The relationship between emotional intelligence and satisfaction with life after controlling for self-esteem, depression, and locus of control among community college students

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The Relationship Between Emotional Intelligence and Satisfaction With Life After Controlling for Self-Esteem, Depression, and Locus of Control Among Community College Students

by

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A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy
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Dedication

In recognition of her steadfast support and encouragement, I dedicate this dissertation to my loving wife Aireen Laragan Murphy for the countless hours of editing and proofreading of my study. Aireen has been my partner in this project as well as in life and I am forever grateful.
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The Relationship Between Emotional Intelligence and Satisfaction With Life After Accounting for Self-Esteem, Depression, and Locus of Control Among Community College Students

Kevin T. Murphy

ABSTRACT

This study investigated the relationship between Emotional Intelligence (EI) and Satisfaction with Life (SWL) among community college students. Some researchers suggest a relationship exists between EI and important outcome variables (e.g., occupational success & satisfaction with life). However, other researchers suggest measures of EI may simply assess personality variables known to predict these variables. I used the Mayer, Salovey, and Caruso Emotional Intelligence Test (MSCEIT) to investigate how much additional variance in SWL, EI predicts after three personality variables (self-esteem, depression, and locus of control). A convenience sample of 200 Central Florida Community College Students completed the following instruments: 1) MSCEIT (Mayer, Salovey, and Caruso Emotional Intelligence Test, 2002) to assess EI. 2) RSES (Rosenberg Self-Esteem Scale, 1965) to assess self-esteem. 3) BDI-II (Beck Depression Inventory II) Beck, Steer, and Brown (1997) to assess depression. 4) I-E Scale (Internal-External Locus of Control Scale) Rotter (1966) to assess locus of control. 5) SWLS (Satisfaction with Life Scale) Diener, Emmons, Larsen, and Griffin (1985) to assess overall (global)
satisfaction with life. Bivariate correlations between the known predictor variables (self-esteem, depression, and locus of control) and the dependant measure (SWL) are in agreement (size and direction) with prior research. However, correlational analysis suggested no correlation between EI as well as all four components of EI with SWL or the known predictor variables. These findings agree with prior research reporting correlations between EI or components of EI with SWL. A series of five hierarchical regression analyses was conducted to investigate whether EI or any of the four components of EI contributes in the prediction of SWL after accounting for known predictors (self-esteem, depression, and locus of control). The results of all five hierarchical regression analysis suggests EI as well as the components of EI do not account for additional variance in SWL among community college students. Therefore, results of the study suggest EI is not an important predictor of SWL among community college students. Limitations of the study as well as suggestions for future research are discussed. In the final sections conclusions as well as some implications for practice in higher education are presented.
Chapter One

Introduction

Statement of the Problem

Interest in emotional intelligence (EI) has remained high in both the professional literature and the popular press since Daniel Goleman (1995) popularized the concept with publication of the book *Emotional Intelligence*. During the past decade, much emotional intelligence research has focused on both theoretical development (e.g., Mayer & Salovey, 1997; Cobb & Mayer, 2000), as well as the creation of several assessment measures (e.g., Bar-on, 1997; Mayer, Salovey, & Caruso, 2000a; Mayer, Salovey, & Caruso, 2002). A review of this literature (e.g., Bar-on, 1997; Goleman, 1995; Palmer, Walls, Burgess, & Stough, 2001) revealed that many authors have assumed a relationship exists between emotional intelligence and several important human values such as life satisfaction, the quality of interpersonal relationships, academic success and success in occupations that involve considerable reasoning with emotional information (e.g., psychotherapy). Gibbs (1995) noted that on its October 2, 1995 cover, *Time* magazine declared that “Emotional Intelligence may be the best predictor of success in life, redefining what it means to be smart” (p. 60).

The problem is that some educators attempting to increase EI have implemented emotional intelligence programs or incorporated elements of emotional
intelligence within existing programs with little or no empirical research to inform such decisions. Elksnin and Elksnin (2003) stated that “Within two years after publication of Goleman’s book, more than 700 school districts across the nation implemented social emotional learning (SEL) programs designed to teach students social-emotional skills” (p. 65). Cobb and Mayer (2000) noted that “For the most part emotional intelligence is finding its way into schools in small doses, through social-emotional learning and character education programs” (p. 75). However, some schools have revised or attempted to revise their entire curriculum around emotional intelligence. For example, the state of Rhode Island attempted to integrate emotional learning into all its social, health, and education programs (Elias, Zins, Weissberg, Greenberg, Haynes, Keggler Schwab-Stone and Schriver, 1997). Cobb and Mayer (2000) stated, “To date there has been relatively little research suggesting the validity of emotional intelligence within educational, occupational, and other important life domains” (p. 397).

