily relinquish goals as being impossible and will attribute a variety of external reasons for the failure. They perceive the failure as the result of an un-reconcilable personal fault or deficiency over which they exercise no control. In addition to the tendency to easily give up on tasks that are perceived to be too difficult, individuals who possess low self-efficacy are slow to recover from such difficulties because of an overall lack of faith in their ability to exercise control over their circumstances. Bandura (1994) asserts that those who enter young adulthood without developing the necessary skills of a highly able individual will

experience greater stress and depression than a person who has developed their personal self-efficacy (Bandura, 1994).

Schwarzer and Jerusalem (1995), based on Bandura's initial conceptualization of self-efficacy which was largely task specific, expanded the concept of personal efficacy by establishing general self-efficacy (GSE) as "one's competence to tackle novel tasks and to cope with adversity in a broad range of stressful or challenging encounters" (Luszczynska, Gutierrez-Dona, & Schwarzer, 2005 p. 80). Differentiated from specific self-efficacy, which is typically limited to a feeling of confidence in relation to a specific task under study, general self-efficacy implies a level of readiness to respond to spontaneous, non-specific challenges. GSE draws on a variety of established skills and abilities to provide individuals a sense of preparedness to successfully deal with both minor, daily challenges as well as larger crises (Luszczynska, Gutierrez-Dona, & Schwarzer, 2005). The operative nature (Schwarzer & Jerusalem, 1995) of general self-efficacy has been successfully established through a number of large international studies (Luszczynska, Gutierrez-Dona, & Schwarzer, 2005; Luszczynska, Scholz, & Schwarzer, 2005; Scholz, Gutierrez Dona, Sud, & Schwarzer, 2002; Schröder, Schwarzer, & Konertz, 1998). Luszczynska, Gutierrez-Dona, and Schwarzer (2005) assert that an individual's perceived sense of self-efficacy is the major influence in an individual's motivation to participate in a given behavior.

Although success tends to increase feelings of self-efficacy, Bandura (1994) believed that individuals who attain success through little effort or commitment become accustomed to gaining rewards with minimal effort. Such individuals do not acquire the level of perseverance and resilience that is needed to develop a strong personal sense

of efficacy. This is due to a lack of experience in exerting sustained effort toward a goal and troubleshooting problems that may occur. Bandura (1994) argues that the setbacks that an individual experiences can serve as important learning experiences that instill an understanding of the level of effort that is needed to attain what one sets out to do. Bandura refers to these 'mastery experiences' as the most powerful catalyst to the development of self-efficacy.

The second manner in which an individual may develop and strengthen their perceived sense of self-efficacy is through the modeling of others (Bandura, 1994). According to Bandura (1994), people generally attempt to identify models who represent the skills and abilities that they themselves would like to develop. Such models can serve as an important reference point from which to judge one's own attitudes and behaviors. Models demonstrate effective strategies for dealing with challenges. Through observation of these models, an individual can gauge the value of their own behavior in relation to social contexts, as well as their ability to address similar challenges to the ones that are observed. Through these observations, an individual gains exposure to the efficacious characteristics of individuals that they emulate, thereby enhancing their own perceptions of self-efficacy.

The third way of developing one's confidence in their abilities to be successful involves the concept of social persuasion (Bandura, 1994). Social persuasion works through verbal means to convince an individual that they have the ability to perform adequately in a given situation through challenging an individual's assumptions of inadequacy. While such verbal prompting can encourage behavior, it is the successful

attainment of verbally prompted goals that has the most significant impact on growth in self-efficacy.

Bandura (1994) points out the belief that feelings of enhanced self-efficacy are difficult to instill through social persuasion alone, but feelings of reduced personal efficacy are easily acquired through social influences. Individuals who are skilled in enhancing the self-efficacy of others through these methods understand the importance of pairing positive regard for an individual's capabilities with real experiences that allow individuals to test their skills in successive ways. Individuals who act to diminish another's perceptions of their capabilities instill in them an avoidance of challenging tasks.

In recognition of the role that attitudes and moods play in the development of self-efficacy, the fourth method of enhancing self-efficacy that was hypothesized by Bandura (1994) is through intentional attempts by others to modify an individual's negative self-perceptions and maladaptive responses to adversity. That is not to say, however that those with a strong perceived sense of self-efficacy do not feel certain emotions related to fear and anxiety. Rather, highly efficacious individuals tend to regard such emotions as increasing their sense of motivation for accomplishing the task, while those that lack belief in their ability to face a challenge find such emotions to be detrimental to their performance.

It would appear, based on Bandura's assertion that individuals' social relations play an integral role in their feelings of self-efficacy that Facebook use inevitably has an influence on feelings of self-efficacy. However, this research found no studies that specifically sought to define a relationship between self-efficacy and Facebook use. The

nature of Facebook as an environment rich with opportunities for social interaction, observation, modeling, and social persuasion raises a number of relevant questions as to the potential impact that use of the site is having on feelings of self-efficacy.

For example, the consistent findings relating to the frequency and social acceptability of Facebook 'lurking' or 'stalking' have raised concerns relating to the impact that consistent social comparison may have on an individual's overall attitudes and perceptions. Chou & Edge (2012) reported that the longer participants in their study used Facebook, the more they believed that others were happier than them. They also disagreed with the statement that life was fair. Participants who spent the most time on Facebook per week tended to believe that others were happier and had better lives, while those who had more Facebook friends that they did not know personally, agreed more often that others had better lives (Chou & Edge, 2012). In addition, adolescent participants in Gardener and Davis's (2013) focus groups reported that high levels of voyeurism through the site tend to elicit feelings of competitiveness and inadequacy.

Although participants in Chou and Edge's (2012) study recognized the tendency of users of Facebook and other SNS to selectively present a polished virtual identity, participants were still affected by their perceptions that others were better off than themselves. However, Luszczynska, Gutierrez-Dona, & Schwarzer (2005) note that although the behaviors leading to the propensity to compare oneself with others may be based on lack of confidence in one's abilities, they found no significant relationship between levels of GSE and social comparison. The authors conclude that an individual's levels of general self-efficacy were not tied to the habit of comparing oneself

to others (Luszczynska, et al., 2005). The possibility that excessive social observation through Facebook may influence GSE remains to be investigated.

Another area of SNS research that appears to be particularly related to an individual's sense of self-efficacy explores the social benefits associated with Facebook use. Specifically, the social support functions related to Facebook use as initially outlined by Donath & boyd in 2004 and expanded by Ellison, Lampe, and Steinfield (2009, 2011) may have a positive effect on feelings of general self-efficacy through enhancing an individual's exposure to and willingness to attempt challenges. The variety of communication features available through the Facebook profile allows users to send and receive messages of support from throughout the world in real-time. This support may enhance an individual's feelings of well-being and enhance perceptions regarding their ability to address challenges.

The findings reported by Hofer and Moore (2010) demonstrate that too much parental support can have a detrimental effect on individuals, especially those young adults who are actively engaged in identity development since such support may actually prevent an individual from engaging in the mastery experiences that Bandura (1994) asserts are essential to the development of self-efficacy. However it is unknown if Facebook support could have the same impact.

The influence of others who are less supportive through SNS may also have a negative impact on one's confidence in relation their abilities. Rosen (2012) points out that the influence of negative interactions with others can have a demoralizing impact on an individual's confidence in their abilities. According to Rosen (2012), numerous studies have shown that negative comments by others can have a more damaging and

longer lasting impact than positive ones. In addition, those that are already exhibiting depressed tendencies are more susceptible to the detrimental effect that negative comments may have on an individual. The contradictory nature of the postulated interaction between Facebook use and various ways in which self-efficacy is either enhanced or diminished warrant further, specific, inquiry in order to inform the role that higher education professionals should play within this milieu.

Summary

This chapter has described the origins of student development theory and asserted its influential role in informing the higher educational environment. Considerable research has explored the factors associated with enhanced psychosocial development and its relation to enrollment in higher education settings. However the introduction of SNS on college campuses has significantly altered the ways in which information is disseminated throughout the campus community.

Based on current preliminary research, it is possible that the use of Facebook among college students is affecting the manner in which identities are formed and relationships cultivated. The relatively few studies that have been completed to date shed light on a number of aspects associated with psychosocial development such as relationship formation and academic achievement. However, there is a significant gap in the literature in reference to the ways in which use of Facebook and other SNS are affecting college student psychosocial development as a whole. The role of autonomy development and self-efficacy as the basis for further development makes such information necessary to inform the practice of faculty, staff, and administrators within higher educational settings.

CHAPTER 3

RESEARCH METHODOLOGY

The purpose of this study was to explore the relationship between autonomy development and Facebook use among college students. Quantitative data were collected from responses on the General Self-Efficacy Scale (GSE). Self-Efficacy is a construct that has been closely aligned with the concept of autonomy (Pascarella & Terenzi, 2005). The GSE was supplemented with additional survey items that were designed to investigate Facebook use. Qualitative data were then gathered from personal interviews with volunteers who completed the quantitative instrument. The data collected from these methods were analyzed individually and collectively in order to shed light on the overall research questions:

1. Are the self-reported patterns of activity on Facebook as measured by the Viewing, Interacting, and Participation/Management subscale scores predictive of perceived general self-efficacy as measured by the General Self-Efficacy subscale score of the Facebook Influence on Coping and Adaptation Scale (FICAS)?
2. Is the perceived level of importance of Facebook, as measured by the Frequency, Duration, and Engagement subscale scores predictive of perceived general self-efficacy as measured by the General Self-Efficacy subscale score of the Facebook Influence on Coping and Adaptation Scale (FICAS)?
3. In what ways is Facebook use related to college student experiences that are aligned with Chickering and Reisser's (1993) third vector of development, *Autonomy Towards Interdependence*?

Chapter three provides an overview of the research design; details the procedures used to select participants for the study, describes the setting, and presents the timeline for the study. This chapter also provides details relating to data collection, instruments that were utilized, and analysis of the data. This study will add to the literature pertaining to the ways in which the use of social networking technologies may affect college students. It has been designed to explore the manner in which participants use Facebook in relation to aspects of their psychosocial development. No other studies were found that have examined, from both a quantitative and qualitative perspective, college students' development of autonomy in relation to the specific ways that college students use Facebook.

Study Design

This study employed both quantitative and qualitative research methods to explore relationships between Facebook use and development of autonomy in college students. A mixed method approach is beneficial as it provides an opportunity to both analyze and explain quantified data thus leading to a broader and deeper understanding of the ways in which Facebook use may be influencing college students' development than could be achieved from one method alone (Creswell, 2008). Correlational methods involved the collection and analysis of data to determine whether a relationship exist between general self-efficacy (a construct associated with autonomy development) and one or more subscales that describe Facebook use. Multiple regression procedures were utilized to reveal the influence that the independent variables have on the dependent variables as well as the strength of these influences. Such methods are capable of assessing the possible impact that the independent variables may have on

the dependent variable and are particularly useful in explanatory and predictive research questions. (Gay, Mills, & Airasian, 2009; Nardi, 2006). Although regression analysis cannot provide specific insight into individual cases, they are useful for predicting outcomes or describing relationships that exist within existing data (Nardi, 2006). This study gathered quantitative data relating to perceived self-efficacy and the ways in which college students use Facebook. Analysis of the quantitative data produced from the first part of the study informed the design of the qualitative interviews that took place in the second part of the study.

Mixed methods research is a comprehensive approach that requires substantial resources of time and knowledge. (Gay, Mills, & Airasian, 2009). Despite the increased resources that are necessary to successfully implement this design, mixed methods research typically provides more insight into the phenomena under review than can be gained through quantitative or qualitative methods alone. The explanatory mixed methods design (Creswell, 2008) used in this study involved the collection of data through the use of the General Self-Efficacy Scale that was enhanced with specific items designed to investigate the nature of participants' use of Facebook. Review of the descriptive data produced through this first phase of the study was then used to enhance the protocol that guided the second phase of the study. The second phase of the study was designed to elaborate on the quantitative results.

Rationale

A Quan-qual mixed methods design (Creswell, 2008) facilitated the creation of a data set that includes details relating to the ways that participants use Facebook, their perceived sense of self-efficacy, and other information pertaining to the potential

influence that Facebook use has on development of autonomy among college students. Since the majority of research investigating the use of Facebook by college students utilizes only one form of data collection, this study used a Quan-qual method in an attempt to provide more comprehensive insight the ways in which Facebook use is related to development of autonomy among college students.

Procedures

This study was carried out in multiple stages that are outlined in Figure 1. The first stage involved identifying two different institutions of higher education as sites for the study. The first, Landon College, was selected to host the pilot administration of the survey instrument. The second, Eastern University was selected to host the main stages of the study. This stage of the study included obtaining the necessary approvals to conduct research from each institution's Institutional Review Board (IRB). Once appropriate permissions had been received, attention was directed toward gaining access to the names and e-mail addresses of all traditional undergraduates enrolled at Landon College.

The names and email contacts for all undergraduate students enrolled in the fall 2014 semester at Landon College were then uploaded to the Qualtrics online survey software. The Qualtrics software was used to randomly select 200 individuals from the population of full time undergraduates to be sent an invitation to participate in the pilot administration of the Facebook Influence on Coping and Adaptation Scale (FICAS) survey instrument. The individuals were contacted by the researcher through the e-mail address that was supplied by the host institution (Appendix A contains the invitation). The e-mail explained the purpose of the study, the parameters of participation in the

study, and the potential risks associated with participation. The e-mail also contained contact information for the researcher and a link that participants could follow in order to provide informed consent and participate in the pilot study. If the participant clicked on the link, they were directed to the Qualtrics online survey system and presented with the informed consent information, expectations for participation, and treatment of the data (Appendix B contains the informed consent document for the pilot stage of the study). If participants chose not to accept the informed consent details, they were thanked for their interest in the study and directed to the end of the survey. Participants who provided their informed consent were directed to the first item in the survey. After two weeks, reminder e-mails were sent to the entire sample. Thirty-eight individuals completed the survey, consisting of 19% of those who were invited to participate.

Stage three of the study was initiated approximately four weeks after the initial e-mail invitation to participate in the pilot was sent and involved downloading, organizing, and analyzing the results of the FICAS pilot test (Figure 1). The preliminary results were then discussed with the researcher's dissertation committee who assisted in examining the feedback and advising edits to the instrument. Minor adjustments were made to the FICAS instrument based on issues identified by the pilot participants and are summarized in Table 1.

Table 1

Revisions Based on Pilot Test Feedback

Original Item	Revised Item
I spend most of the day logged in to Facebook even though I may be doing something else.	I usually have Facebook open in my internet browser while I am doing other things (studying, writing papers, etc.).
I often tag other people's photos on Facebook.	I often tag photos on Facebook.
I have never attempted to take a break from using Facebook.	I have never tried to stop using Facebook.
Gender	Sex (included 'other not listed') as a response option

The fourth stage of the study involved sending the revised FICAS Instrument to an expert panel comprised of university faculty and other educational leaders for review and comment (Figure 1). The expert panel feedback was then discussed with the researcher's dissertation committee and minor adjustments to the survey and procedure were made to clarify the response scales and simplify analysis.

Once final revisions on the FICAS were completed, attention was focused on obtaining the names and contact information for all of the full time undergraduate students enrolled in the spring 2015 semester at Eastern University. The information was provided by the Office of Institutional Research and uploaded to the Qualtrics Survey Software system in the same manner that was utilized during the pilot administration. An e-mail inviting students to participate in the study was then generated through Qualtrics and sent to all students enrolled in the Spring 2015 semester (N = 5,651). Similar to the invitation sent during the pilot portion of the study, the e-mail invitation explained the purpose of the study, the parameters of participation in the study, and the potential risks associated with participation (Appendix C). As an incentive to enhance participation, participants were also offered the opportunity to

participate in a drawing to win one of four \$25 gift certificates to the college store. Finally, the e-mail included contact information for the researcher and a link that participants could follow in order to provide informed consent and participate in the study.

The link directed to the participants to the Qualtrics Online Survey System and presented the informed consent information. Informed consent included the expectations for participation and treatment of the data (Appendix E). As in the pilot test, if participants chose not to accept the informed consent details, they were thanked for their interest in the study and directed to the end of the survey. Participants who provided their informed consent were then asked to type their name indicating their acceptance of informed consent and directed to the first item in the survey. Those who indicated acceptance of informed consent, but did not type their name, were excluded from analysis regardless of whether they completed the rest of the survey. After two weeks, reminder e-mails were sent to those who did not complete the survey, and after six weeks, the survey was closed to further participation and the results were downloaded and organized for analysis.

The sixth stage of the study involved identifying all survey participants who indicated their willingness to participate in a telephone interview through selecting 'yes' on the final survey item and providing preferred contact information (Figure 1). Almost 40% of survey respondents (N=102) indicated their willingness to participate in the interview portion of the study. These participants were then contacted through the preferred e-mail address that they provided in Item 42 of the survey. Participants who selected the link in the e-mail were led to the informed consent details for the interview

portion of the study (Appendix E). Once participants indicated their acceptance of the informed consent, they were able to provide their availability to participate in an interview. All participants who completed an interview were entered into an additional raffle for a \$100 gift certificate to the university bookstore which was offered as an incentive to encourage participation.

Interviewees were offered six different appointment times over a 20 day period, and an option was presented in which participants could indicate a day and time that was not provided as one of the options. Almost 25% of those who initially indicated a willingness to be interviewed (n=24) completed the appointment questionnaire and were scheduled during their primary or secondary choice of appointment time. In six cases, participants did not answer the phone call at the appointment time. If possible, a voice message was left identifying the reason for the call and an e-mail was sent to provide an opportunity to reschedule. This effort resulted in a response from one individual who was then able to be rescheduled. Five participants did not reply to the request to reschedule.

The final stage of data collection consisted of completing the interviews (Figure 1). The twenty interviews were digitally recorded on a password protected iPad using the 'Voice Recorder' application and then were downloaded to a secure Dropbox.com folder. Recordings were organized and digitally uploaded to the web-based transcription service, transcribe.com for professional transcription. Interview transcripts were then checked for accuracy and analyzed. The results of the interview data were then compared to, and synthesized with, the quantitative results that were obtained during stage four of the study. The results are reported in Chapter 4.

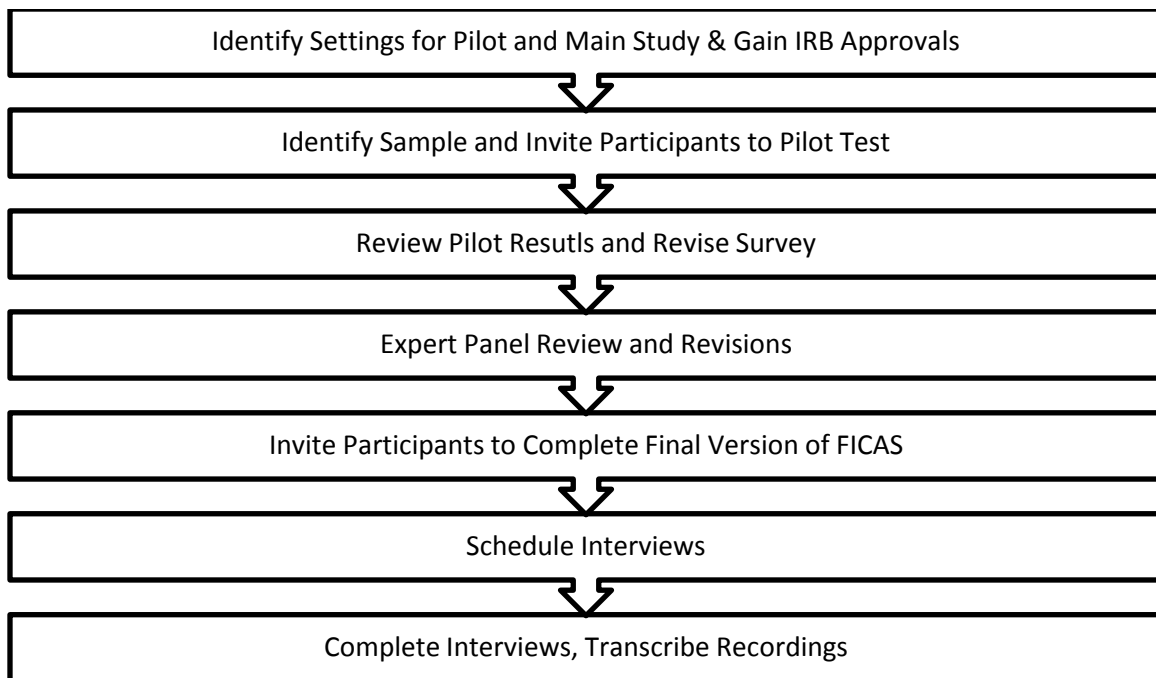


Figure 1. Stages of Data Collection. A description of the steps involved in data collection.

