A MULTIPLE REGRESSION AND CONCURRENT VALIDITY ANALYSIS OF HIGH

SCHOOL SENIORS' SOCIAL COMPETENCE, ABILITY TO MANAGE

EMOTIONS, AND THEIR TIME SPENT ON FACEBOOK

By

Charles Edward Rhoton

A Dissertation Presented in Partial Fulfillment of

The Requirements for the Degree

Doctor of Education

Liberty University

April, 2014

A MULTIPLE REGRESSION AND CONCURRENT VALIDITY ANALYSIS OF HIGH

SCHOOL SENIORS' SOCIAL COMPETENCE, ABILITY TO MANAGE

EMOTIONS, AND THEIR TIME SPENT ON FACEBOOK

By

Charles Edward Rhoton

A Dissertation Presented in Partial Fulfillment of

The Requirements for the Degree

Doctor of Education

Liberty University

April, 2014

APPROVED BY:

Rollen Fowler, PhD, Chair   Date

Cristie McClendon, PhD, Committee   Date

Lisa Aaroe, PhD, Committee   Date

Scott Watson, Ed. D., Chair of Graduate Studies   Date

Abstract

This study involved the investigation of high school seniors' social competence and ability to manage emotions in predicting the amount of time they spend socializing on Facebook. The study also seeks to determine if the Social Skill Improvement System (SSIS) and the Mayer, Salovey, Caruso Emotional Intelligence Test (MSCEIT) measure similar constructs. A multiple regression design and correlation design was planned for the study. The data analysis was carried out by testing for normality, linearity, homoscedasticity, and multicollinearity. Due to violations in testing for normality, linearity, and homoscedasticity, the data was transformed using a log transformation in order to perform the multiple regression analysis. Due to the normality and linearity issues with the data, a Kendall Tau correlation was performed in place of the Pearson's *r* correlation. The study was carried out in a high school in Northeastern, Tennessee. A total of 68 high school students participated in the study by completing a week log regarding the number of minutes they spend on Facebook per day, SSIS, and MSCEIT. Descriptive data was included along with the data analysis regarding the relationship among the dependent variables, SSIS global score and MSCEIT global score, and time spent socializing on Facebook. The analysis of criterion validity was also included to display the relatedness among constructs from the SSIS and MSCEIT.

Acknowledgements

I would like to first thank my lord and savior Jesus Christ for giving me the strength and courage to undertake the task of completing a doctoral degree. I am thankful for the knowledge and wisdom He provided me during this process. I know without His guiding hand none of this would have been possible. I would also like to thank my wife Valarie and my son Aidan for their patience and support throughout this process. Thanks also to my parents for always giving me a warm and loving environment and instilling the desire in me to be successful and to always strive to achieve my dreams.

I would also like to thank my dissertation chair Dr. Rollen Fowler for his guidance, support, and overwhelming patience throughout this process. His continual questioning and motivation helped me overcome many obstacles throughout the writing of this dissertation. I would also like to thank my committee members, Dr. Christie McClendon and Dr. Lisa Aaroe for their assistance in all the corrections and assistance in the rewrites of this dissertation and for their encouraging words when it felt like no end was in sight for this dissertation. Dr. Foller, Dr. McClendon, and Dr. Aaroe you have helped me grow during this experience and I have learned many lessons throughout this writing process. Finally, thank you to Liberty University for providing a Christ centered education for which I am very grateful.

.

Table of Contents

CHAPTER 1: INTRODUCTION

Introduction

Facebook was founded in 2004 and currently has over 750 million users who spend over 700 billion minutes on Facebook per month (Factsheet, 2011). Facebook users have over 900 million interactive objects, an average of 130 friends and create 90 pieces of material on the site per month (Factsheet, 2011). The demographic population with the fastest growth among internet users is adolescents (Barker, 2009).

The main motivation for using Facebook among high school students is to pass time (Hart, 2010) and Bosch (2009) indicated students mainly use Facebook to keep in touch with people they already know. In 2008, Acar published a study involving undergraduate students and found extroversion to be a factor in the number of friends an individual has on their Facebook profile.

The interactions with friends is apparently related to the management of emotions (Lopes, Brackett, Nezlek, Schütz, Sellin, & Salovey, 2004) and researchers suggest studies be performed among variables such as intelligence (Hughes, Rowe, Batey & Lee, 2011), psychosocial behavior (Wilson, Fornasier, & White, 2010), and usage behaviors among non-college age students (Junghyun & Jong-Eun, 2011). McCabe and Altamura (2011) said, "Children who are social and emotional competent have increased socialization opportunities with peers, develop more friends, have better relationships with parents and teachers" (p.513). The purpose of this study is to determine if a relationship exists between time spent on Facebook, global social skill level, and ability of high school seniors to manage their emotions.

Background

Numerous studies have concentrated on Facebook users who are adults and who are

college students (e.g.Acar, 2008; Bosch, 2009, Christofides, Muise, & Desmarais, 2009;

DeSchryver, Mishra, Koehleer, & Francis., 2009; Ellison, Steinfield, & Lampe, 2007). More

recently, Masin (2011) investigated the interpersonal development of college students who use

Facebook and found that as Facebook intensity use increases, the development of interpersonal

relationships decreases.

While investigating Facebook usage involving high school and college age students, Hart

(2011) reported that high school students use Facebook for passing time and relationship

maintenance. Facebook was initially available only to students who had a college email account

(Junghyun & Jong-Eun (2011). According to Junghyun and Jong-Eun, 2011, "Since September

2006 when Facebook opened its membership to the general public, the number of younger and

older age users has increased dramatically"(p.363). Junghyun and Jong-Eun (2011) suggested an

investigation among non-college age students is necessary, specifically among students attending

secondary schools and while emotional regulation and social cognitive skills have been found to

be a prominent part of peer relationships among adolescents (Deater-Deckard, 2001; Lerner &

Steinberg, 2004). Emotional intelligence is an unknown factor in relation to Facebook usage and

the ability to manage emotions has been found to affect social interactions (Lopes et al., 2004).

Bandura (1989) stated, "Diversity in social practices produces substantial individual differences

in the capabilities that are cultivated and those that remain underdeveloped" (p.2). While

psychosocial aspects such as social skill level and managing emotions are chosen as outcome

variables within the study, adolescent-age students are chosen to provide insight into

psychosocial variables and Facebook use. Adolescence has been "characterized as a period of

psychosocial turmoil" (Bandura, 1989, p.68). According to Lopes et al. (2004), "Emotional competencies are thought to be important for social interaction because emotions serve communicative and social functions conveying information about people's thoughts and intentions and coordinating social encounters" (p.1018).

Wilson et al. (2010) found a relationship between psychosocial behaviors and emotional intelligence and recommended studies be performed to ascertain other psychosocial characteristics relating to the level of use among social networking sites. The problem is high school students are spending a great amount of time utilizing Facebook and little research has been conducted regarding the amount of time adolescents spend on Facebook. The importance of understanding social skill level and ability to manage emotions among high school students has great significance in understanding addictive behaviors. Wilson et al. (2010) stated it is "important to understand factors influencing social networking site use, especially at high levels to identify those who may be prone to developing addictive behaviors" (p.173). Understanding the relationship between Facebook usage, global social skill, and ability to manage emotions could provide an avenue for predicting and preventing adverse behaviors in adolescence such as addictive behaviors.

<div align="center">**Problem Statement**</div>

The problem is we do not know if a relationship between social skill and Facebook usage, a relationship between ability to manage emotions and Facebook usage, and relationship between social skill and ability to manage emotions has not been established. Presently, there is a gap in knowledge related to understanding adolescent addiction to social networking and its relationship to social skills/competence and an ability to manage one's emotions as Wilson et al. (2010) stated it is "important to understand factors influencing social networking site use,

especially at high levels to identify those who may be prone to developing addictive behaviors" (p.173). Facebook is a relatively new phenomenon with millions of users and serves as a component of student life. Facebook users have on average 130 friends and 700 billion minutes are spent per month on Facebook by 750 million users (Aydm & San, 2011). Studying social skill and ability to manage emotion sought to assist in explaining young people's usage and susceptibly for additive behaviors (Wilson et al., 2010). "Given the popularity of these sites and the importance in young people's lives to facilitate community and relationships" (Wilson et al. 2010, p.173). This study sought to determine if a relationship exists between Facebook, global social skill, and ability to manage emotions among high school seniors.

Purpose Statement

The purpose of this study is to determine if high school seniors' social competence and ability to manage emotions predicts the amount of time they spend socializing on Facebook. The researcher utilized scores from the SSIS and the MSCEIT to determine if they measure similar constructs. This study utilized (a) a time log kept by the high school senior participants to measure time spent on Facebook; (b) the *Social Skills Improvement System* (SSIS) (Gresham & Elliott, 2008) which include global social skill domain, subscales in the following categories; (a) communication, (b) cooperation, (c) assertion, (d) responsibility, (e), empathy, (f) engagement, and (g) self-control and the behavior problem domain including subscales in the following categories; (a) externalizing, (b) internalizing, (c) hyperactivity/inattention, (d) autism spectrum, and (e) bullying. Global Index Composite score, and Communication, Cooperation, Assertion, Responsibility, Empathy, Engagement, and Self-Control subdomain areas to measure social skills/competence; and (c) the *Mayer, Salovey, Caruso Emotional Intelligence Test* (MSCEIT) (Mayer, Salovey & Caruso, 2002) which includes The MSCEIT consisted of a total of 13

different scores which include a global emotional intelligence score, scores from two main

domains, experimental and strategic along with subscales from the two main domains. The

experimental domain includes perceiving and using emotions. The perceiving emotions

constructs include recognition of faces and pictures. The using emotions constructs include

sensation and facilitations of emotions. The strategic domain includes understanding and

managing emotions. The understanding emotions constructs include blends and changes while

the managing emotions construct include emotional management and emotional relations.

This research study sought to add to the knowledge base regarding high school students

who pass time on Facebook in terms of how this is predicts outcomes on measures of social

skills and emotional regulation/management. This study sought to determine if a linear

relationship exists between the predictor variables associated with the (a) SSIS, and (b) MSCEIT

and the outcome variable *time spent on Facebook.* As such, a statistical regression technique

were used to find the best prediction equation between the variables and whether that prediction

equation is statistically significant (Cohen & Cohen, 1983).The outcome variable, Facebook

"usage", is defined as a total number of hours an individual spends on Facebook on average in

one week. Fernandez, Levinson, and Rodebaugh (2012) indicated an evaluation of Facebook

usage through the question, "how many minutes per day are spent on Facebook" and Orr et al.

(2009) indicated the questioning for time spent on Facebook should be asked using an open-

ended question rather than using a Likert scale. Masin (2009) also suggests time spent on

Facebook should be investigated and time spent kept as a continuous variable.

The setting for the study was a high school in northeastern Tennessee that serves grade

levels 9-12. In 2010, the high school served 1372 students. The ethnic breakdown of the

students consists of the following, 96.8% Caucasian, 1.3% Hispanic, 1.2 % African-American, 0.4% Native American, and 0.3% Asian (School Report Card, 2010).

The number of participants calculated with an alpha level of p<0.05, a medium effect size of 0.15 and a power level of 0.80 gives a minimum sample size of 67 (Statistical Calculator, 2006). The power level for the study was set at 0.80 which meant the researcher had a 20% chance of making a type II error which is the failure to reject a false null hypothesis (Ary, Jacobs, & Sorenson, 2010). The total number of participants used in this study was increased from the minimum of 67 to 100 to account for the potential attrition during the study. However, only 68 participated in the study. The participants included students in a northeastern Tennessee high school who are seniors and 17 years or older. Students were chosen due to convenience. The students were then given parental consent forms as well as student assent forms and were asked to return the forms within a week. Students who did not return forms were given a written reminder by the research assistant and the student had an extra week to return forms before students were excluded from the research study.

Significance of the Study

While adolescents are spending a great deal of time on the internet, the relationship among time spent on the internet, especially utilizing the internet to access the social networking site Facebook and the relationship among Facebook use and the ability to manage emotions of the adolescents is an unknown factor in the welfare of adolescents. The emotional intelligence of an individual refers to the ability to express, assess, regulate, and use emotions in goal achievement (Salovey & Mayer, 1990). A relationship exists among personal well-being, quality of interpersonal relationships and emotional intelligence (Salovey & Mayer, 1990). The investigation and research of the relationship among Facebook and managing emotions of high

14

school students by the MSCEIT sought to give insight into Facebook use among adolescents for future purposes of developing an intervention plan to identify adolescents with low emotional skills.

Facebook is becoming a prominent component of many students lives and requires the use of interpersonal and social skills (Hart, 2010) While the emotional abilities of the student assist in the formation and maintenance of interpersonal and social functions (DeLucia, 2009), Lopes et al. (2004) found the ability to manage emotions and quality social interactions are related. Facebook usage requires social interaction which has been found to be related to emotional intelligence and is related to adolescent academic achievement (Hassan, Sulaiman, & Ishak, 2009), depression (Ahmad, Imran, & Mehmood, 2009); low self-esteem (Ahmad et al., 2009), and aggression (Johnston, 2003). If time spent on Facebook is related to social skill and ability to manage emotions, a link between Facebook and academic achievement, depression, self-esteem, and aggression can be established. Direct relationships with negative behavioral and academic problems can provide necessary insight to establish interventions which can alter adolescent behaviors which are negatively affecting their lives.

Research Questions

RQ_1: Does a high school senior's social competence and ability to manage emotions predict the amount of time they spend socializing on Facebook?

RQ_2: Do the SSIS and MSCEIT measure related constructs?

Research Hypotheses

H_1: The multiple regression equation for social competence and managing emotions being able to predict time spent socializing on Facebook is reliably different from zero.

H_2: There are statistically significant positive or negative correlations between time spent on Facebook and SSIS global score.

H_3: There are statistically significant positive or negative correlations between time spent on Facebook and MSCEIT global score.

H_4: There are statistically significant positive or negative correlations between any of the SSIS and MSCEIT global and subscale scores.

Research Null Hypotheses

H_{01}: The multiple regression equation for social competence and managing emotions being able to predict time spent socializing on Facebook is not reliably different from zero.

H_{02}: There are no statistically significant positive or negative correlations between time spent on Facebook and SSIS global score.

H_{03}: There are no statistically significant positive or negative correlations between time spent on Facebook and MSCEIT global score.

H_{04}: There are no statistically significant positive or negative correlations between any of the SSIS and MSCEIT global and subscale scores.

Definition of Terms

Emotional Intelligence: Defined by Mayer and Salovey (1997) as: The ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth.

Facebook: Facebook is a social networking site founded in 2004 created to allow individuals to stay in touch with friends and family (Key Facts, 2012). The social networking site allows individuals to communicate with friends through site functions and applications.

16

Facebook applications include photos, events, videos, groups, and pages. Facebook allows communication through chatting, sending personal messages, wall posts, pokes, and status updates. The experience for individuals using Facebook comes primarily from the user's home page and profile (Factsheet, 2011).

Homoscedasticity: Is an assumption in which data is expected to be spread evenly near the line of best fit in a bivariate relationship (Cohen et al., 2003).

Kurtosis: Refers to the height and shape of the tail of distributions on a frequency graph (Tabachnick & Fidell, 2001).

Mayer Salovey Caruso Emotional Intelligence Test (MSCEIT): An ability scale assessment of emotional intelligence containing four constructs; perceiving emotions, facilitating thought, understanding emotion, and managing emotion (Mayer, Salovey, Caruso, Sitarenios, 2003).

Multicollinearity: Refers to problems with matrices when the correlation of variables are too high (Tabachnick & Fidell, 2001).

Skewness: Scores on a frequency graph that is nonsymmetrical (Gall et al., 2007).

Social Skill: Phillips (1978 defined social skill as tools utilized in initiation and maintenance of interpersonal relations through interactions between individuals and environment.

Social Skills Improvement System (SSIS): The SSIS is a multi-rating scale for teachers, parents, and students. The scale is intended to assessment three constructs; social skill, problem behaviors and academic competence. The SSIS is a revision of the SSRS. The SSIS revision includes validity scales, content alignment for teacher and parent forms, norm updates, and an improvement to item content (Gresham, Elliott & Kettler, 2010).

Social Skills Rating Scale (SSRS): The SSRS is scale designed by Gresham and Elliott (1990) to evaluate student social behavior and to develop interventions. The SSRS is the previous version of the SSIS.

Tri-Modal Causation Model: "In this model of reciprocal causation, behavior, cognition and other personal factors, and environmental influences all operate as interacting determinants that influence each other bi-directionally" (Bandura, 1989, p.2)

Identification of Variables

The criterion variable for research question one consisted of time spent socializing on Facebook. Facebook is a social networking site founded in 2004 created to allow individuals to stay in touch with friends and family (Key Facts, 2012). The time spent on Facebook consisted of having high school seniors log their time spent on Facebook for one week and determine the time spent on Facebook in one week.

The predictor variables for research question one consisted of scores on the SSIS and the MSCEIT. The SSIS consisted of the global scores for each domain along with the subscale scores which are broken down into the following domains: The Global social skill domain including subscales in the following categories; (a) communication, (b) cooperation, (c) assertion, (d) responsibility, (e), empathy, (f) engagement, and (g) self-control. The behavior problem domain includes subscales in the following categories; (a) externalizing, (b) internalizing, (c) hyperactivity/inattention, (d) autism spectrum, and (e) bullying.

The MSCEIT consisted of a total of 15 different scores which include a global emotional intelligence score, scores from two main domains, experimental and strategic along with subscales from the two main domains. The experimental and strategic scores were not used within this study. The experimental domain includes perceiving and using emotions. The

perceiving emotions constructs include recognition of faces and pictures. The using emotions

constructs include sensation and facilitations of emotions. The strategic domain includes

understanding and managing emotions. The understanding emotions constructs include blends

and changes while the managing emotions construct include emotional management and

emotional relations. The variables for research question two consisted of all of the scoring scales

for SSIS and the MSCEIT.

Limitations and Validity

A conveniently available sample limits the high school students to students who are 17

and older for the MSCEIT and the geographical and demographic data may not be representative

of other areas of the world. The SSIS limits the age of participants for ages 3-18. Due to the

demographics of the participants and demographics of the surrounding area, the population

validity was affected. The participants were taken from a high school in which ethnic population

is predominately Caucasian students. The inequality among the ethnic population was also a

limitation in the study. The participants were chosen by convenience sampling from a student

population of 1500.

The use of a concurrent criterion design in assessing the measures of the SSIS and the

MSCEIT has limitations including range restriction resulting in smaller criterion validity

estimates and the concern of test-taker motivation involving participants taking personality

instruments.

Research Plan

The research study utilized a multiple regression analysis to ascertain if global social skill and ability to manage emotions forecast time spent on Facebook. Facebook usage was determined by having participants log data each day for 7 days to determine the number of hours in one week the participant utilizes Facebook. The log sheets were collected in one week. The administration of the two instruments by the research assistant was given in accordance to the counterbalancing method set-forth below. The research assistant collected the Facebook log prior to the students logging their own data. 34 students took the SSIS and the other 34 students took the MSCEIT; then at the time all 68 FB logs were collected, the 34 students who did not take the SSIS took it at that time and the other 34 who did not take the MSCEIT took it at that time. Two instruments were used in the research design The SSIS was used to determine the global social skill level of students while the global MSCEIT was used to determine the emotional of the high school senior. The results from the SSIS global and subscales and MSCEIT global and subscales were used to conduct a correlation analysis to determine if the SSIS measures the same constructs as the MSCEIT.

CHAPTER 2: LITERATURE REVIEW

Introduction

The purpose of this study is to determine if a relationship exists between time spent on Facebook, global social skill level, and ability of high school seniors to manage their emotions. The SSIS was used to determine the global social skill and MSCEIT was used to determine the ability to manage emotions. This literature review discusses Bandura's social cognitive theory as model of social development in terms of cognition, social interaction in the activation of emotional responses. Self-efficacy is discussed as an extension of Bandura's social cognitive theory and a view of different studies involving self-efficacy are examined. Social skill is examined through investigating different studies involving academic achievement, problem solving, well-being, social interaction, and a connection with managing emotions. The literature review also includes two prominent models of social skill assessment.

Models of emotional intelligence along with studies involving the management of emotions and emotional intelligence related to academic achievement are included within the review. The literature review includes background information regarding social networking sites along with reviewing the current literature involving Facebook. An overview of the uses of Facebook, effects of Facebook use, and attitudes towards Facebook are included within the review along with a review of current literature involving emotional intelligence and social skill level among adolescence. Facebook usage is also reviewed through time spent, number of Facebook friends, and high school studies involving Facebook usage.

Social Cognitive Theory

The social cognitive theory conceived by Albert Bandura (1986) provides the theoretical framework for this study. Vygotsky's social learning theory was the premise for Albert

Bandura's development of the social cognitive theory (SCT) (Bandura, 1986). The SCT is a model involving environment, personal factors, and behavior. Through the view of Bandura and SCT, people are not shaped or controlled externally but are motivated and regulated by actions internally and by self-evaluation (Bandura, 1986).

Through the environment and personal factors constructs of the tri-modal causation model, development and modification through social influences effect competencies involving cognition (Bandura, 1986) .Through the development and modification by social influences social persuasion, instruction, and modeling, emotional reactions become activated (Bandura, 1989).According to Sternberg (1988) cognition of an individual is affected by environment and behavior.

Bandura (1977) also indicated that through cognitive processes external stimuli affect behavior. The environment and external stimuli within this study refers to the use of Facebook and social interaction among friends while utilizing the social networking site Facebook. While many cognitive processes exist, this study sought to ascertain if a relationship exists among the use of Facebook and cognitive processes controlling emotional intelligence and social skill level.

The SCT helps to explain the relationship between Facebook use, managing emotions and social skill level by utilizing the tri-modal model by assessing social skills and ability to manage emotions and seeking a relationship among Facebook usage. Facebook is a mode of social interaction and Bandura indicated that social influence activates emotions (Bandura, 1989). The more exposure to social media and social interaction through the use of Facebook, the more emotions become activated and the more modeling occurs through direct observation, social persuasion and social influence thus increasing the social skill level and ability to manage emotions among adolescence.

Application of Social Cognitive Theory

Bandura (2001) stated, "Because of the influential role the mass media play in society, understanding the psychosocial mechanisms through which symbolic communication influences human thought, affect, and action is of considerable importance" (p.265). Bandura also indicates that social cognitive theory can assist in the examination of psychosocial constructs involved in communication (Bandura, 2001). Bandura believes development and ability to change and adapt are an important part of social systems (Bandura, 2001). Through the basis of social cognitive theory, Bandura reveals that cognition, self-regulation, and reflection play an important role in social cognitive theory (Bandura, 2001).

Applications for social cognitive theory have spanned a wide variety of aspects of human endeavors; gifted education (Burney, 2008), physical activity (Yael & Shulamith, 2004; Sagas, Bruening, Fink, Sartore & Cunningham, 2005; Wallace, Buckworth, Kirby & Sherman, 2000), career (Bryers & Hackett, 1998; Hayes & Credle, 2008), and business (Ratten & Ratten, 2007; Ratten, 2011). Social cognitive theory has been applied among a vast conglomeration of human endeavors. The number of studies incorporating the social cognitive theory to the internet or social situations on the internet is rare. While the social cognitive theory has been applied among different disciplines and applied rarely to internet, Compeau, Higgins and Huff (1999) developed a model with a foundation in computer influence, outcome expectations, effect on computer usage, and anxiety of computer usage. Compeau et al. (1999) states,

> Significant relationships were found between computer self-efficacy and outcome
> expectations, and between self-efficacy and affect and anxiety and use. Performance
> outcomes were found to influence affect and use, while affect was significantly related to
> use. Overall, the findings provide strong confirmation that both self-efficacy and outcome

23

expectations impact on an individual's affective and behavioral reactions to information technology (p.145).

Research focused on communities of students who use online games suggest "that the influences of both affective commitment and social norms on community loyalty behavior are significant, whereas the influences of both exchange ideology and social support on community loyalty behavior are insignificant" (Chieh-Peng, 2010, p.345). The findings of the study may prove to be significant in establishing emotional attachment while using Facebook through the ability to manage emotions due to social norms of the Facebook community thus creating loyalty behavior by the use of Facebook.

Most external influences affect behavior through cognitive processes rather than directly. Cognitive factors partly determine which environmental events will be observed, what meaning will be conferred on them, whether they leave any lasting effects, what emotional impact and motivating power they will have, and how the information they convey will be organized for future use. (Bandura, 2001, p.267).

