LONELINESS, ANXIOUSNESS, ALCOHOL, AND MARIJUANA USE:

EXAMINING THE PREDICTORS OF FACEBOOK CONNECTIONS

AND EMOTIONAL CONNECTEDNESS TO FACEBOOK

AMONGST COLLEGE FRESHMEN

THESIS

Presented to the Graduate Council of
Texas State University-San Marcos
in Partial Fulfillment
of the Requirements

for the Degree

Master of ARTS

by

Russell Clayton, B.S.

San Marcos, Texas
May 2012

LONELINESS, ANXIOUSNESS, ALCOHOL, AND MARIJUANA USE:

EXAMINING THE PREDICTORS OF FACEBOOK CONNECTIONS

AND EMOTIONAL CONNECTEDNESS TO FACEBOOK

AMONGST COLLEGE FRESHMEN

Committee Members Approved:

_____
Randall E. Osborne, Chair

_____
Crystal D. Oberle

_____
Brian K. Miller

Approved:

_____
J. Michael Willoughby
Dean of the Graduate College

FAIR USE AND AUTHOR'S PERMISSION STATEMENT

Fair Use

Duplication Permission

ACKNOWLEDGEMENTS

First, I would like to offer my sincerest gratitude to Dr. Osborne, who has supported me during my four years as an undergraduate, and two years as a graduate student. He has been instrumental in helping to complete my thesis. Not only has he been beneficial as a thesis chairperson, he has guided me to become a better person and student. His devotion to details helped lay the foundation for successful completion of my thesis; without him, this would not exist. One could not wish for a better professor and mentor.

In addition to Dr. Osborne, I owe much of my success in graduate school to Dr. Oberle. She helped structure my proposal, consent form, and synopsis. Her editing skills are second to none. She was able to assist me with any questions I had, and was very helpful. Not only is she a great professor, she is also a wonderful person; I thank her for supervising my thesis as a committee member.

Also, I would like to thank Dr. Miller. He has broadened my education in more ways than one. His ability to teach statistics, relate to students, and analyze data is also second to none. I am thankful for taking his course in advanced statistics. I owe much of my successes to him.

I would also like to thank Dr. Nagurney. He was very helpful in examining additional analysis of my statistics. He was also helpful in overlooking my results chapter of my thesis. He is a great professor, and I owe him many thanks.

Finally, I am thankful for my family and their support. I thank my mom who has promoted education since I was young, and has encouraged me to work hard at every thing I set my mind to. I also thank my brother, Garrett, and my sister, Andrea, for their ongoing support while in school.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

LONELINESS, ANXIOUSNESS, ALCOHOL, AND MARIJUANA USE:

EXAMINING THE PREDICTORS OF FACEBOOK CONNECTIONS

AND EMOTIONAL CONNECTEDNESS TO FACEBOOK

AMONGST COLLEGE FRESHMEN

by

Russell B. Clayton, B.S.

Texas State University—San Marcos

May 2012

SUPERVISING PROFESSOR: RANDALL OSBORNE

The study examined the relationships between health behaviors and coping

mechanisms in predicting whether students connect on the social network site Facebook,

and students' emotional connectedness to Facebook. A survey of 229 respondents was

conducted at a large southern research university to examine these relationships. The

respondents consisted of students whom were currently freshmen residing in university

dormitories, and had an active Facebook account. The study examined the predictor

variables: loneliness, anxiousness, alcohol use, and marijuana use in relation to the

Facebook Connections Strategies scale (Ellison, Steinfield, & Lampe, 2007) and the *Facebook Intensity* scale (FBI; Ellison et al., 2007). The four predictor variables were examined using a linear regression model for each criterion variable. After examining the omnibus F-score, the beta weights were examined to determine statistical significance. The study found significant relationships between the predictor variables and criteria variables. Results showed that high levels of overall anxiousness, overall alcohol use, and overall marijuana use predicted how emotionally attached participants feel to Facebook. Lastly, high levels of loneliness and overall anxiousness predicted individuals' use of Facebook to connect with others.

CHAPTER I

INTRODUCTION

The aim of this study was to examine health behaviors and coping mechanisms in the prediction of emotional connectedness to Facebook, and Facebook connection strategies. Emotional connectedness refers to the extent to which students are emotionally connected to Facebook and the extent to which Facebook is integrated into these individuals' daily activities (Ellison et al., 2007). Facebook connection strategies refers to how students use Facebook to look up someone with whom they share an offline connection, such as a classmate or a friend, or simply to make new friends without any reference to an offline connection, or maintenance of past relationships, such as high-school friends (Ellison et al., 2007).

Background

Freshmen students who are in their first semester living in university dormitories may be likely to experience feelings of loneliness and anxiousness (Ozdemir & Tuncay, 2008; Strahan, 2003). These feelings may be a result from experiencing homesickness, which occurs when a person has left behind a well-developed and well-attached social support network and has ensuing difficulty adapting to a new environment (Beck, Taylor, & Robbins, 2003). The social networking site, Facebook, can be a useful resource to cope with these feelings of alienation by establishing and maintaining connections with others (Ellison et al., 2007). Facebook has become a source of online social communication with

friends on college campuses; 91% of college freshmen use the site averaging 47 minutes online per day (Sheldon, 2008; Wiley, Sisson, & November, 2006). Facebook allows individuals to feel connected to society, and helps to improve and accomplish their desire to socialize with others, at which point, the users may begin to believe that the Internet adequately fosters their desire of attaining socially gratifying experiences (Urista, Dong, & Day, 2009).

Recent studies have supported the claim that students use Facebook to communicate with friends, most frequently friends who are not on campus, such as high school friends or family members (Pempek, Yevdokiya, Yermolayeva, & Calvert, 2009). Pempek et al.'s (2009) findings suggest that freshmen students may use Facebook as a source of communication with only friends or family members who are not in their new environment in order to continue to feel connected with others. Lou (2010) found similar results, which suggest that time spent on Facebook helps aids in reducing feelings of loneliness and anxiousness when in new environments. Additionally, a recent study found that participants' self-reported level of preference for online social interaction mediated the relationship between their levels of loneliness and the reported amount of negative outcomes due to time spent using Facebook (Caplan, 2007). Such findings support the argument that individuals who are experiencing feelings of loneliness are drawn to the interpersonal advantages offered by online social networks, which in turn can lead to problematic outcomes (Caplan, 2007; Kim, LaRose, & Weng, 2009). Provided with the ability to socialize online, rather than engaging in face-to-face interactions, socially anxious individuals are more likely to develop relationships online (McKenna, Greene, & Gleason, 2008). Correspondingly, anxious individuals are

somewhat more likely to feel that they can better express their true personality with others on the Internet compared to those they know offline (McKenna et al., 2008).

Additionally, the current study examined whether alcohol and marijuana use predicts emotional connectedness to Facebook, and how individuals connect to others on Facebook. Research has indicated that viewing Facebook pictures that convey alcohol use as normative has an indirect effect on the viewer's willingness to use alcohol. As a result, viewing alcohol-related images uploaded by Facebook friends leads to favorable attitudes towards alcohol use (Litt & Stock, 2011). The findings suggest that when college students view pictures of Facebook friends who attended social gatherings where drinking alcohol had occurred, the more favorable the individual feels towards drinking alcohol. In contrast, individuals who view marijuana-related postings on Facebook are less accepting, particularly because it depicts illegal behaviors (Morgan, Snelson, & Elison-Bowers, 2010). These findings suggest that those who engage in marijuana use may be less emotionally connected to Facebook, and less likely to upload pictures of marijuana use behaviors.

Purpose and Significance of the Study

The primary purpose of this study was to examine health behaviors of alcohol use and marijuana use in the prediction of emotional connectedness to Facebook, and Facebook connection strategies. To the researcher's knowledge, this is the first study to examine certain health behaviors in prediction of emotional connectedness to Facebook, and Facebook connection strategies. This information lays a foundation for researchers to conduct future research examining the relationship between health behaviors and social networking sites, such as Facebook. Additionally, the current study builds upon past

research that examines the relationship between loneliness and anxiousness in relation to Facebook use, emotional connectedness to Facebook, and Facebook connection strategies.

Overview of Methodology

The study consisted of a convenient sample of 229 students. The students were acquired through five different introductions to psychology courses that totaled 1,040 possible participants at Texas State University-San Marcos. The students had to have met three criteria to participate in the study. The criteria consisted of being a freshman, living in a dormitory on campus, and having an active Facebook account. Extra credit was given to students who qualified and participated in the study. The surveys were given to students during the fall semester. The surveys were given during this time to ensure that students had become immersed in their first semester of college. Additionally, the students would have a better understanding of how well they were adjusting to their new environment. The consent form was provided on the first page of each survey packet. The students who participated in the study were instructed to read and sign the consent form. The participants then began the survey packet. Once the students were finished with their survey, the students were instructed to tear off their consent form and give that form to the teaching assistant to document participation for extra credit. The researcher collected the survey packet and scantron separately from the consent form to ensure student anonymity.

Research Questions and Hypotheses

This study investigates two health behaviors and two coping mechanisms in the prediction of emotional connectedness to Facebook, and connection strategies on Facebook. The corresponding hypotheses are provided below.

H1: Loneliness and emotional connectedness to Facebook are positively related.

H2: Loneliness and connection strategies on Facebook are positively related.

H3: Overall Anxiety and emotional connectedness to Facebook are positively related.