Participants and Setting

Since this study involved the use of human subjects, approval from the college's/university's Institutional Review Board (IRB) was necessary for all phases of the study. The researcher included information relating to the study's purpose and objectives, manner in which participants were selected, research methodology, informed consent, and benefits of the study within the IRB application. Full IRB approval was obtained from both the pilot institution - Landon College and the target institution - Eastern University, prior to contacting any participants in relation to the study.

The study used the theoretical framework of psychosocial development put forth by Chickering and Reisser (1993), the formulation of which was based on observations of traditional college students enrolled in typical higher education settings. Therefore, strong consideration was given to the selection of a location for the study based on its

ability to represent a typical residential college environment that enrolls predominantly traditionally-aged students. The pilot institution, Landon College, which is a pseudonym, is a small, private, undergraduate only liberal arts institution in Eastern Pennsylvania with approximately 2,800 full time students. The university from which the primary data for this study was collected, Eastern University, which is also a pseudonym, is a medium-sized institution of higher education with close to 7,000 students enrolled in 57 undergraduate, and 23 masters programs. It is also located in rural Eastern Pennsylvania.

Eastern University's full time undergraduates make up approximately 91% of the population, with slightly less than 6,000 full-time undergraduate students. In the fall 2013 semester, almost 36% of students identified as ethnic or racial minorities. Eastern University is member of the Pennsylvania State System of Higher Education (PASSHE), which consists of 14 universities throughout the Commonwealth of Pennsylvania. The PASSHE system enrolls over one hundred thousand students state-wide, approximately 90% of which are considered traditional, full-time undergraduates (Pennsylvania State System of Higher Education, 2011). In addition, the researcher's affiliation and personal experiences with both Landon College and PASSHE institutions provided easy access to study participants and campus resources. These were strong considerations in their final selection as a research site.

Instrumentation

There were two forms of data collection utilized in this study, a survey instrument and a semi-structured interview. The use of the survey instrument within the study had two purposes:

1. The general self-efficacy portion of the survey was utilized in order to gain an overall understanding of the participant's levels of perceived general self-efficacy, which is regarded as a component of autonomy development.
2. The supplement portion of the survey was utilized to provide insight into the ways that participants report using Facebook.

General Self-Efficacy Scale

The General Self-Efficacy Scale (GSE) (Schwarzer & Jerusalem, 1995) is a ten item, self-administered, multiple response instrument that was designed to assess an individual's belief that they are capable of dealing with a variety of life challenges. The confidence that one has in their abilities is an important aspect of autonomy development. The scale was designed with the specific purpose of predicting one's ability to handle the stress of daily life as well as a measure of coping after traumatic events (Schwarzer & Jerusalem, 1995). Respondents are asked to respond to statements based on four categories, 1 – not true at all, 2 – hardly true, 3 – moderately true, and 4 – exactly true. The GSE is available in 33 languages and may be used as a stand-alone assessment of present functioning, combined with other measures, or in pre – posttest designs that are intended to assess change. Easy access and open permissions for use are granted by the authors provided proper attribution is noted. This generosity has facilitated the development of a comprehensive data-set that explores the construct of self-efficacy in relation to a significant variety of other variables.

Based on a number of large, international studies utilizing the GSE in conjunction with an assortment of other instruments, Luszczynska, Guttierrez-Dona, & Schwarzer (2005) concluded that an individual's perceived sense of self-efficacy is a universal

construct that applies to one's belief that is "prospective and operative in nature" (p. 87), which makes the construct useful for both explanatory and predictive applications.

Specifically, Luszczynska, Guttierrez-Dona, & Schwarzer (2005) found strong positive associations between perceived general self-efficacy as rated on the General Self Efficacy Scale and optimism, self-regulation, and self-esteem. Strong inverse relationships were found between perceived general self-efficacy and depression and anxiety. These findings, based on 8,796 respondents from five countries, are supplemented by an additional study by Luszczynska, Scholz, & Schwarzer (2005) that involved almost 2,000 respondents from Germany, Poland, and South Korea. Inverse relationships were also evident in this study between perceived general self-efficacy and depression, anxiety, and negative affect.

A compelling case for the validity and reliability of the General Self-Efficacy scale across diverse populations is presented by Scholz, Gutierrez-Dona, Sud, & Schwarzer (2002). The psychometric properties of the General Self-Efficacy Scale were assessed through administration of the scale to 19,120 respondents from 25 countries. The mean age of participants was 25 years and although only slightly more than half of respondents reported their occupation, 34.7% identified themselves as students. The internal consistency was found to be good ($\alpha = .86$) and construct validity was supported through weak correlations with participant age and other hypothesized associations. The findings are similar to those of other studies that used the GSE including a number of longitudinal studies that established acceptable levels of re-test reliability with a variety of participants (Schröder, Schwarzer, & Konertz, 1998; Schwarzer & Jerusalem, 1995) and therefore, provide significant evidence of the

stability of the construct across cultures. The GSE's multi-cultural stability, brevity, and ability to be combined with other measures makes it an ideal instrument for use within higher educational settings.

The GSE is a particularly relevant quantitative measure relating to the present investigation of autonomy development among college students. Pascarella and Terenzi (2005) note that higher levels of perceived self-efficacy, a construct associated with autonomy development, appear to increase the level of challenge that individuals seek and informs the way that college students view their intellectual and social abilities in relation to others. Analysis of the results of the GSE in relation to Facebook use can provide insight into the ways that such use may be influencing the development of autonomy. Since feelings of efficacy as reported on the GSE appear to be an antecedent and consequence of an individuals' independent action, (Luszczynska, Guttierrez-Dona, & Schwarzer, 2005) in a number of domains related to autonomy (Chickering & Reisser, 1993; Pascarella & Terenzi (2005), it represents an ideal measure through which autonomy development may be assessed.

The nature of development, as conceptualized by Chickering and Reisser (1993), is such that it occurs on a continuum. Behaviors that characterize developmental tasks exhibit common variance (Gay, Mills, & Airasian, 2009). Advancement in one area of development is likely to enhance progress in other areas of development. Deficiency in one area may lead to deficiency in others (Chickering & Reisser, 1993; Pascarella & Terenzi, 2005). Because of this, a comprehensive analysis of the results of the administration of the General Self-Efficacy scale in relation to Facebook use may also provide insight into overall levels of psychosocial development.

Facebook Influence on Coping and Adaptation Scale (FICAS)

In order to investigate the ways that the study participants use Facebook, this researcher developed a supplement to the GSE consisting of 22 additional response items. These items were based upon those created and used by the Pew Internet and American Life Project in their efforts to describe and track internet use in America. The Pew Internet and American Life Project is an initiative of the Pew Research Center, “a nonpartisan, nonprofit “fact tank” that provides information on the issues, attitudes and trends shaping America and the world” (<http://www.pewinternet.org/Static-Pages/About-Us/Our-Mission.aspx>, 2014). Pew has been exploring internet use in America since 2001 and based on this research, consider the rise in use of social media use as one of three major technological revolutions that have occurred since 2001 (Pew Internet and American Life Project, 2014). Although Pew considers this revolution from the broader perspective of ‘social media’, a large portion of their research has yielded strong data specifically relating to Facebook.

Relevant Pew items were identified through a search of the database of survey questions that were hosted on the Pew Internet and American Life Project’s homepage, <http://www.pewinternet.org/Static-Pages/Data-Tools/Explore-Survey-Questions.aspx>. Since the researcher was primarily concerned with locating survey items relating to the use of Facebook, the only search term that was used was ‘Facebook’. This search yielded 222 results. These results were further narrowed through elimination of duplicate items and items that involved the use of other technologies besides Facebook. At the conclusion of this process, there were 88 items still under consideration for inclusion in the Facebook Use Supplement.

In order to further distill the number of items, a list of all possible ways that individuals can interact with the Facebook platform was created based on the list available at <https://www.facebook.com/help/> when accessed on September 13, 2013 and February 15, 2014. Specific activities related to Facebook use were grouped into four categories of use: viewing, interacting, participation/management and engagement. ‘Viewing’ involved passive use of the site through reading updates of connections, searching for other Facebook users, and viewing photos. A list of Facebook features and activities that were classified as ‘viewing’ are listed and explained in Table 2.

Table 2

Explanation of Facebook Elements & Features Classified as ‘Viewing’

Element	Explanation
Follow	A method to track other users’ activities and updates even if they are not connected as friends; May be used to receive updates from celebrities, politicians, and other influential people
News Feed	A continuously updated list of Facebook activity by Friends and other profiles that the user has selected to ‘follow’
Notifications	Updates about activity on Facebook that are sent to e-mail, profile page , or mobile device
Photos	Viewing photos posted by others; ‘tagging’ allows users to link photos to other Facebook users as well as the ability to search for and view photos of other users drawn from multiple contexts
Search	A powerful tool used to find people and content on Facebook
Social plugins	Tools that track and broadcast activity that occurs off Facebook (Like Button, Share Button, Comment Boxes, etc.)

‘Interacting’ involved communication with others but required little actual effort on the part of the user. The primary Facebook activities that were classified within this area included liking, tagging, and poking. With the exception of ‘poking’, all of these activities are public in nature; meaning they are visible to other users. Table 3 lists and explains the features and activities that were categorized as ‘interacting’.

Table 3

Explanation of Facebook Elements & Features Classified as 'Interacting'

Element	Explanation
Chat	An instantaneous communication method that is similar to texting
Liking	Clicking 'Like' is a way to give feedback and affiliate oneself with web content
Locations	Allows users to broadcast the place that they are posting from
Poking	Allows users to send a notification to friends and friends of friends
Tagging	A method to link specific users' profiles to photos, places they visit, and others in their network

The third category of Facebook use that was developed was referred to as 'participation/management'. Participation/management involves activities and tools that are related to editing one's personal profile page or other content, and uploading content such as photos or other media. Commenting on information or content that was posted by another user is also considered under this category as it requires somewhat more effort than those activities that can be considered within the 'interactive category'. Table 4 outlines and defines the specific activities and features that were categorized as 'participation and management'.

Table 4

Explanation of Facebook Elements & Features Classified as 'Participation/Management'

Element	Explanation
Activity Log	A list of all activity on Facebook since joining, it is only visible to individual user through their personal home page
Profile/Timeline	A Facebook user's online virtual representation of themselves; typically includes a cover photo, basic information, status, photos, friends, and public Facebook activity
Groups	Groups are private spaces where members can communicate and share content such as documents and photos
Status Updates	A tool to broadcast details about relationships, moods, and activities
Profile Picture	Main personal photo that is displayed on Timeline; appears next to any public activity on Facebook
Event	Allows users the abilities to plan, broadcast and organize gatherings
Tag Review	A privacy setting that allows users to approve or reject tags that are added to their posts
Privacy Settings	Allow users to limit or filter the audience that is able to view their Facebook content and updates
Photos	Photos is a feature that lets you share images and tag the people in them
Lists	Lists are an optional way to organize your friends and interests; Friend lists can provide users with the ability to filter the audience that receives notifications of certain types of activity
Wall	Space on main profile page that allows users and their friends to post messages and share content.

The fourth category of that was created to organize the manner in which participants use Facebook was referred to as 'engagement' and pertains to the level of perceived importance of Facebook and seeks to measure participants' perceptions regarding how and when they tend to access the site; particularly while participating in other tasks. In addition, the engagement category attempts to gain insight into participants' overall regard for Facebook, their connections on the site, and Facebook's relevance to their overall college experience.

The list of 88 potential survey items were then analyzed by the researcher within this context. Items were classified into one of the three categories and were reviewed in relation to the stated research questions. Items that were deemed incapable of providing insight into specific types and patterns of Facebook use were eliminated from further consideration. This process yielded a total of eighteen potential survey items to which four additional survey questions were added to measure participants' frequency and duration of Facebook use. The questions were then re-phrased to align with the four-point response format that is used by the GSE (0 = Not at all true, 1 = Hardly true, 2 = Moderately true, 3 = Exactly true).

Content and construct validity. Construct validity was established for the FICAS by conducting a pilot test followed by an expert panel review. Edits and minor revisions were completed following both the pilot test and the expert panel review.

The pilot test was performed on a small sample of undergraduate students enrolled at a college located in close proximity to the target institution. The survey was distributed and administered through the Qualtrics Survey software and consisted of (a) the consent form, (b) the first draft of the FICAS, and (c) a series of open-ended and multiple choice questions designed to inform the researcher about the suitability of the defined categories, language, phrasing, or any other obvious issues with the presentation of the survey. Thirty-six participants fully completed the pilot test of FICAS, one hundred percent of whom reported regularly using Facebook. The open-ended questions that participants were asked to address were:

1. What type of information do you think that this survey is designed to gather?
2. Are all instructions clear? If not, please explain citing specific examples.

3. Is the language and wording used in the survey clear and easily understandable?
4. Please mark any item below that you felt was unclear and briefly explain.
5. Gender
6. Your class standing.
7. Did you experience any other confusion in relation to responding to this survey?

Based on feedback from the pilot test, three survey items were rephrased for clarity. All survey participants indicated correctly that the survey was designed to measure various uses of Facebook.

Following the pilot test, a group of educational professionals were invited to review the survey as expert reviewers. The criteria for selection of the expert panel included a doctoral degree, significant experience working with young adults in either the secondary or higher education environment, and expertise in either survey research, technology use, or student development. Four expert panelists agreed to review the materials and provide feedback. After reviewing the survey, the panelists were asked to evaluate the suitability of each item's placement within its identified subscale and to consider the following questions:

1. In your opinion, do the survey questions assessing Facebook use adequately describe the ways that college students use the site?
2. Are there any other uses of Facebook that were not represented in the survey items?
3. Are there any issues that could affect the survey's reliability?
4. Do you believe that the proposed response scale is appropriate?
5. Do you believe that the proposed method of scoring and analysis is appropriate?

6. Do you have any other comments, concerns, or other feedback?

Specific feedback in relation to the planned Likert-type response scale was noted among two members of the expert panel. This feedback, centering on the nature of the four point Likert response scale, was evaluated and reviewed with the researcher's committee. Since the scale for the FICAS was derived from the established General Self-Efficacy portion of the survey, a concern regarding the impact of scale changes on the reliability and validity of this portion of the survey was explored. Providing two different response scales for the survey, in which the GSE portion of the survey would retain its original four point scale, while the Facebook use questions incorporated an expanded Likert-type format, was also considered. After evaluating these options and discussing them with the researcher's committee, it was decided to continue to utilize a consistent four-point scale throughout the survey. Since survey responses will be treated as ratio-type data, responses were numbered on the survey instrument to emphasize the numerical values associated with each response. Specifically, responses were coded with 0, indicating that the statement was 'not at all true', and the number 3 indicating that the statement was exactly true. No other significant concerns were indicated by the expert panel regarding the validity and reliability of the FICAS.

Interview Protocol

The design of the interview protocol was informed by a series of items that were initially developed by Arthur Chickering and his colleagues at Goddard College in the late 1960s. The questions were created to support the search for evidence of increased autonomy and interdependence among students enrolled at Goddard College over a four-year period (Chickering and Reisser, 1993). The original surveys were intended to

be completed by faculty members for the purpose of evaluating student progress in addressing Chickering's third hypothesized vector, *Autonomy Towards Interdependence*. The three constructs developed to organize responses represent "specific ways to describe development along this vector" (Chickering and Reisser, 1993, p. 119) and are termed venturing, self-sufficiency, and interdependence.

Venturing refers to a student's openness to new challenges and experiences. Individuals who are rated highly in regard to the venturing construct are not dependent on others to meet their emotional needs and tend not to need the approval of others for the choices that they make. College students who were rated highly on the venturing construct are not reliant on parents or others to effectively manage their feelings. They are comfortable with themselves, yet display an openness towards others. Table 4 lists the original questions that pertained to the venturing construct, as well as the interview questions that were developed for this study upon which they were based.

Table 5

Interview Questions Based on the Goddard 'Venturing' Construct

Construct	Goddard Study Items	Interview Questions
Venturing/ Emotional Independence	"To what extend does he seek out new, challenging, or unusual work-term experiences? To what extent is the work term used to engage in new experiences or to test new skills or attitudes?", (p. 119)	3 What are some things that you find Facebook useful for? 6 Has using Facebook opened up any new opportunities for you that you might not otherwise have had? 6a Can you tell me about one?
	"How ready is he to express his own ideas and join the battle? Does he brood and maintain a stoic silence or does he externalize his feelings and ideas?", (p. 119)	7a. Have you (or do you plan to) take(en) any action in support of your feelings on the issue (of local, regional, national, or global concern)? 7b Can you describe how you became or plan to become involved?

Note: Goddard Study Items From Education & Identity (p. 119-121), by A. Chickering and L. Reisser, 1993

Instrumental Autonomy pertains to the ability of individuals to complete activities and achieve goals independently. It implies confidence in one's skills and abilities to manage challenges that may present themselves. Objective thinking and an ability to function appropriately in new settings with minimal support are characteristic of individuals that have well developed instrumental autonomy. Table 5 details the interview questions that were developed that pertain to resourcefulness, organization, and instrumental autonomy, as well as the original items that they were based upon.

Table 6

Interview Questions Based on the Goddard Resourcefulness/Organization Construct

Construct	Goddard Study Items	Interview Questions
Resourcefulness and Organization/ Instrumental Autonomy	“How freely does the student make use of a wide range of resources for learning?”, (p. 120)	4 Do you ever use Facebook for academic purposes? 5 What resources do you typically use here on campus in order to support your learning? 5a What resources do you typically use to support your learning that are off-campus (websites, friends or family that aren't on campus)?
	“How well does he make plans, follow through on them, or modify them consciously and judiciously and then carry through?” (p. 120) “How well does she discover or develop new ways of going at matters of concern to her?”, (p. 120)	7a. Have you (or do you plan to) take(en) any action in support of your feelings on an issue (of local, regional, national, or global concern)? 7b Can you describe how you became or plan to become involved?

Note: Goddard Study Items From Education & Identity (p. 119-121), by A. Chickering and L. Reisser, 1993

Interdependence refers to the student's awareness of their surroundings and their responsibilities to a larger community. Interdependence represents the culmination of this vector and involves a respect for the independence and rights of others. Individuals who exhibit highly developed interdependence understand the responsibilities associated with freedom and are willing to resolve issues with others

through compromise, consensus, and may even sacrifice their own needs for the benefit of the larger community. Table 7 details the interview questions that were developed to assess this construct as well as the original Goddard Study items that inspired them.

Table 7

Interview Questions Based on the Goddard 'Interdependence' Construct

Construct	Goddard Study Items	Interview Questions
Interdependence	"Is the student ready and able to work with others on community affairs such as recreation events, community government, house business and so on?", (p. 121)	7 From a local, regional, national, or global perspective, are there any issues that concern you? 7a. Have you (or do you plan to) take(en) any action in support of your feelings on the issue?
	"Does the student pull together with others well on the work program? To what extent is he conscious of his role in a broader work program context, when such a relationship exists?", (p. 121)	7b Can you describe how you became or plan to become involved?
	"Does she seem to be aware of the relationship between her own behavior and community welfare in general?", (p. 121)	9 Why did you choose to participate in this study?