Through cognitive processes such as social skill and through the management of emotions, inference can be made through the use of the social networking site Facebook as an environmental medium to which individuals use, will impact an individual emotionally and will affect behavior through the use of Facebook.

Social Skills

Phillips (1978) defines social skill as tools utilized in initiation and maintenance of interpersonal relations through interactions between individuals and environment. Social skill has been described through three facets: (a) peer acceptance, (b) behavior, and (c) social validity (Gresham & Elliott, 1990). Peer acceptance refers to the social skill adequacy to be accepted by

24

peers. Behavior refers to specific behaviors displayed during situations where a probability of punishment in relation to the social behavior is at a maximum. Social validity refers to behaviors displayed in situations which assist in predicting attitudes based on social outcomes (Gresham & Elliott, 1990).

Inadequate social skills are a predecessor to social problems in adolescents and adults. A correlation between social skill, overall adjustment, and later functioning in society indicates long term issues due to inadequate social skills (Gresham & Elliott, 1990). In a book by Windell (1999), social skills were described as "ability to be competent in dealing with others" (p.4). Furthermore, Windell (1999) states, "Social competence involves judgment in interpersonal relations, emotional control, and an understanding of what is appropriate social behavior" (p.4).

The use of Facebook requires social interaction through interpersonal relations. Windell's (1999) suggests social competence relates to interpersonal relationships and being able to control emotions. A relationship between interpersonal interactions, social competence through social skill level, and ability to manage emotions through the control of emotions should be related.

Social Skill and Academic Performance

The social skill level of students is an important factor in academic success and social skill has been found to have a relationship with academic achievement (McClelland, Morrison, & Holmes, 2000; Payton et al., 2008). While some researchers have focused on overall social skill others have investigated certain aspects on social skill level such as; cooperation, assertion, social responsibility, and self-control and all have been found to be positively associated with academic achievement (Diperna & Ellliott, 1999; Malecki & Elliott, 2002; Wentel, 1991).

The influence of social skill level on academic success has shown a consistency of interconnectedness over time (Parke & Welsh, 1998). The ability to solve problems relates to a strong sense of self-efficacy (Kolb, 2011). While the use of Facebook is a type of social interaction the usage may enhance social skill and thus enhance academic performance. Kolb (2011) states, "Many of the principles of the social cognitive theory should be considered in curricular programs" (p.209).

Self-Efficacy

The concept of self-efficacy was first popular by Bandura (1977) and he defines self-efficacy as "the conviction that one can successfully execute the behavior required to produce the outcomes" (p.79). Positive self-efficacy is known to reduce fears involving anticipation and reserve among individuals. Through efficacy expectations, a determination of persistence through negative experiences among individuals can be established (Bandura, 1977).

"Efficacy varies on three dimensions: level (the number of tasks a person can do); strength (how resolutely a person believes in his ability to perform each task); and generality (the extent to which expectancies can be generalized from one situation to the next)" (Sadri, 2011, p.30).

Efficacy expectations involve four different constructs; performance accomplishments, vicarious experiments, verbal persuasion, and emotional arousal (Bandura, 1977). The personal accomplishment construct relates to experiences on a personal level (Bandura, 1977). The experience of using the social networking site Facebook is related to social interaction and is an individual experience as well as a an experience personal for each user.

The vicarious experiment construct relates to observation of others, through perseverance, success can be obtained regardless of consequences (Bandura, 1977). Facebook

use as a personal level experience allows adolescents to interact among friends typically without consequences unless severe and threatening use occurs. The verbal persuasion construct relates to persuasive voice leading individuals to the belief of their coping abilities in which previous attempts were unsuccessful (Bandura, 1977). Facebook provides interaction among friends and can be utilized as mechanism for persuasion among friends to build their self-esteem and coping abilities if the constructs of self-efficacy are related to social skill and ability to manage emotions while using Facebook.

The emotional arousal construct involves influence through situations in which individuals are anxious, vulnerability, stressed or threatened (Bandura, 1977). While the use of Facebook involves interactions with a multitude of friends a possibility exists that a variety of situations involving anxiousness, vulnerability, stressfulness or threatening behavior can manifest itself within the Facebook environment. While a variety of social interactions occur and activation of emotions can become manifested through Facebook use, emotional arousal can explain why individual's with high social skill and ability to manage emotions is an importance aspect of an individual and a reason why individuals continue to use Facebook.

Interest, enjoyment, sadness, anger, and fear are known as constructs of a discrete emotion (Seidenfield et al., 2011). Seidenfield et al. (2011) identifies two different types of discrete emotions known as basic and schema emotions. Cognition within emotional schemas assists in providing individuals with emotional regulation needed to utilize emotion and process behavior adaptations (Seidenfield et al, 2011; Izard et al., 2008). "An influence in emotional regulation involves social aspects" (Seidenfield et al., 2011, p.5). Barbelet (2011) and Campos, Walle, Dahl & Main (2011) also believe emotion is related to social constructs. The use of Facebook requires social aspects in the form of social interaction. The connection between social

and emotion/emotional regulation would indicate a connection between Facebook usage and emotional regulation according to the connection of indicated by Seidenfield et al. (2011), Izard et al. (2008), Barbelet (2011) and Campos, Walle, Dahl and Main (2011).

Self-Efficacy Studies

The application of self-efficacy is applied to a variety of aspects of adolescent life. A study performed in 2001 involving 76 post-graduate students investigated self-efficacy and found a relationship among self-efficacy within settings involving academics (Lane & Lane, 2001). The study involved the use of a multiple regression analysis using self-efficacy measures and college course semester grades and indicated, "self-efficacy towards intellectual ability predicted subsequent academic performance" (Lane & Lane, 2001, p.693).

While self-efficacy was found to be related to academic achievement (Lindley & Borgen, 2002; Brady-Amoon & Fuertes, 2011; Lane, Lane & Kyprianou, 2004), grade point average among college students was not related (Lindley & Borgen, 2002; Brady-Amoon & Fuertes, 2011; Lane, Lane & Kyprianou, 2004). While academia is a source of comparison for self-efficacy, Rodebaugh (2006) investigated self-efficacy and social behavior. The study used 124 undergraduate students who were considered to be social anxious and measures were taken for the use of the Social Interaction Anxiety Scale (SIAS) and Self-efficacy Scale. While using confirmatory factor analysis social anxious individuals were identified as participants and research suggests self-efficacy would predict behavior moderately (Rodebaugh, 2006).

Social interactions are influenced by self-efficacy (Gresham, 2004) and Joshi, Sharma and Mehra (2009) "Concluded that emotional self-efficacy and social self-efficacy are strong predictors of symptoms of depression" (p.13). Depression is a well-known disorder among adolescents (Kringlen & Cramer, 2001; Josh, Sharma & Mehra, 2009). With the connection

28

between emotional and social self-efficacy, it would be beneficial to educators as a predictor of depression if low social skill and a decreased ability to manage emotions are both present. "Self-efficacy affects behaviors and social interactions in multiple ways and is a central tenet of positive psychology, which focuses on the factors that create meaning for people" (Sadri, 2011, p.30).

Social Skill and Assessment

One of the earliest known evaluations for social skills involved training shy men to be more assertive and was name assertive training. (McFall & Marston, 1970). Matson and Wilkins (2009) indicated in a review, 48 social skill norm referenced rating scales were available to assess social skills among children. Two common scales for measuring social skill in children which have been researched extensively are *Matson Evaluation of Social Skills in Youngsters* (MESSY) and *Social Skills Rating System* (SSRS).

The MESSY scale was developed in Matson in 1983 to assess deficits in social skill among adolescents ages 4 to 18. The scale contains 92 self-report and the normative sample for MESSY came from 744 students and teachers in Northern, Illinois. The MESSY normative sample came from a self-report form for students and teacher-report form for teachers. The MESSY has been translated into nine different languages (Matson et al., 2010). According to Matson et al. (2010), studies involving the psychometrics of MESSY in the United States are deficient.

The SSRS is scale designed by Gresham and Elliott (1990) to evaluate student social behavior and to develop interventions. The scale is designed to assess ages ranging from 3 to 18. The scale contains three separate instruments; parent, teacher, and student report. There are

different versions of the test depending on the developmental level; pre-school, elementary, and secondary. The secondary level assessment is designed for grades 7-12.

<h3 style="text-align:center">Social Skill, Social Problem Solving, and Well-Being</h3>

Siu and Shek (2010) investigated stressful social situations among 179 young adults using the Chinese version of the Social Problem-Solving Inventory Panel (C-SPSI-R). Siu and Shek (2010) found young adults were confident regarding their social skill level. However, more stressful situations among the young adults involved family members, handling conflicts, self-disclosure, negative behaviors of others, and expression of love (Siu & Shek, 2010). An indication of self-awareness of adolescent social skill could assist in determining if social skill awareness is due to social interaction among adolescents. If confidence level of social skill among adolescents is a suggestion of social interaction the studies involving well-being could indicate increased social interaction leads to increased social skill level which in turn will increase the well-being of adolescents.

The SSRS was developed due to research by Gresham and Elliott involving child development and varying psychological childhood aspects. The SSRS was also developed in turn from an experimental instrument named Teacher Ratings of Social Skills (TROSS) by Clark, Gresham, and Elliott in 1984 (Campbell, 1999). The SSRS was revised in 2008 by Gresham and Elliott and renamed as the SSIS-RS. The SSIS-RS contains four added subscales compared to the SSRS and an improvement with psychometric properties is claimed (Crosby, 2011).

While many different studies have been undertaken regarding social skill level, an important factor related to Facebook and ability to manage emotions is well-being among adolescents. A link between social skill and well-being is supported through several studies (Segrin, Hanzal, Donnerstein, Taylor & Domschke, 2007; Sergin & Taylor, 2007). With a

relationship between well-being and social skill level, investigating a relationship between Facebook, social skill level, and the ability to manage emotions could reveal being able to manage emotions and time spent of Facebook to be related to positive or negative well-being of adolescents.

Many different aspects of social issues could be discussed. However, a focus on problem solving in social situations is important. In a review of several different studies Siu and Shek (2010) indicated social problem solving was related to depression, anxiety, and family well-being. One of the studies by Siu and Shek (2010) focused on self-efficacy of young adults with an age range of 18-30 in two stages. In stage one an open-ended questionnaire containing 238 social situations was used among 54 participants. Through a content analysis of the 238 social situations were reduced to 36 stressful situations which included three different categories; social skills (a), interpersonal relationships (b), and social situations (c) to be used in stage two. In stage two, 179 participants completed the 36 item questionnaire. The results of the study suggested young adults are confident with their social skill level. However, results showed young adults to be less confident in handling stressful social situations involving conflict and negative behavior of others (Siu & Shek, 2010).

The second study reviewed by Siu and Shek (2010) researched a sample of 235 adolescents ages 11-15 investigating a relationship between social problem solving and depression. The results, "implies that depression is related to the motivational and behavioral aspects of problems solving, rather than to skills competence in rational problem solving" (Siu & Shek, 2010, p.399). Social skills and psychosocial indicators; self-esteem, well-being, coping, and social support have been researched and through a correlation and regression analysis a relationship was found to exist among the variables (Bistra, Bosma & Jackson, 1993). With the

existence of a relationship among social skills and different psychosocial indicators such as well-being, adolescents who have low social skills also have a risk of having issues with well-being. The at-risk adolescents with low social skills being in a social environment such as Facebook could be harming the adolescents exploiting low level social skilled individuals.

Relationship between Social Skill, Managing Emotions

"Emotion regulation is multifaceted not only in its constituents but also in its manifestations. Children in supportive contexts who are overwhelmed with uncontrollable emotions that undermine competent functioning are usually understood as deficient in emotion regulation" (Thompson, Lewis & Calkins, 2008, p.125). Research by Engleberg and Sjoberg (2004) indicated social interaction being coordinated by emotions assist in the creation and maintenance of close relationships. While other research found the ability to understand emotions related to social life was useful and frequent use of internet was related to lower levels of emotional intelligence (Engleberg & Sjoberg, 2004). Lopez (2004) investigated emotions by the use of the MSCEIT among 118 college age students. The results suggested scoring high on subscale, the management of emotions had a positive relationship with the quality of interaction of friends.

While the MSCEIT contains different constructs, "*emotion-related behavior regulation* is defined as the process of initiating, maintaining, inhibiting, modulating, or changing the occurrence, form, and duration of behavioral concomitants of emotion, including observable facial and gestural responses and other behaviors that stem from, or are associated with, internal emotion-related psychological or physiological states and goals" (Eisenberg, Fabes, Guthrie & Reiser, 2000, p.138). Furthermore, behavior regulation plays an important role in normal social operation and is arguably a social process which is connected to emotional regulation (Eisenberg

32

et al., 2000). While emotional processes have shown to be connected to social processes, the use of Facebook is mainly a social process. The social process of using Facebook requires social interaction among friends.

Social Interaction

Pyschosocial health predicts levels of preference for social interactions online and social interaction is a factor in the development of negative consequences among internet usage (Caplan, 2003). The self-perception of social skills is related to quality of social interaction. However, the quantity of social interaction and social skills did not indicate a relationship (Neziek, 2001). Researchers indicate similar findings but relate social skill to quality of interactions among peers (Engels, Dekovic & Meeus, 2002). Greater usage of Facebook would imply social interactions which are pleasing to adolescents.

The social interaction of individuals has evolved from face to face to phone and internet usage. A two study comparison of social interaction through face to face, phone, and internet revealed face to face to be most common interaction with phone and internet being similar in their usage pattern. However, the use of internet indicated perceptions of usage to be high in quality (Baym, Zhang & Lin, 2004). The internet has been identified as a type of social interaction. However, the consequences for this type of social interaction have not been established (Brignell & Van Valey, 2005). Online interaction has also been identified as a means to role play and assists in development. While interaction online increases the probability of online interactions becoming part of real life is a possibility (Brignall & Van Valey, 2005).

Subrahmanyam and Smaheln (2011) suggest, "As newer interactive media become an integral part of adolescent's lives, and allow them to connect with other people in their

lives, it is clear that they are an important social context, one that provides youth with opportunities to explore the developmental challenges before them" (p. 36).

Research is divided on the positive aspects provided by online interaction. Caplan (2003) implies "lonely and depressed individuals may develop a preference for online social interaction, which, in turn, leads to negative outcomes associated with their Internet use" (p.625).

Emotional Intelligence

The introduction of emotional intelligence was presented in a model developed by Mayer and Salovey (1990). This model proposed by Mayer and Salovey proposed an explanation between differences in an individual's capacity to utilize emotion information to increase problem solving. Emotional intelligence was later popularized by Daniel Goleman in 1995 when Goleman published his book, *Emotional Intelligence.* In 1997, Mayer and Salovey published a revised theory of emotional intelligence and included perception, use, understanding, and regulating emotion (Brackett & Casey, 2009). Emotional intelligence was defined as

"the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth" (Mayer & Salovey, 1997, p. 10).

Several different models of emotional intelligence exist and are designated as ability and trait based or mixed model. The ability based model of emotional intelligence is measured through self-report testing while the trait based is measured through testing (Perez, Petrides & Furnham, 2007). The correlation between cognition and emotional intelligence is not an aspect of the trait based but is indicated as a correlate of the ability based model design (Perez et al., 2007).

The test available to measure emotional intelligence as an ability based model is miniscule and currently only one test has been instituted. The Mayer, Salovey, Caruso Emotional Intelligence Test version 2.0 (Mayer, Salovey & Caruso, n.d.) serve as the test to measure emotional intelligence as an ability based construct. The test has undergone several revisions. The first test developed to test emotional intelligence through ability based means was the Multi-branch Emotional Intelligence Scale (MEIS). This test was later revised several times to become the MSCEIT V2.0) (Mayer et al., 2003).

The MSCEIT ability model contains four different branches; perception of emotion, facilitating thought, understanding emotion, and managing emotions. Daus and Ashkanasy (2005) indicate operation as an ability model of emotional intelligence requires the demonstration of proficiency in all four constructs to be considered emotional intelligent (Daus & Ashkanasy, 2005).The mixed model or trait model of emotional intelligence indicated by Petrides and Furnham (2001) reveals the trait model is related to tendencies involving behavior and individual perceptions of abilities.

While the model is not a model involving cognition (Perez, Petrides & Furnham (2007), the trait model should be primary focused toward personality traits when investigating emotional intelligence via the trait model (Petrides & Furnham, 2001). The current study seeks to utilize emotional intelligence ability measures and Lopes et al. (2004) discussion of ability measures suggests, "Ability measures of emotional competencies may provide an important perspective for understanding social adaptation" (p.1023). Crowne (2009) Salovey and Mayer, 1990; Goleman, 2006; Ascalon et al., 2008 suggests in her research, social intelligence encompasses emotional intelligence. While many believe a relationship exists between emotional intelligence and social intelligence (Salovey & Mayer, 1990; Huy, 1999; Dulewicz & Higgs, 2000; Matthews et al.,

2002; Dulewicz et al., 2003; Boyatzis & Sala,2004; Freda´kova´ & Jelenova´, 2004. As with a conflicting a field, many believe social and emotional are the same constructs (Kobe et al., 2001; Bar-On et al.,2003; Bar-On, 2005).

Criticisms of the Emotional Intelligence Construct

The validity of emotional intelligence is a something researchers have debated. Mayer, Salovey, and Caruso (2004) identify various criticisms related to emotional intelligence; native popularization, irresponsibility of the press, the expansion of emotional intelligence research, high number of possible studies available utilizing emotional intelligence, and self-report scales versus ability scales (Mayer, Salovey, & Caruso, 2004). Many people have been opponents to emotional intelligence (Brody, 2004; Davies, Stanov & Roberts, 1998; Matthews, Zeidner & Roberts, 2001). Some of the leading opponents of emotional intelligence are Matthews, Zeidner and Roberts. In a book, *Emotional intelligence: Science and myth* by Matthews et al. (2001) and two articles by Matthews, Zeidner & Roberts in 2004 and 2012, author's discuss issues regarding emotional intelligence.

Matthews et al., 2001, Matthews et al., 2004 and Matthew et al., 2012 suggest, (a) the concept of emotional intelligence lacks clarity, (b) emotional intelligence construct lacks one true method for measurement, (c) emotional intelligence have common characteristics with other constructs, (d) emotional intelligence lacks a theoretical basis, (e) emotional intelligence validity evidence is limited, (f) emotional intelligence is not practical, and (g) emotional intelligence contains cultural issues. However, proponents for emotional intelligence, Mayer, Salovey, Caruso, and Sitarenios (2001) responded to criticisms regarding the construct of emotional intelligence with a rebuttal. The rebuttal contained a restatement of emotional intelligence along with theoretical applications containing new data to disprove claims from Matthews et al. (2001).

Waterhouse (2006) states several representations regarding criticisms for emotional intelligence. Waterhouse believes the validity of emotional intelligence is due to conflicting constructs of emotional intelligence and also believes differentiation of emotional intelligence and personality has not been established. While Waterhouse suggests the connection between success and emotional intelligence has not been validated (Waterhouse, 2006), other researchers have indicated a connection between emotional intelligence and academic achievement (Abdullah, Habibah, Mahyuddin, & Uli, 2004; Nasir & Masrur, 2010; Hassan, Sulaiman & Rohaizan, 2009; Parker et al., 2004).

Emotional Intelligence and Academic Achievement

The construct of emotional intelligence has been a topic of debate. However, the relationship has been established among emotional intelligence and academic achievement and the results involving a correlation between emotional intelligence and academic achievement trend on the same outcomes regardless of the level education of the student, gender or nationality. Two studies stood out in connecting high age students and college age students regarding the relationship among emotional intelligence and academic performance. In 2004, a study performed on Malaysian secondary students, indicated a positive relationship among emotional intelligence and academic achievement (Abdullah, Habibah, Mahyuddin, & Uli, 2004). Another international study involving students at International Islamic University Islamabad also indicated a significant correlation between emotional intelligence and academic achievement but did not indicate a relationship among age and emotional intelligence (Nasir & Masrur, 2010). If age is not related to emotional intelligence the relationship among emotional intelligence and academic achievement could possibly be a defining factor in establishing a direct link between cognition and emotional intelligence.

When investigating gender differences among emotional intelligence and academic performance, a sample of 223 undergraduate students showed a positive relationship among emotional intelligence and academic achievement and indicated no differences among gender in relation to both constructs (Hassan, Sulaiman & Rohaizan, 2009). While different studies indicate emotional intelligence is related to academic achievement, another study investigated different levels of academic achievement; top 20%, middle 60%, and bottom 20% related to emotional intelligence and found emotional intelligence was correlated with academic achievement among different academic achievement levels (Parker et al., 2004). However, is the emotional intelligence of an individual the reason for academic achievement or is there another factor such as overall cognition the reason for the connection with emotional intelligence and academic achievement.

With academic achievement successfully related to emotional intelligence, the need to address students who perform poorly with academics should be addressed. Significant relationships were also discovered among emotional intelligence and academic achievement from first year college students and the authors recommended emotional intelligence constructs should be taught in school and added to school curriculum (Shahzada, Ghazi, Khan, & Shah, 2011). Adeyemo (2007) also suggested emotional intelligence be added to undergraduate curriculum. Through the investigation of the relationship of social skill and emotional intelligence, educators can evaluate the predicted academic outcome of the student and thus provide necessary interventions to increase social skill which will in turn increase emotional intelligence which will increase academic performance.

Emotional Intelligence and Well Being

The well-being of adolescents is a concern for all educators. Research conducted by Salami (2011) showed a correlation with well-being. While the research was not designed directly for the emotional intelligence and well-being, a relationship was discovered among other variables such as neuroticism, and extraversion (Salami, 2011). A connection was made not only with emotional intelligence and well-being but with other important critical aspects of human existence. Iranian high school students were evaluated regarding emotional intelligence and mental health and discovered a positive relationship between emotional intelligence and mental health (Shabani, Hassan, Ahmad & Baba, 2010). While assessing the emotional intelligence researchers have established the negative effects on the lives of adolescents. While the research is clear regarding the fact well-being and emotional intelligence are related, emotional intelligence in adolescents and interaction among adolescents in regards to emotional intelligence reveal susceptibility of adolescents.

An examination of emotional intelligence in adolescent behaviors and peer victimization indicated emotional intelligence dimensions, emotional direct cognition and emotional management and control significantly predicted the susceptibility to peers subjected to victimization. The emotional intelligence construct centering on the understanding the emotions of others showed a negative correlation with bullying behavior (Lomas, Stough, Hansen &Downey, 2011). A German study involving 118 college students found a positive relationship between managing emotions and interactions with the opposite sex and managing emotions and positive relationships with quality of interactions with friends (Lopes et al., 2004). This study reveals a connection with social interactions and a connection with quality of interactions with friends. While the current study is only seeking a relationship between social skills, managing

emotions, and Facebook usage, the interaction with friends on Facebook could be established as a tool for adolescents with low social and emotional skill sets in order to increase these levels and reduce the negative effects associated with having low emotional intelligence such as well-being (Salami, 2011) and mental health (Shabani, Hassan, Ahmad & Baba, 2010).

Research describes a relationship between emotional management, control, and engagement in internalizing and externalizing behaviors. The mediation of the behaviors involved the use of non-productive coping strategies (Downey, Johnston, Hansen, Birney, Stough, 2010). While a conceptual approach to emotional intelligence suggested emotional intelligence may predict reduced levels of problem behaviors such as interpersonal violence (Mayer, Salovey, Caruso, & Sitarenios, 2001). The discussion of emotional intelligence connection with behaviors refers to social aspects of interactions which suggest if educators know the emotional intelligence of a student can assist in the identification of predispositions for problem behaviors and interventions could be established to reduce problem behaviors.

Decoding and differentiation of emotions have been found to play a key role in addiction such as smoking, alcohol use, and drug use (Kun & Demetrovics, 2010). A multi-study article indicated higher emotional intelligence scores directly relate to an empathic perspective and self-monitoring in social situations, higher scores for affectionate relationships, greater satisfaction in relationships, and a connectedness to interpersonal relationships (Schutte et al., 2001). The research concerning higher emotional intelligence is an implication for the current study to a possible correlation with interpersonal relationships being maintained by the usage of Facebook.

An examination of attachment styles among 463 undergraduate students indicates a correlation between all aspects of emotional intelligence abilities and attachment style (Harmata, Deniz & Saltali, 2009). As emotional intelligence increases so does the academic performance

and measures of relatedness increases. As emotional intelligence increases a direct correlation with a higher verbal, social, and other intelligence is implied. Emotional intelligence is an indication of being more open, agreeable, and socially interactive (Mayer et al., 2004). Facebook being a social environment for adolescents, the research done by pioneers in the field of emotional intelligence, Mayer, Salovey and Caruso (2004) suggests and there is a positive correlation between emotional intelligence and social intelligence. While there have been opponents to emotional intelligence, the current research study can offer more data to support their findings.