H4: Overall Anxiety and connection strategies on Facebook are positively related.

H5: Overall Alcohol Use and emotional connectedness to Facebook are positively related.

H6: Overall Alcohol Use and connection strategies on Facebook are positively related.

H7: Overall Marijuana Use and emotional connectedness to Facebook are negatively related.

H8: Overall Marijuana Use and connection strategies on Facebook are negatively related.

Objectives and Outcomes

The objective of the current study was to examine whether loneliness, anxiousness, alcohol use, and marijuana use predicted emotional connectedness to Facebook, and Facebook connection strategies. An additional objective of this study was to extend on past research for the prediction of future health behaviors to social networking sites, such as Facebook.

Limitations

A limitation of this study was the small sample size that was used. Only 229 participants completed the study. A second limitation of this study was that the study used self-report questionnaires. Self-reports may be answered exaggeratedly and entail various biases, such as social desirability biases. Lastly, students were asked questions about alcohol use and marijuana use. Students may have answered untruthfully due to the illegal nature of alcohol consumption and drug use, due to the fact that most of the students were eighteen years old. A third limitation is that the survey packet consisted of 96 questions; it may be possible that students experienced fatigue while completing the survey.

Delimitations

This study is delimited by the researcher in several ways. First, the decision to use a convenience sample of college students in the central Texas region limits the ability to generalize findings outside of this area. Second, this sample was selected from a public institution. Students who are enrolled in private educational settings may bear different characteristics and, therefore, will not be represented by this sample population. Third, this sample was selected by age, housing situation, and active Facebook accounts; therefore, those who are older than eighteen years old, who do not live in a dormitory, and do not have an active Facebook account will not be represented by this sample population.

Assumptions

It is assumed that all participants answered honestly to each question on the survey. This assumption can be made provided by the answer to question #86 which asks

the participant to "Please answer letter choice A to this question." This question was given to check whether or not the participants were reading each question. It is also assumed that those who participated answered honestly about their classification, living situation, and whether or not they had an active Facebook account.

<div align="center">Definition of Key Terms</div>

Below are the definitions of key terms, around which this thesis research is centered.

1. Emotional connectedness refers to the extent to which students are emotionally connected to Facebook and the extent to which Facebook is integrated into students' daily activities (Ellison et al., 2007).

2. Facebook connection strategies refers to how students use Facebook to look up someone with whom they share offline connection, such as a classmate or a friend, or to make new friends without any reference to an offline connection, or maintenance of past relationships, such as high-school friends (Ellison et al., 2007).

3. Loneliness refers to an unpleasant experience that occurs when a person's network of social relations is deficient in some important way, either quantitatively or qualitatively (Pearlman & Peplau, 1981).

4. Anxiousness refers to the degree of discomfort a student feels in different situations. (Scheier & Carver, 1975).

5. Alcohol use refers to how often a student consumes standard drinks of alcohol (Saunders Aasland, Babor, de la Fuente, & Grant, 1993).

6. Marijuana use refers to how often a student engages in smoking marijuana (Hoffman, Hunt, Rhodes, & Riley, 2003).

Organization of the Thesis

This thesis is divided into five chapters. The first chapter is comprised of the introduction and describes the background of the study, the problem statement, the purpose and significance of the study, an overview of the methodology, the research questions and hypotheses, objectives and outcomes, limitations, delimitations, assumptions, and definitions of key terms. The second chapter reviews the literature that lays the foundation for the current study. The third chapter describes in detail the methods that will be used to gather the data for this study. Samples, instruments, and techniques are described in this chapter. The fourth chapter reports the results of the study. The fifth chapter includes a discussion of the results and their implications.

CHAPTER II

LITERATURE REVIEW

A key aim to understanding why college students use the social networking site Facebook is to examine the predictors that lead to Facebook connections, and the emotional attachment students feel to the social networking site. Recently, the fields of psychology and communication have focused their research on examining social networking sites such as Facebook. One such reason for investigation is to examine the personal and social gratifications individuals obtain from using social networking sites (Hagin, Abree, Jivani, & Tunick, 2010; Raacke & Bonds-Raacke, 2008). The conceptual framework of the study is comprised from an observation of the researcher's peers while enrolled in the first semester of graduate school. Graduate students who appeared to have high levels of perceived loneliness and social anxiousness were more likely to use the social networking site Facebook to secure the relationships, or lack thereof, with classmates in their new environment. This observation is similar to the results found by Kalpidou, Costin, and Morris (2011), who found that first-year students who had a lot of Facebook friends experienced lower academic and emotional adjustment in college. Graduate students who were observed being socially anxious and lonely were also observed being on Facebook more often than other students in the graduate program. Those who were observed as being socially anxious and lonely were quick to add fellow

classmates on Facebook. However, those who did not appear to be lonely or socially anxious were not eager to become friends with classmates on the networking site. Again, these observations were similar to the findings of Kalpidou et al. (2011) whose results suggest that first-year undergraduate students reported stronger feelings of emotional connectedness to Facebook compared to upper-class students. Similarly, first year undergraduate students are much like first year out-of-state graduate students; both are adjusting to a new school and a new environment. In extensive observation the researchers observed whether or not the graduate students were socializing with their classmates in face-to-face communication while in class. The result of the observation was that those who were socially anxious and lonely were less likely to interact face-to-face with their peers, but were quick to add the same students on the social networking site, Facebook. The tentative observation led the researchers to test the hypotheses that loneliness and anxiousness would have significant relationships with emotional connectedness to Facebook, and to the utilization of Facebook as a way to connect to others. Several factors have been examined to be associated with Facebook usage. One study found that individuals who are socially anxious like to use Facebook to reduce levels of loneliness (Sheldon, 2008). These outcomes may stem from the fact that shy and socially anxious people tend to feel more comfortable maintaining social relationships in online settings than they do in face-to-face interactions (Ebeling-Witte, Frank, & Lester, 2007). Moreover, the current study examined whether health behaviors of alcohol and marijuana use predicts emotional connectedness to Facebook. Although Facebook use may be potentially beneficial, a recent study found that individuals who were lonely or did not have well adapted social skills could develop strong compulsive Internet use

behaviors resulting in negative life outcomes (Kim et al., 2009). In relation to health behaviors, research has indicated that viewing Facebook friends' pictures that convey alcohol use, whether at social gatherings, or other events where alcohol was present has an indirect effect on willingness to use alcohol, and leads to favorable attitudes towards alcohol use (Litt & Stock, 2011). These findings suggest that when college students view pictures of Facebook friends who attended social gatherings where drinking alcohol had occurred, the more favorable the individual feels towards drinking alcohol, or sees the behavior as normative. Likewise, individuals who view marijuana-related postings on Facebook are less accepting, and view the images as less normative, particularly because it depicts illegal behaviors (Morgan et al., 2010). These findings suggest that those who engage in marijuana use may be less emotionally connected to Facebook, and less likely to upload pictures of marijuana use behaviors. Provided these results, the research included the predictor variables of alcohol use and marijuana use to the possible relationship to emotional connectedness of Facebook, and to how students connect on Facebook.

<div align="center">The Internet and Facebook</div>

The Internet has opened many new lines of communication and socialization. The primary purpose in making an account on a social networking site is to help make new friendships or to maintain and connect with those that already exist (Sheldon, 2008). In 2008, Kaplan and Haenlein (2010) estimated 75% of Internet users were involved in some sort of social media. The Pew Research Center (2007) found that the Internet's major benefit is in helping people tap into social networks. One of these networks is Facebook, an Internet site created in February 2004 by Mark Zuckerberg, a Harvard

undergraduate student. In January of 2011, CNBC TV aired a documentary entitled "The Facebook Obsession," which told the story behind the rise of Facebook, as told by Facebook's founders. CNBC reported the site to be worth an estimated fifty billion dollars with a million new users every week surpassing Google as the most popular website in the United States. In the documentary Mark Zuckerberg stated that "the site had eclipsed the 500 million users mark in the summer of 2010, meaning one of every twelve people in the world are on Facebook with more than 50% of users using the site everyday." According to Facebook.com the site reached 845 monthly active users at the end of 2011, with about 37.5% of the entire United States population being Facebook users (Saleem, 2010) and Facebook accounts for an astonishing 17.9% of all time spent online (Moore & McElroy, 2011; Srinivasan, 2009). Facebook enables its users to present themselves in an online virtual profile, accumulate friends with whom they can chat online with, post comments on each others' pages, create and join virtual social groups, and view others' profiles. When viewing others' Facebook profiles, users can learn about others' common interests, preferred religion, preferred governmental party; see what company they are employed at, what college or high school degree others may have earned; and learn about others hobbies, interests, and romantic relationship statuses (Ellison et al., 2007).

<div align="center">Loneliness, Anxiousness, and Facebook</div>

According to past research, participants who spent a significant amount of time on the Internet reported higher levels of perceived loneliness and a greater number of daily stresses than people who did not use the Internet as often (Kalpidou et al., 2011; Kraut et al., 1998). In comparison between personality traits of individuals who are introverted

compared to extroverted, Kraut et al. (2002) found that individuals using the Internet experienced decreased community involvement and increased loneliness, while extroverts using the Internet showed increased community involvement and decreased loneliness (Kalpidou et al., 2011; Kraut, Kiesler, & Boneva, 2002). These results lay the foundation to the current study's investigation to whether or not students who are more outgoing and least lonely are better socially adapted to their new environment, and therefore, less likely to spend time on Facebook, in contrast to those who are less socially adapted to their new environment, and therefore, are more likely to combat their feelings of isolation by spending a significant amount of time on Facebook. Furthermore, Kalpidou et al. (2011) found that first-year students with many Facebook friends reported experiencing lower emotional adjustment in college, suggesting the likelihood of first-year students to seek out friends on Facebook as a coping strategy to relieve the stress of poor college adjustment. Provided with past research investigating the relationship between loneliness, Internet use, and Facebook, an aim of the current study was to investigate whether loneliness had significant relationships with how individuals connect on Facebook, and levels of emotional connectedness to Facebook.