Note: Goddard Study Items from *Education & Identity* (p. 119-121), by A. Chickering and L. Reisser, 1993

Data Analysis

Analysis of the data generated by this study was performed in two stages. The quantitative survey data was analyzed first, followed by the qualitative interview data. There were multiple stages involved in the analysis of both forms of data.

Survey Data Analysis

The FICAS was administered online to a sample of undergraduate college students enrolled at Eastern University. The survey was designed to explore perceived

levels of general self-efficacy in relation to use of the social networking site, Facebook. The confidential survey was accessed via a link that was embedded within an e-mail that invited participation. The online instrument assessed the participants' perceived levels of self-efficacy as well as the typical ways that participants use Facebook. The results of this assessment were analyzed in four stages.

The first stage involved downloading the raw data that were compiled through the Qualtrics Survey Software Package. In the second stage, the data were uploaded to the Statistical Package for the Social Sciences v. 19 (SPSS) software for analysis. Prior to analysis, the data were checked for accuracy and incomplete survey responses were purged from the dataset. The third stage involved a univariate analysis on each variable in order to get a sense of the variability of responses exhibited on specific survey items (Nardi, 2006). The fourth stage involved parametric analysis of the data in order to gain insights regarding the stated research questions. Statistical procedures, both descriptive and inferential were accomplished using the Statistical Package for the Social Sciences (SPSS) version 19. The results of this analysis are detailed in Chapter 4.

Interview Data Analysis

Each telephone interview was audio recorded and reflective notes (Bogdan & Biklen, 2003) were taken throughout the interview. Upon completion, each interview was transcribed and inductively analyzed (Brinkmann, 2013). The protocol that guided each interview was developed based upon the questions that Chickering and colleagues developed in their search for support for Chickering's third hypothesized vector, *Moving through Autonomy Towards Interdependence*. The interviews were semi-structured and focused on the phenomenological experience of participants as

they related to the areas of inquiry. A separate interview script was utilized for users of Facebook and the single non-user of Facebook. The questions for Facebook users are shown in Appendix F, and the interview questions for interviewees who did not use Facebook are shown in Appendix G. Following the completion of each interview, the recordings were sent to an online service for professional transcription. Analysis of the data gained from interviews was then accomplished in four stages.

The first stage of interview data analysis commenced within forty-eight hours of the conclusion of each interview, a review of both the audio record and the reflective interview field notes was completed. Interview field notes at this stage consisted of reflections on potential themes, reflections on potential issues or conflicts, and reflections on the researcher's frame of mind at the time of the interview (Brinkmann, 2013). During this stage, the reflective notes were supplemented with descriptive details that provided more information regarding the specific context of the interview.

Following the advice of Brinkmann (2013), descriptive notes included information that was obtained through aspects of the conversation with the interviewee that were not part of the defined interview protocol. Examples of the information gained in this manner include the interviewee's age, family situations and living arrangements, academic major, and other demographic details. Factors that may have influenced the participant's responses were also included in the descriptive notes and include details such as: the perceived level of attention that the interviewee devoted to addressing the question, distractions such as phone connection issues, and anything else that may have influenced the interview. In addition, items 1 and 2 were noted and tabulated in order to gain insight into the participants' reported levels of Facebook use.

The second stage involved a review of the completed interview transcripts to ensure the accuracy of the transcription. Once accuracy was confirmed, the researcher further organized the data by moving the transcripts into specific folders according to the breadth and depth of responses as well as the overall quality of the interview (Cresswell, 1998). The organized transcripts were then analyzed from a phenomenological perspective (Brinkmann, 2013, Cresswell, 1998).

The phenomenological approach requires the researcher to identify statements within the interview that provide insight into how the participant experiences the phenomena under study (Cresswell, 1998). As a means to further organize responses across participants, a separate table was created for each interview question, and the participant responses for each item were then copied from the transcript into the appropriate table. This process, referred to as horizontalization (Cresswell, 1998, p. 147) of the data, gives equal weight to all responses for the purpose of creating a list of all unique statements within a particular category.

In order to assist in managing the large quantity of data that were generated through the interview process, responses were then organized for coding in relation to the type of information that was being sought. For example, interview items 3, 4, and 6, which asked participants to specifically consider the perceived usefulness of Facebook for influencing experiences that have been previously found to be related to autonomy development were grouped together for coding. Items 5, 5a, 7, 7a, 7b, 8, 8a, and 8b, which prompted participants to explore and share details relating to autonomy experiences, but did not specifically ask interviewees to consider the role of Facebook in their response, were grouped together in a separate category.

A concept-driven coding method was utilized to develop the coding schemes for the next stage of analysis. Concept-driven coding requires the researcher to create codes in advance of analysis (Brinkmann, 2013). According to Cresswell (1998), the development of a concise list of categories that are based on the existing literature and preliminary findings, and developing brief codes to represent each category, is a useful technique to winnow data to manageable groups. Therefore, assessment of responses on items 3-9 involved three steps.

First, the response was coded for evidence of experiences associated with autonomy development. If evidence of autonomy experiences was noted, the experience was then further reviewed in order to determine whether the experience was indicative of Chickering & Reisser's (1993) concepts of venturing, self-sufficiency, or interdependence, and coded appropriately. Finally, the specific manner in which the subject reported in items 3, 4, and 6, that Facebook influenced the autonomy experience was then evaluated as having a positive, negative, or neutral effect on the experience. Sub-themes that emerged during this stage of analysis were also documented for later review.

These coded responses were then reviewed and reorganized into units of meaning which informed the researcher's development of a textual description of the role that Facebook plays in relation to autonomy experiences (Cresswell, 1998). Similarities and differences were noted and discussed with the researcher's committee in order to guard against observer bias and to gauge validity of the researcher's interpretations as they related to the variables under study. Finally, the units of meaning were organized into a matrix to organize and express the themes identified in the

interview findings. This matrix was then used to assist the researcher in developing a narrative that describes the manner in which Facebook may support or inhibit the development of autonomy among undergraduate college students.

Protection of Human Subjects

This study involved the use of human subjects as participants; therefore it was necessary that precautions be taken to protect them from physical, mental, or social harm. In addition, it was necessary to ensure that all subjects participated in the study through their own free will. All subjects, after being provided with basic information about the study, provided informed consent to participate further in the study. Participants were made aware that they could discontinue their participation in the study or decline certain aspects of the study.

The researcher made intentional efforts to protect participants from undue risks and harm. All information and data collected from participants throughout the study were held confidentially in a secure, password-protected location. In addition, access to the names and other identifying information of participants was restricted to the researcher and committee.

Research Method Limitations

There are a number of limitations related to the use of this study design that must be taken into account. First, while attempts were made to ensure the recruitment of a representative sample from the target institution, caution must be utilized when attempting to generalize the findings of this study to other groups of college students. The second limitation of this study design is the rapidly evolving nature of social networking technologies and Facebook. New features are often offered by the

administrators of Facebook while others are discontinued. It is likely that certain features and uses of Facebook may be enhanced, modified, or discontinued with little previous notice. While attempts were specifically made to ensure that the specific ways in which students use Facebook were broadly defined as specific participant behaviors, it is possible that changes to the Facebook platform in the future may limit the generalizability of these findings.

A third limitation involves the use of self-reported methods of data collection. Candid responses designed to examine the construct of autonomy development as well as Facebook use are both prone to be influenced by factors associated with social desirability. Previous research has indicated inaccuracies of self-reported data when investigating Facebook in particular, however problems associated with the design of studies exploring Facebook use, as noted within the Literature Review of this dissertation, limit the possibilities of using another method of data collection. Self-reported data in relation to levels of psychosocial development and Facebook use continue to be considered valid methods of data collection.

Summary

This chapter provides an overview of the procedures that were followed in the execution of the present study investigating the relationship between self-efficacy, construct of autonomy development, and various measures of Facebook use. A sample of almost 300 participants were self-selected to participate in the study after an invitation was sent to the entire full-time undergraduate population at Eastern University, a mid-sized university located in Eastern Pennsylvania. Participants were requested to complete the Facebook Influence on Coping and Adaptation Scale (FICAS) online

survey instrument consisting of the General Self-Efficacy Scale and Facebook Use Supplement. Descriptive and inferential statistical procedures were used to analyze the data set. An interview protocol was developed to inform the interview portion of the study and slightly more than one hundred participants who completed the survey indicated their willingness to participate in an interview. All participants in the survey portion of the study who indicated their willingness to be interviewed were given an opportunity to schedule an interview. Interviews were completed with twenty participants. Qualitative interview data were analyzed and results were compared to the results from the quantitative phase of the study. Chapter 4 will discuss the analysis and results of the research procedures.

CHAPTER 4

RESULTS

This study examined the relationship between college students' development of autonomy and their Facebook use. Quantitative data generated by the online administration of the Facebook Influence on Coping and Adaptation Scale (FICAS) to assess participants' use of Facebook and their feelings of general self-efficacy, which is a construct highly aligned with autonomy development. Following the quantitative data collection, semi-structured interviews were conducted with twenty volunteers who had completed the FICAS during the quantitative phase of the study. The semi-structured interviews sought to gather additional details regarding the participants' development of autonomy in relation to their use of Facebook. The study's participants consisted of full time undergraduate college students enrolled at a medium-sized, public university, referred to as Eastern University. The theoretical framework for the study is based on Chickering and Reisser's (1993) model of college student psychosocial development, which posits that college students undergo seven vectors of psychosocial development during the college years.

Quantitative data for this study originated from an instrument made up of the General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995), plus a series of questions developed by the researcher to gain insight into the manner in which participants use the online social networking site, Facebook. These questions explored the frequency that participants checked Facebook, the length of time they spend on the site, as well as the specific activities and behaviors in which they engage while on the site. In order to

collect basic descriptive details about the sample, participants were also asked to indicate their sexual identity and approximate number of college credits.

Qualitative data were collected through informal telephone interviews conducted with a subset of participants who completed the survey and stated their willingness to be interviewed. The interview questions were developed to explore what role, if any, that Facebook plays in relation to the subject's viewpoints and recent experiences. Interview questions were created to gain specific insight regarding the activities and behaviors that have previously been associated with the development of autonomy. Questions were based on three categories of perceptions and behaviors: venturing/emotional independence, resourcefulness/organization, and interdependence with others. These categories were defined by Chickering and others during a series of research studies conducted in the 1960s at Goddard College (Chickering and Reisser, 1993). Following analysis, qualitative results were compared to quantitative findings. The results of both quantitative and qualitative analysis are discussed and compared in this chapter.

Quantitative Results

Data for this study were collected using both quantitative and qualitative methods. The primary instrument for gathering quantitative data was the Facebook Influence on Coping and Adaptation Scale (FICAS) which was developed by the researcher to specifically address research questions one and two of this study. It is comprised of the 10 - item General Self Efficacy Scale (GSE) (Schwarzer & Jerusalem, 1995) and 22 questions that gather information regarding the frequency, duration, and specific activities associated with Facebook use. The GSE was created by Schwarzer &

Jerusalem (1995) as a measure of predicting and assessing an individual's perceived level of coping and resilience. It has been utilized internationally as an individual, self-reported assessment of functioning, as well as a component of other scales that were developed for a myriad of purposes (Luszczynska, Guttierrez-Dona, & Schwarzer, 2005). It is considered a valid and reliable measure of perceptions regarding the ability to successfully address life challenges (Scholz, Gutierrez-Dona, Sud, & Schwarzer, 2002).

In addition to the GSE's 10 items, participants were asked to respond to 22 questions that sought to gather their perceptions regarding their use of the social networking site, Facebook. These questions were based on a review of questions located in a publicly available bank of survey questions previously utilized by the Pew Internet and American Life Project. These questions were refined and compared to the list of features and activities available on Facebook as of February, 2014. The questions were then modified to match the response scale associated with the GSE. The validity for these items, and the FICAS as a whole, was established through a pilot test and expert panel review.

In addition to the survey items relating to perceived Facebook use and general self-efficacy, specific questions were developed to provide demographic information, their acceptance of informed consent, and an inquiry into their willingness to participate in the qualitative portion of the study. Demographic details consisted of the participant's sexual identity and approximate number of college credits they have earned. Informed consent required participants to indicate through a yes or no question, their acceptance of the terms of participation in the study and provide their signature. In order to

volunteer to participate in the next phase of the study, participants were asked to provide a preferred method of contact.

Upon completion of the pilot test and expert panel review, the completed FICAS survey was prepared for distribution (Appendix I). The survey items were entered into Qualtrics online survey software, which was then used to distribute and administer the survey to the population of all full-time undergraduate students enrolled in the spring 2015 semester at Eastern University (N = 5,651). Students who did not complete the survey were sent a follow-up email reminder after approximately two weeks and the survey was closed to participation after approximately four weeks. Once the survey was closed, responses were downloaded from Qualtrics to a csv file in Excel software. Informed consent and other identifying information were then removed from the dataset of survey responses. Incomplete and non-consented responses were also removed from the dataset at this point. The dataset was then uploaded to SPSS software (ver. 19) for final analysis.

Description of Survey Participants

A total of 485 individuals opened the email and 311 began the survey. Twenty-two of the respondents did not provide informed consent to participate in the study and were removed from the dataset. In addition, data from 11 surveys were removed due to a high number of unanswered items. The response rate was 64% (N = 311) for the survey portion of the study. The largest group of participants (40%) completed more than 91 college credits. The second largest group of participants indicated that they had earned between 61 and 90 credits (24%). The third largest group of participants reported completing between 31 and 60 credits (20%), and students who stated that

they had 30 or fewer college credits comprised the smallest group of participants, accounting for 17% of the participants. The majority of participants were female (71%), and one participant responded as ‘other’. Table 8 summarizes the sexual identity of the participants in relation to their approximate number of college credits completed.

Table 8

Sexual Identity and Approximate Number of College Credits of Survey Respondents

Approximate Number of Credits Completed	Male		Female		Other		Total	
30 or less	14	18%	33	17%	0	0%	47	17%
Between 31 and 60	15	20%	40	20%	0	0%	55	20%
Between 61 and 90	13	17%	52	27%	0	0%	65	24%
91 or more	35	46%	71	36%	1	100%	107	39%
Total	77	100%	196	100%	1	100%	274	100%

Quantitative Research Questions, Analysis, and Results

Data were analyzed using Statistical Package for the Social Sciences (SPSS) version 19 in order to test the following research hypothesis:

1. The self-reported patterns of activity on the Social Networking Site, Facebook as measured by the Viewing, Interaction, and Participation/Management Dimension subscale index scores of the FICAS will explain a significant portion of the variability found in the General Self-Efficacy Scale (GSE) subscale index scores on the FICAS.

2. The perceived level of importance of the Social Networking Site, Facebook, as measured by the Frequency, Duration, and Engagement Dimension Subscale index scores of the FICAS will explain a significant portion of the variability found in the General Self-Efficacy Scale (GSE) subscale index scores on the FICAS.

Table 9 provides a summary of the quantitative research questions guiding this study, the data that were collected, and the method of analysis.

Table 9

Methodology Utilized to Address First and Second Research Questions

Research Question	Data Collected	Analysis & Results
1. Are the self-reported patterns of activity on Facebook as measured by the Viewing, Interacting, and Participation/ Management subscale scores predictive of perceived general self-efficacy as measured by the General Self-Efficacy subscale score of the Facebook Influence on Coping and Adaptation Scale (FICAS)?	General Self-Efficacy Subscale Survey Items 22 - 31 Viewing Subscale Survey Items 5, 20, & 21 Interacting Subscale Survey Items 14 & 15 Participation/ Management Subscale Survey Items 8 - 13	Descriptive data Pearson Correlation Estimates of Variance Hypothesis not supported
2. Is the perceived level of importance of Facebook, as measured by the Frequency, Duration, and Engagement subscale scores predictive of perceived general self-efficacy as measured by the General Self-Efficacy subscale score of the Facebook Influence on Coping and Adaptation Scale (FICAS)?	General Self-Efficacy Subscale Survey Items 22 - 31 Frequency Subscale Survey Items 1 & 2 Duration Subscale Survey Items 3 & 4 Engagement Subscale Survey Items 16-19	Descriptive data Pearson Correlation Estimates of Variance Hypothesis not supported

Research Question 1: Are the self-reported patterns of activity on Facebook as measured by the Viewing, Interacting, and Participation/Management subscale scores predictive of perceived general self-efficacy as measured by the General

Self-Efficacy subscale score of the Facebook Influence on Coping and Adaptation Scale (FICAS)?

Data pertaining to Research Question 1 were descriptively analyzed in order to assess the accuracy of the data and to ensure that the necessary elements exist to allow for the use of parametric testing. Table 10 presents the findings of this analysis.

Table 10

Descriptive Analysis of Subscale Variables for Research Question 1

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Mean of items 5, 20, 21 (Viewing)	251	.00	3.00	1.5724	.78441	-.172	.154	-.672	.306
Mean of items 14, 15 (Interacting)	250	.00	3.00	1.3560	.76262	.030	.154	-.661	.307
Mean of items 8, 9, 10, 11, 12, 13 (Participation/Management)	251	.00	2.50	.7105	.55711	.723	.154	.042	.306
Mean of items 22-31 (General Self-Efficacy)	277	.80	3.00	2.2454	.43509	-.547	.146	.399	.292
Valid N (listwise)	250								

Pearson r coefficients were calculated to determine if the patterns of activity and general self-efficacy subscales of the FICAS were related. The activity subscales measure the type of activities that subjects participated in while on Facebook, and the general self-efficacy scale measures the feelings of confidence subjects have in relation to dealing with challenges. The analysis revealed no significant relationship, $r(250) = -.050$, $p > .001$ between the general self-efficacy subscale and the viewing subscale, no significant relationship $r(250) = .057$, $p > .001$ between the general self-efficacy subscale

and the interacting subscale, and no significant relationship $r(250) = -.018, p > .001$ between the general self-efficacy subscale and the participation/management subscale (Table 11).

Table 11

Correlations for General Self-Efficacy, Viewing, Interacting, and Participation/Management Subscale Scores

		Mean GSE Score	Mean Viewing Score	Mean Interacting Score	Mean P/ M Score
Mean GSE Score	Pearson	1.00	-.050	.057	-.018
	Sig. (1-tailed)	.	.215	.186	.390
	N	250	250	250	250
Mean Viewing Score	Pearson	-.050	1.00	.248	.079
	Sig. (1-tailed)	.215	.	.000	.106
	N	250	250	250	250
Mean Interacting Score	Pearson	.057	.248	1.00	.616
	Sig. (1-tailed)	.186	.000	.	.000
	N	250	250	250	250
Mean P/M Score	Pearson Correlation	-.018	.079	.616	1.00
	Sig. (1-tailed)	.390	.106	.000	.
	N	250	250	250	250

Further analysis was conducted to describe the contribution of the patterns of activity subscale scores to the total variance found in the general self-efficacy subscale score. This analysis, as shown in Table 12, revealed that none of the subscale scores that comprise the patterns of activity variables, significantly contribute to general self-

efficacy based on the minimal calculated variance ($R^2 = .013$) with an $F(3,246) = 1.08$, $p = .36$. Therefore, GSE scores cannot adequately be predicted based on the patterns of activity on Facebook.

Table 12

Regression Analysis between General Self-Efficacy and Patterns of Activity Variables

Variable	<i>B</i>	SE	β	<i>t</i> -Score
Constant	2.25	.07	.	31.01***
Viewing	-0.04	.04	-.08	1.15
Interacting	0.08	.05	.13	1.61
Participation/Management	-0.07	.06	-.09	1.16

Note. $F_{(3,246)} = 1.08$, $p = .36$. $R^2 = .013$. Viewing = 1.57; Interacting = 1.36; Participation/Management = .71
 *** $p < .001$.