While research suggests connections with emotional intelligence and well-being, research conducted in 2007 indicated different components of well-being; self-esteem, life satisfaction, and self-acceptance were positive related to emotional intelligence in work environments among 149 employees in a financial, court, defense, advertising, and software companies (Carmeli, Yitzhak-Halevy, Weisberg, 2009). While the majority of the studies are focused toward college students, addictions, bullying, and coping strategies, this particular study shows emotional intelligence is associated within an adult work environment. With emotional intelligence associated among different facets of life, the suggestion of emotional intelligence is in reality an aspect that can severely impact the life of an individual.

Emotional Intelligence and Measurement/Models

Currently three models of emotional intelligence exist as conceptual ideas explaining emotional intelligence, Mayer et al. model (2002), Goleman's model (1995), and the Bar-On model (1997). A theory of emotional intelligence conceived by Mayer and Salovey (1997) refers to the reasoning among emotions and consists of perceptions of emotions, use of emotions, understanding of emotions, and regulating emotions. The perception of emotions involves facial

41

recognition of different emotions. The use of emotions involves the task of incorporating thinking and problem solving skills during the use of different emotions.

The understanding of emotions involves the task of correctly identifying emotions and comprehending different emotions. The final construct involves the regulation of emotion through the management of feelings. A number of influences pertaining to culture are related to emotion and cognitive abilities. The processing of emotional information is an area of communication involving understanding relationships (Mayer, Salovey & Caruso, 2004).

The test is designed for individuals 17 years and older and has a readability level appropriate for the eighth grade level. A total of 141 items and 8 subscales comprise the test and it can be administered via booklet or by computer without time constraints. Participants answer questions pertaining to perceived emotions, use of emotions involving thinking, problem solving, and creativity, understanding emotions, and emotion management (Mayer, Salovey, & Caruso, n.d.). The questions include responses that utilize a Likert scale rating of 1-5. The responses include three different types: written, facial drawings, and multiple choice (Mayer, Salovey, & Caruso, n.d.).

The Bar-On model of emotional intelligence has gone through six major stages of development of the past 17 years and the EQ-i has been called the operational component of the Bar-on model (Bar-On, 2006). Dawada and Hart (2000) indicate the EQ-I is related to psychosocial adjustment. The properties of the EQ-i structure has shown to be good along with the convergent and discriminate validities indicating a "fairly broad range of related emotional constructs" (Dawada & Hart, 2000, p.809). The EQ-i has evidence of incremental validity according to Bracket and Mayer (2003).

The emotional competence inventory (ECI) developed by Daniel Goleman and Richard Boyatwis (1999) is designed to evaluate emotional competence through four different skill sets; self-awareness, self-management, social awareness, and social skills. The instrument contains 110 questions and has gone through one revision and renamed the ECI 2.0. In a review of the ECI, Watson reports the technical manual contains many reliability and validity studies and studies are limited and brings into question the psychometric properties of the instrument.

Six different studies were also presented regarding correlation with ECI and were found to be low to moderate (Goleman, Boyatzis & Hay, n.d). In a study involving graduate management students ages 20 to 63 from three private institutions in the Northeast revealed similar claims to the small to moderate correlations of the ECI with other instruments such as the Big-Five Personality instrument (Byrne et al., 2007).

Two of the main models of emotional intelligence can be classified as self-report and ability based. O'Conner and Little (2002) indicated a debate among the Bar-On EQ-i model regarding self-report measures accurately reporting on constructs. In a study involving the academic achievement of college students utilizing the EQ-I and the MSCEIT, the MSCEIT was found to have a high correlation with cognitive ability through construct validation. The EQ-I did not correlate with cognitive ability but with aspects of personality (O'Conner & Little, 2002). Martin and Thomas (2011) indicate little research has been conducted related to specific cognitive emotional processes. Through a study involving 87 undergraduate students, findings indicate MSCEIT was related to emotional informational processing and displayed incremental validity. The study was also shown to produce construct validity related to emotional processes (Martin & Thomas, 2011).

Managing Emotions Studies

Research involving management of emotions has been around since 1989 when Campos, Campos, and Barrett when they mentioned management of emotions in their study regarding emotional regulation and management. Tamir (2011) indicated managing emotions have consequences and with those consequences health and adaption in functioning are indicated as two major consequences. Management of emotions, Vingerhoets, Nyklicek and Denollet (2008) indicate emotion regulation is a critical aspect in the well-being of individuals. Gross (2007), Kokkonen and Kinnunen (2006), and Vingerhoets, Nyklicek and Denollet(2008) indicated emotional regulation is related to mental disorders.

While emotional regulation is an aspect of well-being, emotional regulation is also known as an aspect of self-regulation. Gollwitzer and Moskowitz (1996) believe controlling emotions may initiate emotion regulation and emotional values and goals may assist in shaping content of emotional regulation. Through emotional handling, Goleman (1995) believes emotions relates to relationships and requires two skills, emotional management and empathy. Goleman also indicates the lack of emotional management and empathy will lead to incompetence in social situations and repeated problems with interpersonal relationships (Goleman, 1995).

There are four different interpersonal abilities indicated by Goleman which are believed to assist in building on emotional intelligences; organizing groups, negotiating solutions, personal connections, and social analysis (Goleman, 1995). Every time an individual has an interpersonal situation, Goleman (1995) states, "We send emotional signals in every encounter, and those signals affect those we are with. The more adroit we are socially, the better we control the signals we send" (p.15). However, an indication regarding the four interpersonal skills leads

to a futile social impact if not managed appropriately. With this assumption, emotional skill level and social skill level can attributed to proportional relationship among interpersonal interactions.

Believing in the ability to control an attribute is known as self-efficacy (Bandura, 1977). Vingerhoets, Nyklicek and Denollet (2008) stated, "Belief in controlling emotions may have a high self-efficacy in emotion regulation" (p.33). While being able to manage emotions relates to self-efficacy and social cognitive theory, a longitudinal study performed in 2007 indicated support for the belief regarding controlling emotions and self-efficacy in emotional regulation and found belief regarding controlling emotions indicate a higher self-efficacy among individuals (Tamir, John, Srivastrava & Gross, 2007).

Facebook Usage

Facebook usage studies among students were classified by Hew (2011) using the following categories as motives for Facebook use, time spent on Facebook, number of friends on Facebook, information disclosure, and privacy settings. Among the review from Hew (2011), nine motives of Facebook use were identified. The main motive identified was to maintain relationships among known people (Hew, 2011). The same context of this statement is also found by Bosch (2009) in a study involving 150 undergraduate students in which findings relate due to student usage maintaining communication with friends whom they already knew.

Social interaction was indicated by Pempek (2009) as the primary motive among 92 undergraduate psychology students and among the interaction, 77.7% of the students reported that none of their Facebook friends had originated from the use of Facebook and Lampe et al. (2008) reported over three surveys conducted three different years that Facebook was mainly used for keeping in touch with friends. Madge et al. (2009) studied 212 first year undergraduates

45

at a British university and student perception regarding Facebook was used for primarily social reasons. While maintaining relationships, social interaction, and utilizing Facebook for social reasons, Ophus and Abbitt (2009) indicated communication with friends was the primary activity among 110 undergraduate students Facebook users.

Time Spent on Facebook

In Hew's (2011) review of the literature surrounding Facebook usage, indicated the main finding among time spent of Facebook was on average 10 to 60 minutes per day and younger students were more likely to use Facebook than older students. However, several studies reported varying averages of time spent on Facebook. Christofides et al. (2009) report an average of 38.86 minutes per day of Facebook usage, Sheldon (2008a) reports an average of 47 minutes per day of Facebook usage, and Muise et al. (2009) reports 38.93 minutes per day of Facebook usage. Steinfield, Ellison, and Lampe (2008) reported an increase of Facebook usage by 21 minutes from 2006 to 2007. In 2009, a study of 2437 undergraduate students indicated 34.9% spent 30 minutes to 60 minutes on Facebook per day.

These finding indicate an increase of Facebook usage over time and on average a maximum usage per day of 60 minutes. While the research is focused on college age student Facebook usage, the study sought to ascertain usage among high school students. While the latest finding regarding the amount of Facebook was 2009, the amount of time spent on Facebook assisted in identifying if Facebook usage was increasing over time and to possibly establish a baseline measurement for high school students utilizing the social networking site Facebook.

Number of Facebook Friends

While social interaction through the maintaining of relationships is the significant reason for using Facebook and time spent on Facebook is on average is 10 to 60 minutes per day and

time spent on Facebook is growing per year. The number of friends Facebook users are interacting with is another motive indicated by Hew (2011). The range of Facebook friends were found to be from 150 to 350 (Hew, 2011). While the range of friends gives a suggestion of how many people Facebook users know, other reasons indicated by several studies help to provide a better indication of why people have certain numbers of Facebook friends.

Acar (2008) indicated the number of Facebook friends was related to the extraversion of the Facebook user. Another study related extraversion to the number of Facebook friends and indicated in a population of 132 undergraduate students an average of 395.02 friends and found an inverted U-shaped relationship between the level of extraversion and number of Facebook friends and noted the results indicated the more friends one has on Facebook, the greater the extraversion of the individual (Tong et al., 2008).

"An exceedingly large number of friends leads to judgments that profile owners are not sociable and outgoing" according to Hew (2011). If this statement by Hew is correct, the possibility of social skill being a factor in users who have a large number of friends exceeding the average number reported by Hew (2011) above 350 is realistic. However, the results indicate introverted people are less sociable and outgoing which leads to the belief that introverted people has social skill levels less than those who are extroverted.

Effects of Using Facebook

Hew (2011) summarized three different studies involving various effects of Facebook use. The main findings involved studies investigating discussion posts and student perceived social presence compared to threaded moodle forums, self-disclosure on Facebook related to teacher credibility, and effect of academic performance on Facebook users. In a study of 129

47

undergraduates, Mazer (2009) reported teachers who disclosed more on Facebook were perceived as trustworthy and caring than those who disclosed less.

A prominent finding regarding the effects of Facebook use among 219 undergraduate students with a mean age of 22.06 with the majority of majors from humanities and social sciences was discovered by Kirschner and Karpinski (2010). The findings indicated Facebook users have lower grade point averages and study fewer hours per week than do non Facebook users (Kirschner & Karpinski, 2010).

While Facebook is relatively new phenomena, studies have been published regarding the effect of the use of Facebook has on adolescents and college age students. Specifically, the studies investigate the effect Facebook has on the self-esteem of individuals. Studies narcissist behavior, extraversion, social interaction, and connectedness while using Facebook. A study published by Kalpidou, Costin, and Morris (2011) indicates that Facebook use has a negative correlation with the self-esteem among college students and college freshman are more connected with Facebook than upperclassman. Mehdizadeh (2010) examined Facebook use and self-esteem and discovered similar results as in Kalpidou et al. (2011). Self-esteem was found to be negatively correlated with Facebook use.

Mehdizadeh (2010) also investigated narcissist behavior and found the higher score on Narcissist Personality Inventory directed related to the amount of time spent on Facebook and the number of times Facebook was checked per day. A study performed at Northwestern University indicated that Facebook had a positive effect on self-esteem related to self-awareness and changing Facebook profiles increased self-esteem (Gonzales & Hancock, 2011). A study performed in Australia involving 1635 self-selected internet users indicated Facebook users are

more likely to be extraverted and narcissistic and have more feelings of family loneliness (Ryan & Xenos, 2011).

While self-esteem refers to psychological well-being and has been found to be negatively associated with Facebook use (Kalpidou et al., 2011; Mehdizadeh, 2010), a study performed in 2011 among 2368 college students found physical and psychological energy utilized in checking Facebook and the engagement of activities found on Facebook positively correlate with Facebook use (Junco, 2011). The motivations for Facebook use are investigated among several different studies and provide a picture of why individuals use Facebook. A study involving college students found students spend more time on Facebook observing content than posting content and the greatest of usage for Facebook was social interaction between friends who were primarily pre-established friends on Facebook (Junco, 2011).

The results from another study indicated the impulse to communicate was a major factor in Facebook use (Pempek, Yermolayeva, & Calvert, 2008). In terms of relatedness, results of a study indicated disconnection motivates greater Facebook usage in order to cope and connection motivates greater Facebook usage as well. Another study from the same article indicates the more an individual becomes disconnected during deprivation from Facebook leads to an increase in Facebook usage (Ross et al., 2008).

Facebook and High School Students

The studies examining usage of social networking sites and Facebook usage primarily focus on college age students. However, few studies give an indication of how the psychological well-being and the motivations for use among high school students. A secondary school study performed in Singapore among 275 government school students indicated the frequency of Facebook use was directly related to narcissism and extraversion. However, the study indicated

that narcissism neither predicated the number of Facebook friends nor the number of Facebook photos (Ong, et. al., 2011). A study in secondary school students in Australia indicated partial support for the standard TPB model with attitude and PBC in relation to prediction of adolescent intentions when engaging in SNS sites (Baker & White, 2010).

While few studies have focused on high school students who use the social networking site Facebook, Moreno (2010) indicates Facebook as site for identity development. Through identity development among adolescents, risky behaviors are undertaken and profiles have been found to show references to substance abuse and sex (Moreno, 2010). While self-disclosure among adolescents on the social networking site Facebook, Moreno (2010) indicates that information regarding the truthfulness of such profile disclosures is still under investigation, the behavior of other adolescents can be affected through the profile disclosures.

Conclusion

The Social Cognitive Theory according to Bandura (1986) indicated people are controlled internally but not externally. Through the environment cognition competency is affected (Bandura, 1986; Steinberg, 1988) and social influence activates emotions (Bandura, 1989). Bandura (2001) indicated Social Cognitive Theory can provide assistance in assessing psychosocial aspects of communication.

The term social skill was described by Windell (1999) as a type of competency that is manifested during times of dealing with individuals. Social skills were found to be correlated with academic achievement and well-being and self-efficacy was found to be correlated with academic achievement. Problem solving skills were found to be related to social skills (D'Zurilla & Sheedy, 1992) and self-efficacy (Kolb, 2011).

Waterhouse (2006) indicates criticisms of emotional intelligence. Engleberg and Sjoberg (2004) indicate the more an individual uses the internet the lower the emotional intelligence will be. Emotional intelligence was found to be correlated with academic achievement and well-being. Also, the ability to manage emotions was found to be related to well-being.

Social interaction was found to be the main motive in using Facebook (Pempek, 2009). The average number of time spent of Facebook was found to be between 10-60 minutes per day and on average an individual has between 150-350 friends on Facebook. The effects of using Facebook indicate that Facebook users have lower grade points averages and study less per week than non-Facebook users (Pempek, 2009)

Through the social interaction of using the social networking site Facebook, emotions will be activated and individuals are required to manage these emotions during social interactions while using Facebook. According to research internet users have two aspects of academics lower than non-users; lower grade point average and lower number of hours spent studying per week.

However, according to research presented within the literature review a connection between individuals who have higher social skills and emotional intelligence would indicate higher self-efficacy and self-efficacy is related to higher academic achievement along with social skill and emotional intelligence. This finding would indicate individuals who are using the internet and specifically Facebook and those individuals who have a higher Facebook usage should have lower social skill level along with lower abilities to manage emotions.

The above indicates individuals who have a lower grade point average and spend less time studying have lower social skills and lower emotional intelligence will spend more time on the social networking site Facebook. The two psychosocial variables, social skill and

management of emotions should show an inversely proportional relationship with Facebook

usage according to the research finding regarding social skill, ability to manage emotions, and

the number of hours an individual uses Facebook. The following chapter provides a breakdown

of the setting along with describing the instrumentation utilized for the research study. The

procedures are detailed and the research design, research questions and null hypotheses are

provided to assist in an understanding of how the research methodology was carried out.

CHAPTER 3: METHODOLOGY

Introduction

This study was design to investigate whether the amount of time spent socializing on Facebook could be predicted by high school seniors' social competence as measured by the SSIS and ability to manage emotions as measured by the MSCEIT. Correlational research requires data from two or more variables be used to determine how the variables directly vary (Ary et al., 2010). While correlational research within this study incorporates the use of at least two or more continuous variables, the design of the study allowed for the evaluation of the relationship of the continuous variables among both research questions (Ary et al., 2010). The research study was designed to determine if the SSIS and the MSCEIT measure the same constructs.

The MSCEIT served as the instrument for managing emotions and the SSIS served as the instrument for social competence. The first statistical approach used in this study was a multiple regression in order to determine if the SSIS and MSCEIT global scores would predict the students spent socializing on Facebook. A multiple regression study is a type of correlational analysis and incorporates the use of several variables to investigate the relationship among the variables (Ary et al., 2010). A multiple regression analysis was used in a study by Lopes et al. (2002) when investigating the interpersonal variables of emotional intelligence and satisfaction of relationships. The multiple regression analysis was also used in determining incremental validity within the sample population of the study (Lopes et al., 2002). The number of global and subscales reported by MSCEIT and SSIS allow the evaluation of the relatedness of all the variables present through the use of a multiple regression analysis. The second statistical procedure applied in this study is a simple correlational analysis to measure the magnitude and direction of the correlations between MSCEIT and SSIS global and subscale scores, the purpose

of which is to understand whether these instruments measure the same underlying constructs.

Additionally, there is presently no concurrent validation evidence between these two

instruments. The purpose for chapter three is to explain the methodology associated with the

research study. The sections for chapter three include participants, setting, instrumentation,

procedures, research design, and data analysis.

Participants

The participants for the research study consisted of high school students between the ages

of 17 years and 18 years, and 11 months, and attending a High School in Northeastern,

Tennessee. The senior student population demographics for the high school includes a total of

349 students with the following demographics: 97% Caucasian, 1.7% African American, 0.6%

American Indian, 0.35% Pacific Islander, and 0.35% Asian (Demographic Report, 2012). A total

of 165 students have individualized education plans (IEP) while 52 senior students have IEP's

(IEP, n.d.). The MSCEIT requires individuals to be 17 years or older to take the test (Mayer et

al., n.d.) and the SSIS requires the students to be a minimum of seven years old and a maximum

of eighteen years old and 11 months. The initial participants in the study were chosen due to

convenience. The power analysis requires a total of 67 participants. However, 100 participants

were used to account for attrition.

A total of 100 high school seniors were randomly assigned from a convenience sampled

from 349 total seniors. A convenience assignment was used to place participants into groups and

required a chance procedure (Ary et al., 2010). A convenience sample was used due to the

availability of subjects (Ary, 2001). The number of participants calculated with an alpha level of

$p<0.05$, a medium effect size of 0.15 and a power level of 0.80 gives a minimum sample size of

67 (Statistics Calculator, 2006). A larger number of recommended participants were selected in

order to protect against any foreseeable attrition was chosen to account for attrition of participants during the study. The high school seniors who are younger than 17 were excluded from the research study due to age constraints on the MSCEIT and those who are 19 or older were excluded from the SSIS due to age constraints on these instruments.

Setting

The setting for the study was a high school in northeastern rural community of Tennessee and serves grade levels 9-12. In 2011, the high school served 1380 students. The ethnic breakdown of the students consists of, 95.5% Caucasian, 2.2% Hispanic, African-American 1.3%, 0.5% Native American, and 0.5% Asian. According to the School Report Card (2011), 38.4% of the student population at this high school are classified as living in a rural community and are classified as economically disadvantaged (School Report Card, 2011). The 2012 student demographics report for the high school indicated a total of 1351 students with the following ethnic breakdown; 95.9% Caucasian, 2.1% Hispanic, 1.4% African American, 0.3% American Indian, 0.15% Pacific Islander, and 0.15% Asian. A total of 702 students are female and 649 students are male. A total 38% of the students receive free or reduced lunch, a total of 8% of the students have an Individualized Education Plan (IEP) and 2.1% of the students are considered to be English Language Learners (ELL).

The population of the rural Northeastern Tennessee County is 122,979. The ethnic breakdown of Washington County consists of 91.6% Caucasian, 3.9% African-American, Hispanic 3.0%, Asian 1.2%, Native American 0.3%, and 1.7% indicated in the 2010 census that their race consisted of two or more categories. The median household income in Washington County is $39,876 per year and a per capita income of $23,438. Approximately 18% of the

population of Washington County is considered living below the poverty line (U.S. Census Bureau, 2010).

The high school site in Northeastern, Tennessee was chosen because access to the high school and because the sample ethnic population is representative of county populations in surrounding counties. Greene County and Sullivan County border Washington County in Tennessee. Unicoi County, Tennessee has an ethnic composition similarity in Caucasian population of 95.8%. Sullivan County, Tennessee has an ethnic similarity in Caucasian, African-American, and Hispanic populations, Caucasian population of 95.1%, African-American population of 2.1%, and a Hispanic population of 1.5%. Greene County has ethnic similarity in Caucasian, African-American, and Hispanic populations, Caucasian populations of 95.0%, African-American population of 2.0% and a Hispanic population of 2.5% (U.S. Census Bureau, 2010). The school chosen for the study serves only Washington county residents. However, a small number of students for surrounding counties matriculate the Washington county high school due to an agreement with surrounding counties.

<div align="center">**Instrumentation**</div>

Facebook

Participants were given instructions and a log sheet to log the number of minutes they spend on Facebook per day. The participants were instructed that any technology would be acceptable when logging onto Facebook. The participants made a log entry daily and students marked the time start/end for each day and then the results were tallied up and the total cumulative minutes for all 7 days was divided by 7 to get the week's average.

Mayer, Salovey, Caruso Emotional Intelligence Test

Emotional intelligence was utilized as the one of the predictor variables for the study and were measured by a total of 15 different scores which include a global emotional intelligence score, scores from two main domains, experimental and strategic along with subscales from the two main domains. The experimental domain includes perceiving and using emotions. The perceiving emotions constructs include recognition of faces and pictures. The using emotions constructs include sensation and facilitations of emotions. The strategic domain includes understanding and managing emotions. The understanding emotions constructs include blends and changes while the managing emotions construct include emotional management and emotional relations. The MSCEIT was developed to measure task performance and emotional problem solving (Mayer, Salovey, & Carusdo, n.d). The test is designed for individuals 17 years and older, the average time to take the instrument is between 30 and 45 minutes, and has a readability level appropriate for the eighth grade. A total of 141 items and 8 subscales comprise the test and it can be administered via booklet or by computer without time constraints. Participants answer questions pertaining to subscales of the MSCEIT. The MSCEIT subscales include (a) Perceived emotions; (b) Use of emotions involving thinking; (c) Problem solving, and creativity; and (d) Understanding emotions, and emotion management (Mayer et al., n.d.). The normative sample for the MSCEIT included 5000 samples in which two types of scoring methods were used, general and expert and correlation coefficients for both methods ranged from 0.93 to 0.99. The questions include responses that utilize a Likert scale rating of 1-5. The responses include three different types: written, facial drawings, and multiple choice (Mayer et al., n.d.). The MSCEIT was scored by Multi-Health Systems Inc. (MSCEIT Manual, n,d,).

The MSCEIT was created by Mayer, Salovey, and Caruso and derived from *Multi-factor Intelligence Scale*. The MSCEIT was scaled down from 402 items and 12 subscales to 292 items and 12 scales in the revised version 1.1 in 1997. The MSCEIT version 2.0 is the current version of the instrument and has a total of 141 items with 8 subscales developed in the year 2000. The reliability for MSCEIT was indicated as having a good internal consistency when the full scale score was utilized. The split-half internal consistency coefficient was 0.93, which is regarded as a strong magnitude of reliability (Mayer et al., n.d.). The MSCEIT was reported by the authors to have three different types of validity, content, structural, and predictive (Mayer et al., n.d.). Graves (2000) indicated the structure of the MSCEIT, specifically emotional intelligence as a distinct construct. The predictive validity of MSCEIT as it relates to performance on the job, style of leadership, choice of occupation, attachment style, and academic success are directly related (MSCEIT Manual, n.d.).

However, problem behaviors and violence were found to be associated negatively (MSCEIT Manual, n.d.). Studies by Brackett and Mayer (2003) and Lopez et al. (2004) have indicated MSCEIT having incremental validity among the big five personality traits. The indication of an instrument having incremental validity is defined by a measure adding to the "prediction of a criterion above what can be predicted by other sources of data" (Hunsley & Meyer, 2003).