Sheldon (2008) found that people who are socially anxious like to use Facebook to reduce emotional stressors, such as loneliness. Individuals are often motivated by a need to belong (Baumeister & Leary, 1995); however, those who are socially anxious may find it difficult to fulfill this social need in real world social contexts, and may therefore turn to the Internet (Raacke & Bonds-Raacke, 2008). These outcomes may stem from the fact that shy and socially anxious people tend to feel more comfortable maintaining social relationships in online settings than they do in face-to-face interactions

(Ebeling-Witte et al., 2007). Past research conducted by Papacharissi and Rubin (2000) found that Internet users, who avoided face-to-face interaction, chose the Internet as a functional and rewarding alternative to fulfill interpersonal needs. Similarly, a recent study found that shyness, similar to anxiousness, was significantly positively correlated with the time spent on Facebook and resulted in favorable attitudes towards Facebook (Orr et al., 2009). The researchers defined shyness as being characterized by "anxiety reactions, tension, discomfort, aversion, and an inhibition of normal social behaviors when in the presence of others" (Orr et al., 2009, p.337). Hagin et al. (2010) found that those who are socially anxious use Facebook for companionship more than those who are less socially anxious. Additionally, Caplan (2007) explored the mediation effect of social anxiety. Caplan's study supported that social anxiety confounded the relationship between Internet use and loneliness, and was directly related to negative effects from Internet use. Provided with past research and published literature investigating the relationship between social anxiety and Facebook, one aim of the current study was to investigate whether anxiousness had significant relationships with how individuals connect on Facebook, and levels of emotional connectedness to Facebook.

Health Behaviors: Alcohol and Marijuana Use and Facebook

Previous research has indicated that media exposure has an impact on the normative perceptions of substance use among adolescents (Wills, Sargent, Gibbons, Gerrard, & Stoolmiller, 2009). One common exposure of normative perceptions of substance use may come from Facebook (Pempek et al., 2009). Research has indicated that 25–37% of older adolescents post information related to alcohol use on their profile (Litt & Stock, 2011; Moreno, Parks, Zimmerman, Brito, & Christakis, 2009; Moreno,

Parks, & Richardson, 2007). Based on the alcoholic content of these photos and comments, individuals may develop a perception of how normative alcohol use is among peers of varying ages, including older peers. Given that having older friends is associated with substance use among adolescents (Leatherdale, Cameron, Brown, Jolin, & Kroeker, 2006; Litt & Stock, 2011), it is important to determine how viewing profiles of older peers who use alcohol influences adolescents' normative perceptions and other alcohol-related risk cognitions. Research has indicated that viewing Facebook pictures that are conveying alcohol use to be normative has an indirect effect on willingness to use alcohol, and encourages favorable attitudes towards alcohol use (Litt & Stock, 2011). The findings suggest that when college students view pictures of Facebook friends who attended social gatherings where drinking alcohol had occurred, the more favorable the individual feels towards drinking alcohol in the future (Litt & Stock, 2011). In contrast, individuals who view marijuana-related postings on Facebook are less accepting, particularly because it depicts illegal behaviors (Morgan et al., 2010). These findings suggest that those who engage in marijuana use may be less emotionally connected to Facebook, and less likely to upload pictures of marijuana use behaviors.

The primary purpose of this study was to examine health behaviors of alcohol use and marijuana use in the prediction of emotional connectedness to Facebook, and connection strategies on Facebook. Additionally, the current study builds upon past research that examines the relationship between loneliness and anxiousness in relation to Facebook use, emotional connectedness to Facebook, and Facebook connection strategies.

CHAPTER III

METHODS

This chapter, which describes the research methods and procedures that were used in the study, consists of the following sections: research perspective, research design, research questions and hypotheses, participants, research variables, research instruments, data and statistical analyses, setting and environment, bias and error, reliability and validity, and a summary.

Research Perspective and Research Design

This research study was guided by an interest in understanding why and how individuals use the social networking site, Facebook, to cope when adapting to a new environment. Specifically, this study was aimed at understanding the role of loneliness, anxiousness, alcohol use, and marijuana use in the prediction of emotional connectedness to Facebook and Facebook connection strategies. Thus, the design included four predictor variables (loneliness, anxiousness, alcohol use, and marijuana use) and two criteria (Facebook emotional connectedness and Facebook connection strategies).

Research Questions and Hypotheses

This study adds to the body of literature by including two health behavior variables, alcohol use and marijuana use, in the prediction of emotional connectedness to Facebook and Facebook connection strategies. The primary research questions addressed

(a) whether loneliness would have a positive relationship with emotional connectedness to Facebook, (b) whether loneliness would have a positive relationship with connection strategies on Facebook, (c) whether anxiousness would have a positive relationship with emotional connectedness to Facebook, (d) whether anxiousness would have a positive relationship with connection strategies on Facebook, (e) whether alcohol use would have a positive relationship with emotional connectedness to Facebook, (f) whether alcohol use would have a positive relationship to connection strategies on Facebook, (g) whether marijuana use would have a negative relationship with emotional connectedness to Facebook, and (h) whether marijuana use would have a negative relationship with connection strategies on Facebook.

Participants

Participants included 229 undergraduate students at Texas State University—San Marcos. With consent of the instructors, participants received extra credit for their participation. The sample of students was acquired through five different Introduction to Psychology courses. The students had to have met three criteria to participate in the study: being a freshman, living in a dormitory on campus, and having an active Facebook account. The sample's age range was from 18 to 21 years old (M =18.19, SD = 0.43). Most participants (57.0%) were Caucasian, 28.7% were Hispanic, 10.1% were African American, 3.0% were Asian American, and 0.12% did not specify. Most participants (74.3%) were women. The average amount of friends on Facebook was between 301 to 400 friends, and the average amount of time each participant spent per day on Facebook was between thirty minutes and one hour.

Research Variables

This study included four predictor variables: loneliness, anxiousness, alcohol use, and marijuana use. This study also included two criteria: emotional connectedness to Facebook and Facebook connection strategies. Each predictor variable was operationally defined with an interval scale of measurement. Data were gathered using Likert or Likert-type response scales.

Research Instrument and Procedures

Participants were given the 96-question survey packet in their Introduction to Psychology class in October of 2011 at Texas State University-San Marcos. Upon hearing a brief description of the study and signing a consent form, participants completed the demographic questionnaire. The demographic questionnaire asked participants six questions including their gender, age, academic standing, whether they currently lived in a dorm or not, if they were currently employed, and their ethnicity.

Loneliness was measured with the *UCLA Loneliness scale* developed to measure students' perceived levels of loneliness in their recent experience. (Russell, 1996; see Appendix A). The *UCLA Loneliness scale* includes 20 items. An example of an item is: "How often do you feel left out?" In the current sample, scores resulted in a Cronbach's alpha of .70. This measure of reliability is consistent with previous research that reported a Cronbach's alpha range of 0.89 to 0.94 depending on the population as well as a test-retest reliability of 0.73 (Russell, 1996). Evidence of discriminant and construct validity for the *UCLA Loneliness scale* has been provided by past research examining the scale. Russell, Peplau, and Cutrona (1980) found significant correlations between scores on the Loneliness scale and other various measures of personality, social desirability,

depression, neuroticism, and extraversion-introversion personality characteristics

Overall anxiety was measured by the *Self-Consciousness scale*, developed by Feingstein, Scheier, and Buss (1975). See Appendix B for this scale. The scale is comprised of three subscales: private self-consciousness, public self-consciousness, and social anxiety. The Cronbach's coefficient alpha for scores on this scale in the current sample were .70, .75, and .80, respectively. Example items from these sub-scales include, respectively: "Generally, I'm very aware of myself", "I find it hard to talk to strangers," and "I'm usually aware of my appearance." Cronbach's alpha for scores on the total scale was .86 in the current sample. These measures of reliability are consistent with previous research by Feingstein et al. (1975) who reported a test-retest reliability of .80. The private self-consciousness subscale uses 10 items measures the amount that an individual attends to their inner thoughts and feelings. The public self-consciousness subscale consists of seven questions that are meant to account for awareness of the self as a social object. Lastly, the social anxiety subscale consists of six questions that are meant to account for the degree of discomfort felt in the presence of others (Burnkrant & Page Jr., 1984; Scheier & Carver, 1975). Data were gathered using a Likert-type scale anchored by 1 = *extremely uncharacteristic* and 5 = *extremely characteristic*.