Summary of Research Question 1 Results

Statistical analysis was performed to address the research question: ‘Are the self-reported patterns of activity on Facebook as measured by the Viewing, Interacting, and Participation/Management subscale scores predictive of perceived general self-efficacy as measured by the General Self-Efficacy subscale score of the Facebook Influence on Coping and Adaptation Scale (FICAS)?’ The first step of analysis involved descriptive analysis of the data to ensure that the necessary assumptions regarding the shape of the data were suitable for parametric analysis (Table 10). Once the data were deemed accurate and appropriate for analysis, a multiple regression model was created to evaluate the proportion of total variability in GSE scores that are predicted by the FICAS sub-scale variables that describe patterns of activity on Facebook. The model demonstrated that 1.3% of the variability in GSE is explained by the patterns of activity variables, thereby rendering the model incapable of providing any meaningful insight in

relation to the role that specific patterns of activity have on general self-efficacy (Table 12). Pearson r coefficients were calculated to assess each variable's relationship with GSE. There were no significant relationships identified between GSE and the viewing, interacting, or participation/management subscales of the FICAS (Table 11).

Research Question 2: Is the perceived level of importance of Facebook, as measured by the Frequency, Duration, and Engagement subscale scores predictive of perceived general self-efficacy as measured by the General Self-Efficacy subscale score of the Facebook Influence on Coping and Adaptation Scale (FICAS)?

Data pertaining to the Research Question 2 were also descriptively analyzed in order to assess the accuracy of the data and to again ensure that the necessary elements exist to allow for the use of parametric testing. It was found that the data met the necessary prerequisites to undergo further parametric testing (Table 13).

Table 13

Descriptive Analysis of Subscale Variables for Research Question 2

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Mean of Items 1, 2 (Frequency)	277	.00	6.00	2.3773	1.30054	.564	.146	.897	.292
Mean of Items 3, 4 (Duration)	250	.00	3.00	1.1200	.82603	.226	.154	-.942	.307
Mean of items 16, 17, 18, 19, 6, 7 (Engagement)	251	.00	2.67	1.2048	.58507	.033	.154	-.656	.306
Mean of items 22-31 (General Self-Efficacy)	277	.80	3.00	2.2454	.43509	-.547	.146	.399	.292
Valid N (listwise)	250								

Pearson r coefficients were again calculated on the variables of interest in order to determine if the importance of Facebook subscales and general self-efficacy subscales of the FICAS were related. The importance of Facebook subscales measure the frequency, duration, and level of engagement with Facebook. As in the first research question, the general self-efficacy scale measures the feelings of confidence subjects have in relation to dealing with challenges. The analysis revealed no significant relationship, $r(250) = .02$, $p > .001$ between the general self-efficacy subscale and the frequency subscale, no significant relationship $r(250) = -.01$, $p > .001$ between the general self-efficacy subscale and the duration subscale, and no significant relationship $r(250) = -.03$, $p > .001$ between the general self-efficacy subscale and the engagement subscale (Table 14).

Table 14

Correlations for General Self-Efficacy, Frequency, Duration, and Engagement Scores

		Mean	Mean	Mean	Mean
		GSE	Frequency	Duration	Engagement
		Score	Score	Score	Score
Mean GSE Score	Pearson	1.00	.02	-.01	-.03
	Sig. (1-tailed)	.	.41	.45	.31
	N	250	250	250	250
Mean Frequency Score	Pearson	.02	1.00	.58	.61
	Sig. (1-tailed)	.41	.	.00	.00
	N	250	250	250	250
Mean Duration Score	Pearson	-.01	.58	1.00	.55
	Sig. (1-tailed)	.45	.00	.	.00
	N	250	250	250	250
Mean Engagement	Pearson	-.03	.61	.55	1.00
	Sig. (1-tailed)	.31	.00	.00	.
	N	250	250	250	250

An analysis was conducted to assess the contribution of the Facebook importance subscale scores to the total variance found in the general self-efficacy subscale score. Table 15 displays the results of this analysis which revealed that none of the subscale scores making up the Facebook importance variables significantly contribute to general self-efficacy scores based on the minimal calculated variance ($R^2 = .003$) with an $F(3,246) = .229$, $p = .88$.

Table 15

*Regression Analysis between General Self-Efficacy and Facebook Importance**Variables*

Variable	<i>B</i>	SE	β	<i>t</i> -Score
Constant	2.24	.07	.	30.68***
Frequency	.026	.041	.06	.65
Duration	-.003	.043	-.01	-.067
Engagement	-.05	.063	-.06	-.73

Note. $F_{(3,246)} = .229$, $p = .88$. $R^2 = .003$. Frequency = .41; Duration = .45; Engagement = .31, *** $p < .001$.

Summary of Research Question 2 Results

The nature of research question 2, 'Are the self-reported patterns of activity on Facebook as measured by the Viewing, Interacting, and Participation/Management subscale scores predictive of perceived general self-efficacy as measured by the General Self-Efficacy subscale score of the Facebook Influence on Coping and Adaptation Scale (FICAS)?', allowed for a similar analysis strategy as was utilized to address research question 1. Again, the first step involved descriptive analysis of the data to ensure suitability for parametric analysis (Table 13). Once the data were deemed accurate and appropriate for analysis, a multiple regression model was again created to evaluate the proportion of total variability in GSE scores that are predicted by the FICAS sub-scale variables that describe the importance of Facebook. The model demonstrated that 0.3% of the variability in GSE is explained by the importance of Facebook, thereby rendering the model incapable of providing any meaningful insight in relation to the role that specific patterns of activity have on general self-efficacy (Table 15). Pearson r coefficients were analyzed to assess the relationship of the Facebook

importance variables with GSE. There were no significant relationships identified between GSE and the frequency, duration, and engagement subscales of the FICAS (Table 14).

Summary of Survey Results

Quantitative data were gathered through the Facebook Influence on Coping and Adaptation Scale (FICAS) to address the first two research questions of this study. The first step of analysis involved calculating the means for each subscale of the FICAS, then performing a descriptive analysis of each subscale to ensure that it met the necessary conditions for parametric analysis. The subscales that pertained to patterns of activity on Facebook were 'viewing', 'interacting', and 'participation/management' subscales. The subscales that pertained to the perceived level of importance of Facebook were the 'frequency', 'duration' and 'engagement' subscales. Pearson r coefficients were calculated for each set of variables and resulted in the finding of no significant relationships between any of the subscales and the general self-efficacy subscale of the FICAS. Multiple regression analysis revealed that none of the subscales could be used to predict the variability in GSE.

Qualitative Results

The researcher conducted interviews with 20 individuals who previously completed the FICAS survey and volunteered to participate in the interview portion of the study. These individuals responded to 9 main questions (8 in the case of the single respondent who did not use Facebook) that explored their perceptions regarding Facebook, as well as their experiences associated with autonomy development. This information compliments and further explains the results from the quantitative portion of

the study and was collected to address Research Question 3: In what ways is Facebook use related to college student experiences that are associated with Chickering and Reisser's (1993) third vector of development, *Autonomy Towards Interdependence*?

Interview data were also used to address the following qualitative sub-questions:

- Sub-question 3a: In what ways is Facebook use related to college student experiences that are aligned with 'venturing', a dimension of Chickering and Reisser's (1993) third vector of college student development?
- Sub-question 3b: In what ways is Facebook use related to college student experiences that are aligned with the development of 'instrumental autonomy', a dimension of Chickering and Reisser's (1993) third vector of college student development?
- Sub-question 3c: In what ways is Facebook use related to college student experiences that are aligned with the development of Interdependence, a dimension of Chickering and Reisser's (1993) third vector of college student development?

Interview questions were based on identifying experiences among interviewees that Chickering and Reisser (1993) indicate are suggestive of development along this vector. The questions were aligned with the three constructs that Chickering and Reisser (1993) use to identify and describe behavior along this vector. The first construct, 'venturing' describes experiences that require increased levels of self-sufficiency and emotional stability. The second, 'instrumental autonomy' refers to experiences that require thoughtful planning on the part of a participant as well as an ability to make and adjust plans with new approaches to accomplish objectives. The

third construct, 'interdependence' involves experiences in which the interviewee worked for the common good or indicated an understanding of their place in the larger community. There were also five questions that asked interviewees to consider the specific role that Facebook has on autonomy experiences that are aligned with these constructs.

As noted in the Table 16, some questions were aligned with more than one construct. This indicates that these items were intended to identify autonomy-related experiences in various domains. Interview items 3, 4, and 6 specifically asked participants to consider their Facebook use in relation to their response, while items 5, 5a, 7, 7a, 7b, 8, 8a, and 8b were designed to gain insight regarding participants' autonomy experiences, but did not ask them to directly consider the role that Facebook plays in these experiences. Regardless, the role of Facebook was coded according to whether it had a positive, negative, or negligible effect on the experience. Table 16 provides an overview of the survey questions and the construct with which they are aligned.

Table 16

Survey Item Construct Alignment and Concept-Driven Codes

Construct	Survey Questions	Concept-Driven Codes
Venturing	3, 6, 6a, 7a, 7b	Autonomy (AU) +, -, =
Instrumental Autonomy	4, 5, 5a, 7a, 7b, 8a, & 8b	Venturing (V) +, -, =
Interdependence	7, 7a, 7b, & 9	Interdependence (I) +, -, =
		Facebook (FB) +, -, =

Description of Interview Participants

The interviewees indicated their willingness to participate in the qualitative phase of the survey upon their completion of the FICAS survey instrument. Out of the 97 survey participants who initially volunteered to be interviewed, 26 scheduled a recorded phone call with the researcher. There were 7 volunteers who did not answer the phone call at the appointed time and failed to respond to attempts to reschedule. Interviews were completed with 20 participants. The interview protocols are contained in Appendices 5 and 6.

There were four times as many female interviewees ($n = 16$) than male ($n = 4$). Three of the interviewees were considered non-traditional students, and two of these nontraditional students take most of their classes at an off-campus satellite site. Almost half of the interviewees ($n = 8$) reported completing 91 or more college credits. Table 17 shows the breakdown of number of credits in relation to sexual identity.

Table 17

Sexual Identity and Approximate Number of College Credits of Interviewees

Approximate Number of Credits Completed	Male		Female		Total	
30 or less	1	25%	2	13%	3	17%
Between 31 and 60	0	0%	4	25%	4	20%
Between 61 and 90	0	0%	5	31%	5	24%
91 or more	3	75%	5	31%	8	39%
Total	4	100%	16	100%	20	100%

Out of the twenty interviewees, nineteen reported that they use Facebook to varying degrees. The single non-user reported that she never has used the site. A majority of the respondents reported that they consider themselves to be moderate users of Facebook (n=10), while five participants reported that they consider themselves to be heavy users. There were three participants that considered their use of Facebook to be light, and one participant did not directly address the question.

Qualitative Research Questions, Analysis, and Results

Qualitative data consisted of the transcripts from the interviews, as well as the descriptive and reflective notes that were taken during the interview. Transcripts were analyzed in four steps that involved ensuring the accuracy of the interview transcripts, organizing the transcribed information, coding the transcribed statements and reorganization into units of meaning (Cresswell, 1998). Figure 2 demonstrates the method that was utilized to analyze interview data.

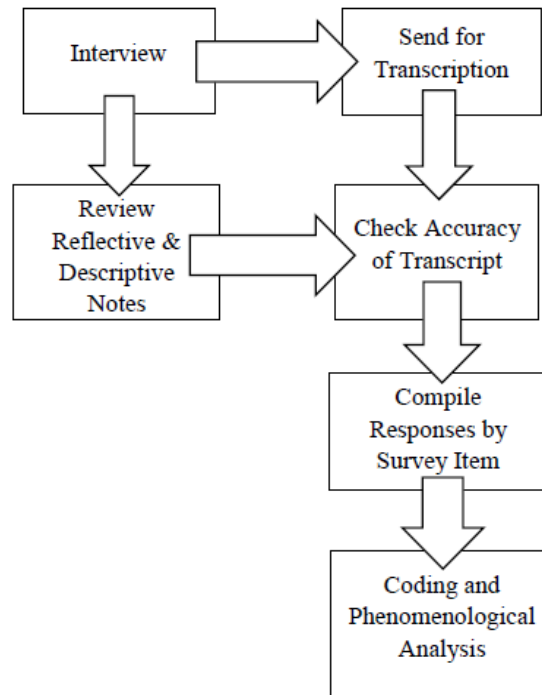


Figure 2. Qualitative Data Analysis Process. The steps of analysis for the interview data.

Sub-question 3a: In what ways is Facebook use related to college student experiences that are aligned with ‘venturing’, a dimension of Chickering and Reisser’s (1993) third vector of college student development?

The construct of venturing implies self-sufficiency and independence. Venturing experiences involve participant’s willingness to explore new things and feel secure in their ability to maintain their personal emotional needs. The specific survey items that were identified to address this question are outlined in Table 18. The responses for each survey question were compiled into a table through a process of horizontalization (Cresswell, 1998), and each response was coded utilizing the pre-determined concept-driven coding schemes that are outlined in Table 16. Secondary codes were developed based on any identified themes and noted where appropriate.

Table 18

Questions Designed to Explore Experiences Involving the Venturing Construct

Item #	Specific Question
3	What are some things that you find Facebook useful for?
6	Has using Facebook opened up any new opportunities for you that you might not otherwise have had?
7, 7a, 7b	From a local, regional, national, or global perspective, are there any issues that concern you? Have you, or do you plan to take any action in support of your feelings on the issue? Can you describe how you became involved?

Interview question 3 yielded three statements that were indicative of the concept of venturing. Venturing pertains to an individual's self-sufficiency and propensity to take on new challenges and experiences that are personally defined and independently executed. Responses to interview question 3 that were coded as having high rankings on this construct, involved statements regarding an interviewee's plan to utilize Facebook for her business, another's use of Facebook as part of the tasks associated with her internship managing the social media presence of a major professional sporting event, while the third involved using Facebook to support her as she recovered from an eating disorder.

Interview question 6, which asked participants to consider the opportunities presented by Facebook, generated five statements that were coded as suggestive of the venturing construct. This was the only question that was specifically designed to gather responses that are aligned with the venturing construct only. The content of these statements described ways that interviewees used Facebook to advance serious hobbies, receive emotional support, engage in unique volunteer work, and advance

their career. One of these interviewees reported that she was able to track down and interview a number of dancers that performed with the singer Michael Jackson for a weekly online interview show that she produces, while another reported that the support she found on Facebook from her connections allowed her to gain the confidence to return to the university on a full-time basis.

Interview questions 7, 7a, & 7b asked participants whether there were any specific local, regional, national or global issues that were of particular concern to them and whether they have taken, or plan to take, any action in support of their feelings on the matter. It is important to note that this particular item did not specifically ask interviewees to address whether Facebook influenced the experiences that they described, however seven respondents specifically noted Facebook's impact on their feelings regarding the issue of concern. This interview item resulted in three statements that were considered indicative of the construct of venturing, four statements that were coded as involving the venturing construct, but not necessarily advancing it, and two statements that were viewed as detracting from the interviewee's ability to participate in experiences aligned with the venturing construct.

Statements that were considered advancing the construct of venturing included beginning an initiative to register students to vote, planning to pursue a law degree for a stronger voice on issues involving educational reform, and attending a rally to restore the fourth amendment to the constitution. Responses that were coded as maintaining the venturing construct included statements that implied a concern beyond the individual but only described minimal action on the interviewee's part to support their feelings on the matter. These statements included such experiences as signing an

online petition and posting a message of support for a controversial issue on their Facebook account. These types of statements were common in this domain, however in cases that were coded as aligning with development of autonomy through the construct of venturing, this type of activity was a pre-cursor to more significant action on the issue. The statements that were evaluated as inhibiting a participant's ability to engage in venturing involved concerns over sharing their feelings on an issue in public and particularly on Facebook. In one of these cases, although the interviewee held strong opinions on a number of national and global issues, the reluctance to get involved was based on the fear of scrutiny impacting her custody of her children.

The influence of Facebook was identified in seven coded responses to interview item 7. The majority of these responses were coded as having a negative impact on the venturing construct due to the manner in which Facebook tends to inhibit behavior based on the perception of scrutiny by others. One participant specifically mentioned that the overwhelming flow of causes and issues that are promoted on Facebook make her confused over what types of issues would benefit from her involvement. This type of statement was common throughout all interviews and was therefore assigned a secondary code to assess its prevalence. This code 'Everyone has an Opinion', was designed to categorize statements that were clustered around the common theme that emerged throughout the interviews of the idea that there exists so much conflicting and biased information on Facebook that it becomes impossible to gauge the accuracy of such statements. This seems to have resulted in interviewees reporting that they no longer pay attention to many of these issues and actively avoid Facebook connections that consistently produce this type of content.

Ironically, the construct of venturing was more evident in responses to other interview questions that were not specifically designed to elicit this type of information. Most notable were six statements in response to interview questions 8, 8a, and 8b which asked participants to recall a recent stressful experience and describe how it was resolved. Statements that were coded as suggestive of venturing experiences involved seeking out new avenues to conduct research in support of a thesis project after the initial plan failed as well as a willingness to move to any part of the country in order to find an entry level position that they felt was essential to making their career plan work. One particular statement that was coded as aligned with the venturing construct involved a participant's description of their summer job as a camp counselor. This participant did not have experience working with children or in a camp previously, but independently set out to work in this capacity over the summer as a means to enhance their skills. She reported that confidence was necessary in this position and that her confidence came from a willingness to learn from her mistakes.

The other interview item that yielded a high number of venturing coded responses was interview question 9 that asked participants to share their motivations for participating in the study. There were six items that were coded with the construct of venturing and statements primarily articulated an interest in trying something new for the sake of learning, as well as a strong desire to share their experiences in relation to Facebook. There was one participant who sought to make a connection with this researcher based on her own interest in studying Facebook in support of her senior thesis.

Summary of Research Question 3a Results

Research question 3a was developed to assist in exploring the interviewees' experiences that relate to the venturing construct. Venturing is a component of autonomy development and describes an individual's ability to independently pursue opportunities. There were three interview questions and two sub-questions that were designed to assess the construct of venturing. These questions elicited eighteen responses that were assessed to be aligned with the venturing construct. In addition, there were two interview questions and two sub-questions that were not specifically developed to address the venturing construct, yet yielded twelve statements in support of the construct of venturing. Interviewee responses that were indicative of the venturing construct involved experiences such as starting a new business, working in a high stress job, and returning to full time study after an illness. There were also seven statements that seemed to indicate that the interviewee's use of Facebook was detrimental to their pursuit of venturing-related experiences. These findings are discussed further in Chapter 5 of this dissertation.

Sub-question 3b: In what ways is Facebook use related to college student experiences that are aligned with the development of 'instrumental autonomy', a dimension of Chickering and Reisser's (1993) third vector of college student development?

Instrumental autonomy describes statements and experiences that involve an interviewee's appropriate utilization of tools and resources to accomplish their aims regardless of the setting. Experiences that involve planning and carrying out events and activities, coordinating with other diverse people or groups, and require confidence in

one's skills and abilities were coded as indicative of the instrumental autonomy construct (IA+). Interview items 4, 5, 5a, 7a, 7b, 8, 8a, & 8b were specifically designed to elicit descriptions of experiences that would likely involve the construct of instrumental autonomy. The specific text for each of these interview items is detailed in Table 19.

Table 19

Questions Designed to Explore Experiences Involving Instrumental Autonomy

Item #	Specific Question
4	Do you ever use Facebook for Academic Purposes?
5 & 5a	What resources do you typically use here on campus in order to support your learning? What about off-campus resources (websites, friends, or family who are not on campus)?
7a, 7b	Have you, or do you plan to take any action in support of your feelings on the issue? Can you describe how you became involved?
8, 8a, 8b	Can you think about a particularly stressful or challenging situation that you recently experienced and describe it for me? How was the situation addressed or resolved? What resources did you rely on to address this challenge?