Brackett and Mayer (2003) investigated the convergent, discriminant, and incremental validity of the MSCEIT, *Emotional Quotient Inventor*y (EQ-i) (Bar-On, 1997), and *Emotional Intelligence Test* (SREIT) (Schutte et al., 2001). "This study showed that MSCEIT is the measure of choice; it was discriminable from well-studied measures of personality and well-being and it showed some evidence that it predicts important life criteria" (Brackett & Mayer,

58

2003, p.1155). A study by Rodes et al. (2008) also indicated that the MSCEIT possesses discriminant validity with personality traits. Correlations among higher order emotional intelligence factor, general mental ability, and long term effects ranged from weak ($r=.11$) to moderate ($r=.35$) and the 95% confidence intervals was ($r=.46$).

Lopes et al. (2004) also indicates MSCEIT to have predictive and incremental validity and indicated management of emotion to be related with social interaction. Scores on the using emotions subscale were positively related to the perceived quality of daily social interactions, and managing emotions scores were positively related to the perceived quality of interactions with members of the opposite sex. Moreover, managing emotions scores were positively related to perceived self-presentational success in social interaction due to higher perceived achievement exceeding higher expectations.

Social Skill Improvement System

Social skill was measured by the subscale of the SSIS and is a revision of the SSRS developed by Gresham and Elliott (Crosby, 2011) The SSIS is composed of three different domains related to (a) global social skill, (b) behavior problem scale, and (c) academic competence scale. The SSIS also consists of three testing scales: (a) Parent, (b) Teacher, and (c) student. The SSIS student scale is a self-report instrument and the student version was utilized in the study. The SSIS teachers and parents scale would rate the student based on their knowledge and experience with the student/child. The normative sample for the student scale SSIS consisted of 4700 students ages 3-18.

The Global social skill domain includes subscales in the following categories; (a) communication, (b) cooperation, (c) assertion, (d) responsibility, (e), empathy, (f) engagement, and (g) self-control. The behavior problem domain includes subscales in the following

categories; (a) externalizing, (b) internalizing, (c) hyperactivity/inattention, (d) autism spectrum, and (e) bullying. The academic competence domain involves teacher rating students in reading, math, motivation, parent support, and cognitive functioning ability (Crosby, 2011).

The social skill coefficient alpha for students ranged from 0.72-0.95. Median range for ages 3-12 is 0.95 and ages 13-18 is 0.96. The test-retest reliability range is 0.59 to 0.81with a reliability median coefficient being 0.71 (SSIS Technical Manual, n.d.) along while conforming to national standards regarding reliability and provides construct validity (Gresham & Elliott, 2008). The authors of SSIS report convergent validity as 0.30 for ages 13-18 and discriminant validity as 0.20 for ages 13-18 (SSIS Technical Manual, n.d). The SSIS authors also report inter-rater reliability as 0.55 for median scale correlation and 0.58 for the median subscale correlation along with inter-correlation validity results among subscales of global social skill between 0.75 and 0.85 (SSIS Technical Manual, n.d).The SSIS consists of 75 items in which the participant responds to statements regarding the self-perception of questions, such as: (a) not true, (b) a little true (c) a lot true, (d) very true. Each statement is responded by circling a response to each statement regarding the importance of the statement when in the company of others (Gresham & Elliott, 2008). The length of time to complete the instrument is on average 15-20 minutes (Gresham & and Elliott, 2008).

<div align="center">**Procedures**</div>

The Superintendent of the school system and the head principal of the high school was contacted to gain pre-approval to conduct the research study. The Institutional Review Board (IRB) packet was completed and submitted to the IRB for approval. Once IRB approval had been obtained, the researcher contacted the professional development coordinator and the science coordinator for Washington County Department of Education who acted as research assistant for

the study. The research assistant were chosen due to her background in research and education and recruited for the purpose of conducting the research based on the level of education required for giving the MSCEIT. The science coordinator is a doctoral student. A meeting was scheduled with research assistant in order to explain the study, instruments, testing procedures, and schedule dates for the research to take place. The research assistant was provided training in the form of information regarding the participation of students and was provided administration manuals which provided a script for administering the instruments.

One hundred students, between the ages of 17 and 18, were chosen due to convenience from the high school student population. Students who did not return forms were given a written reminder by the research assistant and the student were given an extra week to return forms before students were excluded from the research study. Since 100 participants did complete the necessary forms required to participate in the research study, the study was opened up for an open invitation method for ages 17-18. Prior to the students logging their own data 34 students took the SSIS and the other 34 students took the MSCEIT; then at the time all 68 FB logs were collected, the 34 students who did not take the SSIS took it at that time and the other 34 who did not take the MSCEIT took it at that time. The counterbalancing method described assisted in preventing a fatigue factor within the research study (Counterbalancing, 2009).

The SSIS was scored by the researcher and research assistant. The SSIS consists of 75 items in which the participant responds to statements regarding the self-perception of questions as not true, a little true, a lot true, very true. Each statement is responded by circling a response to each statement regarding the importance of the statement when in the company of others (Gresham & Elliott, n.d.). An overall score for global social skill was provided along with subscale score for each domain.

The MSCEIT was scored by the instrument publisher. The results were provided by the instrument publisher and the reports contained only data. No research participant information other than a given number linking the participant was provided to protect anonymity.   The Facebook log was tabulated by the research assistant. Once the data were provided to the researcher regarding both instruments, the data was organized and analyzed using SPSS and excel statistical software.

Research Design

This research study used a multiple regression analysis and a correlation analysis in order to accept or reject the null hypotheses. The multiple regression analysis was utilized to determine if a high school senior's social competence and ability to manage emotions predict the amount of time they spend socializing on Facebook. A multiple regression analysis assumes the variables being tested have distributions which are linear and normal (Osborne & Waters, 2002). The variance for errors involving the independent variables should be the same assuming homoscedascity (Osborne & Waters, 2002). Cohen and Cohen (1983) indicate a multiple regression analysis may be used when the dependent variable is quantitative and a study utilizes the dependent variable in determining the relationship among independent variables. A frequently used method for the analysis of data involving multiple independent variables is Multiple Regression (Leech et al., 2003).

The correlation method was utilized to determine if the SSIS and MSCEIT measure related constructs. The specific design was used in determining if the SSIS and MSCEIT measure related constructs was accomplished by evaluating the concurrent criterion validity of the constructs of the SSIS and the constructs of the MSCEIT. Criterion validity is used to determine if scores on one measure predict scores on other measures (Gall et al, 2007). The

design evaluated the scores of the predictors and the criterion variables obtained from high school senior scores on the SSIS and MSCEIT. Specially, a correlation matrix was set-up between the components of the SSIS and MSCEIT. A correlation design assisted in determining the strength of variables along with determining the relationship directions among variables (Ary et al., 2010).

Research Question

RQ$_1$: Does a high school senior's social competence and ability to manage emotions predict the amount of time they spend socializing on Facebook?

H$_{01}$: The multiple correlation equation for social competence and managing emotions being able to predict time spent socializing on Facebook is not reliably different from zero.

H$_{02}$: There are no statistically significant positive or negative correlations between time spent on Facebook and SSIS global score.

H$_{03}$: There are no statistically significant positive or negative correlations between time spent on Facebook and MSCEIT global score.

Research Question

RQ$_2$: Do the SSIS and MSCEIT measure related constructs?

H$_{04}$: There are no statistically significant positive or negative correlations between any the SSIS and MSCEIT global and subdomain scores.

Data Analysis

A multiple regression analysis was conducted to evaluate Research Question 1 and its null hypothesis that the multiple correlation equation for social competence and managing emotions being able to predict time spent socializing on Facebook not being reliably different from zero by use of SPSS statistical software. Cohen et al. (2003) indicated a multiple

63

regression is a data analysis method is appropriate when utilizing quantitative variables in determining the relationship of predictor variables. In a multiple regression analysis, predictor and criterion variables analysis results in a bell shaped curve. Before running the multiple regression analysis, data were prescreened to determine if they violated the following assumptions: normality, linearity/homoscedasticity, and multicollinearity (Tabachnick & Fidell, 2001. Multicollinearity is an assumption in which the variables do not produce a correlation of an r value of 0.7 or greater. A value of greater than 0.7 suggests the variables are too highly correlated. Variables that are highly correlated and are considered multicollinear contain information that is redundant and therefore not needed for the sample analysis (Tabachnick & Fidell, 2001). A correlation matrix was constructed to meet this assumption. Homoscedasticity is an assumption in which data is expected to be spread evenly near the line of best fit in a bivariate relationship (Cohen et al., 2003).

The power analysis for the research study was calculated with an alpha level of $p<0.05$, a medium effect size of 0.15 and a power level of 0.80 gives a minimum sample size of 67 (Statistics Calculator, 2006). A total of 100 participants were planned to be used to offset any attrition during the study. However, due to age constraints for the MSCEIT and lack of participation there were only 68 participants.

Concerning Research Question 2, a correlation analysis utilizing a Pearson's r was originally proposed but because of violations to assumptions for Pearson's r, a Kendall's tau was selected instead. The Kendall tau and Spearman's rho were considered as nonparametric methods to test the data. The Spearman's rho measures the independence of two variables while the Kendall Tau measures the monotonic relationship strength between two variables (Liebetrau, 1976). Kendall Tau has several advantages over the Spearman's rho measure; (a) population

64

parameter is unbiased, (b) approximation is good with small sample sizes, and (c) has the ability

to quickly reach normality (Shaeskin, 1997). The statistical software SPSS was utilized in

formulating the data into results. The alpha level for the research study was set at a two tailed

$p<0.05$ which was utilized in determining the level of significance for the results and the chance

of making a Type I error and decision making concerning the rejection of the null hypothesis.

The effect size for the multiple regression analysis was calculated using Cohen's *d* and is

calculated by taking the mean difference divided by the standard deviation (Ary et al., 2010).

The power level for the study was set at 0.80 which meant the researcher would have a 20%

chance of making a Type II error (Ary et al., 2010). The number of participants calculated with

an alpha level of $p<0.05$, a medium effect size of 0.15 and a power level of 0.80 gives a

minimum sample size of 68 (Statistics Calculator, 2006). A total of 100 participants were

planned to be used due to attrition. However, due to age constraints for the MSCEIT and lack of

participation for the senior students' only 68 students participated in the study.

Ethical Considerations

The anonymity of participants was kept through the random assignment process. The

results were expressed a number from the random assignment. The research participants were

asked to complete an informed consent form along with a parental consent form to participate in

the research study. Ary et al. (2010) suggests a consent form be used if results are to be

published. The research data obtained from the research was kept secure and in a safe during the

process of data analysis and the data is being currently being kept in a safe deposit box.

Conclusions

This study intends to add to the body of literature by determining if high school senior's

social competence and ability to manage emotions can predict the amount of time they spend

socializing on Facebook. The study also seeks to determine if the SSIS and the MSCEIT measure related construct. The study seeks to examine 100 high school seniors in Northeast Tennessee. The method to be utilized in the study was a multiple regression and a correlation analysis, participants were presented and described, data collection methods presented and described, procedures for research were explained, and the method by which the data analysis were detailed.

Chapter 4 provides results from the research study. Descriptive statistics for the participants are explained along with results from the assumption testing. The findings from the research study are presented and multiple correlation matrices are utilized in displaying results from the research study.

CHAPTER 4: FINDINGS

Introduction

The purpose of this chapter is to provide a data analysis for the research questions and null hypotheses that were tested using the SPSS Statistics and Excel software. Two different designs were used in the data analysis, a multiple regression and a simple correlation analysis. The purpose of the multiple regression design was to examine if time spent socializing on Facebook could be reliably predicted by SSIS global social skill scores, and MSCEIT global emotional intelligence scores. The purpose of the simple correlational analysis was to ascertain the concurrent validity between the SSIS and MSCEIT global and subscale scores. The findings for the analyses are presented in this chapter by using descriptive statistics and the following results: (a) assumption testing multiple regression analysis, (b) data transformation, (c) multiple regression analysis, (d) assumption testing for correlation analysis, and (e) Kendall Tau analysis for correlation analysis.

The research questions, null hypotheses are listed below:

RQ$_1$: Does a high school senior's social competence and ability to manage emotions predict the amount of time they spend socializing on Facebook?

H$_{01}$: The multiple regression equation for social competence and managing emotions being able to predict time spent socializing on Facebook is not reliably different from zero.

H$_{02}$: There is no statistically significant positive or negative correlation between time spent on Facebook and SSIS global score.

H$_{03}$: There is no statistically significant positive or negative correlation between time spent on Facebook and MSCEIT global score.

RQ$_2$: Do the SSIS and MSCEIT measure related constructs?

H$_{04}$: There will be statistically significant positive or negative correlations between any of the SSIS and MSCEIT global and subdomain scores.

Descriptive Statistics and Ancillary Analyses

The research involved a total of 68 participants, the demographic data of which is presented Tables 4.1-4.3. The participants consisted of 26 male participants (38.2%) and 42 female participants (61.8%). The race/ethnicity of the participants` included 65 White/Caucasian (95.6%), 2 Hispanic (2.9%), and 1 Asian (1.5%). The age of the participants ranged from 17-18 years old. Fifty-four participants were 17 (79.4%) and 14 participants (20.6%) were 18 years old.

The obtained sample frequencies for gender and age were somewhat unequal making it unclear if there were significant mean differences in these demographic domains in relation to time spent socializing on Facebook. As a result, ancillary independent samples *t* test analyses were conducted. "A significant mean difference between groups would be present if the critical *t* value is above 1.98 (*df* = 66, *p*<.05, two-tailed) (Tabachnick & Fidell, 2001). Analysis of the mean time spent on Facebook between males and females was not significant at *t* (66) = .157 *(p* = .876)* Analysis of the mean time spent on Facebook between 17 and 18 year olds was not significant at *t* (66) = .550 (*p* = .584). This ancillary analysis suggests that the sample disparity between males and females, and between 17 and 18-year-olds, did result in overall mean differences. According to the results from *t* values, the results were significant which indicates the differences were not due to chance. Demographic data are presented in 4.1-4.4.

Table 4.1

Demographic Frequencies: Gender and Facebook Minutes

Gender	Frequency	$\bar{x}$	SD
Female	42	148.38	154.35
Male	26	157.46	320.20
Total	68	151.85	229.90

Table 4.2

Demographic Frequencies: Age and Facebook Minutes

Age	Frequency	$\bar{x}$	SD
17	54	159.70	251.45
18	14	121.57	115.69
Total	68	151.85	229.90

Table 4.3

Demographic Frequencies: Race/Ethnicity

Race	Frequency	Percent	Cumulative Percent
Caucasian	65	95.6	95.6
Hispanic	2	2.9	98.5
Asian	1	1.5	100.0
Total	68	100.0	

Table 4.4

Demographic Frequencies: Age

Age	Frequency	Percent	Cumulative Percent
17	54	79.4	79.4
18	14	20.6	100.0
Total	68	100.0	

The overall mean for participants' time on Facebook was 151.85 minutes (SD= 229.90),

which converts to approximately 2.5 hours per week. Table 4.4 shows the descriptive statistics of

the time spent on Facebook. This statistic is the total amount of time the high school senior spent

socializing on Facebook tabulated over a one week period. The sample for the research study

consisted of a total of 68 participants who kept a Facebook log for one week.

The Facebook log also accounted for the number of times the high school senior logged

onto Facebook during the one week the log was kept. From the 68 high school seniors who

participated in the study, the minimum number of times a high school senior logged onto

Facebook during the one week was 2 and the maximum was 59. The mean number times

students logged in during the week of data collection was 12.01 (SD = 9.44) with a median of 9.0

log-ins.

Table 4.5

Descriptive Statistics for Time Spent on Facebook in one Week

	Minutes Min-Max	$x\square$	Median	SD
Facebook minutes	8-1669	151.85	79.50	229.90

Note. N= 68. Histogram shows positive skew.

The SSIS technical manual reports that the normed global index score mean is 100

(SD=15.0) (SSIS Manual, n.d.). For this concurrent validity study, the mean of the SSIS global

was 94.51 (SD = 17.70). The SSIS scores were tabulated for each of the 68 participants in the

study. The normative mean for the SSIS subscales are as follows: Communication 13.5 (SD =

3.2), Cooperation 14.8 (SD = 3.8), Assertion 13.4 (SD = 3.7), Responsibility 14.6 (SD = 3.6),

Empathy 13.0 (SD = 3.3), Engagement 14.8 (SD = 3.6), and Self-Control 10.8 (SD = 3.6) (SSIS

Manual, N.D.). The mean for each subscale score of the SSIS is as follows: Communication

13.09 (SD = 2.94), Cooperation 14.50 (SD = 3.57), Assertion 13.25 (SD = 3.62), Responsibility

15.53 (SD = 3.42), Empathy 13.00 (SD = 2.99), Engagement 14.31 (SD = 3.62), Self-control

10.84 (SD = 3.06). Table 4.6 shows the descriptive statistics for the global and subscale scores

for the SSIS.

Table 4.6

Descriptive Statistics for Social Skill Improvement System

Domains	Min	Max	Mean	SD
SSIS Global Index	52	127	94.51	17.70
Communication	7	18	13.09	2.941
Cooperation	3	21	14.50	3.572
Assertion	2	21	13.25	3.622
Responsibility	5	21	15.53	3.423
Empathy	5	18	13.00	2.993
Engagement	6	21	14.31	3.629
Self-control	5	18	10.84	3.065

Note. N = 68. Global Index Mean = 100 (SD = 15).

The MSCEIT scores were tabulated for each of the 68 participants in the study. The

results in the research study for emotional intelligence resulting in a Global Emotional

Intelligence score mean of 100.54 (SD = 15.47). (MSCEIT Manual, n.d) The normative mean for

the MSCEIT subscales are as follows and were listed by the published company in

unstandardized form: Perceiving Emotions .51 (SD = .13), Using Emotions .48 (SD = .08),

Understanding Emotions .55 (SD = .08), Managing Emotions .45 (SD = .08), Face Task .58 (SD

= .12), Picture Task .53 (SD = .13), Facilitation Task .44 (SD = .09), Sensations .52 (SD = .11),

Changes .57 (SD = .10), Blends .53 (SD = .10), Emotional Experience .44 (SD = .09), and

Emotional Reasoning .46 (SD = .11) (MSCEIT Manual, N.D.).

The mean for each subscale score of the MSCEIT is as follows: Perceiving emotions

105.23 (SD = 10.39, Using emotions 105.54 (SD = 17.51), Understanding emotions 105.85 (SD

= 22.99), managing emotions 98.23 (SD = 16.314), Face task 117.97 (SD = 21.979), Picture task

112.75 (SD = 11.70), Facilitation task 103.12 (SD = 15.43), Sensations task 103.78 (SD =

15.62), Changes task 110.02 (SD = 21.02), Blends task 99.68 (SD = 15.67), Emotional

experience 106.79 (SD = 13.20), Emotional reasoning 101.57 (SD = 19.427). Table 4.7 shows

the descriptive statistics for the global and subscale scores for the MSCEIT.

Table 4.7

Descriptive Statistics for Mayer, Salovey, Caruso Emotional Intelligence Test

MSCEIT Domains	Min	Max	x̄	SD
Global Emotional Intelligence	65	161	100.54	15.47
Perceiving Emotions	78	132	105.23	10.39
Using Emotions	61	150	105.54	17.51
Understanding Emotions	72	165	105.85	22.99
Managing Emotions	63	158	98.23	16.31
Face Task	75	143	117.97	21.97
Picture Task	85	132	112.75	11.70
Facilitation Task	68	134	103.12	15.43
Sensation Task	63	145	103.78	15.62
Changes Task	71	142	110.02	21.02
Blends Task	69	139	99.68	15.67
Emotional Experience	78	149	106.79	13.20
Emotional Reasoning	65	158	101.57	19.42

N=68; MSCEIT Median Global Score= 99.61.

Assumption Testing: Multiple Regression

Before running the multiple regression analysis, data were prescreened to determine if

they violated the assumptions for normality, linearity/homoscedasticity, and multicollinearity

(Tabachnick & Fidell, 2001). A multiple regression is used to evaluate the correlation of two or

more predictor variables on a single criterion variable (Gall et al., 2007). To evaluate the data,

histograms were created for graphical representation of the data set's distribution, which also

gives some insight into the data's skew and kurtosis. Skewness refers to symmetry of the

distribution while kurtosis refers to distribution peaks (Tabachnick & Fidell, 2001). An

acceptable value for the skewness and kurtosis is between -2 and +2 (Kendall, Stuart, Ord, &

Arnold, 1999). A skewness and kurtosis value falling within the -2 and +2 and ranges indicates

the data are not skewed suggesting that the shape of the distribution is mesokurtic, or

approximates a normally distributed data set (Kendall, Stuart, Ord, & Arnold, 1999). The degree

and nature of linearity and homoscedasticity was determined using scatterplots. Linearity refers

to the relationship of the straight-line produced by the combination of two or more variables. If

the distribution is non-linear, the scatterplot will appear oval in shape or the majority of residuals

fall above the zero line or below the zero line. Homoscedasticity refers to variability of two

variables and in order for values to be considered homoscedastic, scatterplots are considered to

be similar (Tabachnick & Fidell, 2001). If a scatterplot is considered to show heteroscedasticity

the cause is due to non-normality of one of the variables or due to relationship among the

transformation among variables (Tabachnick & Fidell, 2001). The Multicollinearity was

examined using the variation inflation factor (VIF). Multicollinearity occurs when too high a

correlation exists between all variables (Tabachnick & Fidell, 2001). When two variables are

highly correlated (e.g., +0.70 or -0.70), it suggests that they are redundant and either variable

(e.g., SSIS or MSCEIT global scores) would be just as good as the other in predicting the

outcome variable (e.g., Time Spent on Facebook) (Rumsey, 2009).The value indicating

multicollinearity is a VIF value greater than 10 (Warner, 2008).

Testing Assumption of Normality

To test for normality of data, a test for skewness and kurtosis was performed among the

predictor variables and the criterion variable. The values for the SSIS Global Index Domain

score fell within acceptable ranges, showing a Skewness of -.23 and a Kurtosis of -.49. This

suggests that the overall shape and peak of the distribution is within normal ranges. The

skewness value for the MSCEIT global emotional intelligence scores also fell within an

acceptable range of 0.78. However, the kurtosis value fell just outside the threshold at 2.28. The

histogram and kurtosis value being above 0 suggests a leptokurtic distribution shape with too

great a peak for acceptable kurtosis (Martin & Bridgmon, 2012). The skewness and kurtosis

values for time spent on Facebook both fell outside the threshold with a skewness value of 4.65

and a kurtosis value of 28.36. The histogram and kurtosis value being above 0 also suggests a

leptokurtic pattern or a pattern with too great a peak for kurtosis (Tabachnick & Fidell, 2001).

The values fall outside the -2 to +2 range suggesting that the data set violates the assumption of

normality. Table 4.8 below shows the values for skewness and kurtosis.

Table 4.8

Skewness and Kurtosis Values for the Study Variables

	Global Social Skill	Facebook Minutes	Global Emotional Intelligence
Skewness	-.23	4.65*	.78
Std. Error of Skewness	.29	.29	.29
Kurtosis	-.49	28.38*	2.28*
Std. Error of Kurtosis	.57	.57	.57

Note. * = value exceeds acceptable range. Acceptable skew and kurtosis range values fall
between -2 and +2 (Kendall et al., 1999). *N=68.*

     The normality testing also included a visual analysis of histograms to check to see if

distributions appeared normal. The histogram for the time spent on Facebook shows a longer tail

extending to the right which suggests a positive skew. The histogram for the global emotional

intelligence shows a slight shift to the right which means we have a slight positive skew. The

histogram for the global social skill shows a normal curve. Figures 1-3 below show the

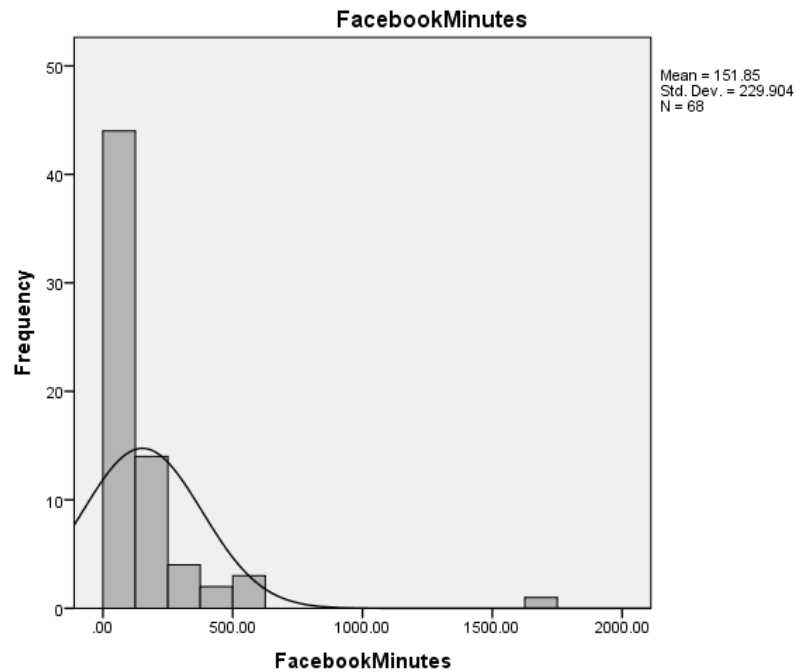histogram bins and values with a distribution overlay.