Alcohol use was measured with the *Alcohol Use Disorders Identification Test: Interview Version* (AUDIT; Saunders et al., 1993; see Appendix C), which was developed and evaluated over a two decade period, and has been found to provide an accurate measure of risk across gender, age, and culture for predicting alcohol use (Babor, Higgins-Bidle, Saunders, & Monteiro, 2001). This scale consists of 10 questions regarding alcohol use. The questions were answered by choosing from: "0=*never*, 1= *less*

than monthly, 2 = *monthly*, 3= *weekly* and 4= *daily or almost daily*." Cronbach's alpha

for scores on the total scale was .87 in the current sample. These measures of reliability

are consistent with previous research by Selin et al. (2003) who reported a reliability of

.84. Moreover, the *Alcohol Use Disorders Identification Test* has shown evidence of

discriminatory validity in past studies (Meneses-Gaya, Zuardi, Loureiro, & Crippa,

2009).

Four questions were written by the researcher (see Appendix D) to determine the

psychological state of mind of individuals who are using alcohol. Once averaged, the

questions reported a reliability of .81, demonstrating high reliability, and therefore were

averaged with the AUDIT. The questions were: "How often do you drink alcohol when

you are alone?" "How often do you drink alcohol to help you when you feel depressed?"

"How often do you drink alcohol to help you when you feel nervous?" and "How often

do you drink alcohol to forget about your problems?" These items were answered using a

Likert scale ranging from *0=Never*, and 5=*Daily or almost daily*. Once averaged with the

AUDIT, the total Cronbach's alpha for overall alcohol use was .95.

To measure dependence on marijuana, respondents completed the UNCOPE

screening questionnaire (Hoffman et al., 2003; see Appendix E). The UNCOPE

questionnaire consists of six questions that identify dependence on marijuana. Sample

items include: "In the past year, how often have you used marijuana more than you

meant to?" and "How often have you used marijuana to relieve emotional discomfort,

such as sadness, anger, or hostility?" Responses were gathered using a five-point Likert-

type scale anchored by 1 = *never* and 5 = *daily or almost daily*. In the current sample

scores resulted in a measure of internal consistency of .92. This measure of reliability is

consistent with previous research by Hoffman et al. (2003) who reported a reliability of

.85. Additionally, the questions in the UNCOPE questionnaire have been ascertained to

be face valid (Urofsky, Seiber, & Hoffman, 2007).

Emotional connectedness to Facebook was measured with 11 of the 13 items in

the *Facebook Intensity scale* (FBI; Ellison et al., 2007; see Appendix F). The *Facebook*

Intensity scale consists of six statements such as "Facebook is part of my everyday

activity" and " I would be sorry if Facebook shut down." Responses were gathered with a

Likert scale anchored by 1=*Strongly Disagree* and 5=*Strongly Agree*. Scores on this scale

have been shown to be reliable in previous uses with a Cronbach's alpha = 0.83 (Ellison

et al., 2007). In the current study, alpha was .86. The scale has also been shown to have

high construct validity through confirmatory factor analysis (Yoder & Stutzman, 2011).

The scale consists of two additional questions which required dichotomous continuous

responses. The two questions asked how many friends the individual has and how much

time per day is spent on Facebook. These questions were excluded separately from the

scale and were used as a demographic measure due to the difference in available

responses from the other items in the scale.

Facebook connection strategies were measured using the *Facebook Connections*

Strategies scale, which was developed to measure Facebook-related relational

communication activities (Ellison et al., 2007; see Appendix G). The scale is comprised

of three subscales: Initiation-Bonding Social Capital, Information Seeking-Bridging

Social Capital, and Maintaining-Bonding Social Capital. The Cronbach's coefficient

alpha for scores on this scale in the current sample were .82, .76, and .83, respectively.

These measures of reliability are consistent with previous research by Ellison et al.

(2007) who reported a reliability of .84. The Initiation-Bonding Social Capital subscale obtains information as to why individuals use Facebook. For example, whether or not individuals use Facebook to meet new people without any prior offline connection, browse others' profiles, contact others using Facebook, add as a Facebook friend, and ultimately, willingness to meet others face-to-face. A sample item asks respondents to reply to the following scenario with responses ranging from "not likely at all" to "very likely". The scenario reads as "Imagine a Texas State University student you've never met in real life or had a face-to-face conversation with. How likely are you to do the following?" Respondents reacted to items like "Browse their profile on Facebook" and "Meet them face-to-face". Next, the Information Seeking-Bridging Social Capital subscale reflects whether individuals use Facebook to learn more about people with whom they have some offline connection, such as meeting a student in class. Lastly, the Maintaining-Bonding Social Capital subscale reflects on how individuals who use the site maintain their existing relationships, such as with family members or high school friends. For the purpose of the current study, the answers provided on the *Facebook Connections Strategies scale* were averaged together to obtain an aggregate score for each student. Cronbach's alpha for scores on the total scale was .84 in the current sample.

Data and Statistical Analysis

The hypotheses were analyzed using a linear regression model for each of the two criteria variables. Loneliness, anxiousness, marijuana use, and alcohol use were examined with the emotional connectedness to Facebook as the criterion. Similarly, loneliness, anxiousness, marijuana use, and alcohol use were examined with the Facebook connection strategies as the criterion. After examining the omnibus *F*-scores for the two

separate regression equations, the beta weights were examined to determine statistical significance for the variables.

Setting and Environment

The professor of each Introduction to Psychology course allowed students 20 minutes at the end of class to complete the survey packet. Freshmen students who qualified to participate in the study came to the front of the class and obtained a survey packet. The students completed the survey in the lecture hall where class had been conducted. Students who did not qualify to participate in the study were explained that future extra credit opportunities would be given and were dismissed. Participants completed the survey on their own but in the presence of other participants completing the same survey. The graduate instructional assistant obtained the consent forms separate from the surveys once the participant had completed the study, and the survey packets and scantrons were given to the researcher in order to ensure anonymity.

Bias and Error

There was potential for error in this study due to the self-report nature of the survey. Some participants may not have truthfully answered some of the questions in the survey packet. The scales of primary concern were the *Alcohol Use Identification Disorder Test* (Saunders et al. 1993; World Health Organization, 2001) and the UNCOPE scale (Hoffman, Hunt, Rhodes, & Riley, 2003) designed to measure marijuana used due to the illegal nature of alcohol consumption by the largely minor respondents and drug use, whereas most of the students were eighteen years old and living in university housing.

Reliability and Validity

Reliability refers to whether a scale yields consistent results over time. Scores on each scale in the current study were reliable with Cronbach's alpha greater than or equal to .70. Validity refers to whether a scale measures the construct the scale is intended to measure and has several sub-types, an overview of which follows.

External validity refers to the extent to which the results of a study are generalizable or transferable outside of the study. Because the sample was comprised of young college-aged students, the findings from the study may not generalize to other age cohorts. Additionally, internal validity refers to the account of alternative explanations the researchers have taken into consideration when conducting the study.

Predictive validity, as mentioned in the section about the *Self-Consciousness scale,* refers to the ability for a scale to predict results that it should theoretically be able to predict. Face validity is concerned with how a measure appears superficially, and whether or not the scale appears to gain the information the researchers are attempting to obtain. In that vein, the UNCOPE screening questionnaire has been found to be face valid (Hoffman et al., 2003). Construct validity, as mentioned in the section on the *Facebook Intensity scale* refers to the agreement between a theoretical concept and a specific measuring scale. Thus, the *Facebook Intensity scale* is measuring the theoretical concept it is designed to measure. Discriminant validity (or divergent validity) refers to scores on a measure that are unrelated to scores on a theoretically unrelated construct.

Summary

This chapter focused on the methods, procedures, and materials that were used in the current study. The study includes measures of four predictor variables (loneliness,

anxiousness, alcohol use, and marijuana use) and two criteria (Facebook emotional connectedness and Facebook connection strategies). All participants were given ninety-six questions to complete in the survey packet. These data were analyzed using a linear regression model for each of the two criteria.

CHAPTER IV

RESULTS

Chapter IV, after providing a brief summary of the methods of the study, outlines the results of the inferential analyses that were used to answer the research questions regarding whether loneliness, anxiousness, alcohol use, and marijuana use have significant relationships with emotional connectedness to Facebook and with Facebook connection strategies.

Method Summary

The current study obtained a sample of students who were freshmen, who have an active Facebook account, and who were currently living in a university dormitory. The students who qualified for the study were given a ninety-six-question survey packet questionnaire to examine whether loneliness, anxiousness, alcohol use, and marijuana use had significant relationships with the Facebook Intensity and Facebook Connection Strategies. Respondents completed the survey by recording their responses on scantrons that were included with the survey packets. The hypotheses were analyzed using a linear regression model for each criterion. Bivariate correlations were computed to examine the relationship between each study variable. Facebook Intensity and Facebook Connection Strategies were regressed on the four predictor variables. After examining the omnibus F score as a test of the overall significance of each regression equation, the beta weights were examined as tests of the study hypotheses.

Participants

Data were collected from 250 participants but 21 failed to complete the survey yielding a sample size of 229 participants, each of whom was an undergraduate student at Texas State University—San Marcos. All respondents were college freshman, lived in a dormitory on campus, and had an active Facebook account. The sample's age range was from 18 to 21 years old ($M = 18.19$, $SD = 0.431$). Most participants (57.0%) were Caucasian, 28.7% were Hispanic, 10.1% were African American, 3.0% were Asian American, and 0.12% did not specify. Most participants (74.3%) were women, 25.7% were men. The average amount of Facebook friends whom participants had on Facebook fell between 301 to 400 friends, and the average amount of time spent per day on Facebook fell between 30 minutes and one hour.