Previous research has found that instrumental autonomy is an important aspect of academic success. Therefore, interview question 4 requests that interviewees specifically consider the role of Facebook in relation to their academic pursuits. Responses on this item yielded six responses that were aligned with the construct of instrumental autonomy and provided substantial evidence of students' use of Facebook to assist in academic pursuits. Two of the interviewees shared their experiences using the Facebook groups feature to arrange study groups, while a third reported using the same feature to organize a Co-Curricular club that is related to their major. Another

interviewee reported that he was able to connect with one of his professors through Facebook and that the relationship may present an opportunity for this student to conduct research with the professor. A fourth interviewee discussed using Facebook to gather responses to a research study she was conducting for her senior thesis and a fifth participant currently utilized Facebook to connect with mentors who were already working in her professional field.

Two of the remaining statements discussed their experiences in leading an academic group (honor society and supplemental instruction), and using Facebook to keep members informed of the group's activities. In addition, these two interviewees found Facebook to be helpful in connecting with their counterparts who are on other campuses. One of these interviewees mentioned that a particular connection that was forged in this manner may be helpful to finding potential job prospects.

Despite these statements in support of the use of Facebook for academic pursuits, it is important to note that the majority of participants were not able to readily identify an academic purpose for Facebook. There were seven statements that specifically denied the use of Facebook for academic purposes. The nature of many of these statements seemed to imply a more socially desirable response of denying the academic use of Facebook. In these situations it seemed that many of the participants who denied using Facebook for academic purposes did not consider the potential for academic uses of Facebook and responded using a preconceived notion of acceptable uses of the site.

Interview items 5 and 5a yielded the most coded statements in support of the construct of instrumental autonomy. There were seventeen statements that specifically

mentioned experiences that are indicative of instrumental autonomy. This interview question did not specifically require participants to consider the role of Facebook, however one respondent did mention the role of Facebook in allowing a study group that she was involved in to coordinate meetings. In addition, there were a number of responses that detailed experiences that, while utilizing the available resources to support learning, may be considered excessive need for direction. This statement, “I was in my advisor’s office probably once or twice a week...I was always in the Psych office” along with a follow up in response to question 5a that, “I called my mom like three times a day” appear to indicate a potential lack of ability to manage their own affairs independently. Such management is central to the construct of instrumental autonomy.

The responses that were coded as conducive to the construct of instrumental autonomy mainly consisted of using established campus resources including the library, computer labs, faculty office hours, and tutorial services. Most students reported using websites such as YouTube, Khan Academy, and Google to search for tutorials on complicated concepts or to find general information. Regardless of the specific source for academic support, the majority of participants were able to provide statements regarding the tools and resources that they most commonly utilized to enhance, enrich or better understand their academic pursuits.

In specific relation to the construct of instrumental autonomy, interview questions 7a, and 7b were utilized to gain an understanding of the interviewee’s ability to conceptualize activities and goals and their ability to function effectively in support of such activities and goals. These interview items yielded four statements that were

considered to be aligned with the concept of instrumental autonomy. One of the participants reported that she had acquired so many details about the issue of concern to her that it led her to begin a career path that she might not have otherwise been prepared to work within. Another interviewee shared his understanding of a complex issue and was able to provide significant details regarding the various stake-holders involved in the issue as well as their positions on the matter. The two remaining statements that were coded as being aligned with instrumental autonomy provided details regarding trips that they planned to either learn more about the issue or specifically address the issue. Overall, this interview item did not yield significant evidence to support the majority of the interviewee's engagement with instrumental autonomy.

The final interview questions that were utilized to gain insight regarding participant's level of instrumental autonomy (questions 8, 8a, & 8b) asked participants to describe a challenging situation and how it was addressed. This question was designed specifically to gain insight regarding participants' experiences regarding instrumental autonomy and was not systematically applied to any other research question.

Interview questions 8, 8a, and 8b generated twelve statements that were related to the construct of instrumental autonomy. In all cases, interviewees were responding to the specific ways in which they addressed a stressful or challenging experience. Statements were coded as indicative of the construct of instrumental autonomy if, from an evaluation of their statement, they named specific resources that they used to address the issue effectively, developed an alternate way of looking at the problem or

displayed evidence of objective thinking and an overall ability to still function effectively despite the stress that they were experiencing.

Summary of Research Question 3b Results

Statements coded as aligned with the construct of instrumental autonomy were the most prevalent in the study. Instrumental autonomy refers to an individual's ability to gather relevant information and access needed resources to accomplish a task or achieve a goal. There were three main interview questions and five sub-questions that were designed to assess the interviewees' experiences in relation to instrumental autonomy. These interview questions yielded thirty-nine statements that were coded as aligned with instrumental autonomy. These statements generally revealed that Facebook was beneficial to the construct of instrumental autonomy as it provided relatively easy access to information and was viewed as a convenient tool for coordinating with others. The correlation between Facebook use and social capital that was identified by a myriad of other researchers appears to be the primary reason for this observation. Overall, participants exhibited a high level of instrumental autonomy regardless of whether Facebook was involved as evidence by their ability to name both on campus and off campus resources that they utilize for academic support and enrichment.

Sub-question 3c: In what ways is Facebook use related to college student experiences that are aligned with the development of Interdependence, a dimension of Chickering and Reisser's (1993) third vector of college student development?

The construct of interdependence relates to a student's place within a larger community and includes an awareness of their responsibilities towards other members of the community. Interdependence is evident in experiences that detail an ability to resolve issues through compromise and consensus. Two specific interview questions, and two sub-questions were developed to identify experiences that are indicative of the construct of interdependence; interview questions 7, 7a and 7b as well as interview question 9.

Table 20

Questions Designed to Explore Experiences Involving the Interdependence Construct

Item #	Specific Question
7, 7a, 7b	From a local, regional, national, or global perspective, are there any issues that concern you? Have you, or do you plan to take any action in support of your feelings on the issue? Can you describe how you became involved?
9	Why did you decide to participate in this study?

As noted previously, interview question 7 asked respondents to identify an issue of concern and provide details as to how they have become involved or plan to become involved in this issue. While this interview item was used previously to identify experiences indicative of both venturing and instrumental autonomy, it was used in this context in order to code the type of issue that was deemed important to the respondent. Issues that involved a community in which the respondent was involved and an active effort on their part in addressing this issue were coded as being aligned with the construct of interdependence.

There were seven statements in reply to interview questions 7, 7a, and 7b that were coded as indicative of interdependence. These statements involved the issues of

voter registration, healthcare, educational reform, humane treatment of animals, racism, net neutrality, and the environment. Issues that were shared that were not coded for interdependence involved certain trends such as the presidential race (if the respondent did not indicate any substantive action on the issue), the media, and “the way people are these days”. There were four respondents who shared that there were no issues that they were currently concerned about.

Interview question 9 asked participants to explain why they chose to volunteer in this research study. All interviewees were currently enrolled as a full time student during the spring semester and as such, a common value and expectation among those engaged in a higher education community involves understanding and participating in scholarship. Responses that were indicative of the interviewee’s understanding of this obligation were coded as being aligned with the interdependence construct.

Three respondents did not specifically address this question while another replied that he, “have nothing better to do on a Thursday night”, were not coded as aligned with interdependence. The fourteen remaining statements provided rationale that included helping the researcher or were empathetic to the researcher’s cause, interest in participating in a study, and to pay it forward. There were four respondents who specifically stated that they had an interest in the topic of the study or felt that they had specific information that they wanted to share. Although the incentive of a gift card to the college store was offered as an incentive to encourage participation, there were no respondents that cited this reason as the primary rationale for participating in the study.

Summary of Research Question 3c Results

Research question 3c sought to explore interviewee's experiences in relation to the construct of interdependence. Interdependence generally relates to an individual's ability to understand their individual and collective role in the communities to which they belong. There were two questions and two sub-questions that were specifically analyzed for evidence of interdependence (Table 19). This analysis yielded twenty-one statements in response to these four survey items which detailed experiences involving working to enhance community participation such as voter registration and those designed to enhance the community such as litter clean-up. Interview question 9 yielded fourteen statements aligned with interdependence and interviewees generally stated their primary motivations for participating involved empathy or direct experience with conducting research, as well as an interest in the subject matter. The results seem to indicate a moderate number of statements aligned with interdependence, however there were four respondents who were not able to identify any issues that concerned them in response to interview question 7.

Research Question 3: In what ways is Facebook use related to college student experiences that are aligned with Chickering and Reisser's (1993) third vector of development, *Autonomy Towards Interdependence*?

Based on analysis of the qualitative findings of this study it appears likely that Facebook has an influence college student experiences that are associated with the development of autonomy but does not appear to specifically enhance or delay autonomy development. Rather, based on an analysis of the results of the qualitative portion of the study, it appears that when a person is more highly autonomous, they use

Facebook to advance the experiences related to autonomy development. However high levels of autonomy seemed to exist in specific participants regardless of whether they used Facebook. The specific constructs that were used to describe development along Chickering and Reisser's (1993) third vector appear to be valid indicators of development of autonomy, however the proportion of responses that were coded as indicative of a particular construct generally consisted of less than half of the participants. This appears to indicate that as a whole, the interview participants generally did not have high levels of autonomy.

The primary construct in which there was substantial support for within the interview transcripts was instrumental autonomy. In addition, this construct appears to be positively influenced by the use of Facebook; specifically with regards to connecting with others and finding information. The least support was found for the construct of interdependence. Although there were fewer interview items specifically designed to assess this construct, this does not explain the relatively few statements that were coded as indicative of interdependence.

Summary

This chapter addressed the three main research questions that frame this study and discussed the analysis of both quantitative and qualitative data. Data were derived from two sources, the Facebook Influence on Coping and Adaptation Scale (FICAS), and the semi-structured interviews that were conducted with twenty volunteers who had completed the survey.

Descriptive statistics and inferential statistics were performed on the quantitative data that were acquired through the survey. The completion of a multiple-regression

analysis revealed that the independent variables did not explain the variance observed in the dependent variables leading to the researcher to reject the research hypotheses for research question 1 and 2. The manner in which participants used Facebook was not related to the participants' levels of self-efficacy as reported by the FICAS Survey Instrument.

Content analysis of the statements generated by semi-structured interviews revealed that Facebook does influence college student attainment of Chickering's third vector of student development, *Moving through Autonomy Towards Interdependence* for some students. The qualitative data revealed that Facebook had the largest influence on the presence of instrumental autonomy based on users' ability to connect with others and find information easily. While there was evidence that Facebook also influenced the venturing and interdependence constructs, the results were not as clear as in the case of instrumental autonomy construct. These results are discussed comprehensively in Chapter 5.

CHAPTER 5

DISCUSSION

The creation of Facebook in 2004, and its subsequent international proliferation, created a paradigm shift in the way that college students interact with each other and the institution (boyd & Ellison, 2007). The results of the present study indicate that Facebook is used regularly by over 90% of the respondents. Slightly more than 64% of the survey participants rated the statement, "I check Facebook multiple times per day", as either exactly true ($n = 87$, 31.4%) or moderately true ($n = 90$, 32.5%). These findings suggest that Facebook use continues to be a very common activity among undergraduate college students at Eastern University. The results discussed in this chapter provide insight into the ways in which Facebook may be influencing experiences related to the development of autonomy.

This study is based on the general consensus within the available research that student development and identity formation are important outcomes of attending college (Evans et al., 2010; Pascarella & Terenzi, 2005). Virtually all of the research that informs college student development theory was conducted prior to the development of web-based communication technology and social networking. Therefore, the purpose of the present study was to develop a method for exploring the various uses of Facebook and shed light on whether specific uses contribute to student development of autonomy. The findings of this study revealed that the use of web based social networking sites appear to be beneficial to students who are already well-developed, but may interfere with autonomy development among students who are experiencing difficulty in this regard. Data were collected to address the following research questions:

1. Are the self-reported patterns of activity on Facebook as measured by the Viewing, Interacting, and Participation/Management subscale scores predictive of perceived general self-efficacy as measured by the General Self-Efficacy subscale score of the Facebook Influence on Coping and Adaptation Scale (FICAS)?
2. Is the perceived level of importance of Facebook, as measured by the Frequency, Duration, and Engagement subscale scores predictive of perceived general self-efficacy as measured by the General Self-Efficacy subscale score of the Facebook Influence on Coping and Adaptation Scale (FICAS)?
3. In what ways does Facebook use influence college student experiences that are associated with Chickering and Reisser's (1993) third vector of development, *Autonomy Towards Interdependence*?
 - 3a. In what ways does Facebook use influence college student experiences that are associated with 'venturing', a dimension of Chickering and Reisser's (1993) third vector of college student development?
 - 3b. In what ways does Facebook use influence college student experiences that are associated with the development of 'instrumental autonomy', a dimension of Chickering and Reisser's (1993) third vector of college student development?
 - 3c. In what ways does Facebook use influence college student experiences that are associated with the development of Interdependence, a dimension of Chickering and Reisser's (1993) third vector of college student development?

Discussion of Sample

All undergraduate students enrolled at Eastern University ($n = 5,651$) in the spring 2015 semester were invited to complete the FICAS. Slightly more than 5% of the population ($n = 311$) responded to the invitation and began the survey. There were 33 responses removed from analysis because they were incomplete or did not complete the informed consent. The completion rate for the survey was 89% and the number of participants gradually increased in relation to the total number of college credits earned. Despite this slight increase, there was somewhat evenly distributed participation between those who had 30 or less credits (17.2%), those who had between 31 and 60 credits (20.1%), and participants who had between 61 and 90 credits (23.7%). Survey-takers who had 91 or more credits accounted for 39.1% of those who completed the survey. The number of participants at each academic level are noted in Table 7.

The majority of the participants in both stages of the study were female; 71% of survey takers, and 80% of the interviewees identified as female. Almost 40% of the interviewees reported that they had completed 91 or more college credits ($n = 8$). Again, the smallest group of participants were those who had completed 30 credits or less ($n = 3$).

These details demonstrate that females were much more likely to participate in both the survey and interview portions of the study. Comparison to the 2013 Eastern University Fact Book (the most recent publicly available collection of descriptive data regarding the make-up of full-time undergraduates at Eastern U), reveals that although there appear to be somewhat more females enrolled as undergraduate students at Eastern University, ($N = 3,072$, 56%) the prevalence does not explain the higher

likelihood that females would complete the FICAS at a higher rate than males. However, the higher participation rate of females in the survey could have influenced the number of females who completed the interview portion of the study. Regardless, there were no identified factors that explain the higher number of female participants.

Another detail relating to the demographic characteristics of those who participated in the study involves the increasing proportion of participants in relation to the total number of college credits earned. Reasons for this observation can potentially be explained by the responses to interview question 9. When asked why participants chose to participate in this study, five of the participants specifically referenced either their own experiences conducting a study or a plan to conduct a study at some point in their undergraduate college career.

Based on this finding, it is possible that participants who could identify with and potentially empathize with the task of collecting data were more likely to participate. Students who have completed more college credits are more likely to have participated in research or are aware of an expectation to do so based on their academic major. These phenomena may be particularly apparent in relation to the number of participants who took part in the interview stage of the study. There were thirteen interviewees who had more than 61 credits, accounting for 65% of the interviewees. It is also possible that even if they did not plan to participate in academic research during their time as a student, that participants who had completed more college credits had a better understanding of their involvement within an academic community and their obligations in relation to contributing to an academic community.

Discussion of Results

The results of this study offer multiple insights in relation to the ways that college participants typically use Facebook. The quantitative data provides relevant information regarding the prevalence and importance of Facebook use by the participants, as well as their perceived level of general self-efficacy. The qualitative data adds depth to the findings and enhances overall understanding of the survey data in some cases, while it generated additional questions in other cases.

Quantitative Findings

Quantitative data were gathered through administering the Facebook Influence on Coping and Adaptation Scale (FICAS) survey to 311 undergraduate college students enrolled at Eastern University, a medium-sized, comprehensive, public university. There were thirty-three surveys removed from further analysis due to issues with the informed consent or because they were incomplete. Descriptive and inferential statistics were performed on the remaining 274 survey responses, which revealed that there were no significant relationships between the subscales of the FICAS that describe Facebook use and participants' reported feelings of general self-efficacy. Although there were no significant relationships identified between the variables, the findings of the quantitative analysis did yield some important insights that relate to the prevalence of Facebook use among the sample that can be compared to similar studies and help to explain the qualitative data that were gathered in part two of the study.

Prevalence of Facebook Use. Facebook use was very prevalent among the sample. Almost three-quarters of the participants ($n = 203$, 73.3%) responded 'Exactly true' or 'Moderately true' to the statement, "I check Facebook Daily". An additional 7%

(n = 19) of the survey takers responded 'Hardly true', and 9.4% (n = 26) responded 'Not at all true' to the same statement. Almost 10% (n = 26, 9.4%) reported that they do not currently use Facebook, and 3% of these individuals stated that they have never used Facebook. The majority of participants (n = 177, 63.9%) replied 'Exactly true' or 'Moderately true' to the statement, "I check Facebook multiple times per day". Figure 3 displays the distribution of responses to the statement, "I check Facebook daily".