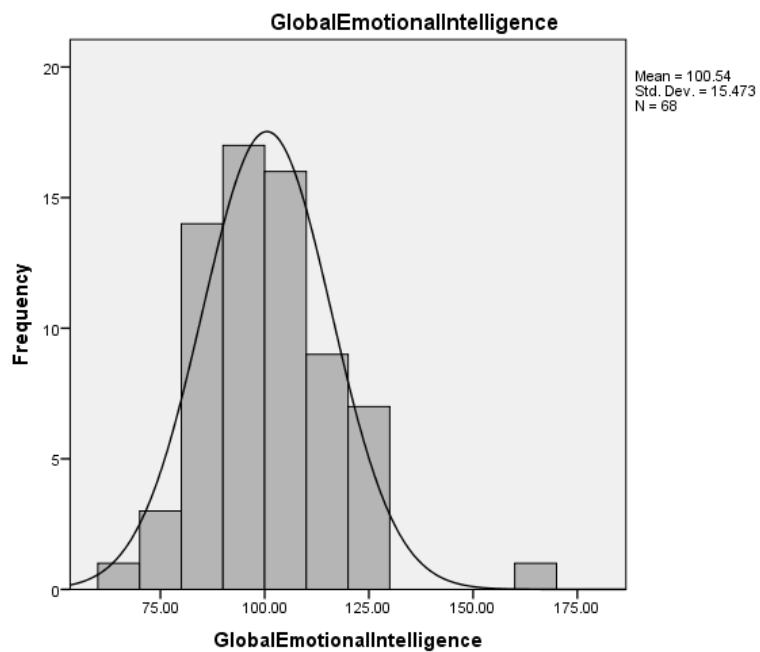*Figure 1*. Histogram of minutes spent on Facebook per week.

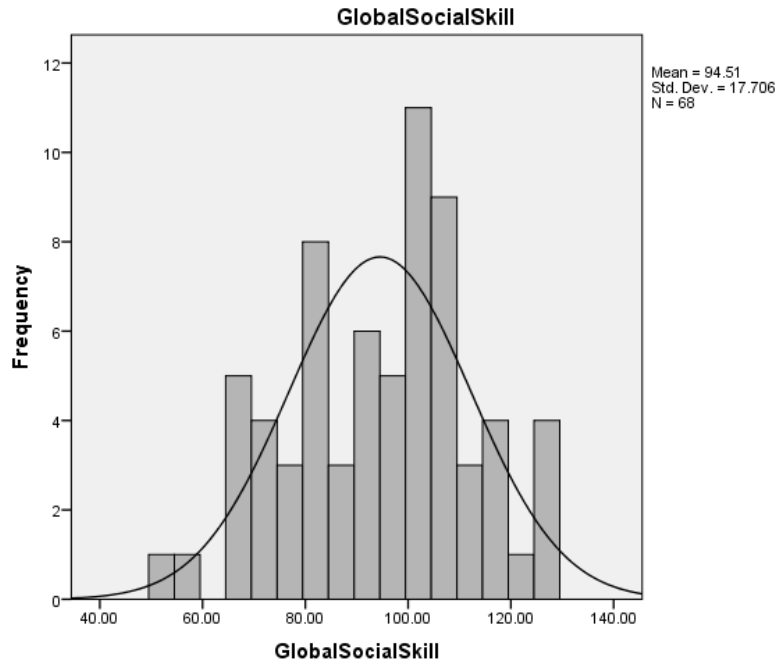*Figure 2*. Histogram of Global Emotional Intelligence scale.

Figure 3. Histogram of Global Social Skills scores.

In summary, visual analysis of histograms and distribution overlays shows that SSIS Global Score data appear to be normal, while analysis of MSCEIT Global Scores and Time Spent on Facebook suggests that the assumption of normality for a multiple regression was violated.

Testing the Assumption of Linearity and Homoscedasticity

To test for the assumption of linearity and homoscedasticity a scatterplot of the residuals was evaluated. The results of the scatterplot data show the data to be non-linear which violates the assumption of the data to be linear which violates the assumption of linearity. The scatterplot also shows heteroscedasticity which violates the assumption of homoscedasticity. Heteroscedasticity refers to the skewness of variables on a scatterplot (Tabachnick & Fidell, 2001). Figure 4-6 shows the scatterplot for the residuals.

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: FacebookMinutes
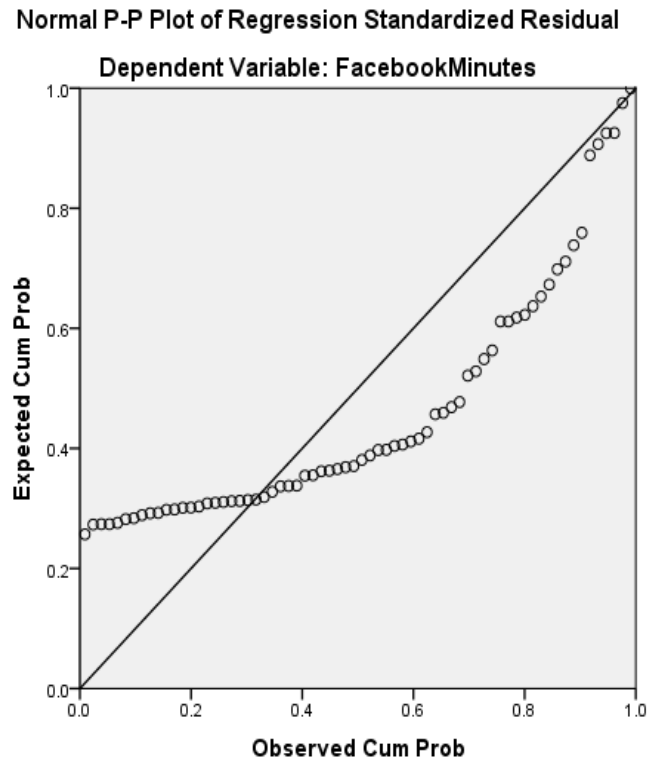
Figure 4. Scatterplot of the residuals of minutes spent on Facebook.

Partial Regression Plot

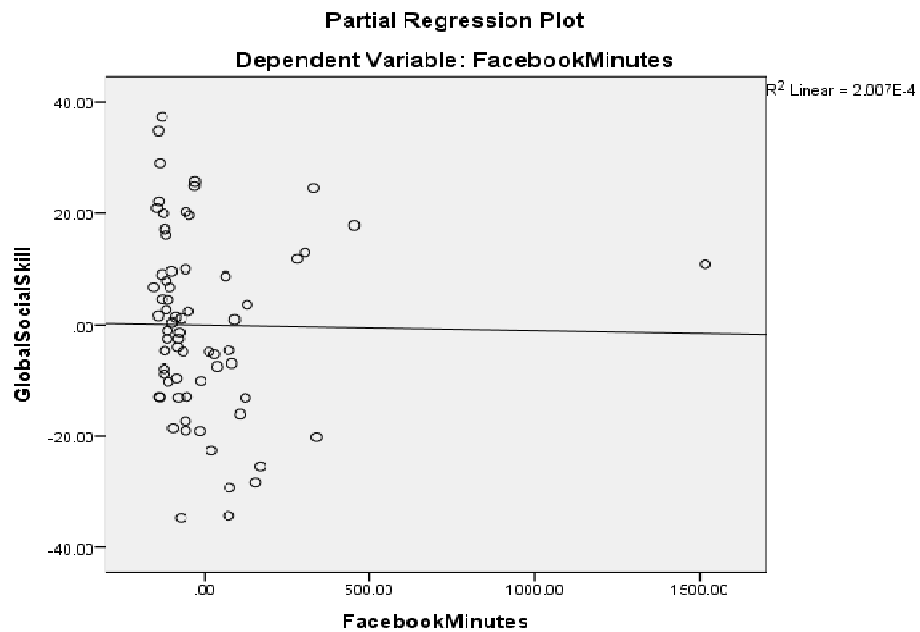### Dependent Variable: FacebookMinutes

Figure 5. Scatterplot of the residuals of minutes spent on Facebook and Global Social Skills.
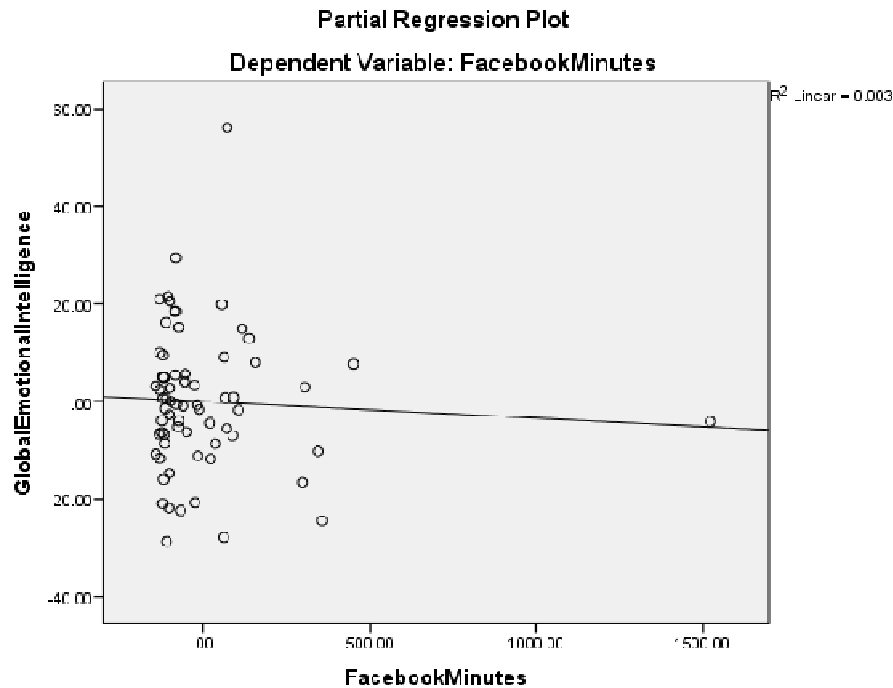
Figure 6. Scatterplot of the residuals of minutes spent on Facebook by Global Emotional Intelligence.

Testing for the Absence of Multicollinearity

The assumption of multicollinearity was tested using the VIF. The results showed the tolerance level to be .86 and the VIF to be 1.16 for both the global social skill and global emotional intelligence. The results indicate the variables are not highly correlated. A value of 10 for the VIF indicates variables are highly correlated (Warner, 2008). A tolerance level greater than .50 is considered to be acceptable for a single variable (Tabachnick & Fidell, 2001).

The preceding tests showed that (a) the assumption of normality (skew and kurtosis) was violated; (b) the assumptions of linearity and homoscedasticity were violated; and (c) multicollinearity between the SSIS and MSCEIT was not detected. While it is still possible to run a standard multiple regression analysis, it is not advisable because results would be highly

unreliable and power would be affected making it difficult to map the relationship between the PVs and the OV (Tachnick & Fidell, 2001).

Tabachnick and Fidell (2001) suggested data transformations are a legitimate solution to the problem. A data transformation transforms the mean and equalizes it with the median. Since the data were skewed, the mean for the original data is not suitable as a measure of central tendency (Tabachnick & Fidell, 2001). A logarithmic (log) data transformation was used to convert Time Spent on Facebook, SSIS Global Social Skill, and MSCEIT Global Emotional Intelligence variables. Tabachnick and Fidell (2001) suggest when data transformations are used results show a substantial improvement and are recommended for violations of normality, linearity, and homoscedasticity. Tabachnick and Fidell also suggest data should be rechecked for normality after log transformation of the data is completed.

Descriptive Statistics and Normality Testing For Transformed Data

A logarithmic transformation of the data was conducted. Means and standard deviation for Time Spent of Facebook was reduced from 151.85 (SD=229.90) to 4.39 (SD=1.11). Means and standards deviation for the global SSIS was reduced from 94.51 (SD=17.70) to 4.53 (SD=0.19). Means and standard deviation for the global MSCEIT was reduced from 100.54 (SD=15.47) to 4.59 (SD=0.15). To test for normality of logarithmic transformation of data, analysis of skewness and kurtosis was conducted with SSIS and MSCEIT predictor variables and the time spent on Facebook outcome variable along with a visual inspection of the histograms. The skewness values for time spent on Facebook were reduced from 4.65 to 0.24 and the kurtosis value was reduced from 28.38 to -.43. The skewness value for global SSIS was changed from -.23 to -.68 and the kurtosis value was reduced from -.49 to .10. The skewness value for global

MSCEIT was reduced from .78 to .11 and the kurtosis value was reduced from 2.28 to .91. Table

4.9 shows the mean, median, standard deviation, skewness, and kurtosis values for the

non-transformed data and logarithmic transformed data.

Table 4.9

Non-transformed and Transformed Descriptive Statistics, Skewness, and Kurtosis Values

	$\bar{x}$ (NT)	$\bar{x}$ (T)	Mdn (NT)	Mdn (T)	SD (NT)	SD (T)	Skew (NT)	Skew (T)	Kurtosis (NT)	Kurtosis (T)
Time on Facebook	151.85	4.39	79.50	4.37	229.90	1.11	4.65	.24	28.38	-.43
Global SSIS	94.51	4.53	98.00	4.59	17.70	.19	-.23	-.68	-.49	.10
Global MSCEIT	100.54	4.59	99.62	4.60	115.47	.15	.78	.11	2.28	.91

Note. (NT) = Non-transformed data; (T) = Transformed data. Mdn = Median

The data were rechecked for multicollinearity. The tolerance for the global SSIS and

global MSCEIT was found to have a tolerance of 0.84 (from 0.86) and a VIF of 1.18 (from 1.16).

The data were also visually re-inspected using histograms. A visual re-inspection of the

histograms showed the logarithmic transformation of data to be normal or very nearly normal in

distribution. The histogram bins and values with a distribution overlay are presented below in

figures 7-9 below, showing results for the transformed data set.
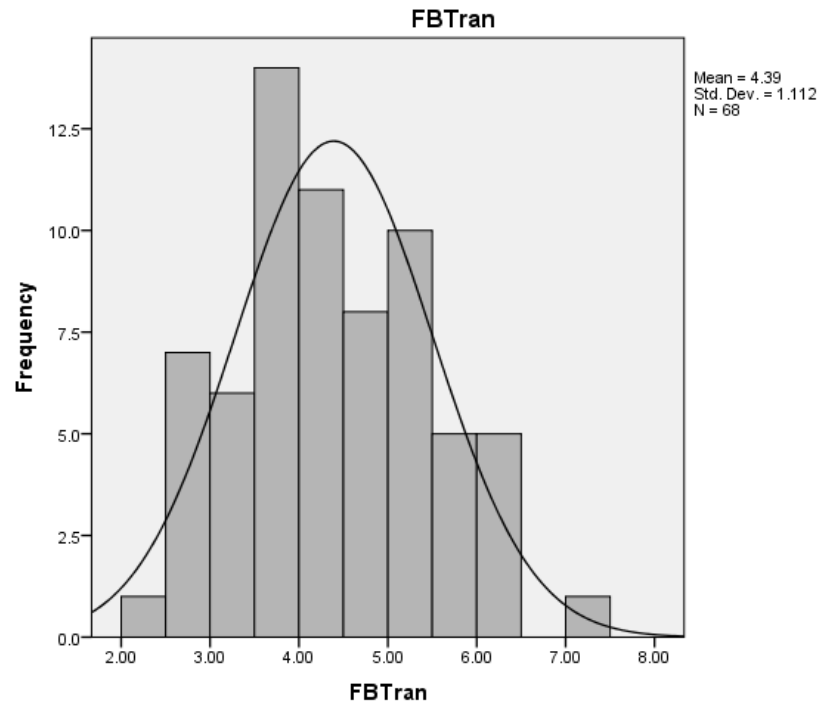
Figure 7. Histogram of Facebook minutes transformation.
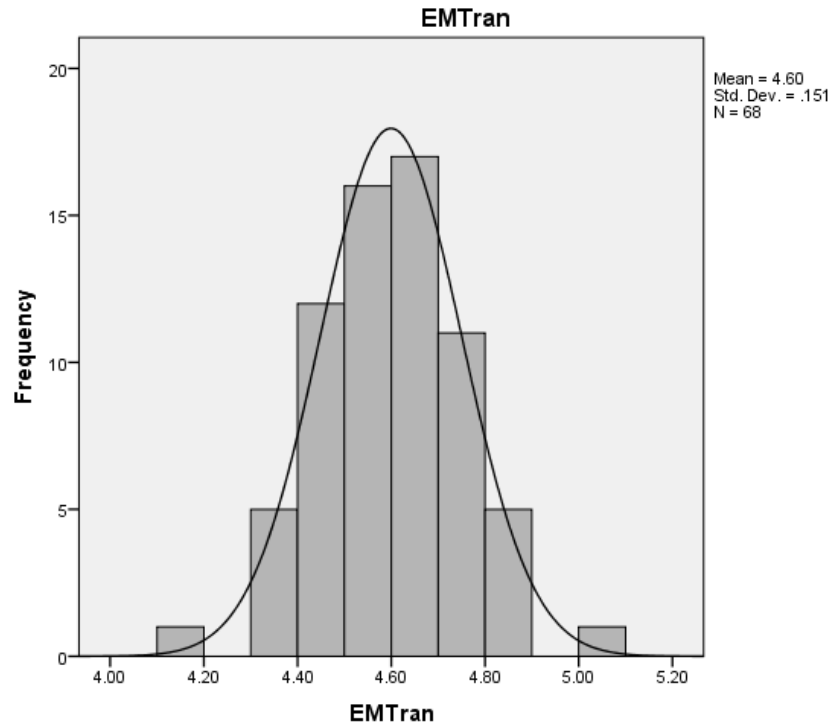
Figure 8. Histogram of the MSCEIT.
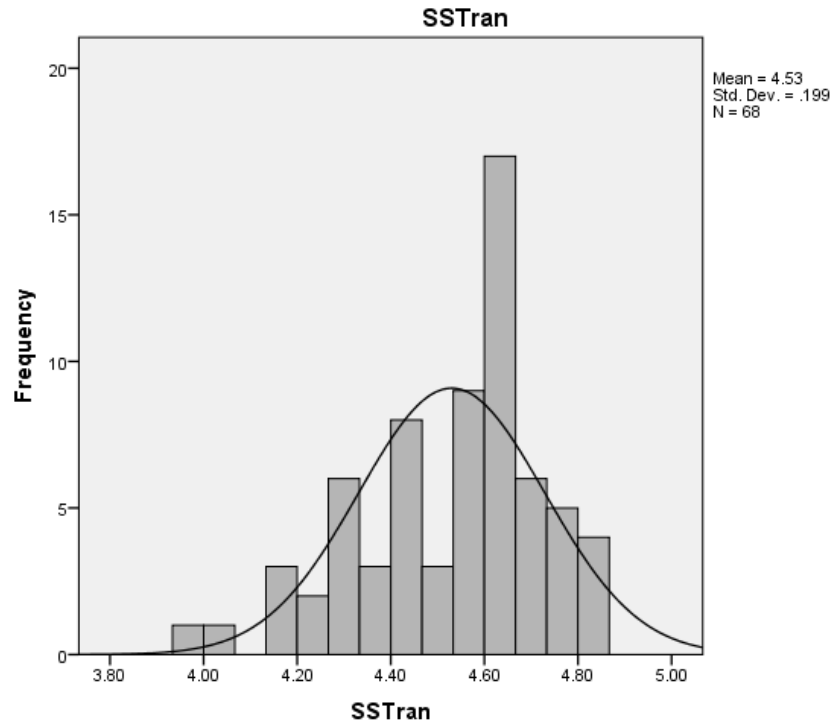
Figure 9. Histogram of the SSIS transformation.

The linearity and homoscedasticity scatterplots were recreated after log transformations to visually analyze whether assumptions of linearity and homoscedasticity were finally met. The scatterplots in figures 10-12 below show that the transformed data are linear and homoscedastic.
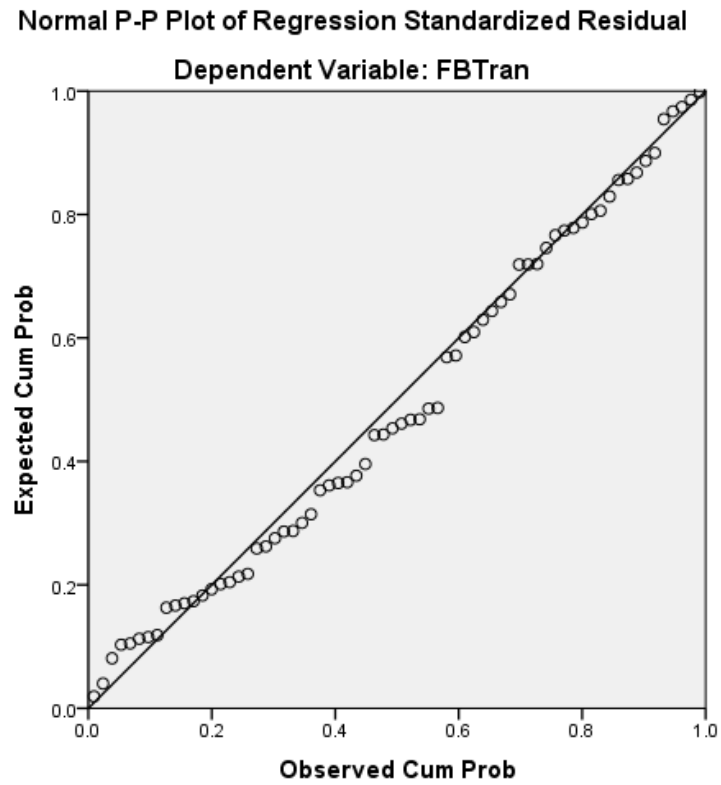
Figure 10. Scatterplot of the residuals of the transformed minutes spent on Facebook variable.
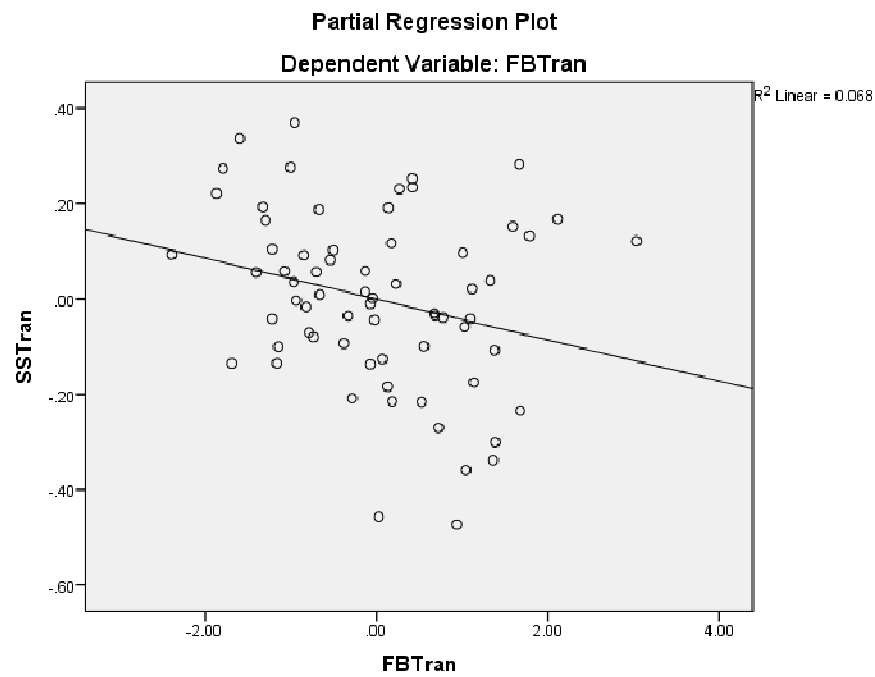
Figure 11. Scatterplot of the residuals of the transformed SSIS variable.
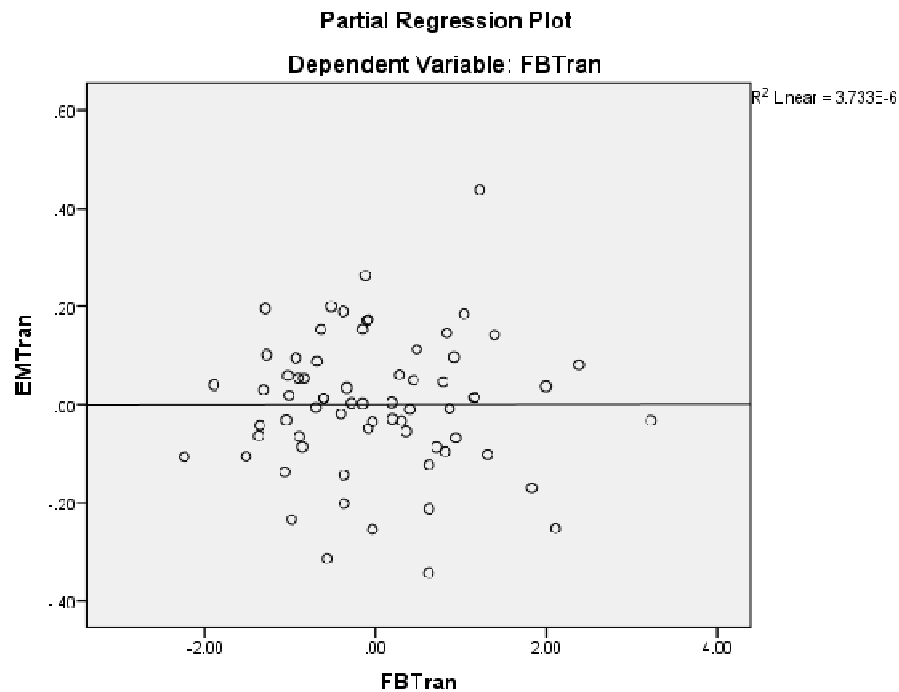
Figure 12.   Scatterplot of the residuals of minutes spent on Facebook.