Results

A bivariate correlation measures the strength and direction of the relationship between two variables. The strength of a correlation coefficient ranges from the absolute value of +1, which is a perfect positive linear relationship (correlation), to -1, which is a perfect negative linear relationship. As the correlation coefficient approaches zero, the relationship weakens. For the current study bivariate correlations were computed to evaluate the strength and direction of the relationship between anxiousness, loneliness, alcohol use, marijuana use, emotional connectedness to Facebook, and Facebook Connections (see Table 1 for these results).

None of the correlations in the current study exceeded the limit of $|.85|$ set by Klein (2005) to indicate collinearity. Among the predictor variables, significant correlations were between alcohol use and marijuana use ($.61$, $p < .001$) and between

anxiety and loneliness (. $47, p < .001$). Significant correlations between the predictor

variables and the first criterion of Facebook Intensity were with alcohol use (.16, $p < .05$)

and anxiety (.18, $p < .01$). Significant correlations between the predictors and the second

criterion of Facebook Connection Strategies included those of loneliness (.27, $p < .001$)

and anxiety (.23, $p < .001$). Lastly, the two criteria were correlated at .45 ($p < .001$). See

Table 1 for these results.

Table 1

Means, Standard Deviations, Correlations, and Alpha Reliabilities[a] for Variables

	M	SD	1	2	3	4	5	6
1. Loneliness	3.33	.47	(.70)					
2. Overall anxiety	3.23	.57	.47***	(.86)				
3. Overall alcohol use	1.60	.55	.04	-.06	(.95)			
4. Marijuana use	1.52	.86	.11	.01	.61***	(.92)		
5. Emotional connectedness to Facebook	3.46	.90	.11	.18**	.16*	-.05	(.86)	
6. Facebook connection strategies	3.38	.67	.27***	.23***	.03	.02	.45***	(.84)

Note: [a] On diagonal in parentheses

*   *p* < .05

**   *p* < .01

*** *p* < .001

In order to examine the relationships between two variables while statistically controlling for the impact of every other predictor variable, multiple regression was used. When the first criterion of Emotional Connectedness to Facebook was regressed on the predictors, the resulting F-score was 6.16 ($p < .001$). The variance explained in the criterion was .10. Given the significant omnibus F-score, the regression coefficients were examined for statistical significance as tests of the hypotheses. The beta weight for loneliness was .07 (*ns*) and therefore H1 was not supported. The beta weight associated with anxiety was .16 ($p < .05$) and therefore H3 was supported. The beta weight associated with alcohol use was .32 ($p < .001$), and therefore hypothesis H5 was supported. The beta weights for marijuana use was also statistically significant at -.26 ($p <. 01$) and in the direction that was hypothesized, thus, hypothesis H7 was also supported. See Table 2 for these results.

Table 2

Multiple Regression Tests for Emotional Connectedness to Facebook

Variable	B	se	β	95% CI		Effect[a] Size
				Lower bound	Upper bound	
Constant	1.77	.48		.84	2.71	
Loneliness	.14	.14	.07	-.14	.41	.00
Anxiety	.25	.12	.16*	.02	.48	.02
Alcohol use	.52	.13	.32***	.26	.78	.06
Marijuana use	-.27	.08	-.26**	-.43	-.10	.04
F-score $_{(df1, df2)}$	$6.16_{(4, 224)}$***					
R^2	.10					
ΔR^2	.08					

[a] squared semi-partial correlation coefficient

* $p < .05$

** $p < .01$

*** $p < .001$

When the second criterion of Facebook Connection Strategies was regressed on the predictors, the resulting of F-score was 5.92 ($p < .001$). The variance explained in the criterion was .10. Given the significant omnibus F-score, the regression coefficients were examined for statistical significance as tests of the hypotheses. The beta weight for loneliness was .20 ($p < .01$) and therefore H2 was supported. The beta weight associated with anxiety was .16 ($p < .05$) and therefore H4 was supported. The beta weight associated with alcohol use was only .06 (*ns*), and therefore hypothesis H6 was not supported. The beta weight for marijuana use was only -.02 (*ns*) and therefore hypothesis H8 was not supported. See Table 3 for these results.

Table 3

Multiple Regression Tests for Facebook Connection Strategies

| Variable	B	se	β	95% CI		Effect[a] Size
				Lower bound	Upper bound	
Constant	1.75	.35		1.06	2.44	
Loneliness	.58	.10	.20**	.08	.49	.03
Anxiety	.19	.09	.16*	.02	.35	.02
Alcohol use	.07	.10	.06	-.12	.26	.00
Marijuana use	-.02	.06	-.02	-.14	.11	.00
F-score $_{(df1, df2)}$	$5.92_{(4, 224)}$***					
R^2	.10					
ΔR^2	.08					

[a] squared semi-partial correlation coefficient

* $p < .05$

** $p < .01$

*** $p < .001$

Figure 1 demonstrates the relationship between anxiousness, loneliness, alcohol use, and marijuana use and emotional connectedness, as measured by the *Facebook Intensity scale*. The beta weight of the relationship between each predictor and the criterion as well as the Cronbach's alpha for each predictor is provided, in addition to the *R*-squared coefficient for the overall model. Figure 2 demonstrates the relationship between these same four predictors and Facebook Connections, as measured by the *Facebook Connections Strategies scale*. The beta weights, Cronbach's alpha, in addition to the R-squared coefficient are provided as well.
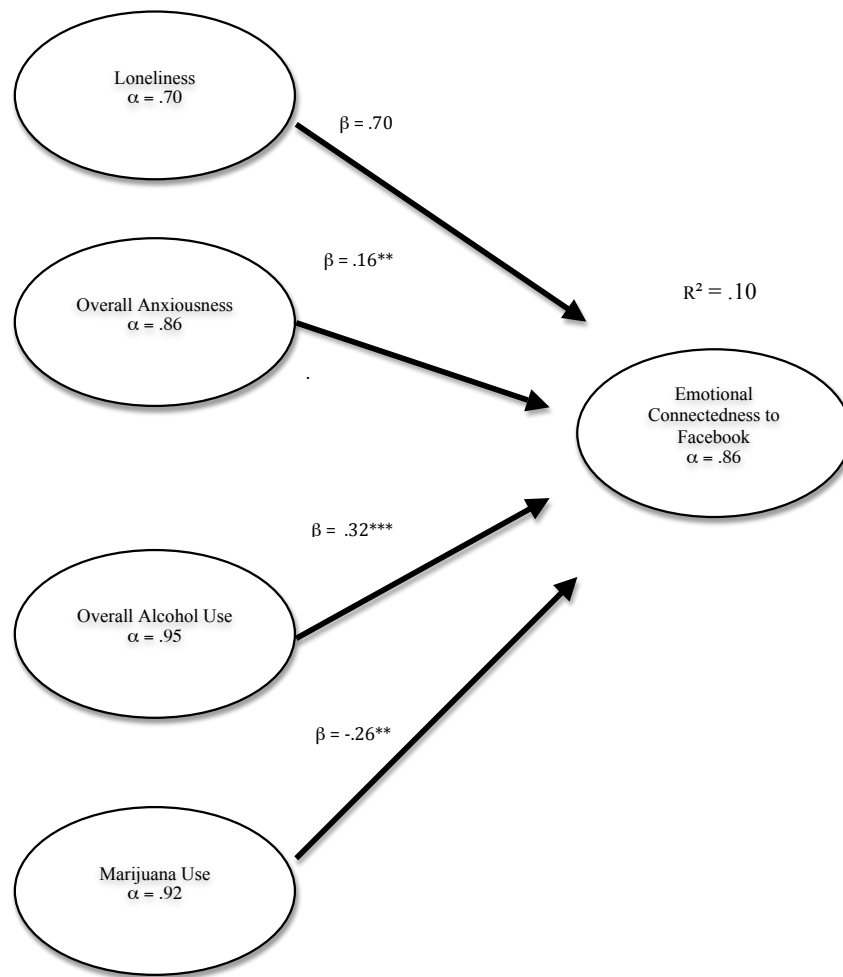
Figure 1. Predictors of Emotional Connectedness to Facebook. This figure illustrates the relationship between Loneliness, Overall Anxiousness, Overall Alcohol use, and Marijuana use with Emotional Connectedness to Facebook.
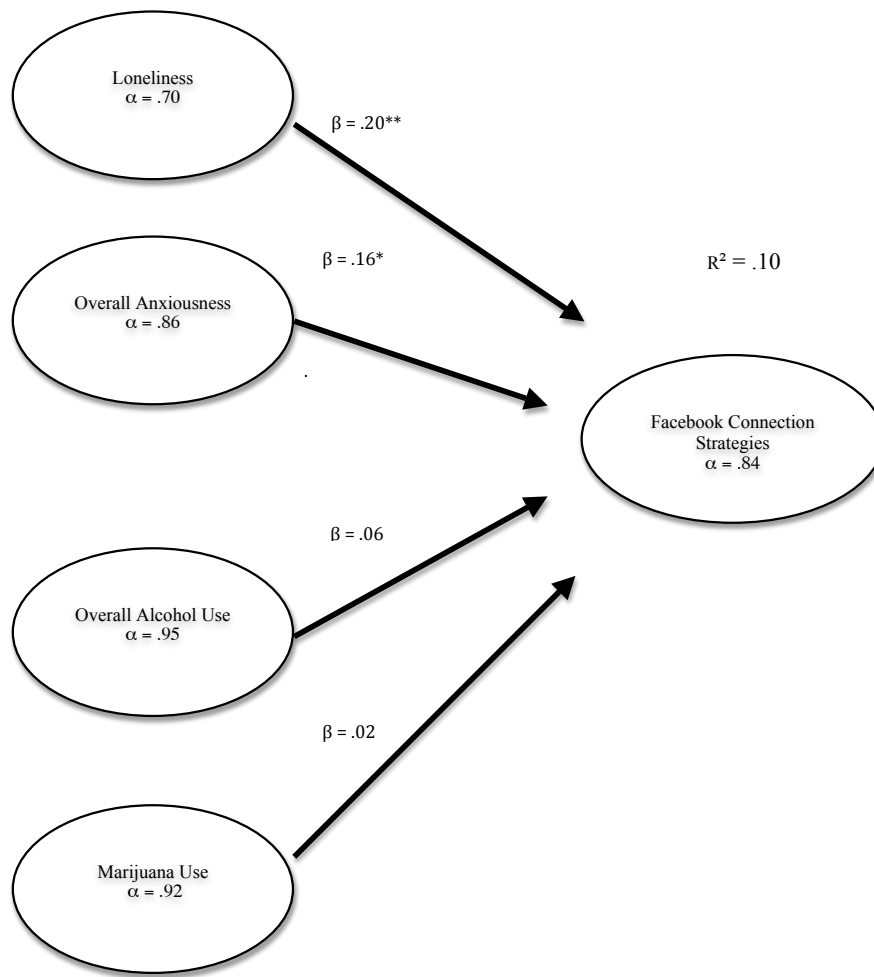
Note: n = 229