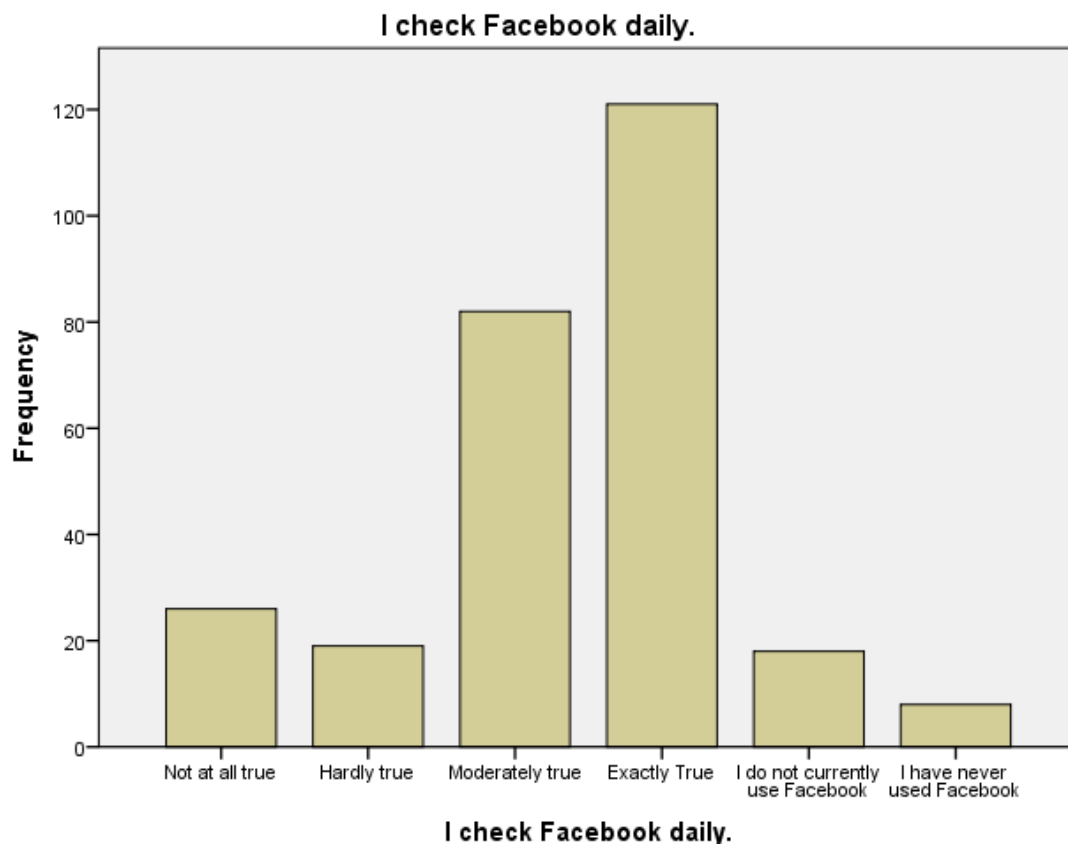
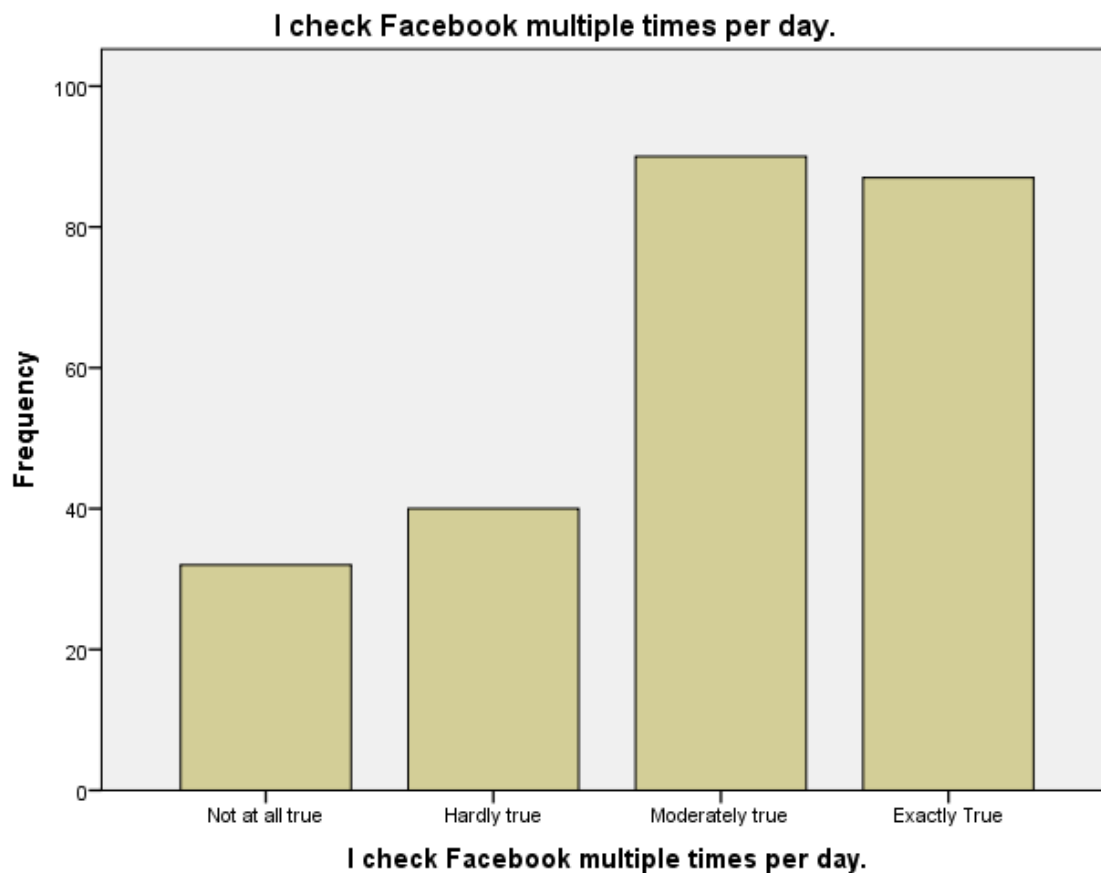


Figure 3. Frequency of Responses Regarding Daily Facebook Use. The number of participants who report using Facebook daily.

These findings suggest that Facebook use is higher in the present study than in a number of other studies going as far back as 2009 that indicate that at least three-quarters of students use Facebook (Dahlstrom, 2012; Debatin, Lovejoy, Horn, &

Hughes, 2009; Pempek, Yermolayeva, & Calvert, 2009; Hampton et al., 2011) The findings more closely parallel the 90% participation estimated by the Educause Center for Analysis and Research (Dahlstrom, 2012) and the 94% found by Thompson and Lougheed, (2012). It is clear based on these numbers that Facebook use remains a daily activity for the majority of undergraduate students at Eastern University. Figure 4 displays the number of respondents who check Facebook multiple times per day



*Figure 4.*Frequency of Responses for Participants who check Facebook multiple times per day. The number of participants that check Facebook multiple times per day.

Usage Behaviors and Patterns. The individual responses on the FICAS survey were compiled into the defined sub-scales and averaged to allow for parametric

analysis. The means for the sub-scales scores as well as the responses to some individual questions provide insight into the specific ways in which participants reported using Facebook despite there being no significant relationships discovered between the FICAS sub-scales and GSE. These individual responses were selected for further discussion based on their ability to be compared to the other studies that investigated Facebook and may be useful to provide a description of Facebook use over time.

The Facebook users in the sample reported that they spent relatively little time managing their profile. This is evidenced by a mean score of .71 for the participation and management subscale. As shown in Table 9, this subscale was made up of survey questions 8 – 13 and refers to the participant's tendency to update their profile, comment on other user's content, or manage their Facebook content. This subscale also referred to the visibility of a participant's profile within Facebook. Most participants reported that they do not regularly change or update their status on Facebook (n = 152, 54.9%) nor do they spend a lot of time managing their Facebook profile (n = 160, 57.8%). In addition, over half of the participants (n = 149, 53.8%) reported that they do not put a lot of effort into managing their Facebook profile. Almost 70% of participants reported that their Facebook profile is not public (n = 189, 68.2%).

Lampe et al. (2008), suggest that patterns of use of Facebook appear to be related to levels of maturity and development, however such differences were not evident in the current study. If an individual's Facebook profile is a virtual representation of their identity, it appears that based on these results, college students are not experimenting with, or managing their online Facebook identity in the ways that were

identified by Pempek et al. (2009) and Turkle (2011) who asserted that the maintenance of an online persona requires significant time and effort.

The finding in the present study that participants' engagement in maintenance of their profile was infrequent are mirrored by those of Yang and Brown (2013), who were surprised by the infrequent participation in 'self-presentation' activities that was reported by their sample. They found that more than 90% of the participants replied that they participated in such activities 'no more than once per week'. In addition, Yang and Brown's (2013) findings are in line with both the findings of the current study as well as a number of previous studies that indicated that respondents frequently participated in voyeuristic activities through Facebook. The group of Facebook activities that dealt with this behavior in the current study constituted the viewing subscale of the FICAS, but this behavior has been referred to as 'lurking' by other researchers (Pempek et al., 2009) who found that respondents participated in the behavior somewhat frequently.

The viewing subscale of the FICAS was comprised of survey questions 5 (Much of the time that I spend on Facebook, is spent looking at other people's profiles, but not posting.), 20 (I regularly use Facebook to learn more about people who I already know, but am not directly connected to.), and 21 (I have used Facebook to look up ex-romantic partners.) and yielded a Mean of 1.6, which was the third highest sub-scale Mean behind the frequency (Mean = 2.38), and GSE sub-scale (Mean = 2.24).

Specifically, over half of the respondents stated that the statement, "Much of the time that I spend on Facebook is spent looking at other people's profiles, but not posting" is 'Exactly true' (n = 77, 27.8%) or 'Moderately true' (n = 75, 27.1%). Over half of the participants (n = 146, 52.7%) replied in a similar manner to the statement, "I

regularly use Facebook to learn more about people who I already know, but am not directly connected to”. Slightly less than half of the participants responded either ‘Exactly true’ (n = 60, 21.7%) or ‘Moderately true’ (n = 63, 22.7%) to the statement that inquired if they have used Facebook to look up ex-romantic partners.

These findings are very similar to those of Debatin, Lovejoy, Horn, & Hughes, 2009; Lampe, Ellison, & Steinfield, 2008; and Martinez Aleman & Wartman, 2009 who all found significant evidence for the tendency of Facebook users to spend at least part of their time viewing the profiles of other users to whom they are not directly connected. Pempek, et al. (2009), who coined the term ‘lurking’ to describe the behavior of viewing other user’s profiles without posting, also found that less than 30% of participants in their study consistently posted content to their own profiles.

Social Learning Theory (Bandura, 1971) posits that observation of others is an important aspect of learning new behaviors. However, in this case it does not seem that participants viewing the profiles of others who update their content more frequently, will compel respondents into updating their profiles and content on a more frequent basis. The potential implications that such spectatorship may have on societal norms and values is discussed in greater detail later in this chapter, but a seemingly important question deals with the nature of having the ability to consistently view another user’s activity without that user specifically knowing they are being watched, and the acceptance of such behavior.

Facebook Use and General Self-Efficacy. As noted in Chapter 4 of this dissertation, participant scores on the sub-scales of the FICAS survey had no relationship with general self-efficacy scores. One possible explanation for this result is

that an individual's use of Facebook may not have a noticeable impact on psychosocial development but rather, it acts as tool that can be used productively or unproductively. As Rosen (2012) noted, technology and virtual environments such as Facebook serve as an extension of the self. People who are classified as narcissists in their daily life, appear to exhibit narcissistic tendencies in their Facebook use (Buffardi & Campbell, 2008; Twenge and Campbell, 2010). In the present study it seems that a highly motivated and well connected student will more likely use Facebook to enhance their development by presenting opportunities to explore. Students struggling with the development of autonomy may tend to utilize Facebook in unproductive ways and fail to see the potential that it presents. The findings from the interview data presented in the next section provide additional evidence for this phenomenon.

Qualitative Findings

Qualitative data were gathered through the semi-structured interviews with twenty volunteers drawn from the group of participants that completed the survey. Each interview was completed over the phone, digitally recorded, and professionally transcribed. Reflective notes taken by the researcher during the interviews were then supplemented with descriptive notes taken during the initial review of the recording. Once transcripts were confirmed to be accurate, responses to each question were organized according to interview question. The process of horizontalization (Cresswell, 1998), allowed the data to be coded with specific labels that were determined in advance of analysis and based on the stated research questions of the study. This concept-driven coding technique (Brinkmann, 2013), as outlined in Table 16, resulted in the following findings.

Theme 1: Facebook use appeared to inhibit experiences associated with venturing for many interviewees. As noted throughout this dissertation, the construct of venturing represents one of three constructs that Arthur Chickering (1968) conceptualized as a means to describe college student progression through his third developmental vector, *Moving through Autonomy Towards Interdependence*. The construct of venturing refers to a student's independence, self-sufficiency, and general ability to manage their behaviors and emotions in various contexts. Examples of experiences that could be considered as highly related to the construct of venturing include independent travel such as that required through study abroad experiences. However, such experiences could also include any type of activity or plan that requires the student to leave a familiar and comfortable paradigm in search of new opportunities, and autonomously manage their functioning during the pursuit of such opportunities (Chickering, 1969).

Although there were a few references to the ability of Facebook to present opportunities for interviewees to independently strive towards new experiences, these references were somewhat rare in the interview transcripts. In response to interview question 3, "What are some things that you find Facebook useful for?", most participants reported that it was beneficial for connecting with others, primarily friends and family. The potential of Facebook to act as a catalyst to allow for an individual to move in aspirational ways that are beyond what is considered comfortable seemed to be utilized by only three of the respondents. For example, Interview Subject 1 described utilizing Facebook to connect with professionals who are or were working on international media projects. Interview Subject 5 shared details about her internship that

required her to manage the social networking sites for an international raceway, represented true deviations from the typical experiences of their peers.

The remaining response to interview item #3 that was coded as aligned with the venturing construct pertained to Interview Subject 7's use of Facebook as a means to titrate emotional and clinical support for her disability while she returned to status as a full time college student. This theme of utilizing Facebook as a means to receive support while engaging in experiences commonly associated with venturing was also tangentially apparent in the response of Interview Subject 6. Interview Subject 6 responded that using Facebook was very useful to him over the summer to keep in touch with his girlfriend who was studying abroad in Africa. Interview Subject 6's girlfriend appeared to be the one exhibiting venturing, however this example provides evidence of a way that Facebook could be utilized to support venturing.

The use of Facebook to support study abroad experiences was detailed by Lee, Kim, and Kim, (2010) who found evidence to support the assertion that students use Facebook to assist in their adjustment to a foreign community. However, the findings of focus the groups Gardener and Davis (2013) facilitated with professionals, who consistently work with youth, seem to imply that this could be detrimental to development. They note, based on the focus groups, that recent generations of youth tend to avoid risk and are more influenced by anxiety. They argue, based on these results, that the availability of consistent and reliable emotional support may prevent an individual from developing the personal capacity for emotional self-regulation and autonomy. Put another way, the use of Facebook during experiences designed to push

students outside of their comfort zones may reduce the efficacy of such experiences in compelling students to develop such personal capacity.

The relatively few statements that could be coded as aligned with the venturing construct seem to support the findings of Gardener and Davis (2013). Specifically, the other interview items that were specifically designed to elicit responses related to the concept of venturing, interview questions 6, 7, 7a, & 7b, yielded only eight statements that were aligned with venturing, and an analysis of the responses for all of the interview questions reveal that only twelve additional responses were coded as aligned with venturing.

Table 21 lists paraphrased versions of the responses that epitomized the nature of venturing. The exploratory and semi-structured format of the interviews were not necessarily sufficient to definitively state that the participants in the current sample are not as engaged as college students previously have been in specific experiences that could be considered indicative of venturing. However, it should be noted that the responses in Table # 21 represent the most ideal manifestations of experiences aligned with the venturing construct that were contained in the data. Other experiences that were coded as venturing generally revealed an absence of activities that would require substantial independent emotional management in the areas of self-regulation and emotional control over aversive feelings to accomplish.

Table 21

Sample Paraphrased Interview Responses Aligned With the Venturing Construct

Interviewee #	Responses
3	A lot of people 18 to 25 don't register to vote... it's an issue that we're going to address in the political science club... We're going to set up a table outside of the union and basically have the forms to register to vote and basically have people fill them out.
6	...one major issue is educational reform... a goal of mine is to go back, get my Master's degree in political science, and then eventually get a juris doctorate in law. ...but I would want to be part of the next generation who throws in, throws their hat into the ring, tries to kick this problem's butt, I guess...
14	I'm very into the idea that what we are doing now and how it's going to affect our children.....and our grandchildren you know as far good food, sustainability and you know what type of chemicals are we pumping into the air that's going to affect our kids. So I would say our environmental and our health... I am part of a group that we go to beaches and clean up beaches.....and we're trying to pick up as much as we can...
16	...the only thing that I really—kind of recently with everything in the news and all that sort of stuff that's been going—is the whole aspect of these militant terrorist groups...what action do I take? Well, I am a vet, does that count?
17	We could just say the overall ignorance of technology at a government level. That goes for net neutrality and it also goes for the practices of the NSA as Edward Snowden has revealed...., I went to a Restore the Fourth protest when they did it two years ago. I tried to tell people about it, tell people to watch a documentary and I'm trying to get the documentary shown here on campus.

Theme 2: Facebook use can enhance experiences associated with instrumental autonomy. The second construct identified by Chickering to help to describe the experiences associated with *Moving Through Autonomy Towards Interdependence* (Chickering and Reisser, 1993) is the concept of instrumental autonomy. Experiences that are aligned with the instrumental autonomy construct include situations in which the interviewee participated in the execution of detailed plans. These plans could include others, such as serving as a leader for a club or organization, or they could be of a more personal nature, such as learning a new hobby. Regardless of the nature of the plans, the demonstration of instrumental autonomy will

involve the appropriate identification and usage of information, tools, and other resources to fulfill the plan and accomplish one's goals.

There were four interview questions and five sub-questions designed to gather information regarding the interviewees' experiences as they relate to the construct of instrumental autonomy. The results of analysis of the responses to these particular questions revealed a multitude of experiences that could be aligned with the construct of instrumental autonomy. Not surprisingly, the interview questions that asked respondents to describe the types of on-campus and off-campus resources they use to support their learning (interview questions 5 and 5a) provided the most statements that could be linked to instrumental autonomy. This question and sub-question generated seventeen statements that were coded as aligned with the instrumental autonomy construct. These statements did not provide specific insight into the possibility of Facebook to enhance instrumental autonomy although this theme was evident in response to other questions designed for this purpose.

In particular, interview question 4 asked participants to consider the role of Facebook in their academic pursuits. Slightly more than one quarter of the interviewees ($n = 6$) supplied the researcher with specific examples of the ways in which they use Facebook for academic purposes. These responses consisted of experiences related to organizing study and co-curricular groups, conducting research, and receiving formal mentorship. They demonstrate that Facebook can be effectively utilized for academic purposes as well as to enhance instrumental autonomy. However, there were seven statements that specifically denied any ability to use of Facebook for academic reasons.

When these responses were viewed phenomenologically within the context of the participants' responses on the other interview questions, a general pattern was noted. Interviewees who provided constructive academic uses for Facebook almost unanimously provided statements throughout the rest of the interview that would be suggestive of having advanced autonomy. The respondents who were unable to identify an academic use, or specifically denied Facebook's relevance to academic pursuits, did provide some statements that would be suggestive of advancing autonomy, though many of their other interview responses could indicate a lack of development of autonomy.

This finding is similar to that of Junco (2013), who found that using Facebook to gather and share information was correlated with a higher GPA and that posting status updates and chat features was correlated with a lower GPA. In the current study, the contrast between those who used Facebook for constructive academic purposes and those who did not were less similar in other regards. Specifically, the construct of instrumental autonomy was the most commonly coded theme throughout the interview transcripts, implying that most of the sample had at least some level of instrumental autonomy. However, the prevalence of statements aligned with instrumental autonomy in specific regard to Facebook was noticeably lower.

Possible reasons for this include the likelihood that participants' responses were biased by social desirability. Because Facebook has been regarded by many, including college faculty and administrators, as a waste of time and without constructive academic uses (Malesky & Peters, 2012) participants may have been unwilling to share any potential uses that they experienced, or may have neglected to consider Facebook

from this perspective. Another explanation may have to do with the assertions of Gardener and Davis (2011) who argue that young adults who have been raised on technology are more focused on doing things that present a specific perception of their identity rather than developing the attributes of actually being a certain type of person.

Theme 3 Interviewees did not have well-developed interdependence, and Facebook use does not appear to enhance experiences associated with the construct of interdependence. The third construct identified by Chickering to help to describe the experiences associated with *Moving Through Autonomy Towards Interdependence* (Chickering and Reisser, 1993) is the concept of interdependence. Interdependence relates to an individual's awareness of their place within and commitment to the overall well-being and success of the community to which an individual belongs. There were two main interview questions and two sub-questions that were developed for the purpose of collecting responses that describe experiences likely to involve the construct of interdependence. Interview question 7 (and sub-questions 7a & 7b) requested participants to identify and describe an issue of specific concern to them, what they have done to address the issue, and/or what do they plan to do about the situation. Interview question 9 simply asked participants to describe their reasons for choosing to participate in the study.

The responses to Interview questions 7, 7a, & 7b produced only seven statements that were considered to be aligned with the construct of interdependence. It was necessary for the response to both identify an issue of concern to the larger community, and have taken tangible activity in support of their feelings on the issue, or have a plan to do so in the near future, in order to be coded as aligned with

interdependence. Such lack of action was generally considered as lacking an understanding of the individual's place in improving the community for others.

A particularly surprising outcome of this question was the inability of many participants to identify any issue of a local, regional, national, or global significance. Approximately one-third of the interviewees failed to provide an issue that was of concern to them. Another one-third of the statements indicated an issue of personal significance such as the individual's opinion regarding a particular diet plan or personal choices regarding how much time people spend on their phones, or general non-specific concerns such as the ignorance of society, proliferation of the media, or the idea that everyone is over-involved in everyone else's business. These participants were generally unable to connect these issues to a broader scale and none of them reported taking any substantive action on their part in support of their feelings on the personal or general issues that they identified.

The reflective notes that were taken during the interviews reveal that a few of the seven individuals who were not able to identify any issues of importance or who denied knowledge of any issues of concern, presented some indications of discomfort after making such a statement, while others stated that they had no concerns in an unabashed and nonchalant manner. Those who demonstrated some level of discomfort sometimes made follow-up statements excusing their lack of interest in issues such as those made by Interview Subject 6 who stated that she has been really very busy with her schoolwork which allows little time for her to follow the issues.