Overall, logarithmic transformation resulted in the data meeting the requirements of normality, linearity, multicollinearity, and homoscedasticity. Thus, we can perform a multiple regression analysis on the criterion variable and predictor variables.

Multiple Regression Analysis

The first analysis concerned Research Question 1: *Does a high school senior's social competence and ability to manage emotions predict the amount of time they spend socializing on Facebook?* To answer this question, a multiple linear regression was conducted to determine whether SSIS and MSCEIT global scores could predict the amount of time a student spends socializing on Facebook. The overall model (i.e., involving both predictor variables) was not statistically significant, F (2,65) = 2.77, p = .07, indicating that the results were due to chance.

The adjusted R^2 of .05 suggests that only 5% of the variance in time spent socializing on Facebook could be explained by the variances in SSIS and MSCEIT global scores.

While the overall model involving the combined predictor variables was not significant, the analysis did reveal that the SSIS global score variable (i.e., level of social competence) was the most influential predictor, showing a negative (inverse) relationship between SSIS global score and the time spent socializing on Facebook, β = -.28, and was a statistically significant predictor of time spent socializing on Facebook, t = -2.16, p = .03. The MSCEIT global score variable was not an influential predictor, β = .002, and was not a statistically significant predictor of time spent socializing on Facebook, t = .01, p = .98.

Concerning null hypothesis H_1: *The multiple regression equation for social competence and managing emotions being able to predict time spent socializing on Facebook is not reliably different from zero*, the analysis of the regression equation showed that the combined SSIS and MSCEIT variables did not reliably predict time on Facebook. As mentioned earlier, only 5 percent of overall model could be explained by these variables. Thus, we can accept this null hypothesis. This means the adjusted R^2 of .05 suggests that only 5% of the variance in time spent socializing on Facebook could be explained by the variances in SSIS and MSCEIT global scores.

Concerning null hypothesis H_2: *There is no statistically significant positive or negative correlations between time spent on Facebook and SSIS global score*, we can reject this hypothesis because the SSIS global score variable was influential as a predictor in the equation and the (negative) correlation between these two variables was statistically significant at β = -2.81 and p = .03. This means that as the time spent on Facebook increases, the global social skill

level decreases and that as the time spent on Facebook decreases, the global social skill level increases.

Concerning null hypothesis H$_3$: *There is no statistically significant positive or negative correlations between time spent on Facebook and MSCEIT global score*, we can accept this null hypothesis because the MSCEIT global score variable was not influential as a predictor and the correlation between these two variables was not statistically significant, β = .002 and *p* = .98. This means there is no relationship between the time spent on Facebook and the global emotional intelligence of the high school seniors. Results of the multiple regression analysis are presented in Table 4.10.

Table 4.10

Regression Model with Time Spent on Facebook as the Outcome Variable

	B	β	t	p
Constant	11.439			
SSIS	-1.571	-2.81	-2.16	.03
MSCEIT	.015	.002	.01	.98

Note. Adjusted R^2=0.5 (5% of variances explained) F (2,65) =2.77, p=.07.

Assumption Testing: SSIS and MSCEIT Concurrent Validity Analysis

Before conducting the SSIS and MSCEIT concurrent validity analysis, the assumptions for running a Pearson product-moment correlation (*r*) were tested. In order for Pearson *r* to be used, the data set must meet the assumptions of normality and linearity. Data were prescreened when the assumptions for using a multiple regression were tested. Histograms and scatterplots were visually analyzed for normality and linearity. Figures 4.1-4.6 document the fact that data did not meet assumptions for a Pearson *r* correlational procedure. SSIS and MSCEIT scores were transformed using square root, logarithmic, and log 10 methods; however, all three transformation approaches failed to change the data so as to meet the necessary assumptions of

normality and linearity. As a result, the parametric Pearson product-moment correlation could not be used. The nonparametric Kendall tau (τ) was used as a replacement method. Tabachnick and Fidell (2001) indicate when data transformations are used results show a substantial improvement and are recommended for violations of normality, linearity, and homoscedasticity. Tabachnick and Fidell also indicate data should be rechecked for normality after transformation of the data. All three data transformations failed to change the data to meet Pearson's assumptions for normality and linearity. Thus, a parametric method could not be used in testing the data. An alternative nonparametric method, Kendall Tau was used in place of the Pearson's *r* and linearity. Thus, the nonparametric, Kendall tau was used instead of Pearson's *r*.

Kendall Tau Correlation

While Kendall tau was selected, Spearman's *rho* was also considered as nonparametric methods to test the data. Kendall Tau has several advantages over the Spearman's *rho* measure; (a) estimate of population parameter is unbiased, which means the distribution of the sample can be shown to be equal to the parameter being estimated (b) approximation of the sample distribution is good with small sample sizes which gives the Kendall tau statistic the ability to quickly reach normality (Shaeskin, 1997). As with other correlational approaches, Kendall tau coefficients range between -1.0 and +1.0 (Chen & Popovich, 2002) The Kendall Tau analysis consisted of evaluating the relationship among each of the SSIS subscales and MSCEIT subscales.

Kendall tau correlations were conducted (p<.05, two-tailed test), which resulted in a number of statistically significant correlation coefficients between the SSIS and MSCEIT scales When correlating the SSIS global and subscales with MSCEIT global and subscales many of the correlation coefficients were considered to be statistically significant. SSIS Global Scale

87

correlated significantly with: (a) MSCEIT Global Scale (τ=.23, p=.001); (b) Understanding Emotions (τ =.22, p=.001), (c) Managing Emotions (τ=.23, p=.001), (d) Changes (τ= .25, p=.002), (e) Blends (τ=.19, p=.03), and (f) Emotional Reasoning (τ=.27, p=.01). The SSIS subscale communication correlated with; (a) MSCEIT global (τ=.26, p=.001), (b) understanding emotions (τ =.33, p=.001), (c) managing emotions (τ=.25, p=.004) (c) changes (τ= .34, p=.00), (d) blends (τ=.28, p=.001), and (e) emotional reasoning (τ=.33, p=.001). The SSIS subscale cooperation correlated significantly with; (a) MSCEIT global (τ=.28, p=.001) (b) Understanding Emotions (τ=.27, p=.002), (c) Managing Emotions (τ=.30, p=.00, (d) Facilitation (τ=24, p=.01). The SSIS subscale responsibility correlated with (a) MSCEIT global (τ=.25, p=.003), (b) Understanding Emotions (τ=.32, p=.00), (c) Managing Emotions (τ=.26, p=.003), (d) Changes (τ=.33, p=.00), (e) Blends (τ=.27, p=.00), (f) Emotional Reasoning (τ=.33, p=.01). The SSIS Empathy correlated with (a) MSCEIT global (τ=.21, p=.01), (b) Understanding Emotions (τ=.25, p=.004), (c) Changes (τ=.27, p=.002), (d) Emotional Reasoning (τ=.23, p=.01). The SSIS subscale Engagement correlated with (a) MSCEIT global (τ=.20, p=.02), and (b) Managing Emotions (τ=.19, p=.03). The SSIS subscale Self-Control correlated with (a) MSCEIT global (τ=.19, p=.03), (b) Understanding Emotions (τ=.18, p=.04), (c) Changes (τ=.19, p=.03), (d) Emotional Reasoning (τ=.20, p=.02). All of the significant correlations have a $p < .05$ which suggests indicates the results did not occur by chance. Since there were a number of statistically significant correlation coefficients between the SSIS and MSCEIT scales, the alterative hypothesis H_4: *There will be statistically significant positive or negative correlations between any of the SSIS and MSCEIT subdomain scores*, can be accepted. The results of the Kendall Tau correlation coefficients between SSIS and MSCEIT are listed in Table 4.11.

Table 4.11

SSIS and MSCEIT Concurrent Validity Correlations

	SSIS		Comm.		Coop.		Assertion		Resp.		Empathy		Engage		Self-Control	
	τ	Sig.	τ	Sig.	τ	Sig.	τ	Sig.	τ	Sig.	τ	Sig.	τ	Sig.	τ	Sig.
MSCEIT	**.23**	**.001**	**.26**	**.001**	**.28**	**.001**	.10	.24	**.25**	**.003**	**.21**	**.01**	**.20**	**.02**	**.19**	**.03**
Perceiving	-.04	.59	-.11	.22	-.08	.35	-.02	.82	-.15	.09	-.04	.67	.03	.75	.08	.37
Using	.13	.11	.13	.13	**.23**	**.01**	.04	.68	.15	.08	.09	.33	.10	.26	.10	.25
Understand	**.22**	**.001**	**.33**	**.001**	**.27**	**.002**	.11	.22	**.32**	**.00**	**.25**	**.004**	.08	.36	**.18**	**.04**
Managing	**.23**	**.001**	**.25**	**.004**	**.30**	**.00**	.07	.42	**.26**	**.003**	.10	.23	**.19**	**.03**	.16	.07
Face Task	-.07	.41	-.07	.42	-.06	.48	-.13	.13	-.14	.10	.01	.88	.01	.88	.12	.17
Picture	.02	.85	-.09	.30	-.06	.52	.08	.39	-.07	.39	-.01	.92	.17	.05	.01	.92
Facilitation	.11	.18	.14	.11	**.24**	**.01**	. 04	.64	.15	.07	.06	.49	.06	.46	.14	.11
Sensation	.12	.15	.06	.51	.11	.19	.05	.53	.12	.18	.13	.15	.11	.21	.04	.62
Changes	**.25**	**.002**	**.34**	**.00**	**.26**	**.002**	.11	.23	**.33**	**.00**	**.27**	**.002**	.10	.25	**.19**	**.03**
Blends	**.19**	**.03**	**.28**	**.001**	**.22**	**.01**	.12	.16	**.27**	**.00**	.17	.05	.06	.48	.11	.19
Experience	.04	.61	.01	.92	.08	.36	-.03	.77	.01	.76	.03	.76	.10	.24	.09	.29
Reasoning	**.27**	**.01**	**.33**	**.001**	**.32**	**.00**	.13	.14	**.33**	**.01**	**.23**	**.01**	.16	.06	**.20**	**.02**

Note. A *p*-value bolded means that the τ correlation is significant. *N = 68.*

The significant results from Table 4.11 are displayed in Table 4.12 along with their effect sizes reported as percent of variance explained, along with 95% confidence intervals and Z-values. The Z-values are given as an indication of where the scores are in relationship to all other scores contained within the distribution set (Ary, Jacobs & Sorensen, 2010).

Table 4.12.

Kendall Tau Significant Correlations, Confidence Intervals, Z-Score and P-Values

	τ	ES	Low CI	High CI	Z-Score	*p*-Value
MSCEIT and SSIS	.23	5.3%	.08	.38	2.74	.001
MSCEIT and Comm.	.26	6.8%	.13	.39	3.01	.001
MSCEIT and Coop.	.28	7.8%	.12	.43	3.21	.001
MSCEIT and Resp.	.25	6.3%	.13	.37	2.90	.003
MSCEIT and Empathy	.21	4.4%	.07	.36	2.46	.01
MSCEIT and Engagement	.20	4.0%	.03	.36	2.29	.02
MSCEIT and Self-Control	.19	3.6%	.03	.35	2.14	.03
Using Emotions and Coop.	.23	5.3%	.05.	.41	2.65	.008
Understanding Emotions and SSIS	.22	4.8%	.08	.37	2.68	.001
Understanding Emotions and Comm.	.33	10.9%	.22	.43	3.73	.0002
Understanding Emotions and Coop.	.27	7.3%	.12	.41	3.06	.002
Understanding Emotions and Responsibility	.33	10.9%	.18	.45	3.65	.0003
Understanding Emotions and Empathy	.25	6.3%	.10	.41	2.91	.004
Understanding Emotions and Self-Control	.18	3.2%	.03	.34	2.11	.04
Managing Emotions and SSIS	.23	5.3%	.08	.37	2.68	.001
Managing Emotions and Comm.	.25	6.3%	.10	.40	2.89	.004
Managing Emotions and Coop.	.30	9.0%	.14	.46	3.49	.0005
Managing Emotions and Responsibility	.26	6.8%	.12	.40	2.97	.003
Managing Emotions and Engagement	.19	3.6%	.01	.37	2.19	.03

Facilitation and Coop.	.24	5.8%	.08	.40	2.78	.005
Changes and SSIS	.25	6.3%	.09	.41	3.03	.002
Changes and Comm.	.34	11.6%	.22	.46	3.89	<.0001
Changes and Coop.	.26	6.8%	.11.	.41	3.03	.002
Changes and Responsibility	.33	10.9%	.19	.48	3.84	.0001
Changes and Empathy	.27	7.3%	.11	.44	3.12	.002
Changes and Self-Control	.19	3.6%	.02	.36	2.20	.03
Blends and SSIS	.19	3.6%	.04	.33	2.19	.03
Blends and Comm.	.28	7.8%	.15	.41	3.25	.001
Blends and Coop.	.22	4.8%	.08	.37	2.57	.01
Blends and Responsibility	.27	7.3%	.13	.41	3.09	.002
Reasoning and SSIS	.27	7.3%	.12	.42	3.16	0.01
Reasoning and Comm.	.33	10.9%	.15	.41	3.25	.001
Reasoning and Coop.	.32	10.2%	.18	.47	3.75	.0002
Reasoning and Responsibility	.33	10.9%	.21	.46	3.83	.0001
Reasoning and Empathy	.23	5.3%	.07	.39	2.67	.008
Reasoning and Self-Control	.20	4.0%	.03	.36	2.24	.02

Chapter 5 discusses the findings of the research study. An analysis will be presented and explained. Limitations are present and will be expressed while implications of the research study will be defined and future research study recommendations will be made.

CHAPTER 5: DISCUSSION

Introduction

This research study examined the relationship between social skill level, emotional intelligence, and time spent socializing on Facebook among high school seniors. The research design called for a multiple regression analysis to determine whether time spent socializing on Facebook could be reliably predicted by scores on measure of social competence and emotional intelligence. The data were prescreened before analysis and it was discovered that statistical assumptions related to normality, linearity and homoscedasticity were violated. Data were then transformed so that a standard multiple regression could be used.

This study also examined the concurrent validity between the SSIS and MSCEIT to determine whether these instruments measured related constructs or not. A Pearson product-moment correlation could not be used to evaluate the relationship between SSIS and MSCEIT scores because the data violated the assumptions for normality and linearity. Instead, a Kendall tau correlation procedure was selected and used to determine the magnitude and direction of correlations between SSIS and MSCEIT scores

This chapter discusses the results of the research questions by summarizing the findings, provide limitations for the study, examining the implications of the study, and provide recommendations for future research.

Summary of Findings: Research Question One

Research question one in the study asks: *Does a high school senior's social competence and ability to manage emotions predict the amount of time they spend socializing on Facebook*? The social competence of high school seniors was measured by the Social Skills Improvement System (SSIS) and the Mayer, Salovey, Caruso Emotional Intelligence Test (MSCEIT) was used

to measure the ability to manage emotions among the high school seniors. The time spent

socializing on Facebook was measured by a log kept by the high school seniors for one week to

indicate the number of minutes spent on Facebook. A multiple regression analysis was used to

examine whether the outcome variable could be reliably predicted by the two predictor variables.

In preparation to run a multiple regression analysis for research question one,

prescreening revealed that the data violated the assumptions related (a) the assumption of

normality (skew and kurtosis); (b) the assumptions of linearity and homoscedasticity; and (c)

multicollinearity. As a result, data were converted using logarithmic transformation. Tabachnick

and Fidell (2001) indicate when data transformations are used results show a substantial

improvement and are recommended for violations of normality, linearity, and homoscedasticity.

After the log transformation, data were reanalyzed and shown to meet assumptions; a multiple

regression was then run on the transformed data. The overall model (i.e., involving both

predictor variables) was not statistically significant, F (2,65) = 2.77, p = .07, indicating that the

results were due to chance. The adjusted R^2 of .05 suggests that only 5% of the variance in time

spent socializing on Facebook could be explained by the variance among SSIS and MSCEIT

global scores. Considering the inverse relationship between SSIS and time spent on Facebook,

these results reveal that emotional intelligence measured by the MSCEIT is not related and the

5% variance explained is related to the relationship between time spent on Facebook rather than

a combination of SSIS and MSCEIT relationship towards time spent on Facebook.

While the overall model involving the combined predictor variables was not significant,

the analysis did reveal that the SSIS global score variable (i.e., level of social competence) was

the most influential predictor, showing an negative (inverse) relationship between SSIS global

score and the time spent socializing on Facebook, β = -.28, and was a statistically significant

predictor of time spent socializing on Facebook, $t = -2.16$, $p = .03$. The MSCEIT global score

variable was not an influential predictor, $\beta = .002$, and was not a statistically significant predictor

of time spent socializing on Facebook, $t = .01$, $p = .98$. With a p-value of <0.05 there is a 95%

probability that the SSIS variable is having an effect on the variable time spent on Facebook. The

-2.16 value is a value of SSIS divided by its standard error and is a measure of the likelihood that

the actual value of the parameter is not zero. The larger t becomes the less likely that value of the

parameter would be zero (Ary et al., 2010).

Also, many statistically significant correlations were found between the SSIS and

MSCEIT and it is important to investigate the validity of the responses of the participants to

ensure the internal validity of the instrument and the responses provided by the participants. The

SSIS scoring also provided a response pattern index. The response pattern index is a count of the

number of times a rating differs from the previous answer with a high score suggesting

participants answered using a cycling method (SSIS Manual, n.d.). The response pattern index

summary showed that 92.6% of the respondents ($n=63$) scored in the acceptable range; 7.4% of

the respondents' scoring pattern fell in the caution range ($n=5$) fell in the caution range. A

majority of participants fell within an acceptable range for the response pattern index summary.

The F-index is an internal validity index that assists in providing information about

whether the respondent "faked-bad", rating him or herself in an inordinately negative fashion.

The F-index showed 89.7% ($n=61$) of the participants fell into the acceptable category, 7.3%

($n=5$) fell into the caution category, and 2.9% ($n=2$) fell into the extreme caution category. The

overall SSIS scored in the "acceptable" range, whereas 3% fell in the "caution" category, with

the remaining 1% of the standardization sample scoring in the "extreme caution (SSIS Manual,

n.d.). The F-index for the study participants fell within an acceptable range. A third method for

internal consistency, response consistency index was available only if the SSIS ASSIST software was purchased from the publisher and so was not calculated for the purposes of this study. Two of the three internal consistency indexes were evaluated for this study. The MSCEIT does not provide any built-in validity checks.

Summary of Findings: Research Question Two

Research question two in the study asks: *Does the SSIS and MSCEIT measure related constructs?* The research question was addressed by conducting a concurrent validity analysis and reporting correlation coefficients between SSIS and MSCEIT scale scores.

The Kendall Tau correlation resulted in many statistically significant correlations between the SSIS global and subscale scores and MSCEIT global and subscale scores. These results suggest that the MSCEIT and subscales do measure related constructs within the SSIS global and subscales. The statistically significant correlations ranged from .18 to .34. However, the highest correlation being .34 between the MSCEIT subscale *Changes* and the SSIS subscale *Communication* only explains 11.6% of the variance between the two variables. This means the remaining 88.4% of the variance between the two variables cannot be explained and could be attributable to numerous unknown factors. While the results are statistically significant this means the results were not due to chance (Ary et al., 2010). While the greatest explanation of variance among statistically significant correlations was 11.6%, we cannot account for the remaining variance among the two variables or the other low correlations which were statistically significant. Overall, the findings suggest that while many correlations were not due to chance, effect size indicate that the magnitude of the correlations is not practically significant. These findings suggest the statistically significant results are not practically significant. Statistically significance refers to the possibility of results being due to chance and does not

mean results of the study are meaningful. The effect sizes assist in determining the practical significance and the results suggested low to medium effect sizes with the maximum effect size only accounting for 11.6% of the variance between the variables (Kirk, 1996).

Theoretical Evaluation of Findings

The social cognitive theory (SCT) conceived by Albert Bandura (1986) provides the theoretical framework for this study. Bandura implies that social cognitive theory can assist in the examination of psychosocial constructs involved in communication (Bandura, 2001). The SCT model involves environment, personal factors and behavior (Bandura, 1986). The environment mentioned in the SCT refers to Facebook within the research study. Personal factors relate to the cognitive processes, social and emotional skill. The behavior investigated within the study refers to the time spent within the environment Facebook.

Bandura (1977) indicated that through cognitive processes external stimuli affect behavior. The fact that Facebook is modeled as the external stimuli and is a significant aspect of high school seniors lives, an inference can be made regarding the possibility of an individual cognitive process such as social skill having an inversely proportional relationship with time spent socializing on Facebook based on the findings within this research study. This means the time spent on Facebook is related to lower SSIS competence. This would collaborate with the SCT. Cognitive factors such as social skill did affect the time spent on Facebook which refers to the external stimuli affected by the behavior of the high school students' who spent time socializing on Facebook.

Bandura (1986) also suggests that social interactions activate emotions. This means through the activation of Bandura's SCT model, and through the inverse relationship with time spent on Facebook and social skill found within this study, low level social skill students who

96

use Facebook more may in time increase their emotional intelligence. The fact that only a week time period was taken as the sample may have limited the study. However, by using participants with high Facebook usage and low social skill a true experimental method may be used in order to determine if high Facebook usage and low social skill students help to increase their emotional intelligence through online interactions.

Bandura was correct in his SCT model, through the environment and personal factors, the development and modification through social influences effect competencies involving cognition (Bandura, 1986). Bandura also proposes that through a mediated pathway social change occurs by connecting media influence to social systems which in turn changes behavior (Bandura, 2001)

Implications of the Study

The results from the research study signify more research is needed to determine why high school seniors' spend time socializing on Facebook. Facebook users have over 900 million interactive objects, an average of 130 friends and create 90 pieces of material on the site per month (Factsheet, 2011). The average time a high school senior spent in one week on Facebook within the study was 151.85 minutes which suggests Facebook is still a significant part of adolescent lives. Barker (2009) suggests the fastest growing internet users are adolescents. Wilson et al. (2010) stated it is "important to understand factors influencing social networking site use, especially at high levels to identify those who may be prone to developing addictive behaviors" (p.173). In 2005, Watson also suggests that internet addiction is one of the fast growing addictions and one of addictions least understood. Another viable source to investigate involving internet addiction is the social media site Twitter. Since the incorporation of Twitter in 2007, the statistics regarding twitter usage has become more prevalent. Current Twitter has over 241 million active users and the users send over 500 million tweets per day (Twitter, 2014).