  * p < .05

 ** p < .01

*** p < .001

Figure 2. Predictors of Facebook Connection Strategies. This figure illustrates the relationship between Loneliness, Overall Anxiousness, Overall Alcohol use, and Marijuana use with Facebook Connection Strategies.

Note: n = 229

  * p < .05

 ** p < .01

*** p < .001

Summary

This chapter provided the results of the current study. The research questions were (a) whether loneliness would positively predict emotional connectedness to Facebook (b) whether loneliness would positively predict Facebook connection strategies, (c) whether overall anxiousness would positively predict emotional connectedness to Facebook, (d) whether overall anxiousness would positively predict Facebook connection strategies, (e) whether overall alcohol use would positively predict emotional connectedness to Facebook, (d) whether overall alcohol use would positively predict Facebook connection strategies, (e) whether overall marijuana use would negatively predict emotional connectedness to Facebook, (f) whether overall marijuana use would negatively predict Facebook connection strategies. The study found significant relationships three of four predictor variables and with each of the two criteria variables. The final chapter will address the reasoning to the significance of each relationship, as well as implications for future research, implications for practice, and the limitations of the current study.

CHAPTER V

DISCUSSION

In this final chapter, conclusions, study limitations, and implications for future research will be discussed. This research was designed to examine psychological constructs and health behaviors (loneliness, anxiousness, alcohol use, marijuana use) in the prediction of how emotionally connected individuals feel to Facebook, and whether or not individuals will use Facebook to connect with others. Results showed that each variable predicted either emotional connectedness to Facebook or making connections on Facebook, or predicted both Facebook emotional connectedness and Facebook connections.

Summary of Results

The primary objective of this study was to examine whether loneliness, anxiousness, alcohol and marijuana use predicted emotional connectedness to Facebook, and whether individuals use Facebook to make connections. The goals were achieved by examining scores of loneliness, anxiousness, alcohol use, marijuana use, Facebook emotional connectedness, and Facebook connections. Results showed that overall anxiousness, overall alcohol use, and overall marijuana use predicted how emotionally attached participants feel to Facebook. Lastly, loneliness and overall anxiousness predicted individuals to use Facebook to connect with others.

Discussion of Results

According to the results of this study, each predictor variable predicted one or both of the criteria variables. This finding is surprising, considering that, to the researcher's knowledge, there has not been any previous research conducted to examine the health behaviors of alcohol use and marijuana use in the prediction of emotional connectedness to Facebook, and to the prediction of individuals using Facebook to connect with others.

Since Facebook is viewed as a source to connect with others online, it is not surprising that individuals who scored high on the *UCLA loneliness scale* use Facebook to connect with others. This finding suggests that lonely individuals use Facebook to connect with others to reduce their high levels of loneliness, which is similar to the findings established by Lou (2010). Although loneliness predicted connecting with others on Facebook, interestingly enough, loneliness did not predict emotional connectedness to Facebook. Therefore, lonely individuals do not feel that Facebook is an integral part of their everyday life and do not use Facebook often, but when they do, it is to connect with others. It is important to remember that the study included eighteen-year-old freshmen living in university dormitories. Thus, freshmen students who are experiencing feelings of loneliness are not emotionally connected to Facebook, but when logged in these students use Facebook to connect with others. The *Facebook connections scale* includes questions to assess how individuals are connecting on Facebook, one subscale includes maintaining past relationships. Thus, students in their first semester of college may not use Facebook often, but when using Facebook, they may be maintaining past relationships with their families or high-school friends. This finding is parallel to Pempek

et al.'s (2009) study who found that students use Facebook the most to communicate with friends who are not on campus, such as high school friends or family members.

The current study also examined overall anxiousness in the prediction of emotional connectedness to Facebook, and Facebook connections. The results showed that overall anxiousness predicted both emotional connectedness to Facebook, and Facebook connections. These finding are equivalent with my original observation of newly enrolled first year graduate students. As previously stated, I observed graduate students who appeared socially anxious in class, or appeared relatively anxious about being enrolled at a new school or living in a new environment. These students were observed as those who were using Facebook most often. By using Facebook often, I am stating that these individuals were quick to add fellow classmates on the site, and appeared to use the site often (i.e. status updates, photo uploads, etc). Likewise, the results of the current study found that freshmen students who are away from home and who are living in university dormitories are more likely to feel emotionally attached to Facebook, and more likely to connect with others while using Facebook. Raacke and Bonds-Raacke (2008) found that those who are socially anxious may find it difficult to fulfill a social need in real world social contexts, and may therefore turn to the Internet, which may be the scenario in the current study. The results of the current study may stem from the possibility that anxious college freshmen may feel more comfortable interacting online rather than they do in face-to-face interactions, in which case are parallel to the results found by Ebeling-Witte et al. (2007) whose results showed that shy and socially anxious people tend to feel more comfortable maintaining social relationships in online settings than they do in face-to-face interactions. Provided with significant results from

the current study and past research, the author can suggest that anxious individuals are more likely to feel emotionally connected to Facebook, as it is an integral part of their everyday lives, and use Facebook to connect with others online, thereby making connections with others while being able to avoid face-to-face interactions.

The health behavior of alcohol use was examined to determine if alcohol consumption predicts emotional connectedness to Facebook, and whether participants use Facebook to connect with others. The results of the current study showed that overall alcohol use did predict emotional connectedness to Facebook, but did not predict Facebook connections. These findings were not surprising. Past research has examined how viewing alcohol related pictures on the Internet affects young adults (Litt & Stock, 2011; Moreno et al., 2009; Moreno et al., 2007). Past research has also indicated that media exposure has an impact on the normative perceptions of substance use among adolescents (Moreno et al., 2009). Based on the alcoholic content of these photos and comments, individuals may develop a perception of how normative alcohol use is among peers of varying ages, including older peers (Leatherdale et al., 2006; Litt & Stock, 2011). In this study, results showed that freshmen students are emotionally attached to Facebook; therefore, these individuals may be more vulnerable to viewing alcohol-related pictures uploaded by Facebook friends. Litt and Stock (2011) results indicate that viewing alcohol pictures uploaded by friends makes alcohol consumption seem more normative, and has an indirect effect on willingness to use alcohol. Therefore the results of the current study suggests that freshmen students may be more likely to engage in alcohol consumption, and also, may upload alcohol related pictures on Facebook to seem

"cool" or to "fit in" with fellow undergraduates, and as a result, these students use Facebook more often and indirectly become more emotionally connected to the site.

Lastly, results of the current study showed that overall marijuana use negatively predicted emotional connectedness to Facebook, but did not predict Facebook connections. The results indicate that the more a participant engaged in marijuana use the less emotionally connected the individual felt towards Facebook. This seemingly counterfactual result is based on the fact that marijuana usage is much less of a social process especially since the participants live in university-owned residence halls and likely have to sneak about to partake, and thus may be away from their computer or Facebook more often than those who do not smoke marijuana. Also, past research has shown that individuals who view marijuana-related postings on Facebook are less accepting, particularly because it depicts more non-normative behaviors (Morgan et al. 2010), and unlike in the case of alcohol use, participants may not be as willing to engage in marijuana use or be as willing to upload marijuana related pictures to Facebook. Again, the current study was the first to the researchers' knowledge to examine the health behaviors of whether alcohol use and marijuana use predicted emotional connectedness to Facebook, and Facebook connections.

<div align="center">Summary Statement</div>

This research adds to the growing body of literature that examines loneliness and anxiousness, in relation to Facebook. Additionally, the current study is the first to find that overall alcohol use and overall marijuana use predicts emotional connectedness to Facebook.