Implications

Despite the fact that none of the research hypothesis were supported by the quantitative data, the findings of both the quantitative and qualitative stages of the study provide insight into the perceptions that contemporary college students at Eastern University have regarding autonomy experiences as well as their use of Facebook. These findings, when compared and contrasted with existing literature, reveal several implications for the use of Facebook among college students and personnel.

Lack of Predictive Ability

A stated purpose of this study was to identify factors associated with Facebook use that specifically enhanced autonomy or impaired autonomy development. The General Self-Efficacy Scale was incorporated into the FICAS and used as a means to measure a construct of student development in relation to the FICAS subscales. General self-efficacy scores, as a construct aligned with autonomy, could not be predicted based on any of the sub-scale scores of the FICAS. This finding demonstrates that none of the identified categories used to describe Facebook use showed any relation to participant's feelings of self-efficacy. This appears to indicate that Facebook does not have an influence on perceptions of general self-efficacy. However, the relatively high average scores on the general self-efficacy subscale (mean = 2.25) conflict with the lack of specific interview responses that were aligned with the venturing construct.

This inconsistency between quantitative and qualitative findings is difficult to explain. General self-efficacy, as a measure of a person's perceived ability to seek new challenges while maintaining an ability to deal with every-day challenges (Luszczynska,

et al., 2005) is more closely aligned with the venturing construct than any of the other qualitative constructs. However the interview respondents' lack of statements aligned with the venturing construct may present a potential issue with the validity of the GSE subscale or may be better explained in relation to the findings of other researchers. As noted by Gardener and Davis (2013), Turkle (2011) and others, the participants in this current study appeared to believe that they had a strong ability to meet new and typical challenges, yet few were able to provide specific examples of the ways in which this personal confidence manifests itself in their lives.

Campus Community

The qualitative findings of this study provided some general insights regarding the influence that Facebook has on the campus community and confirm some of the issues outlined in the literature. Facebook was used primarily by participants to coordinate with others on campus, stay in contact with friends from home when on campus, and friends at the university while at home. A number of participants indicated using Facebook to maintain and cultivate immediate and extended family relationships. There were a small number of participants who shared experiences related to connecting with university faculty or staff. The value of all the participants' Facebook connections appeared to be primarily of an intrinsic nature.

There appeared to be other benefits of the interviewees' associations with their connections. As in a number of previous studies (Ellison, Lampe, & Steinfield, 2009; Ellison, Steinfield, & Lampe, 2011; Valenzuela, Park, & Kee, 2009; Vitak, Ellison, & Steinfield, 2011; Young, 2011), evidence of social capital was present within the transcripts from the current study. Social capital is generally thought of as the total sum

of resources that are available to a person through their relationships with others.

There are two types of social capital, bridging and bonding (Vitak, Ellison, & Steinfeld, 2011). Bonding capital refers to the strong and constant relations that a person shares with their closest friends and immediate family. Bridging capital is defined as the types of resources that are available to a person through their extended, weak tie relationships.

An example that demonstrates the value of bridging capital was noted by Interview Participant 7 who is studying to become a high school social studies teacher. He described being able to connect with his high school teachers to further discuss some of the topics in his education courses, allowed him to gain a deeper understanding of the topics. This same interviewee shared how he used Facebook to maintain contact with his advisor while she was on leave, which helped him to further define his career aspirations. Overall, those interviewees who did describe being connected with faculty described such relationships as natural and not uncomfortable. This is contrary to the findings of Dahlstrom (2012) and Martínez-Alemán & Wartman (2009) who asserted that student views towards faculty and administrators on Facebook constitute an invasion of privacy.

Although this type of relationship between a faculty member at the university and the interviewee was only noted twice within the responses, there were a variety of other references that described participants moving between multiple contexts on Facebook. Two of the interviewees specifically mentioned having two or more separate Facebook profiles that they used. One for professional use, one for social use with similarly-aged peers, and in the case of one interviewee, and a third was targeted towards their

immediate and extended family. The enhanced privacy controls, allowing different Facebook connections to have different levels of access to a user's profile, were developed and released by Facebook after Dahlstrom (2012) and Martínez-Alemán & Wartman (2009) published their respective findings. The practice of one individual having multiple profiles, while evident in the interview transcripts, appears to be a violation of Facebook's terms of service (Facebook.com, 2015).

Relationships and Social Norms

This study was not necessarily intended to explore the nature of Facebook relationships, nonetheless there were some specific sub-themes noted within the interview transcripts that dealt with the relationships that participants share with other Facebook connections. These relationships appear to be consistent with the initial findings of Donath & boyd (2004) who found that the primary function of social networking sites (SNS) is to enhance efficient communication with others, thereby increasing the number of weak ties that an individual is able to maintain. Weak ties with others, such as friends and extended family, are an essential component of enhancing an individual's bridging capital. This type of social capital refers to the ability to access resources and information that can assist in achieving goals and appears to be highly aligned with the construct of instrumental autonomy. The more connections that an individual presumably has, the greater their access to information, resources, and assistance.

The majority of interviewees (n = 15, 75%) stated that maintaining contact with others is the primary function of using Facebook. It was unclear how many of these connections enhanced the participants' instrumental autonomy. This factor may be

associated with the number of connections that the participant has. This information was not specifically gathered by the researcher, however both of the participants who offered insight on the number of connections, estimated over one thousand connections. Based on the lack of specific focus in the current study on exploring the relationship between Facebook relationships and instrumental autonomy, this finding should be considered an area in need of further, more focused research, rather than a conclusion of the current study.

A number of sub-themes emerged from the interview data that were not specifically sought by the current research design dealing with the apparent evolution of social norms. Factors associated with changing social norms were evident in a number of transcripts and may be due in part to the ability of weak ties to continue to stay updated on the events that an individual shares on Facebook. Without Facebook, the weak tie might never have known of these events. This principle was evident in Interview Participant 7's discussion of the value of keeping in touch with her other connections' life events and activities when she stated: "In a sense it's also bad because it's like, wow I know a lot about people's lives that I probably shouldn't know about". Interview Participant 13 admitted that she enjoys looking through the vacation photos of her Facebook connections even though she sees the connections so infrequently that she otherwise wouldn't have been aware of the vacation. When Interview Participant 13 was asked if she thought that this ability enhanced her relationship with her extended family, she replied that she didn't know.

However, Facebook also has an ability to provide enhanced exposure to those who have extreme and potentially biased views. The following statement by Interview

Participant 1 demonstrates this theme: "...people are jumping to conclusions and being more offended these days, and I feel it's from the internet that we're more critical".

However, as noted by Interview Participant 9, "I mean like Facebook is wonderful at highlighting how little, people understand about what's going on", these views may not be based in what are perceived by others to be the facts of the issue. It appears that there may be potential long-term effects related to the exposure to another side of an acquaintance or family member's personality that otherwise would not have been known by a connection. Interview Participant 16 mentioned that he felt betrayed and not as close to a family member as a result of the family member's political and social views that were previously unknown to him before he connected with the family member on Facebook.

Shifting Definition of Autonomy

The tendency of young people to experience anxiety when disconnected from access to communication with others through social networking or mobile devices is well documented by Gardener and Davis (2013), Turkle (2011), and Rosen, (2012). Based on the current finding that almost two-thirds of the survey participants check Facebook almost every day, it is possible that many of the participants in the present study experience the anxiety referred to by Gardener, Davis, and Turkle (2013, 2011) when unable to check their Facebook accounts. According to Gardener and Davis (2013) as well as Turkle (2011), this preoccupation with constant connection with others results in diminished opportunities for individuals to independently act in support of their personal values and convictions. The finding that in the current study that more than two-thirds of the interview participants were either not able to identify an issue of

concern, or did not work to address or support their issue of concern, appears to provide strong support for the findings of both Gardener and Davis (2013) as well as Turkle (2011).

Numerous scholars have generally defined autonomy as the ability of an individual to consistently behave in their own best interest towards independently defined goals (Evans et al., 2010; Pascarella and Terenzi, 2005). While the capacity for interdependence, a knowledge of one's self, and their role in the larger community, is a component of autonomy, it is not the only necessary component. According to Chickering and Reisser (1993), development of autonomy requires a gradual separation from parents and other caregivers and a greater reliance on peers and university resources for support. Although interview question 5, "What resources do you typically use here on campus in order to support your learning?", and 5b, "...how about off-campus resources such as websites, friends, or family?" yielded the most statements that could be coded as aligned with the construct of instrumental autonomy, it also revealed that one-quarter of the participants reported relying on parents and immediate family for learning support. This theme was also evident in a number of other statements throughout the interview.

This finding seems to be in opposition to one of Chickering & Reisser's (2003) essential components of autonomy development. Analysis of the specific statements provided in relation to interviewees' relationships with their parents, reveal that there are profound differences between parents who are used as a sounding board as the individual works through issues and those who take a controlling role in dictating the individual's choices. However, the finding that such relationships were somewhat

prevalent in the interview data, and defined as meaningful learning supports by students with all levels of completed credits implies that college students' movement through autonomy may be occurring in ways that are fundamentally different than what was previously observed in structured research that was completed as recently as two decades ago.

However, the more recent research of Hofer and Moore (2010) appear to add a significant caveat to that conclusion. Hofer and Moore report that the college students in their research who had the most frequent contact with parents were less autonomous, less able to make decisions, and less capable of developing their own beliefs and values. Their overall conclusion that students have less need to develop skills associated with autonomy when receiving significant support from parents appears to be contradicted by the qualitative findings of the present study in which a number of participants that appeared to exhibit overall high levels of autonomy admitted that they consult with parents on a daily basis.

This leads to the most compelling overall finding of the current study. Participants who appeared to have the highest levels of autonomy and interdependence, based on the phenomenological context of their responses across all of the interview questions, tended to also be the ones who used Facebook in the most constructive ways. This assertion is best demonstrated by the profiles of Interview Participants 1 and 5.

Interview Participant 1 reported that she is a heavy user of Facebook. She generally uses the site for short and long periods of time throughout the day, every day. There was strong evidence throughout the interview transcript to suggest that she has successfully developed autonomy even though she has only completed her first year of

college. This finding was supported by her report that after two semesters, she has excellent grades, is involved in numerous on-campus activities and also hosts a weekly podcast that focuses on various Disney projects. She shared evidence pointing to strong established relationships with both college administrators and faculty and demonstrated a strong understanding of her role within the university community and beyond. She uses Facebook to connect with potential interviewees and to promote her podcasts. Interview Participant 1 was not concerned about her upcoming trip to California to meet with the cast of an upcoming Disney movie despite the fact that she intended to take this trip by herself. She shared details relating to a strong relationship with her parents who she stated she relies upon for significant emotional and financial support. While she recognizes this dependence, she is not ashamed of it, but rather feels it is a necessity to allow her the freedom to pursue her interests.

Interview Participant 5 reported that she was currently engaged in an internship at a NASCAR racetrack where she managed the track's various social media accounts. Her personal Facebook account has connections to her friends, while the account she manages for the racetrack has over 200,000 followers. Interview Participant 5 reported that she spends anywhere from four to ten hours logged in to Facebook daily, but usually has it open while she is doing other things. She works on campus as a writing tutor and uses other campus resources both appropriately and extensively, including the office hours of her professors. Off-campus, she relies on websites such as YouTube and Khan Academy to support her learning. During the course of the interview, she shared a particularly intense experience at her internship. She was able to discuss the personal attributes that she needed, as well as the outside resources that she accessed

to address the stress and complete her tasks appropriately. This experience provided her with confidence that she could deal with future challenges and served as evidence of her instrumental autonomy and emotional independence.

Although these two interviewees were generally considered as highly autonomous, closer examination reveals details of their experiences that don't necessarily support the traditional definitions of autonomy. The nature of autonomy as occurring on a continuum may provide some level of explanation for this finding. The seeming dependence on parents by Interview Participant 1, and the failure of Interview Participant 5 to define an issue of personal concern appear to be noteworthy deviations from traditional conceptualizations of autonomy, yet the entirety of their other experiences prevent writing them off as being less developed in relation to autonomy; particularly in light of both of their unique and significantly responsible professional experiences. This paradox may be explained by an evolving conceptualization of autonomy. If that is indeed the case, there are substantial implications beyond the scope of this current study as to the make-up and organization of colleges and universities.

For example, colleges and universities tend to expect that students will be responsible for managing their daily life on campus. The findings of this study, along with numerous others (Gardener & Davis, 2013; Hofer & Moore, 2010), appear to demonstrate that parents have an indirect, yet active role in addressing tasks involving both the students' personal (doctor appointments, transportation), academic (deadlines, remediation), and business related (financial aid, billing, meal plans) responsibilities. The amount of involvement or perceived interference that is tolerated by college officials

in dealing with parents is largely based on institutional philosophy and policies.

Excessive parental involvement is generally not specifically welcomed by college and universities, however the findings of this current study seem to suggest that it alone is not detrimental to a student's development of autonomy.

The general conclusion that student who are more highly developed, will use Facebook in more constructive ways seems to be supported by two recently completed studies (Michikyan & Subrahmanyam, 2015; Yang & Brown, 2015) that looked at the role of Facebook in the participants' academic performance. Both of these studies also came to the general conclusion that participants who are already better students in measures of academic performance, used Facebook in ways that were more constructive and utilitarian; focused primarily on transmitting and receiving information.

Suggestions for Future Research

There appear to be some notable findings in the present study that have specific implications on the body of research informing Facebook use. The first is the fairly stable proportion of college students who use Facebook, as well as the frequency with which it is used. The second, and ultimately what may be the present study's most important contribution to the present body of research is the support that it provides for the research previously conducted by numerous scholars on the nature of Facebook as an extension of an individual's identity (boyd, 2007; Buffardi & Campbell, 2008; Gardener & Davis, 2013; Pempek et al., 2009; Rosen, 2012; Turkle, 2011; Twenge & Campbell, 2010; Zhao, et al., 2008) However, this support is not definitive, and there continue to be numerous questions that still need to be addressed. The areas of this current study that seem to warrant further study include: the manifestation of autonomy

among contemporary college students, the changing social norms, the reasons for inhibition of the venturing construct, and contextual use of Facebook.

Defining 21st Century Autonomy

The interviewees who were judged as the most highly developed in terms of their expressions of autonomy were also the ones who used Facebook most constructively. However, this general finding is seemingly contradicted when examining the individual participant's responses from a phenomenological perspective. As noted in the examples of Interview Participants 1 and 5, contradictions seem to occur in that a number of statements judged as aligned with autonomy are punctuated by a response that would appear to indicate delayed autonomy. This may be an indication that the nature of autonomy is evolving. Further research is necessary to confirm that the inconsistent evidence of autonomy development observed in this current study is present in other samples of college students. If substantial evidence of this phenomenon is identified, the next step would be to attempt to identify the reasons for the shift in the experiences related with autonomy. These may involve economic, neuroscientific, sociological, political, and/or cultural empirical investigations.

Factors that Inhibit the Construct of Venturing

The lack of support for the construct of venturing appears to be supported by the work of Gardener and Davis (2013) as well as Turkle (2011) and numerous others. The results of the present study were not capable of providing any insight as to the reasons for the limited number of statements that could be aligned with the construct of venturing. Comparison to the quantitative findings, particularly the mean GSE scores, generate even greater uncertainty. Specifically, the relatively high reported mean for

GSE scores of 2.25 appears to indicate that the participants' perceptions of their general self-efficacy, as indicated by the score on the ten GSE items, were relatively high (range 0 - 3). It would be expected that feelings of high self-efficacy would influence an individual's drive to participate in a given activity, which would lead to a greater number of responses aligned with the construct of venturing, however that was not the case. There was evidence within the interview transcripts to suggest that Facebook inhibited participants from experiences aligned with the venturing construct, but these few examples do not explain the substantial difference that seems to exist between the participants' belief that they could handle challenges and pursue opportunities (as evidence by their GSE score), and actually pursuing opportunities and dealing with challenges (as evidenced by the low number of interview responses that could be aligned with the venturing construct).

Social Norms

Throughout the transcripts, there exist numerous clues that seem to indicate that social norms are also shifting. Participants spoke of the lack of privacy, yet admitted to spending significant amount of time viewing other Facebook user's profiles without leaving any evidence of their presence. Numerous interview participants also mentioned that they felt that society is eroding for a variety of reasons including a superficial understanding of public issues, judgmental attitudes, and weak values. Further research would be worthwhile to gain an improved understanding as to whether these perceptions are valid and if not, what are they based upon.

In addition, multiple references exist in both the literature and within the interview data that point to confusion by both college students and faculty regarding the role that

Facebook should play in academic relationships. The practical and ethical implications of professors and administrators connecting with students through social networking sites has been the focus of numerous recent studies (Gettman & Cortijo, 2015; Sleigh, Smith, & Laboe, 2013). Based on the current study, these relationships appear to be positive and influential. This is not true in all of the available literature on the topic, so it too should be further assessed in order to provide a basis for informing these relationships.

Contextual Use of Facebook

In addition to understanding the context of relationships between students and institutional personnel, it appears that the changing features of Facebook in regard to privacy controls and terms of service make a deeper investigation of the various contexts that exist on Facebook a beneficial endeavor. Numerous respondents reported that they used Facebook for professional, personal, and academic use. Those who responded in this manner were generally judged as well developed in regards to autonomy. A descriptive analysis of the types of behaviors that individuals participate in, based on the context, may provide additional support for Facebook's tendency to serve as an extension of personal identity. This understanding would be beneficial to better understand potential privacy implications that have been left largely unaddressed within this dissertation.

Limitations

Specific techniques were utilized to enhance the generalizability of the study and alleviate issues that may negatively impact its validity. However, a number of limitations should be noted when reviewing these findings.

Rapidly Changing Field

Facebook has been in existence for slightly more than ten years. In that time, it has established itself as a cultural phenomenon that has been adopted by millions of users worldwide. The rapid and widespread adoption has spurred the interest of a great many researchers and scholars. New studies are published monthly, and although attempts have been made to incorporate all relevant findings into this dissertation, the rapid dissemination of scholarship investigating social networking sites and Facebook make it inevitable that a potentially relevant study was missed.

Facebook itself is also a moving target. Facebook's terms of service and the features available to users have changed numerous times over the course of this current study. Again, attempts were made to provide the most relevant basis for conclusions, but the rapid pace of change and evolution in relation to Facebook may impact the applicability of the current findings to future investigations.

Survey Scale

The intended scale of the survey received substantial scrutiny by the researcher, his committee, and the panel of experts. It originated as the native scale for the GSE instrument that was originally developed by Schwarzer & Jerusalem (1995). The questions that were developed to assess Facebook use were adapted to align with the response categories of the GSE instrument. The benefits associated with utilizing the scale that was native to the GSE instrument allowed the researcher to rely on the established reliability and validity for that portion of the survey instrument. However, the scale was not as useful for assessing a number of the survey items that dealt with

various uses of Facebook and although unsubstantiated, may have led to some confusion among the recipients.

Probably the most notable concern related to the choice to use the native GSE scale for the entire instrument deals with the ambiguity that existed in relation to interpreting the results of some survey questions. For example, a response of 'Hardly true' to survey question 1, which stated, "I check Facebook daily", is not able to be interpreted in an accurate way and may have been influenced by individual perceptions of the scale. Despite this limitation in describing the responses, it is believed that the advantages to maintaining the GSE's established validity and reliability, and the ease with which the final instrument was able to be scored, were worthwhile compromises. In addition, it is important to note that the task of addressing the research questions did not require specific estimates of Facebook use.