The results from the multiple regression analysis suggest an inverse relationship with time spent on Facebook and the social skill of high school seniors'. Engels, Dekovic, and Meeus (2002) found social skill to be related to quality interactions among peers and Bayan, Zhang, and Lin (2004) found internet usage to be high in quality for specified participant purposes. These results suggest that those with lower/less social competence spend more time on Facebook because they either don't have quality friendships for face to face interactions and/or are less accepted be peers and have confidence in their relations and find the passive environment of Facebook to be safer. This would also suggest studies be performed on the type of interactions high school seniors are engaging in while using Facebook.

A connection can be made to support the findings regarding the inverse relationship with time spent on Facebook and social competence by investigating the findings of a study published by Kalpidou, Costin, and Morris (2011). The study indicated that Facebook use has a negative correlation with the self-esteem among college students and college freshman are more connected with Facebook than upperclassman. This connection can be made due to the fact that Freshman are more connected with Facebook and inferring that the participants in the study are more closely related in age since the participants age range was 17-18 and this age range is more closely related to college freshman than college upper classman.

Mehdizadeh (2010) examined Facebook use and self-esteem and discovered similar results as in Kalpidou et al. (2011). Self-esteem was found to be negatively correlated with Facebook use which agrees with the fact that self-esteem relates to time spent on the internet. Through these findings connections can be established among social skills and psychosocial indicators such as self-esteem which have been researched and a relationship was found to exist among the variables (Bistra, Bosma & Jackson, 1993). Riggio, Throckmorton, and DePaola

98

(1990) also suggested through their results that social competence and self-esteem are highly correlated. This also supports the facts stated by Kalpidou et al. (2011) that time spent on the internet is related to self-esteem.

With the findings from the Facebook usage and self-esteem study and the findings from the social skill and self-esteem investigation, we can tentatively hypothesize that social competence, self-esteem and use of social media like Facebook may be related in some manner. It is also well established that self-esteem is related to depression (Orth & Robins, 2013). Depression is also well-known disorder among adolescents (Kringlen & Cramer, 2001; Josh, Sharma & Mehra, 2009). Caplan (2003) remarks that "lonely and depressed individuals may develop a preference for online social interaction, which, in turn, leads to negative outcomes associated with their Internet use" (p.625). Since depression is related to self-esteem, this would suggest that online interactions could lead to outcomes which are negatively associated with Facebook usage. This can be established through the interconnected results associated with the relationship among social competence, self-esteem, and depression. Since a negative relationship was discovered among social skill and time spent socializing on Facebook.

Leading opponents of emotional intelligence, Matthews, Zeidner and Roberts (2001) suggest emotional intelligence lacks strong and convincing reliability and validity evidence. The results from the research study show a relationship among many constructs of the MSCEIT global and subscale scores and the SSIS global and subscale scores for statistical significance only and not practical significance. The results are similar to reports from Waterhouse (2006) who believes the validity of emotional intelligence is related to conflicting constructs of emotional intelligence. This means that researchers do not agree that the MSCEIT constructs are measuring what the authors of the instrument suggest they are designed to measure. In this case

the statistical significant results may suggest this. However, random sampling using a larger

sample size should be used in future research in order to obtain practical results. Obtaining

practical results would assist in providing a body of research to accept or reject the finding of

other researchers regarding the conflicting constructs of the MSCEIT.

Limitations and Recommendations for Future Research

The length of time allotted to determine how long the participants were spending on FB

is a major limitation within the study. The one week gave a small window in which to evaluate

time spent on Facebook. A month would've established a perspective because of the natural

variability in socializing on FB.

A relatively small sample size was used within the study. The a priori power analysis

called for a total of 67 participants for the study. Three hundred and thirty high school seniors'

were given the opportunity to participate. Approximately 58 potential participants were excluded

due to the age requirement of the MSCEIT having a minimum age to participate being 17.

Initially 100 participants had been planned to be used due to possible attrition within the study.

However, only 68 were used due to the age restriction of the MSCEIT and lack of interest in

participating in the study. A reinforcer could have been used to increase the level of

participation. The sample also was drawn from a predominately Caucasian rural high school in

Northeastern Tennessee where the student population in the district has 8502 European-

American students, but only 257 Hispanic-American students, 206 African-American, and 57

Asian-American (Tennessee Report Card, 2013).

A convenience sample was used for this study. This sampling method is a limitation for

the study. A convenience sampling method is known as one of the weakest methods to conduct

research (Ary et al., 2010). Gall et al. (2007) suggests that if a random sampling is not available

it is better to use a convenience sample that to not do the study at all. When a convenience sample is used, conceptualization of a population for the generalization of results must occur (Gall et al., 2007). Gall et al. (2007) also suggest when generalizations are made, careful consideration be taken with results and to increase the validity the finding must be repeated.

Three different internal validity indexes were available for the SSIS: (a) response pattern index, (b) F index, and (c) response consistency index. Due to using a paper-pencil form of the SSIS as opposed to using the publishers ASSIST software, only the response pattern index and F index were used to determine the validity of the responses of the participants taking the SSIS . Gall et al. (2007) suggests that personality measures are dependent on participants being truthful and diligent in their reporting. Gall et al. (2007) also reports that most instruments provide a scale to indicate truthfulness to increase the internal validity and reliability of the instrument. The MSCEIT does not provide any type of internal check for truthfulness which limits internal validity and reliability of the scale.

Another limitation comes from the fact that, from the perspective of measuring social competence, only a self-report measure was used; since the SSIS also has a teacher and parent-form. Using the forms jointly assists in providing information regarding the behavior of the student at home, community, and school (SSIS Manual, n.d.). However, using only the self-report scale assisted in providing the researcher with information regarding perceptions and beliefs not commonly observed by other individuals (SSIS Manual, n.d.).

Several factors that serve as limitations to the study may be used as a focus for future research. The fact that a convenience sample was used, a rural high school setting limited the ethnic groups within the study, the duration of Facebook logs, and the "age range" of the students. Future research should focus on using a stronger sampling method in order to ensure

variability among the participants. Also, the setting for the study was narrow in scope as it focused on a high school in rural Tennessee. Future research should investigate Facebook usage in urban areas or in areas that encompass a wide range of socioeconomic conditions. The fact that the majority of the population of the participants was Caucasian may also serve as a starting point for future research to ensure that the results are not limited to one ethnic population.

Future research could include the investigation of all high school age students' in investigating time spent on Facebook. The current study only focused on high school seniors' due to age constrictions in administering the MSCEIT. These recommendations for future research are only a few suggestions in continuing efforts to determine the reasoning for why people spend time socializing on Facebook. High school seniors averaged 151.85 minutes (2.5 hours) socializing on Facebook in one week. It is imperative for researchers to continue pursuing why students continue to spend time on social media such as Facebook to determine underlying reasons for addictive behaviors.

With the findings associated with the study involving the negative relationship with social skill and time spent socializing on Facebook, perhaps a depression rating scale should have been used in conjunction with the social competence and emotional intelligence predictors. Since it has been established that social skill and self-esteem are related and self-esteem and depression are also related. Relatedly, this would suggest for a future line of research involving social competence, self-esteem and depression

Conclusion

The findings in the study point to no significant relationship among the time spent socializing on Facebook and the global social skill and global emotional intelligence of high school seniors. However, the results point to an inverse relationship among social skill and time

spent of Facebook. These results indicate that social skill relate to the high school seniors time spent socializing on Facebook and theoretically Facebook or other online interactions may be used to increase opportunities to actively or passively socialize thereby reducing symptoms of depression and anxiety. Also, the findings for the study point to significant relationship among SSIS global and subscale scores and the correlation between MSCEIT global and subscale scores. However, the results do not point to a practical significance when examining the relationship among the constructs of the SSIS and MSCEIT.

While no meaningful practical connection can be made between the combined aspect of social skills and emotional intelligence of high school seniors and developing of addictive behaviors online, suggestions of future research were made to investigate depression and anxiety and other prominent social media sites such as Twitter. Also, as there were limitations present in the study, the findings suggest that the social media site Facebook is a prominent component of high seniors' lives and would be important to investigate to determine what factors influence addictive online behavior of high school students.

REFERENCES

Abdullah, M. C., Elias, H., Mahyuddin, R., & Uli, J. (2004). Emotional intelligence and
academic achievement among Malaysian secondary students. *Pakistan Journal of
Psychological Research, 19*(3/4), 105-121.

Acar, A. (2008). Antecedents and consequences of online social networking behavior: The case
of Facebook. *Journal of Website Promotion*, *3*(1/2), 62–83. doi: 10.1080/15533-
610802052654

Adeyemo, D. A. (2007). Moderating influence of emotional intelligence on the link between
academic self-efficacy and achievement of university students. *Psychology Developing
Societies, 19*(2), 199-213. doi: 10.1177/097133360701900204

Ahmad, R., Imran, H., & Mehmood, T. (2009). Emotional intelligence as a determinant of
self-esteem and depression among adolescents. *Pakistan Journal of Psychology, 40*(1).

Ary, D., Jacobs L. C., & Sorenson, C. (2010). *Introduction to research in education* (8th ed.).
Belmont, CA: Wadsworth.

Ascalon, M. E., Schleicher, D.vJ. & Born, M.vP. (2008). Cross-cultural social intelligence: An
assessment for employees working in cross-national contexts. *Cross Cultural
Management*, *15*(2): 109–130. doi: 10.1108/13527600810870570

Aydm, B., & San, S. V. (2011). Internet addiction among adolescents: The role of self-esteem.
Procedia - Social and Behavioral Sciences, 15, 3500-3505.

Baker, R. K., & White, K. M. (2010). Predicting adolescents' use of social networking sites from
an extended theory of planned behaviour perspective. *Computers in Human Behavior*,
26(6), 1591-1597. doi: 10.1016/j.chb.2010.06.006

Bandura, A. (1977). *Social learning theory.* Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*.

    Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1989). Social cognitive theory. In R. Vasta (Ed.), *Annals of child development.*

    Six theories of child development (pp. 1-60), Greenwich, CT: JAI Press.

Bandura, A. (2001). Social cognitive theory of mass communication. *Media Psychology*, *3*(3),

    265-299.

Barbalet, J. (2011). Emotions beyond regulation: Backgrounded emotions in science and trust.

    Emotion Review, *3*, 36-43. doi: 10.1177/1754073910380968

Barker, V. (2009). Older adolescents' motivations for social network site use: The influence of

    gender, group identity, and collective self-esteem. *CyberPsychology & Behavior*, *12*(2),

    209-213. doi: 10.1089/cpb.2008.0228

Bar-On, R. (1997). *The Emotional Quotient Inventory* (*EQ-i*): *A test of emotional intelligence*.

    Toronto, Canada: Multi-Health Systems, Inc.

Bar-On, R., Tranel, D., Denburg, N. L., & Bechara, A. (2003). Exploring the neurological

    substrate of emotional and social intelligence. *Brain: A Journal of Neurology*, *126*(8)

    1790-1800. doi: 10.1093/brain/awg177

Bar-On, R. (2005). The bar-on model of emotional-social intelligence (ESI). *Issues in Emotional*

    Intelligence, *1*(4), 1-28.

Baym, N. K., Zang, Y., Bing, M. L. (2004). Social interactions across media: Interpersonal

    communication on the internet, telephone and face-to-face. *New Media and Society, 6*(3),

    299-318. doi: 10.1177/1461444804041438

Borneman, M. J., & Salkind, N. J. (2010). Concurrent validity. In the *Encyclopedia of Research*

    Design (Vol. 1). Thousand Oaks, CA: Sage Reference.

Bosch, T. E. (2009). Using online social networking for teaching and learning: Facebook use at the University of Cape Town. *Communication: South African Journal for Communication Theory and Research*, *35*(2), 185-200. doi: 10.1080/02500160-903250648

Boyatzis, R. E. & Sala, F. (2004). The emotional competence inventory (ECI). In G. Geher (Ed), *Measuring emotional intelligence* (pp. 147-180). Hauppauge, NY: Nova Science Publishers, Inc.

Brackett, M. A., & Casey, J. J. (2009). Emotional Intelligence. In H. T. Reis & S. Sprecher (Eds.), *Encyclopedia of Human Relationships* (Vol. 1, pp. 493-497). Thousand Oaks, CA: Sage Publications Inc.

Brackett, M. A., & Mayer, J. D. (2003). Convergent, discriminant, and incremental validity of competing measures of emotional intelligence. *Personality and Psychology Bulletin, 29*(9), 1147-1158. doi: 10.1177/0146167203254596

Brady-Amoon, P., & Fuertes, J. N. (2011). Self-efficacy, self-rated abilities, adjustment, and academic performance. *Journal of Counseling and Development, 89*(4), 431.

Brignall, T., & Van Valey, T. (2003). The impact of internet communications on social interaction. *Sociological Spectrum*, 25(3), 335-348.

Brody, N. (2004). What cognitive intelligence is and what emotional intelligence is not. *Psychological Inquiry*, *15*, 234–238.

Burney, V. (2008). Applications of social cognitive theory to gifted education. *Roeper Review*, *30*(2), 130-139. doi: 10.1080/02783190801955335

Byrne, J. C., Dominick, P. G., Smither, J. W., & Reilly, R. R. (2007). Examination of the discriminant, convergent, and criterion-related validity of self-ratings on the emotional

competence inventory. *International Journal of Selection and Assessment, 15*(3), 341-353. doi: 10.1111/j.1468-2389.2007.00393.x

Campbell, J. (1999). Book review: social skills rating system. *Journal of Psychoeducational Assessement, 17*(4), 392-397. doi: 10.1177/073428299901700410

Campos, J. J., Walle, E., Dahl, A., & Main, A. (2011). Reconceptualizing emotion regulation. *Emotion Review*, *3*, 26-35. doi: 10.1177/1754073910380975

Carmeli, A., Yitzhak-Halevy, M., & Weisberg, J. (2009). The relationship between emotional intelligence and psychological wellbeing. *Journal of Managerial Psychology, 24*(1), 66-78. doi:10.1108/02683940910922546

Caplan, S. E. (2003). Preferences for online social interaction. *Communication Research, 30*(6), 625. doi: 10.1177/0093650203257842

Chen, P. Y., & Popovich, P. M. (2002). *Correlation: Parametric and nonparametric measures*. Thousand Oaks, CA: Sage Publications, Inc.

Chieh-Peng, L. (2010). Learning virtual community loyalty behavior from a perspective of social cognitive theory. *International Journal of Human Computer Interaction, 26*(4). 345-360. doi: 10.1080/10447310903575481

Christofides, E., Muise, A., & Desmarais, S. (2009). Information disclosure and control on Facebook: Are they two sides of the same coin or two different processes? *CyberPsychology & Behavior*, *12*(3), 341–345. doi: 10.1089/cpb.2008.0226

Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Cohen, J. (1988), *Statistical power analysis for the behavioral sciences (2nd ed.).* Hillsdale, NJ: Lawrence Erlbaum.

Compeau, D., Higgins, C. A., & Huff, S. (1999). Social cognitive theory and individual reactions

to computing technology: A longitudinal study. *MIS Quarterly*, *23*(2), 145-158.

Crosby, J. W. (2011). Test review: F. M. Gresham & S. N. Elliott "Social Skills Improvement

Rating Scales." Minneapolis, MN: NCS Pearson, 2008. *Journal of Psychoeducational*

Assessment, 29(3), 292-296.

Crowne, K. A. (2009). The relationship among social intelligence, emotional intelligence

and cultural intelligence. *Organizational Management, 6*(3), 148-163. doi:

10.1057/omj.2009.20

Counterbalancing. (2009). In *The Penguin Dictionary of Psychology*. Retrieved from

http://www.credoreference.com/entry/penguinpsyc/counterbalancing

Daniel Boone High School, Gray, Tennessee. (2012). *School demographic report.*

Daus, C. S., & Ashkansy, N. M. (2005). The case for the ability-based model of emotional

intelligence in organizational behavior. *Journal of Organizational Behavior, 26*(4), 453-

466. doi: 10.1002/job.321

Davies, M., Stankov, L., & Roberts, R. D. (1998). Emotional intelligence: In search of an

elusive construct. *Journal of Personality and Social Psychology*, *75*, 989–1015.

Dawada, D., & Hart, S. D. (2000). Assessing emotional intelligence: reliability and validity of

the Bar-On Emotional Quotient Inventory (EQ-i) in university students. *Personality and*

Individual Differences, 28(4), 797-812. doi: 10.1037/0022-3514.75.4.989

Deater-Deckard, K. (2001). Annotation: Recent research examining the role of peer relationships

in the development of psychopathology. *Journal of Child Psychology and Psychiatry, 42*,

565-579. doi: 10.1111/1469-7610.00753

DeLucia, C. (2009). *Emotional intelligence, relationship quality, life satisfaction, and*

communication technology. (Master's thesis). Southern Connecticut State University, CT. Retrieved from Dissertations & Theses: Full Text. (Publication No. AAT 1471974).

DeSchryver, M., Mishra, P., Koehleer, M., & Francis, A. (2009). Moodle vs. Facebook: Does using Facebook for discussions in an online course enhance perceived social presence and student interaction? In I. Gibson, et al. (Eds.), *Proceedings of society for information technology & teacher education international conference 2009* (pp. 329–336). Chesapeake, VA: AACE.

Diperna, J. C., & Elliott, S. B. (1999). Development and validation of the Academic Competence Evaluation Scales. *Journal of Psychoeducational Assessment, 17,* 207-225. doi: 10.1177/073428299901700302

Downey, L. A., Johnston, P. A., Hansen, K., Birney, J., & Stough, C. (2010). The relationship between emotional intelligence and depression in a clinical sample. *Australian Journal of Psychology, 62*(1), 20-29.

Dulewicz, V., & Higgs, M. (2000). Emotional intelligence a review and evaluation study. *Journal of Managerial Psychology*, *15*(4): 341-372. doi: 10.1108/02683940010330993

Dulewicz, V., Higgs, M. & Slaski, M. (2003). Measuring emotional intelligence: Content, construct and criterion-related validity. *Journal of Managerial Psychology*, *18*(5), 405-420. doi:10.1108/02683940310484017

D'Zurilla, C., & Sheedy, C. (1992). The relation between social problem-solving ability and subsequent level of academic competence in college students. *Cognitive Therapy and Research, 16*, 589-599. doi: 10.1007/BF01175144

Eisenberg, N., Fabes, R. A., Guthrie, I. K., & Reiser, M. (2000). Dispositional emotionality and

regulation: Their role in predicting quality of social functioning. *Journal of Personality and Social Psychology, 78*(1), 136-157. doi:10.1037/00223514.78.1.136

Engelberg, E., & Sjoberg, L. (2004). Internet use, social skills, and adjustment. *Cyberpsychology & Behavior: The impact of the internet, multimedia and virtual reality on behavior and society, 7*(1), 41-47. doi: 10.1089/109493104322820101

Ellison, N.B., Steinfield, C., & Lampe, C. (2007). The Benefits of Facebook friends: Social capital and college students' use of online social network sites. *Journal of Computer-Medicated Communication, 12*(4), 1143-1168. doi: 10.1111/j.10836101.2007.00367

Engels, R. C. M., Dekovic, M., & Meeus, W. (2002). Parenting practices, social skills and peer relationships in adolescence. *Social Behavior and Personality*, *30*(1), 3.

Factsheet. (2011). Facebook. Retrieved from http://www.facebook.com/press/info.php?factsheet

Fernandez, K.C., Levinson, C. A., Rodebaugh, T. L. (2012). Profiling: Predicting social anxiety from Facebook profiles. *Social Psychological and Personality Science, 3*(2). doi: 10.1177/1948550611434967

Fredáková, D., & Jelenová, I. (2004). Correlates of social and emotional intelligence. *Studia Psychologica*, *46*(4), 291-295.

Gall, M. D., Gall, J. P. & Borg, W. R. (2007). *Educational research.* Boston, MA: Pearson.

Goleman, D. (1995). *Emotional intelligence*. New York, NY: Bantam.

Goleman, D. (2006*). Social intelligence: The new science of human relationships*. New York, NY: Bantam Books.

Goleman, D., Boyatzis, R., & Hay, G. (n.d). Emotional Competence Inventory.

Gollwitzer, P. M., & Moskowitz, G. B. (1996). Goal effects on action and cognition. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles*

(pp. 367-399). New York, NY: Guilford Press.

Gonzales, A. L., & Hancock, J. T. (2011). Mirror, mirror on my Facebook wall: Effects of

exposure to Facebook on self-esteem. *CyberPsychology, Behavior & Social Networking*,

14(1/2), 79-83. doi:10.1089/cyber.2009.0411

Graves, M. L. M. (2000). Emotional intelligence, general intelligence, and personality: Assessing

the construct validity of an emotional intelligence test using structural equation modeling.

Abstracts International: Section B: The Sciences and Engineering, 61(4-B), 2255.

Gresham, F. M. (1984). Social skills and self-efficacy for exceptional children. *Exceptional*

Children, *51*(3), 253-264.

Gresham, F. M., & Elliott, S. (2008). Social Skills Improvement System Rating Scales.

Retrieved from http://www.pearsonassessments.com/d

Gresham, F. M., & Elliott, S. N. (1990). *Social skills rating system*. Minneapolis, MN: NCS

Pearson.

Gresham, F. M., Elliott, S. N., Vance, M. J., & Cook, C. R. (2011). Comparability of the Social

Skills Rating System to the Social Skills Improvement System: Content and

psychometric comparisons across elementary and secondary age levels. *School*

Psychology, 26(1), 27-44. doi: 10.1037/a0022772

Gresham, F. M., Elliott, S. N., & Kettler, R. J. (2010). Base rates of social skills

acquisition/performance deficits, strengths, and problem behaviors: An analysis of

the Social Skills Improvement System-Rating Scales. *Psychological Assessment,*

22(4), 809-815. doi: 10.1037/a0020255

Gross, R., & Acquisti, A. (2005). Information revelation and privacy in online social networks.

In S. D. C. di Vimercati & R. Dingledine (Eds). *Proceeding of the 2005 ACM Workshop on Privacy in the Electronic Society,* (pp. 71-80). New York, NY: ACM.

Hart, M. (2011). *A study on the motives of high school and undergraduate college students for using the social network site Facebook.* (Doctoral dissertation). Liberty University, VA. Retrieved from Dissertations & Theses at Liberty University. (Publication No. AAT 3439733).

Hassan, A., Sulaiman, T., & Ishak, R. (2009). Philosophy underlying emotional intelligence in relation to level of curiosity and academic achievement of rural area students. *Journal of Social Sciences, 5*(2), 95-103.

Hayes, Z. A., & Credle, S. H. (2008). An application of social cognitive career theory: Exploring factors influencing the decision to select public accounting as a career choice. *International Journal of Business Research, 8*(5), 53.

Hew, K. F. (2011). Students' and teachers' use of Facebook. *Computers in Human Behavior, 27*(2), 662-676. doi: 10.1016/j.chb.2010.11.020

Hughes, D. J., Rowe, M., Batey, M., & Lee, A. (2011). A tale of two sites: Twitter vs. Facebook and the personality predictors of social media usage. *Computers in Human Behavior, 28*(2), 561-569. doi: 10.1016/j.chb.2011.11.001

Huy, Q. N. (1999). Emotional capability, emotional intelligence, and radical change. *Academy of Management Review*, *24* (2): 325-345.

IEP. (n.d.). In Tennessee IEP Database. Retrieved from http://www.easyiep.com

Izard, C. E., King, K. A., Trentacosta, C. J., Laurenceau, J. P., Morgan, J. K., Krauthamer-

Ewing, E. S., & Finlon, K. J. (2008). Accelerating the development of emotion

competence in Head Start children. *Development & Psychopathology*, *20*, 369–397. doi:

10.1017/S0954579408000175

Johnston, A.W. (2003). *A correlational study of emotional intelligence and aggression in*

adolescents. (Master's thesis). University of Windsor, Canada. Retrieved from

Dissertations & Theses: Full Text. (Publication No. AAT MQ82869).

Joshi, H., Sharma, M., & Mehra, R. (2009). Depression among adolescents: Role of self-

efficacy and parenting style. *Journal of Projective Psychology & Mental Health*, *16*(1),

13-17.

Junco, R. (2011). The relationship between frequency of Facebook use, participation in

Facebook activities, and student engagement. *Computers and Education, 58*(1), 162-171.

doi: 10.1016/j.compedu.2011.08.004

Junghyun, K., & Jong-Eun R. L. (2011). The Facebook paths to happiness: Effects of the number

of Facebook friends and self-presentation on subjective well-being. *Cyberpsychology,*

Behavior & Social Networking, 14(6), 359-364. doi: 10.1089/cyber.2010.0374.