Implications for Further Research

Given the study's findings, additional quantitative studies regarding loneliness, anxiousness, alcohol use, and marijuana use in the prediction of Facebook use are warranted. Little research has been done exploring the relationship between the four previously mentioned predictive variables and social network sites. Second, future research should test to see whether other psychological or health constructs predict Internet use, or time spent on other social networking sites. Unfortunately, because of the relatively small sample size, the current study could not test for differences based on race/ethnicity, or differences among those who have a Facebook account, and those who do not. Future research should also include participants who are adapting to a new city, state, or country in the prediction of how emotionally attached individuals become to Facebook, and if, or how, these individuals use Facebook to connect with others. Lastly, future research should examine variables in the prediction of additional social networking sites, such as MySpace, Twitter, and Google Plus.

Implications for Practice and Recommendations

The implications for future practice consist of whether or not social networking sites are beneficial in providing the ability to socialize online, and whether social networking sites may be unhealthy and causing harm to those who have an account. As suggested by Litt and Stock (2011) viewing non-normative behaviors online may result in individuals becoming more likely to engage in certain harmful behaviors. One concern may be for teenagers or young adults who view alcohol and marijuana-related pictures online from peers or older adults, whom they may look up to. By doing so, it is only speculation that these young adults may feel the need to engage in the same behaviors.

Additional implications for practice may be that those who are experiencing feelings of loneliness and anxiousness may benefit from socializing online. However, future research should be conducted to examine to answer the questions of what is a healthy amount of time to spend on the Internet or social networking sites, and what is an obsessive amount, or unhealthy amount of time to spend on social networking sites.

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

While the findings discussed thus far add to the sparse research on the variables that predict emotional connectedness to Facebook, and Facebook connections, several limitations should be acknowledged. First, the current study was non-experimental in design. Furthermore, this study used a convenience sample of university students who were living in university dormitories (100%) and therefore may not accurately represent the average population. Also, since students were living in dormitories, students' ability to engage in marijuana use or alcohol use may have been restricted. Also, the sample was predominately female (74.3%) and predominately eighteen-year-old students, and therefore may not be representative to the general population. Thus, the findings must be interpreted with caution when making casual references. Also, students who participated in the study self-reported their answers using a survey, and therefore may not have answered honestly or answered is such a way as to provide the researcher with results consistent with the hypotheses. Lastly, the survey consisted of ninety-six questions and the students may have been fatigued while answering the survey packet.

Summary and Conclusion

In summary, one of every twelve people in the world are on Facebook with more than 50% of users using the site everyday, according to Facebook.com. The twenty-first century brought about being able to socialize online through social networking sites. Thus, continued research should be conducted to examine how social network sites are affecting account users psychologically, and from a health viewpoint. The purpose of this study was to examine whether loneliness, anxiousness, alcohol use, and marijuana use predicted emotional connectedness to Facebook, and Facebook connections, among freshmen students living in university dormitories. The results of this study found that overall anxiousness, overall alcohol use, and overall marijuana use predicted how emotionally attached participants felt to Facebook. Additionally, the study found that loneliness and overall anxiousness predicted individuals' use of Facebook to connect with others. Furthermore, it is interesting to note that not only psychological constructs can predict emotional connectedness to Facebook, and Facebook connections, but also that health related behaviors can be further examined to investigate the prediction of emotional connectedness to Facebook, and Facebook connections.

Appendix A

UCLA Loneliness Scale

1. How often do you feel that you are in tune with the people around you?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

2. How often do you feel that you lack companionship?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

3. How often do you feel that there is no one you can turn to?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

4. How often do you feel alone?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

5. How often do you feel part of a group of friends?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

6. How often do you feel that you have a lot in common with the people around you?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

7. How often do you feel that you are no longer close to anyone?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

8. How often do you feel that your interests and ideas are not shared by those around you?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

9. How often do you feel outgoing and friendly?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

10. How often do you feel close to people?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

11. How often do you feel left out?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

12. How often do you feel that your relationships with others are not meaningful?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

13. How often do you feel that no one really knows you well?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

14. How often do you feel isolated from others?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

15. How often do you feel you can find companionship when you want it?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

16. How often do you feel that there are people who really understand you?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

17. How often do you feel shy?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

18. How often do you feel that people are around you but not with you?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

19. How often do you feel that there are people you can talk to?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

20. How often do you feel that there are people you can turn to?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

Appendix B

Self-Consciousness Scale

For each of the items below, use the following rating scale to rate the degree to which that statement is characteristic of you:

A.) Extremely uncharacteristic = 0
B.) Generally uncharacteristic = 1
C.) Equally characteristic and uncharacteristic= 2
D.) Generally characteristic = 3
E.) Extremely characteristic = 4

_____ 1. I'm always trying to figure myself out.

_____ 2. I'm concerned about my style of doing things.

_____ 3. Generally, I'm very aware of myself.

_____ 4. It takes me time to overcome my shyness in new situations.

_____ 5. I reflect about myself a lot.

_____ 6. I'm concerned about the way I present myself.

_____ 7. I'm often the subject of my own fantasies.

_____ 8. I have trouble working when someone is watching me.

_____ 9. I constantly scrutinize myself.

_____ 10. I get embarrassed very easily.

_____ 11. I'm self-conscious about the way I look.

_____ 12. I find it hard to talk to strangers.

_____ 13. I'm generally attentive to my inner feelings.

_____ 14. I usually worry about making a good impression.

_____ 15. I'm constantly examining my motives.

_____ 16. I feel anxious when I speak in front of a large group.

_____ 17. One of the last things I do before I leave the house is look in the mirror.

_____ 18. I sometimes have the feeling that I'm off somewhere watching myself.

_____ 19. I'm concerned about what other people think of me.

_____ 20. I'm alert to changes in my mood.

_____ 21. I'm usually aware of my appearance.

_____ 22. I'm aware of the way my mind works when I work through a problem.

_____ 23. Large groups make me nervous.

Appendix C

Alcohol Use Disorders Identification Test

1. How often do you have a drink containing alcohol?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

2. How many drinks containing alcohol do you have on a typical day when you are drinking?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

3. How often do you have six or more drinks on one occasion?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

4. How often during the last year have you found that you were not able to stop drinking once you had started?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

5. How often during the last year have you failed to do what was normally expected from you because of drinking?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

7. How often during the last year have you had a feeling of guilt or remorse after drinking?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?

51

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

9. Have you or someone else been injured as a result of your drinking?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

10. How often has a relative or friend or a doctor or another health worker been

concerned about your drinking or suggested you cut down?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

Appendix D

Researchers' Questions to Alcohol Use

1. How often do you drink alcohol when you are alone?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

2. How often do you drink alcohol to help you when you feel depressed?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

3. How often do you drink alcohol to help you when you feel nervous?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

4. How often do you drink alcohol to forget about your problems?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

Appendix E

UNCOPE

1. In the past year, how often have you used marijuana more than you meant to?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

2. How often have you neglected some of your usual responsibilities because of using marijuana?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

3. How often have you felt you wanted or needed to cut down on your marijuana use in the last year?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

4. How often has someone objected to your marijuana use?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

5. How often have you found yourself preoccupied with wanting to use marijuana?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

6. How often have you used marijuana to relieve emotional discomfort, such as sadness, anger, or boredom?

A.) Never   B.) Less than monthly   C.) Monthly   D.) Weekly   E.) Daily or almost daily

Appendix F

Facebook Intensity Scale

For each of the items below, use the following rating scale to rate the degree to which that statement is characteristic of you: Use the following rating scale to rate the degree to which that statement is characteristic of you:

Facebook Intensity Scale

A.) Strongly Disagree = 1
B.) Disagree = 2
C.) Neither agree nor disagree = 3
D.) Agree = 4
E.) Strongly Agree= 5

_____1. Facebook is part of my everyday activity
_____2. I am proud to tell people I'm on Facebook
_____3. Facebook has become part of my daily routine
_____4. I feel out of touch when I haven't logged onto Facebook for a while
_____5. I feel I am part of the Facebook community
_____6. I would be sorry if Facebook shut down

Please answer the following three questions appropriately:

_____ 7. Approximately how many TOTAL Facebook friends do you have?
A.) 0-100
B.) 101-200
C.) 201-300
D.) 301-400
E.) More than 500.

_____ 8. In the past week, on average, approximately how much time PER DAY have you spent actively using Facebook?
A.) 0-30min
B.) 30min-1 Hour
C.) 1-2 Hours
D.) 2-3 Hours
E.) 3 or more Hours

Appendix G

Facebook Connections Strategies Scale

_____ 1. I use Facebook to meet new people
A.) Strongly Disagree = 1
B.) Disagree = 2
C.) Neither agree nor disagree = 3
D.) Agree = 4
E.) Strongly Agree= 5

Imagine a Texas State University student you've never met in real life or had a face-to-face conversation with. How likely are you to do the following? Use the following rating scale to rate the degree to which that statement is characteristic of you:

A.) Not Likely at all= 1
B.) Somewhat Likely = 2
C.) Neither Likely or Unlikely = 3
D.) Likely = 4
E.) Very Likely= 5

_____ 2. Browse their profile on Facebook
_____ 3. Contact them using Facebook, or by using information from Facebook
_____ 4. Add them as a Facebook friend
_____ 5. Meet them face-to-face

Use the following rating scale to rate the degree to which that statement is characteristic of you:

A.) Strongly Disagree = 1
B.) Disagree = 2
C.) Neither agree nor disagree = 3
D.) Agree = 4
E.) Strongly Agree= 5

_____ 6. I have used Facebook to check out someone I met socially.
_____ 7. I use Facebook to learn more about other people in my classes.
_____ 8. I use Facebook to learn more about other people living near me.