Self-Selection of Participants

The survey was sent to the entire population of undergraduate students enrolled at Eastern University and administered in an online format. It is possible that those who chose to participate in the study had fundamentally different experiences and perceptions related to Facebook than those that did not choose to participate. One known area of difference is that there was a much greater proportion of female participants who took part in both phases of the study than there are in the overall population of Eastern University. In addition, the online nature of the survey administration may have prevented those who are not as invested in technology use from participating. It is not known what other differences may have existed between those who chose to participate in the study and those who did not.

Efforts to recruit participants through face to face methods such as distributing the survey in specific courses or providing opportunities to complete the FICAS instrument at tables located around campus at various times could have resulted in a more representative sample. The current design also did not attempt to assess the differences between the group of participants and the population of Eastern University. Efforts to compare participants to the overall population of undergraduate students could have been beneficial to increase understanding of the characteristics of the participants in relation to the characteristics of the overall population of students enrolled at Eastern University.

The Use of Focus Groups

Analysis of the reflective and descriptive notes that were taken during the interview reveal approximately fifteen statements that may have been influenced by the respondent's desire to share a socially desirable response. The researcher discovered that explaining his personal point of view and destigmatizing certain types of responses were beneficial to enhance breadth and depth of sharing. It appeared that the responses of interviewees with whom the researcher was able to establish a rapport with were more forthright and developed.

The use of face to face focus groups instead of individual semi-structured interviews may have been a more suitable approach for this study. The benefits associated with using focus groups would have included a greater ability for the researcher and other participants to destigmatize certain types of Facebook use. In addition, a number of responses appeared to be limited. Focus groups may have been

beneficial to gather more information from these types of participants based on their potential to encourage expansion of details in response to interview questions.

Summary

This final chapter of the dissertation discussed the results of the quantitative and qualitative phases of the study. This discussion centered first on the general findings of the data analysis which included the characteristics of the sample for both stages of the study as well as notable individual survey findings. The prevalence of Facebook use among the sample was highlighted and compared to relevant findings and indicated that Facebook use appears to be somewhat stable in comparison to studies extending to 2008. Noteworthy findings related to the specific ways in which Facebook is used by participants were also pointed out and discussed within the context of other relevant studies.

The model used to gather quantitative data resulted in no identified relationships between the Facebook use subscales, the Facebook engagement subscales and general self-efficacy. These findings seem to suggest that Facebook use does not have any relationship with a person's feelings of confidence in dealing with typical challenges and pursuing new opportunities. The relatively high mean ($= 2.25$) in relation to participants' general self-efficacy score indicates that participants felt well prepared to deal with issues, but the results of the qualitative inquiry into the construct of venturing contradict these findings.

Qualitative findings revealed three major themes. The first of these revealed that statements aligned with the construct of venturing, which is considered an operant descriptor of autonomous behavior, were rare within the interview transcripts. The

second theme related to the ability of Facebook to enhance experiences aligned with the construct of instrumental autonomy. The third identified theme revealed that interviewees did not have well-developed interdependence, and Facebook use did not appear to enhance experiences associated with the construct of interdependence.

The most important findings revealed that Facebook, as an extension of self, did not appear to enhance or diminish autonomy, but rather, those who appeared to have a strong sense of autonomy tended to use Facebook in constructive and innovative ways. Those who did not appear to have well developed autonomy did not seem to use Facebook constructively. Another important finding demonstrated that Facebook continues to be utilized by the majority of college students and that college students tend to log in to Facebook daily. The implications of these findings were then discussed in detail and the chapter concluded with a discussion of the limitations of the study and recommendations for future research.

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Appendix A

Sample Invitation to Participate in Pilot Test

Hello <FIRST NAME>,

My name is Chris Selena and i am an administrator here at Lafayette. Your name and e-mail address was randomly selected from the roster of registered students for the Fall 2014 semester. I am writing to you today to ask you for your help with reviewing the survey that I am planning to use to complete my doctoral dissertation. This 'pilot administration' represents one of the final steps of a journey that I began over 7 years ago when I enrolled in the Educational Administration & Leadership Program at East Stroudsburg University. I will use the feedback that I hope that you will provide me with, to revise and edit the survey for wider distribution at another university. The survey and follow-up questions shouldn't take you more than 15-20 minutes to complete and will provide me with valuable insights regarding the flow, wording, and practicality of the survey.

Unfortunately, I am not allowed to offer any tangible incentive for your assistance, however I am sure that this academic goodwill will be viewed favorably in the cosmos. Such favor can only benefit your end of semester efforts!

Please follow the link below if you are interested in taking the survey. You will be led to an Informed Consent page that offers more specific details about the survey, and the study as a whole. Once the informed consent is completed, you will be directed to approximately 32 survey questions (the number of questions will vary based on your responses) requiring multiple-choice responses. The final 6 questions will ask about your experiences in completing the survey. Once completed, you will not be contacted again about this survey and if you would rather not participate, you can find an 'opt out' link at the bottom of this e-mail.

Thanks in advance for your assistance.

Sincerely,

Christopher Selena
Assistant Dean of Advising & Co-Curricular Programs
Director, ATTIC

Appendix B

SAMPLE INFORMED CONSENT FOR PILOT STUDY

INFORMED CONSENT FORM

For a Research Study entitled

“A Mixed Method Investigation of the Relationship between Facebook Use, General Self-Efficacy and Autonomy Development among Undergraduate College Students”

You are invited to participate in a research study being conducted by Chris Selena, a doctoral student in the Administration and Leadership program offered by Indiana University of Pennsylvania in collaboration with East Stroudsburg University. The intent of the study is to explore college students' perceptions of general self-efficacy and their development of autonomy in relation to Facebook use. You were randomly selected to complete this survey based on your accessibility to the primary researcher.

If you decide to participate in this research study, you are asked to complete the following survey to the best of your ability. It will take approximately 15 minutes to complete the survey. You will not be contacted again in relation to this pilot study.

I do not anticipate any risks associated with your participation in this study. Your participation and feedback will assist the primary researcher in revising and editing this survey in preparation for future use as component of a larger study that is designed to explore the potential relationship between Facebook use and General Self-Efficacy.

There is no compensation for your participation in the study.

Any information that you provide will be anonymous and no attempt will be made to relate your responses to your identity.

Your participation in this study is voluntary. There is no penalty if you choose not to participate. Your decision as to whether or not you will participate will not affect your future relations with your College/University, Professor, Advisor, or fellow classmates. If you decide to participate, you are free to withdraw at any time. Surveys that are not fully completed may be removed from further analysis at the discretion of the primary researcher.

This pilot has received approval by the Lafayette College and East Stroudsburg University of Pennsylvania Institutional Review Board for the Protection of Human Subjects. If you have any questions about the study, please ask them now or contact Chris Selena by phone 610-291-6488 or by e-mail at c.selena@iup.edu. You may also contact his faculty advisor, Dr. Lare by e-mail at dlare@po-box.esu.edu. If you have any questions or concerns regarding your rights as a participant in this study, you may contact the East Stroudsburg University Institutional Review Board (IRB) by phone 570-422-3336 or e-mail at sdavis@esu.edu.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT YOU WISH TO PARTICIPATE IN THIS RESEARCH STUDY. YOU MAY INDICATE YOUR WILLINGNESS TO PARTICIPATE BY CLICKING 'YES' BELOW AND TYPING YOUR NAME.

Appendix C

SAMPLE INVITATION TO PARTICIPATE IN RESEARCH STUDY

Dear <FIRST NAME>,

My name is Chris Selena and I am a student in the doctoral program in Administration and Leadership at East Stroudsburg University and Indiana University of Pennsylvania. I am writing to you today to ask you for your help with completing the survey that I developed as part of my doctoral dissertation. This 'survey administration' represents one of the final steps of a journey that I began over 7 years ago when I enrolled in the doctoral program.

The survey will take you less than 15 minutes to complete and will provide me with valuable insights regarding the way that you use Facebook and your perceptions in relation to challenges you face. In addition, I am also recruiting participants to volunteer to be interviewed by me at a later date. This interview will expand on the themes covered within the survey. **As an incentive to encourage your participation, I will be holding a raffle for 4, \$25 gift certificates to the university bookstore.** All participants who complete the survey will be automatically entered into the drawing. In addition, those that participate in an interview will be entered into a separate drawing for a \$100 gift certificate to the bookstore.

Participation is voluntary. Please follow the link below if you are interested in taking the survey. You will be led to an Informed Consent page that offers more specific details about the survey, and the study as a whole. Once the informed consent is completed, you will be directed to approximately 33 survey questions (the number of questions will vary based on your responses) requiring multiple-choice responses. At the conclusion of the survey, you will be provided with an opportunity to provide your contact information that will be used to set up an interview appointment.

Thank you in advance for your time and consideration.

Sincerely,

Chris Selena
610-291-6488
c.selena@iup.ed
selenac@lafayette.edu
Assistant Dean of Advising & Co-Curricular Programs
Director, Academic Tutoring and Training Information Center (ATTIC)
Lafayette College

Appendix D

SAMPLE REMINDER FOR RESEARCH STUDY

Dear <FIRST NAME>,

This is a follow-up to the e-mail that I sent to you about two weeks ago, requesting your participation in a research study that I am conducting as one of the final requirements for a doctoral program in Administration and Leadership at East Stroudsburg University of Pennsylvania and Indiana University of Pennsylvania that I am enrolled in. **Please note that there was an issue with some of the links that were previously sent. If you previously attempted to take the survey, but were informed that the link has been expired, please consider taking it again. The situation has been resolved.**

The survey will take you less than 15 minutes to complete and will provide me with valuable insights regarding the way that you use Facebook and your perceptions in relation to challenges you face. In addition, I am also recruiting participants to volunteer to be interviewed by me at a later date. As a reminder, I am offering an incentive to encourage your participation. If you complete the survey, you will be eligible to win one of four, \$25 gift certificates to the university bookstore. In addition, those that participate in an interview will be entered into a separate drawing for a \$100 gift certificate to the bookstore.

Participation is voluntary. Please follow the link below if you are interested in taking the survey. You will be led to an Informed Consent page that offers more specific details about the survey, and the study as a whole. Once the informed consent is completed, you will be directed to approximately 33 survey questions (the number of questions will vary based on your responses) requiring multiple-choice responses. At the conclusion of the survey, you will be provided with an opportunity to provide your contact information that will be used to set up an interview appointment.

This will be the last invitation to participate in this research study that you will receive.

Thank you in advance for your time and consideration.

Sincerely,
Chris Selena
Assistant Dean of Advising & Co-Curricular Programs &
Director, Academic Tutoring and Training Information Center (ATTIC)
Lafayette College

Appendix E

SAMPLE INFORMED CONSENT FOR SURVEY PHASE

INFORMED CONSENT FORM

For a Research Study entitled

“A Mixed Method Investigation of the Relationship between Facebook Use, General Self-Efficacy and Autonomy Development among Undergraduate College Students”

You are invited to participate in a research study being conducted by Chris Selena, a doctoral student in the Administration and Leadership program offered by Indiana University of Pennsylvania in collaboration with East Stroudsburg University. The intent of the study is to explore college students' perceptions of general self-efficacy and their development of autonomy in relation to Facebook use.

If you decide to participate in this research study, you are asked to complete the following survey to the best of your ability. It will take approximately 15 minutes to complete the survey. At the conclusion of the survey, you will be presented with an additional opportunity to volunteer to participate in an interview with the researcher that will take place on the campus of East Stroudsburg University at a later date. The interview session will last approximately 45 minutes and will take place before the end of the spring 2015 semester. You may participate in the survey, and choose not to participate in the interview. If you decide not to participate in the interview, you will only be contacted again in reference to this research study if your name is selected for the incentive raffle.

I do not anticipate any risks associated with your participation in this study.

There is no compensation for your participation in the study, however upon completion of the survey, you will be entered into a raffle to win one of four \$25 gift certificates to the university bookstore.

Any information that you provide will be kept confidential and no attempt will be made to relate your responses to your identity.

Your participation in this study is voluntary. There is no penalty if you choose not to participate. Your decision as to whether or not you will participate will not affect your future relations with your University, Professor, Advisor, or fellow classmates. If you decide to participate, you are free to withdraw at any time. Surveys that are not fully completed may be removed from further analysis at the discretion of the primary researcher.

This study has received approval by the East Stroudsburg University of Pennsylvania Institutional Review Board for the Protection of Human Subjects. If you have any questions about the study, please contact Chris Selena by phone 610-291-6488 or by e-mail at c.selena@iup.edu. You may also contact his faculty advisor, Dr. Lare by e-mail

at dlare@po-box.esu.edu. If you have any questions or concerns regarding your rights as a participant in this study, you may contact the East Stroudsburg University Institutional Review Board (IRB) by phone 570-422-3336 or e-mail at sdavis@esu.edu.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT YOU WISH TO PARTICIPATE IN THIS RESEARCH STUDY. YOU MAY INDICATE YOUR WILLINGNESS TO PARTICIPATE BY CLICKING 'YES' BELOW AND TYPING YOUR NAME.

Appendix F

SAMPLE INFORMED CONSENT FOR INTERVIEW PHASE

INFORMED CONSENT FORM

For a Research Study entitled

“A Mixed Method Investigation of the Relationship between Facebook Use, General Self-Efficacy and Autonomy Development among Undergraduate College Students”

Thank you for your assistance in completing the survey portion of this study. You are now invited to participate in the interview portion of the research study being conducted by Chris Selena, a doctoral student in the Administration and Leadership program offered by Indiana University of Pennsylvania in collaboration with East Stroudsburg University. The intent of the study is to explore college students' perceptions of general self-efficacy and their development of autonomy in relation to Facebook use.

If you decide to participate in this research study, you will participate in a phone interview with the primary researcher at a mutually agreed upon time. The interview session will last approximately 30-45 minutes. The interview will be audio recorded for later analysis.

During the interview session, you will be asked questions relating to your Facebook use as well as your experiences as an undergraduate college student. I do not anticipate the risks associated with answering the interview questions to be greater than any risks you encounter on a day-to-day basis. Your participation will be instrumental to my analysis of the role that Facebook plays in experiences that have been traditionally associated with autonomy development.

There is no compensation for your participation in the study, however if you complete the interview, you will be entered into a raffle to win a \$100 gift certificate to the university bookstore.

Any information that you provide will be kept confidential and no attempt will be made to relate your responses to your identity.

Your participation in this study is voluntary. There is no penalty if you choose not to participate. Your decision as to whether or not you will participate will not affect your future relations with your University, Professor, Advisor, or fellow classmates. If you decide to participate, you are free to withdraw at any time.

This project has received approval from the East Stroudsburg University of Pennsylvania Institutional Review Board for the Protection of Human Subjects. If you have any questions about the study, please contact Chris Selena by phone 610-291-6488 or by e-mail at c.selena@iup.edu. You may also contact his faculty advisor, Dr. Lare by e-mail at dlare@po-box.esu.edu. If you have any questions or concerns regarding your rights as a participant in this study, you may contact the East

Stroudsburg University Institutional Review Board (IRB) by phone 570-422-3336 or e-mail at sdavis@esu.edu.

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT YOU WISH TO PARTICIPATE IN THIS RESEARCH STUDY. YOU MAY INDICATE YOUR WILLINGNESS TO PARTICIPATE BY CLICKING 'YES' BELOW AND TYPING YOUR NAME.

Appendix G

INTERVIEW PROTOCOL FOR FACEBOOK USERS

1. Do you use Facebook? If no, see alternate protocol.
2. Would you say that you are a light, moderate, or heavy Facebook user?
 - a. Do you use it for long periods of time, or multiple times throughout the day, week, month.
3. What are some things that you find Facebook useful for?
4. Do you ever use Facebook for academic purposes?
5. What resources do you typically use here on campus in order to support your learning?
 - a. ...how about off-campus resources (websites, friends or family that aren't on campus)?
6. Has using Facebook opened up any new opportunities for you that you might not otherwise have had?
7. From a local, regional, national, or global perspective, are there any issues that concern you?
 - a. Have you (or do you plan to) take(en) any action in support of your feelings on the issue?
 - b. Can you describe how you became or plan to become involved?
8. Can you think about a particularly stressful or challenging situation that you recently experienced and describe it for me?
 - a. How was the situation addressed or resolved?
 - b. What resources did you rely on in order to address this challenge?
9. Why did you choose to participate in this study?

Appendix H

INTERVIEW PROTOCOL FOR NON-FACEBOOK USERS

1. Have you ever used Facebook in the past?
 - a. Why have you chosen not to use it at all?
 - b. Why did you stop using it?
2. Do you use any other social networking sites?
 - a. Which ones?
3. What resources do you typically use here on campus in order to support your learning?
 - a. ...how about off-campus resources (websites, friends or family that aren't on campus)?
4. Have you ever missed out on opportunities because you did not have a Facebook account?
 - a. Can you tell me about it?
5. From a local, regional, national, or global perspective, are there any issues that concern you?
 - a. Have you (or do you plan to) take(en) any action in support of your feelings on the issue?
 - b. Can you describe how you became or plan to become involved?
6. Can you think about a particularly stressful or challenging situation that you recently experienced and describe it for me?
 - a. How was the situation addressed or resolved?
 - b. What resources did you rely on in order to address this challenge?
7. Why did you choose to participate in this study?

Appendix I

FACEBOOK INFLUENCE ON COPING AND ADAPTATION SCALE (FICAS)

Q1 I check Facebook daily.

- ☐ 0 I have never used Facebook
- ☐ 0 I do not currently use Facebook
- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Survey Logic: If I have never used Facebook is selected, then skip to end of block (survey question 22). If I do not currently use Facebook is selected, then skip to end of block (survey question 22).

Q2 I check Facebook multiple times per day.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q3 I spend more time on Facebook than I planned.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q4 The amount of time that I spend using Facebook is increasing.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q5 Much of the time that I spend on Facebook, is spent looking at other people's profiles, but not posting.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q6 I usually have Facebook open in my internet browser while I am doing other things (studying, writing papers, etc.).

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q7 Facebook is an important part of my college experience.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q8 My Facebook profile is set to 'public', so that everyone can see it.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q9 I regularly change or update my status on Facebook.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q10 I regularly post pictures and/or videos on Facebook.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q11 I often comment on other people's Facebook content (such as photos, status updates, wall, or links).

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q12 I spend a lot of time managing my Facebook profile (editing timeline, tagging or un-tagging photos, etc.).

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q13 I put a lot of effort into managing my content on Facebook (such as updating photos, status updates, wall posts, or links).

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q14 I regularly 'like' other people's content on Facebook (such as status updates, wall posts, pictures, or links).

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q15 I often tag photos on Facebook.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q16 I often use Facebook while I am studying or in class.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q17 My Facebook connections are very important to me.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q18 I often access Facebook through my cell phone.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q19 I have never tried to stop using Facebook.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q20 I regularly use Facebook to learn more about people that I already know, but am not directly connected to (friends of friends, classmates, neighbors, etc.).

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q21 I have used Facebook to look up ex-romantic partners.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q22 If someone opposes me, I can find the means and ways to get what I want.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q23 It is easy for me to stick to my aims and accomplish my goals.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q24 I am confident that I could deal efficiently with unexpected events.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q25 Thanks to my resourcefulness, I know how to handle unforeseen situations.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q26 I can solve most problems if I invest the necessary effort.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q27 I can remain calm when facing difficulties because I can rely on my coping abilities.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q28 When I am confronted with a problem, I can usually find several solutions.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q29 If I am in trouble, I can usually think of a solution.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q30 I can usually handle whatever comes my way.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q31 I can always manage to solve difficult problems if I try hard enough.

- ☐ 0 Not at all true
- ☐ 1 Hardly true
- ☐ 2 Moderately true
- ☐ 3 Exactly true

Q32 Sex

- ☐ Male
- ☐ Female
- ☐ Other

Q33 Approximate number of college credits completed.

- ☐ 30 or less
- ☐ Between 31 and 60
- ☐ Between 61 and 90
- ☐ 91 or more

Q34 I am willing to participate in a 45 minute, on campus interview.

- ☐ Yes - Please provide name and preferred contact information in the space below (e-mail or phone number). _____
- ☐ No