Kalpidou, M., Costin, D., & Morris, J. (2011). The Relationship between Facebook and the

well-being of undergraduate college students. *CyberPsychology, Behavior & Social*

Networking, *14*(4), 183-189. doi: 10.1089/cyber.2010.0061

Kendall M. G. (1962). Rank correlation emethods (3rd ed.). New York, NY: Hafner

Publishing Company.

Kendall, M. G., & Gibbons, J. D. (1990). *Rank correlation methods* (5th ed.). London: Edward

Arnold.

Kendall, M., Stuart, A., Ord, J. K., & Arnold, S. (1999). *Kendall's advanced theory of statistics:*

Vol. 2A: Classical inference and the linear model (6th ed.). Kendall's Library of

    Statistics.

Key Facts. (2012). Facebook. Retrieved from http://newsroom.fb.com/

Kim, J., Shim, J., & Ahn, K. (2011). Social networking service: Motivation, pleasure, and

    behavioral intention to use. The *Journal of Computer Information Systems*, *51*(4), 92-

    101.

Kirk, R. E. (1996). Practical significance: A concept whose time has come. *Educational and*

    Psychological Measurement, 56, 746–759.

Kirschner, P. A., & Karpinski, A. C. (2010). Facebook and academic performance. *Computers in*

    Human Behavior, *26*, 1237–1245. doi: 10.1016/j.chb.2010.03.024

Kobe, L. M., Reiter-Palmon, R. & Rickers, J. D. (2001). Self-reported leadership experiences in

    relation to inventoried social and emotional intelligence. *Current Psychology:*

    Developmental, Learning, Personality, Social, *20*(2), 154-163.

Kokkonen, M., & Kinnunen, M. L. (2006). Emotion regulation and well-being. In L.

    Pulkkinen, J. Kaprio & R. J. Rose (Eds.), *Socioemotional development and health*

    from adolescence to adulthood. Cambridge studies on child and adolescent health

    (pp. 197-208). New York, NY: Cambridge University Press.

Kolb, S. M. (2011). Self-efficacy: a necessary social skills curricula component. *Journal of*

    Emerging Trends in Educational Research and Policy Studies, 2(4), 206-210.

Kringlen, E., Trgersen, S., & Cramer, V. (2001). A Norweigian psychiatric epidemiological

    study. *American Journal of Psychiatry*, *158*, 1091-1098.

Kun, B., & Demetrovics, Z. (2010). Emotional intelligence and addictions: a systematic review.

    Substance Use & Misuse, 45(7/8), 1131-1160. doi: 10.3109/10826080903567855

Lampe, C., Ellison, N., & Steinfield, C. (2006). A Face(book) in the crowd: Social searching vs. social browsing. In *Proceedings of the 2006 20th anniversary conference on computer supported cooperative work* (pp. 167–170). New York, NY: ACM.

Lampe, C., Ellison, N., & Steinfield, C. (2007). A familiar Face(book): Profile elements as signals in an online social network. In *Proceedings of the 26th annual SIGCHI conference on Human Factors in computing systems* (pp. 435–444). New York, NY: ACM.

Lampe, C., Ellison, N., & Steinfield, C. (2008). Changes in use and perception of Facebook. In Proceedings of the ACM 2008 conference on computer supported cooperative work (pp. 721–730). New York, NY: ACM.

Lane, J., & Lane, A. (2001). Self-efficacy and academic performance. *Social Behavior and Personality*, *29*(7), 687.

Lane, J., Lane A. M., & Kyprianou, A. (2004). Self-efficacy and their impact on academic performance. *Social Behavior and Personality: An International Journal, 32*(3), 247.

Lerner, R. M., & Steinberg, L. D. (2004). *Handbook of adolescent psychology*. New York, NY: Wiley.

Leech, N. L, Gliner, J. A., Morgan, G. A., & Harmon, R. J. (2003). Use and interpretation of multiple regression. *Journal of the American Academy of Child and Adolescent Psychiatry, 42*(6), 738-740. doi: 10.1097/01/CHI.0000046845.56865.22

Lewis, K., Kaufman, J., & Christakis, N. (2008). The taste for privacy: An analysis of college student privacy settings in an online social network. *Journal of Computer-Mediated Communication, 14*(1), 79–100. doi: 10.1111/j.1083-6101.2008.01432.x

Liebetrau, A. M (1976). *Measures of association.* Beverly Hills, CA: Sage Publications, Inc.

Lindley, L. D., & Borgen, F. H. (2002). Generalized self-efficacy, Holland them self-efficacy, and academic performance. *Journal of Career Assessment, 10*(3), 301-314.

Lomas, J., Stough, C., Hansen, K., & Downey, L.A. (2011). Brief report: emotional intelligence, victimization and bullying in adolescents. *Journal of Adolescents.* doi: 10.1016/ j.adolescence.2011.03.002

Lopes, P. N., Brackett, M. A., Nezlek, J. B., Schütz, A., Sellin, I., & Salovey, P. (2004). Emotional intelligence and social interaction. *Personality and Social Psychology Bulletin, 30*(8), 1018-1034. doi: 10.1016/j.adolescence.2011.03.002

Madge, C., Meek, J., Wellens, J., & Hooley, T. (2009). Facebook, social integration and informal learning at university: 'It is more for socialising and talking to friends about work than for actually doing work.' *Learning, Media & Technology*, *34*(2), 141–155. doi: 10.1080/17439880902923606

Malecki, C. K., & Elliott, S. N. (2002). Children's social behaviors as predictors of academic achievement: A longitudinal analysis. *School Psychology Quarterly, 17*(1*),* 1-23.

Martin, S. L. & Thomas, J. (2011). Emotional intelligence: Examining construct validity using the emotional stroop. *International Journal of Business and Social Science*, *2*(1), 209.

Martin, W. E., & Bridgmon, K. D. (2012). *Quantitative and statistical research methods: From hypothesis to results.* San Francisco, CA: Jossey-Bass.

Masin, R. (2009). *The effects of Facebook use on college students' interpersonal development*. (Master's thesis). Oklahoma State University, OK. Retrieved from Dissertations & Theses: Full Text. (Publication No. AAT 1494998).

Matson, J. L., & Wilkins, J. (2009). Psychometric testing methods for children's social skills. *Research in Developmental Disabilities, 30*, 249-274. doi: 10.1016/j.ridd.2008.04.002

Matson, J. L., Neal, D., Fodstad, J. C., Hess, J. A., Mahan, S. & Rivet, T. T. (2010). Reliability and validity of the Matson evaluation of social skills with youngsters. *Behavior Modification*, *34*(6), 539-558. doi: 10.1177/0145445510384844

Matthews, G., Zeidner, M., & Roberts, R. D. (2002) *Emotional intelligence: Science and myth*. Cambridge, MA: MIT Press.

Matthews, G., Zeidner, M., & Roberts, R. D. (2004). Seven myths of emotional intelligence. *Psychological Inquiry*, *15*, 179–196.

Matthews, G., Zeidner, M., & Roberts, R. D. (2012). Emotional intelligence: A promise unfulfilled? *Japanese Psychological Research, 54*(2), 105-127. doi: 10.1111/j.1468-5884.2011.00502.x

Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. Sluyter (Eds.), *Emotional development and emotional intelligence: Educational implications*. New York, NY: Basic Books.

Mayer, J. D., Salovey, P., & Caruso, D. R. (2002). *Mayer–Salovey–Caruso Emotional Intelligence Test (MSCEIT) user's manual.* Toronto, Ontario, Canada: MHS Publishers

Mayer, J. D., Salovey, P., Caruso, D. R., & Sitarenios, G. (2003). The Mayer-Salovey-Caruso Emotional Intelligence Test, Version 2.0. *Emotion, 3*(1), 97-105.

Mayer, J. D., Salovey, P., & Caruso, D. R. (n.d.). Mayer-Salovey-Caruso Emotional Intelligence Test.

Mayer, J. D., Salovey P., Caruso D. R., & Sitarenios G. (2001). Emotional intelligence as a standard intelligence. *Emotion*, *1*(3), 232-242.

Mayer, J. D., Salovey, P., & Caruso, D. R. (2004). Emotional intelligence: Theory, findings, and implications. *Psychological Inquiry, 15*(3), 197-215.

Mazer, J. P., Murphy, R. E., & Simonds, C. J. (2009). The effects of teacher self-disclosure via Facebook on teacher credibility. *Learning, Media and Technology 34*(2), 175–183. doi: 10.1080/17439880902923655

Mehdizadeh, S. (2010). Self-presentation 2.0: Narcissism and self-esteem on Facebook. *CyberPsychology, Behavior & Social Networking*, *13*(4), 357-364. doi: 10.1089/ cyber.2009.0257

McCabe, P. C., & Altamura, M. (2011). Empirically valid strategies to improve social and emotional competence of preschool children. *Psychology in Schools, 48*(5), 513-540. doi: 10.1002/pits.20570

McClelland, M. M., Morrison, F. J., & Holmes, D. L. (2000). Children at risk for early academic problems: The role of learning-related social skills. *Early Childhood Research Quarterly, 15(3),* 307-329. doi: 10.1016/S0885-2006(00)00069-7

McFall, R. M., & Marston, A. R. (1970). An experimental investigation of behavior rehearsal in assertive training. *Journal of Abnormal Psychology, 76*(2), 295-303.

Moreno, M. (2010). Social networking sites and adolescents. *Pediatric Annals*, *39*(9), 565-568.

MSCEIT Manual. (n.d.). In MHS web manual. Retrieved from www.MHS.com

Muise, A., Christofides, E., & Desmarais, S. (2009). More information than you ever wanted: Does Facebook bring out the green-eyed monster of jealousy? *CyberPsychology & Behavior*, *12*(4), 441–444. doi:10.1089/cpb.2008.0263

Nasir, M., & Masrur, R. (2010). An exploration of emotional intelligence of the students of IIUI

in relation to gender, age, and academic achievement. *Bulletin of Education and Research*, *32*(1).

Netz, Y., & Raviv S. (2004). Age differences in motivational orientation toward physical activity: An application of social-cognitive theory. *The Journal of Psychology*, *138*(1), 35-48.

Neziek, J. B. (2001). Casual relationships between perceived social skills and day-to-day social interaction: Extending the sociometer hypothesis. *Journal of Social and Personal Relationships, 18*(3), 386-403. doi: 10.1177/0265407501183005

O'Conner, R. M., & Little, I. S. (2003). Revisiting the predictive validity of emotional intelligence: Self-report versus ability based measures. *Personality and Individual Differences, 35*(8), 1893-1902. doi: 10.1016/S0191-8869(03)00038-2

Ong, E. L., Ang, R. P., Ho, J. M., Lim, J. Y., Goh, D. H., Lee, C., & Chua, A. K. (2011). Narcissism, extraversion and adolescents' self-presentation on Facebook. *Personality & Individual Differences*, *50*(2), 180-185. doi: 10.1016/j.paid.2010.09.022

Ophus, J. D., & Abbitt, J. T. (2009). Exploring the potential perceptions of social networking systems in university courses. *Journal of Online Learning and Teaching, 5*(4).

Orr, E. S., Sisic, M., Ross, C., Simmering, M. G., Arseneault, J. M., & Orr, R. R. (2009). The influence of shyness on the use of Facebook in an undergraduate sample. *CyberPsychology & Behavior*, *12*(3), 337–340. doi: 10.1089/cpb.2008.0214

Orth, U., & Robins, R. W. (2013). Understanding the link between low self-esteem and depression. *Current Directions in Psychological Science, 22*(6), 455-460.

Osborne, J. W., & Waters, E. (2002). Four Assumptions of multiple regression that researchers should always test. *Practical Assessment, Research & Evaluation, 8*(2).

Parke, R. D., & Welsh, M. (1998). Social relationships & academic success. *Thrust For Educational Leadership, 28*(1), 32.

Parker, J. D. A., Creque, R. E Sr., Barnhart, D. L., Harris, J. I., Majeski, S. A., Woods, L. M., Bond, B. J., & Hogan, M. J. (2004). Academic achievement in high school: does emotional intelligence matter? *Personality and Individual Differences, 37*(7), 1321-1330. doi: 10.1016/j.paid.2004.01.002

Payton, J., Weissberg, R. P., Durlak, J. A., Dymnicki, A. B., Taylor, R. D., Schellinger, K. B., & Pachan, M. (2008). *The positive impact of social and emotional learning for kindergarten to eighth-grade students: Findings from three scientific reviews.* Chicago, IL: Collaborative for Academic, Social, and Emotional Learning.

Pempek, T. A., Yermolayeva, Y. A., & Calvert, S. (2009). College students' social networking experiences on Facebook. *Journal of Applied Developmental Psychology*, *30*(3), 227–238. doi: 10.1016/j.appdev.2008.12.010

Petrides, K. V., Pérez-González, J., & Furnham, A. (2007). On the criterion and incremental validity of trait emotional intelligence. *Cognition & Emotion*, *21*(1), 26-55. doi: 10.1080/02699930601038912

Phillips, E. L. (1978). *The social skills basis of psychopathology: Alternatives to abnormal psychology and psychiatry*. New York, NY: Grune & Stratton.

Ratten, V. & Ratten, H. (2007). Social cognitive theory in technological innovations. *European Journal of Innovation Management, 10*(1), 90-108. doi: 10.1108/14601060710720564

Ratten, V. (2011). Social cognitive theory in mobile banking innovations. *International Journal of e-business Research, 7*(1), 39. doi: 10.4018/jebr.2011010103

Riggio, R. E., Throckmorton, B., & DePaola, S. (1990). Social skills and self-esteem.

Personality and Individual Differences, 11(8), 799-804. doi: 10.1016/0198869(90)90188

Rodes, J. C., Mooney, C. H., Arthaud-Day, M. L., Near, J. P., Rubin, R. S., Baldwin, T. T., &
Bommer, W. H. (2008). An examination of the structural, discriminant, nomological, and
incremental predictive validity of the MSCEIT V2.0. *Intelligence, 36*(4), 350-366. doi:
10.1016/j.intell.2007.07.002

Rodebaugh, T. L. (2006). Self-efficacy and social behavior. *Behavior Research and Therapy,*
44(12), 1831-1838. doi: 10.1016/j.brat.2005.11.014

Ross, C., Orr, E., Sisic, M., Arseneault, J. M., Simmering, M. G., & Orr, R. R. (2008).
Personality and motivations associated with Facebook use. *Computers in Human*
Behavior, 25(2), 578-586. doi: 10.1016/j.chb.2008.12.024

Rumsey, D. (2009). *Statistics II for dummies*. Hoboken, NJ: Wiley.

Ryan, T., & Xenos, S. (2008) Who uses Facebook? An investigation into the relationship
between the big five, shyness, narcissism, loneliness, and Facebook usage. *Journal of*
Applied Developmental Psychology, 29(6), 434-445. doi: 10.1016/j.chb.2011.02.004

Sadri, G. (2011). Boosting performance through self-efficacy. *T + D, 65*(6), 30-31.

Sagas, M., Bruening, J., Fink, J. S., Sartore, M. L., & Cunningham, G. B. (2005). The
application of social cognitive theory to sport and leisure career choices. *Journal   of*
Career Development, 32(2), 122-138. doi: 2048/10.1177/0894845305279164

Salami, S. O. (2011). Personality and psychological well-being of adolescents: the moderating
role of emotional intelligence. *Social Behavior and Personality: An International*
Journal, 39(6), 785. doi: 10.2224/sbp.2011.39.6.785

Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition, and*
Personality, 9(3), 185-21.

Schutte, N. S., Malouff, J. M., Bobik, C., Coston, T. D., Greeson, C., Jedlicka, C., Rhodes, E., Wendorf, G. (2001). Emotional intelligence and interpersonal relations. *The Journal of Social Psychology*, *141*(4), 523-36.

Seidenfeld, A., Izard, C. E., Finlon, K. J., Woodburn, E. M., Krauthamer-Ewing, E. S., & Grossman, S. R. (2011). Emotion knowledge, emotion utilization, and emotion regulation. *Emotion Review, 3*(1), 44-52. doi: 10.1177/1754073910380972

Sergin, C., Taylor, M. (2007). Positive interpersonal relationships mediate the association between social skills and psychological well-being. *Personality and Individual Differences, 43*(4), 637-646. doi: 10.1016/j.paid.2007.01.017

Segrin, C., Hanzal, A., Donnerstein, C., Taylor, M., & Domschke, T. J. (2007). Social skills, psychological well-being, and the mediating role of perceived stress. *Anxiety, Stress & Coping*, *20*(3), 321-329.

Sheldon, P. (2008). Student favourite: Facebook and motives for its use. *Southwestern Mass Communication Journal*, *23*(2), 39–53.

Sheldon, P. (2008). The relationship between unwillingness-to-communicate and students' Facebook use. *Journal of Media Psychology, 20*(2), 67–75. doi: 10.1027/1864-1105.20.2.67

Sheldon, K.M., Abad, N., & Hinsch, C. (2011). A two-process view of Facebook use and relatedness need-satisfaction: Disconnection drives use, and connection rewards it. *Journal of Personality and Social Psychology, 100*(4), 766-775. doi: 10.1037/a0022407

Shabani, J., Hassan, S., Ahmad, A., & Baba, M. (2010). Exploring the relationship of emotional intelligence with mental health among early adolescents. *International Journal of Psychological Studies*, *2*(2), 209-216.

Shaeskin, D. J. (1997). *Handbook of parametric and nonparametric statistical procedures.* Boca

    Raton, FL: CRC Press.

Shahzada, G., Ghazi, S., Khan, A., Khan, H., & Shah, M. (2011). The relationship of emotional

    intelligence with the students; academic achievement. *Interdisciplinary Journal of*

    Contemporary Research in Business, *3*(1), 994-1001.

Siu, A., & Shek, D. (2010). Social problem solving as a predictor of well-being in adolescents

    and young adults. *Social Indicators Research*, *95*(3), 393-406. doi: 10.1007/s11205-009-

    9527-5

SSIS Rating Scale Manual. (n.d.). *Reliability,* 65-74.

SSIS Rating Scale Manual. (n.d.). *Validity,* 75-146.

Statistical Calculators. (2006). Retrieved from http://danielsoper.com/statcalc3/default.aspx

Steinfield, C., Ellison, N. B., & Lampe, C. (2008). Social capital, self-esteem, and use of online

    social network sites: A longitudinal analysis. *Journal of Applied Developmental*

    Psychology, 29(6), 434–445. doi: 10.1016/j.appdev.2008.07.002

Sternberg, R. (1988). *The triarchic mind: A new theory of intelligence*. New York, NY:

    VikingPress.

Subrahmanyam, K., & Smahel, D. (2011). *Digital youth: The role of media in development.*

    New York, NY: Springer.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Needham

    Heights, MA: Allyn & Bacon.

Tamir, M. (2011). The maturing field of emotion regulation. *Emotion Review, 3*(1), 3-7.

    doi: 10.1177/1754073910388685

Tamir, M., John, O. P., Srivastava, S., & Gross, J. J. (2007). Implicit theories of emotion:

Affective and social outcomes across a major life transition. *Journal of Personality and Social Psychology*, *92*, 731-744. doi: 10.1037/00223514.92.4.731

Tennessee Department of Education. (2011). *School report card.* Nashville, TN: Retrieved from http://edu.reportcard.state.tn.us/pls/apex/f?p=200:30:2337455280747723::NO.

Tennessee Department of Education. (2013). *School report card.* Nashville, TN: Retrieved from http://edu.reportcard.state.tn.us/pls/apex/f?p=200:30:2337455280747723::NO.

Thompson, R. A., Lewis, M. D., & Calkins S. D. (2008). Reassessing emotion regulation. *Child Development Perspectives*, *2*(3), 124-131. doi: 10.1111/j.17508606.2008.00054.x

Tong, S. T., Van Der Heide, B., Langwell, L., & Walther, J. B. (2008). Too much of a good thing? The relationship between number of friends and interpersonal impressions on Facebook. *Journal of Computer-Mediated Communication*, *13*(3), 531–549. doi: 10.1111/j.1083-6101.2008.00409.x

Twitter Factsheet. (2014). Retrieved from https://about.twitter.com/company.

U. S. Census Bureau. (2010). *State and county quick facts.* Washington, DC. Retrieved from http://quickfacts.census.gove/qfd./states/47/47179.html

Vingerhoets, A., Nyklicek, I., & Denollet, J. (2008). *Emotion regulation: Conceptual and clinical issues*. New York, NY: Springer Science.

Wallace, L. S., Buckworth, J., Kirby, T. E., & Sherman, W.M. (2000). Characteristics of exercise behavior among college students: Application of social cognitive theory to predicting stage of change. *Preventative Medicine, 31*(5), 494-505. doi: 10.1006/pmed.2000.0736

Wallace, D. (n.d.). *Pearson's correlation coefficient.* Retrieved from

http://faculty.uncfsu.edu/dwallace/lesson%2017.pdf

Warner, R. (2008). *Applied statistics*. Thousand Oaks, CA: Sage Publications, Inc.

Waterhouse, L. (2006). Multiple intelligences, the Mozart effect, and emotional intelligence: A critical review. *Educational Psychologist*, *41*(4), 207-225. doi: 10.1207/s15326985ep 4104_1

Watson, J. C. (2005). Internet addiction diagnosis and assessment: Implications for counselors. *Journal of Professional Counseling: Practice, Theory, & Research, 33*, 17-30.

Watson, S. W., Smith, Z., & Driver, J. (2006). Alcohol, sex and illegal activities: An analysis of selected Facebook central photos in fifty states. (ERIC Document Reproduction Service No. ED493049).

Windell, J. (1999). *Six steps to an emotionally intelligent teenage: Teaching social skills to your teen.* New York, NY: John Wiley.

Wilson, K., Fornasier, S., & White, K. M. (2010). Psychological predictors of young adults' use of social networking sites. *CyberPsychology, Behavior & Social Networking*, *13*(2), 173-177. doi: 10.1089/cyber.2009.0094

Yael, N., & Shulamith, R. (2004). Age differences in motivational orientation toward physical activity: An application of social-cognitive theory. *The Journal of Psychology*, *138*(1), 35-48.

Washington County
Board of Education

Ronald A. Dykes
Director of Schools

405 West College Street
Jonesborough, TN 37659
Phone (423) 753-1100
FAX (423) 753-1114

July 24, 2013

To Whom It May Concern:

Charles Rhoton has permission to conduct his research study, "A Multiple Regression and Concurrent Validity Analysis of High School Seniors' Social Competence, Ability to Manage Emotions, and their Time Spent on Facebook," at Daniel Boone High School.

Sincerely,

Ronald A. Dykes
Director of Schools

Daniel Boone High School

1440 Suncrest Drive
Gray, Tennessee 37615
(423) 477-1600
Fax: (423) 477-1625

Mr. Roger A. Jackson
Principal
Mr. Timothy S. Campbell
Assistant Principal

Mr. Jeremy W. Jenkins
Assistant Principal
Ms. Pamela B. Proffitt
Assistant Principal

July 24th, 2013

To: Liberty University Institutional Review Board

Charles Rhoton has my permission to conduct his research study at Daniel Boone entitled, "A Multiple Regression and Concurrent Validity Analysis of High School Seniors' Social Competence, Ability to Manage Emotions, and their Time Spent on Facebook".

Roger A. Jackson

Principal, Daniel Boone High School

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

August 5, 2013

Charles Rhoton
IRB Approval 1643.080513: A Multiple Regression and Concurrent Validity Analysis
of High School Seniors' Social Competence, Ability to Manage Emotions, and Their
Time Spent On Facebook

Dear Charles,

We are pleased to inform you that your above study has been approved by the
Liberty IRB. This approval is extended to you for one year. If data collection
proceeds past one year, or if you make changes in the methodology as it pertains to
human subjects, you must submit an appropriate update form to the IRB. The forms
for these cases were attached to your approval email.

Please retain this letter for your records. Also, if you are conducting research as part of the
requirements for a master's thesis or doctoral dissertation, this approval letter should be
included as an appendix to your completed thesis or dissertation.

Thank you for your cooperation with the IRB, and we wish you well with your
research project.

Sincerely,

Fernando Garzon, Psy.D.
Professor, IRB Chair
Counseling

(434) 592-4054

LIBERTY
UNIVERSITY.

Liberty University | Training Champions for Christ since 1971

1971 UNIVERSITY BLVD. LYNCHBURG, VA. 24502 IRB@LIBERTY.EDU FAX (434) 522-0506 WWW.LIBERTY.EDU