Use the following rating scale to rate the degree to which that statement is characteristic of you:

A.) Not Likely at all= 1
B.) Somewhat Likely = 2
C.) Neither Likely or Unlikely = 3
D.) Likely = 4
E.) Very Likely= 5

_____ 9. Someone in Residence Hall: Browse their profile on Facebook

Think about one of your close friends. How likely are you to do the following? Use the following rating scale to rate the degree to which that statement is characteristic of you:

A.) Not Likely at all= 1
B.) Somewhat Likely = 2
C.) Neither Likely or Unlikely = 3
D.) Likely = 4
E.) Very Likely= 5

_____ 10. Browse their profile on Facebook

_____ 11. Contact them using Facebook, or by using information from Facebook

_____ 12. Add them as a Facebook friend

_____ 13. Meet them face-to-face

REFERENCES

Babor, T. F., Higgins-Biddle, J. C., Saunders, J. B., & Monteiro, M. G. (2001). *The Alcohol Use Disorders Identification Test.* Geneva, Switzerland : World Health Organization.

Beck, R., Taylor, C., & Robbins, M. (2003). Missing Home: Sociotrophy and autonomy and their relationship to psychological distress and homesickness in college freshmen. *Anxiety, Stress, and Coping 16,* 155-166.

Britt, T. H. (1992). The self-consciousness scale: On the stability of the three factor structure. *Personality and Social Psychology Bulletin, 18*, 748–755.

Burnkrant, R. E., & Page Jr., T. (1984). A Modification of the Fenigstein, Scheier, and Buss Self-Consciousness Scales. *Journal of Personality Assessment, 48*, 629-637.

Caplan, S. E. (2007). Relationship Among Loneliness, Social Anxiety, and Problematic Internet Use. *CyberPsychology & Behavior, 10,* 239-242.

Ebeling-Witte, S., Frank, M. L., & Lester, D. (2007). Shyness, Internet use, and personality. *CyberPsychology and Behavior, 10*, 713–716.

Ellison, N., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook friends: Social capital and college students use of online social network sites. *Journal of Computer Mediated Communication. 12*(4), 1143-1168.

Facebook Factsheet Retrieved January 12, 2012.

Feingstein, A., Scheier, M., & Buss, A. (1975). The Self Consciousness Scale. *Journal of Consulting and Clinical Psychology*, *43,* 522-527.

Hoffmann, N. G., Hunt, D. E., Rhodes, W. M., & Riley, K. J. (2003). UNCOPE: A Brief Substance Dependence Screen for Use with Arrestees. *Journal of Drug Issues, 33,* 29-44.

Jones, S. (2009). Generations Online in 2009. Pew Research Center. http://pewresearch.org/pubs/1093/generations-online/> Accessed 11.07.11

Kalpidou, M., Costin, D., & Morris, J. (2011). The Relationship Between Facebook and the Well-Being of Undergraduate College Students. *Cyberpsychology*, *14*, 183-189.

Kaplan, A., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media*. Business Horizons, 53*. 59-68.

Kim, J., LaRose, R., & Peng, W. (2009). Loneliness as the Cause and the Effect of Problematic Internet Use: The Relationship between Internet Use and Psychological Well-Being. *CyberPsychology, 12,* 451-455.

Klein, R. B. (2005). Priniciples and practice of structural equation modeling, 2nd edition. New York: Guilford Press.

Kraut, R., Patterson, M., & Lundmark, V. (1998). Internet paradox: A social technology that reduces social involvement and psychological well-being? *American Psychologist, 53,* 1017-1031.

Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, A., & Crawford, A. (2002). Internet paradox revisited. *Journal of Social Issues*, *1*, 49–74.

Leatherdale, S. T., Cameron, R., Brown, K. S., Jolin, M., & Kroeker, C. (2006). The

    influence of friends, family and older peers on smoking among elementary school

    students: Low risk students in high-risk schools. *Preventive Medicine*, 42, 218–

    222.

Litt, D. M., & Stock, M. L. (2011). Adolescent Alcohol-Related Risk Cognitions: The

    Roles of Social Norms and Social Networking Sites. *Psychology of Addictive*

    Behaviors, 25, 708-713.

Lou, L. (2010). Loneliness, friendship, and self-esteem: First-year college students'

    experience of using facebook. *Dissertation Abstracts International*, *70*.

McKenna, K. Y .A., Greene, A. S., & Gleason, M. E .J. (2002). Relationship formation

    on the Internet: what's the big attraction? *Journal of Social Issues*, *58*, 9–31.

Moreno, M. A., Parks, M., & Richardson, L. P. (2007). What are adolescents

    showing the world about their health risk behaviors on MySpace? *Medscape*

    General Medicine, 9, (4), 9.

Moreno, M. A., Parks, M. R., Zimmerman, F. J., Brito, T. E., & Christakis,

    D. A. (2009). Display of health risk behaviors on MySpace by adolescents:

    Prevalence and associations. *Archives of Pediatric and Adolescent*

    Medicine, 163, 27–34.

Morgan, E.M., Snelson C., & Elison-Bowers, P. (2010). Image and Video disclosure of

    substance use on social media websites. *Computers in Human Behavior, 26,*

    1405-1411.

Orr, E. S., Sisic, M., Ross, C., Simmering, M. G., Arsenault, J.M. & Orr, R. R. (2009). The influence of shyness on the use of facebook in an undergraduate sample. *CyberPsychology and Behavior*, *12*, No 337-340.

Ozdemir, U., & Tuncay, T. (2008). Correlates of loneliness among university students. *Child and Adolescent Psychiatry and Mental Health, 2,* 29.

Papacharissi, Z., & Rubin, A. (2000). Predictors of internet use. *Journal of Broadcasting and Electronic Media, 44*, 75–196.

Pempek, T., Yermolayeva, Y., & Calvert, S. (2009). College students' social networking experiences on Facebook. *Journal of Applied Developmental Psychology*, *30*, 227-238.

Russell, D. W. (1996). UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure. *Journal of Personality Assessment*, *66*, 20-40.

Russell, D., Peplau, L. A. & Cutrona, C. (1980). The revised UCLA Loneliness Scale: Concurrent and discriminant validity evidence. *Journal of Personality and Social Psychology, 44,* 127-139.

Saleem, M. (2010). By the numbers: Facebook vs the United States. <http://mashable.com/2010/04/05/facebook-us-infographic/> Accessed 05.04.10

Saunders, J. B., Aasland, O. G., Babor, T. F., de la Fuente, J. R., & Grant, M. (1993). Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption – II. *Addiction*, *88*, 791- 804.

Scheier, M. F., & Carver, C. S. (1975). The self-consciousness scale: A revised version for use with general populations. *Journal of Applied Social Psychology, 15*, 687-699.

Selin, K. H. (2003). Test-retest reliability of the alcohol use disorder identification test in a general population sample. *Alcoholism: Clinical and Experimental Research, 9,* 1428-1435.

Sheldon, P. (2008). The relationship between unwillingness-to-communicate and students' facebook use. *Journal of Media Psychology, 20*, 67-75.

Srinivasan, A. (2009). Ten interesting facts about Facebook. <http://techcrunchies.com/ten-interesting-facts-about-facebook/> Accessed 01.07.12.

Strahan, E. (2003). The effects of social anxiety and social skills on academic performance. *Personality and Individual Differences 34,* 347-366.

Urista, M., Dong, Q., & Day, K. (2009). Explaining why young adults use MySpace and Facebook through uses and gratifications theory. Human Communication A *Journal of the Pacific and Asian Communication Association, 12* (2), 215.

Urofsky R. I., Seiber E. E., & Hoffman N. G. (2007) "UNCOPE: Evaluation of a Brief Screen for Detecting Substance Dependence among Juvenile Justice Populations", *Journal of School Counseling, 5* (17).

Wiley, C., Sisson, M., & November C. (2006). The use of Facebook by students and employers. *New Media & Society, 7,* 383-402.

Weitzner, M. (Producer). (2010, December 17). The Facebook Obsession. (Television Broadcast). New Jersey: CNBC.

World Health Organization. (1989). Alcohol Use Disorders Identification Test (AUDIT).

Department of mental health and substance dependence. Accessed 10.06.10

Yoder, C. & Stutzman, F. (2011). Identifying Social Capital in Facebook Interface.

Association for Computing Machinery, 1, 978-982.

VITA

Russell Clayton was born in Abilene, TX, on January 12, 1988. Russell is the son of Judy Clayton and Dan Clayton and the brother of Andrea Clayton and Garrett Clayton. He completed his high school education in 2006 from Sweetwater High School. He then attended Texas State University-San Marcos and received his Bachelor of Science in Psychology in 2010. That same year, he began working towards his Masters in the Health Psychology program at Texas State. Aside from being a student, he is also a graduate instructional assistant for courses in health psychology, psychology of prejudice, hate, and discrimination, and behavioral statistics. Additionally, he is on the Texas State mental health advisory committee where he works with the president of student affairs to assess the mental health climate of Texas State. After obtaining his Masters in May of 2012 he plans to attend the University of Missouri in August of 2012. While attending the University of Missouri he will be conducting research in the psychological research on information and media effects (PRIME) lab in hopes of receiving his PhD in Journalism.

Permanent Email Address: rclayton23@yahoo.com

This thesis was typed by Russell B. Clayton