Before the utility (usefulness) of emotional intelligence can be established in any educational context, it must demonstrate predictive validity (account for variance) in important human values (e.g., academic success, interpersonal relations, life satisfaction, etc.) greater than existing known predictors. For a construct to possess utility it must demonstrate it is more than old wine in a new bottle, it must suggest some increment of additional usefulness. From this perspective the degree to which variance accounted for by a construct that has already been accounted for by related constructs is a measure of its redundancy.
and a serious threat to its utility. Thus, the real test of a construct's utility is in its
ability to increase prediction of important human values (account for additional
variance). At present the problem is that there is little empirical research to
suggest how important or how useful emotional intelligence is in the prediction of
important human values (e.g., life satisfaction, interpersonal relations, and
academic performance).

*Theoretical Basis of the Study*

Since the publication of Goleman’s (1995) *Emotional Intelligence*, the
construct has evolved along two distinct paths. One path, the more popularly
oriented (mixed model) is based largely on Goleman’s (1995) book. This model
broadly conceptualizes emotional intelligence incorporating both cognitive abilities
as well as non-cognitive elements. In contrast to the mixed model, the second
path (cognitive ability model) the more academically oriented and narrowly
defined model of emotional intelligence builds upon Mayer and Salovey’s (1990,
1993, 1997) publications. This model conceptualizes emotional intelligence as a
specific type of intelligence.

Cobb and Mayer (2000) noted, “The mixed model mixes EI as a cognitive
ability, with social competencies, personality traits, and behaviors” (p. 75).
Goleman (1995) described EI as composed of five dimensions: (a) self-
awareness, (b) self-regulation, (c) motivation, (d) empathy, and (e) social skills.
Goleman (1995) summarized what he called the collection of emotional
intelligence qualities as “character.” This model makes broad claims regarding the
importance of emotional intelligence to a variety of important human qualities (e.g., life satisfaction, interpersonal relationships, academic success, and occupational success). For example, Cherniss and Goleman (2001) noted, “EI provides the basis for competencies important in almost any job” (p. 10). Goleman (2001) asserted that “EI more than any other asset is the most important overall success factor in careers” and “EI accounts for 85% to 90% of the success of organizational leaders” (p. xv).

The second path, the more academically oriented cognitive ability model, is led primarily by John Mayer, Peter Salovey and associates (e.g., Mayer & Salovey 1990, 993). This model conceptualizes emotional intelligence as distinct yet somewhat similar to traditional intelligences. Cobb and Mayer (2000) stated that “EI is distinct because it involves information coming from our feelings and similar because it involves perceiving and reasoning abstractly with this emotional information” (p. 74). Using this framework Mayer and Geher (1996) studied 321 undergraduates concluding that “Emotional intelligence is distinct from general intelligence, and yet the two intelligences are correlated to a degree” (p. 89). Mayer and Salovey (1997) described emotional intelligence as composed of four abilities: the ability to (a) perceive emotion, (b) integrate emotion to facilitate thought, (c) understand emotions, and (d) regulate emotions to promote personal growth. Unlike the mixed model which makes impressive claims of importance, Cobb and Mayer (2000) noted that “The cognitive ability model is somewhat more conservative in its claims about the success this intelligence may lead to” (p. 75).
I conceptualized EI as described by Mayer and Salovey (1997) for the following reasons. First, conceptualizing EI as a relatively distinct intelligence is consistent with much of the intelligence literature. Emotional intelligence has its roots in E. L. Thorndike's (1920) discussion of social intelligence (the ability to understand people). Howard Gardner (1983) elaborated on the theme of understanding people in his discussion of personal intelligences. Pfeiffer (2001) noted that Gardner's writing on interpersonal and intrapersonal intelligences specifically set the stage for subsequent more elaborate theorizing on EI as a type of intelligence. Thus, Mayer and Salovey (1993) defined EI as “A type of social intelligence that involves the ability to monitor one’s own and other’s emotions, to discriminate among them, and to use the information to guide one’s thinking and actions” (p. 432). This model was revised in 1997 in order to clearly set it apart from Daniel Goleman’s (1995) mixed model of EI.

Second, the Mayer and Salovey (1997) ability model demonstrates greater definitional clarity than Goleman’s (1995) mixed model of emotional intelligence. Pfeiffer (2001) stated “EI suffers from a lack of conceptual precision” (p. 140). For example, Goleman (1995) argued that empathy, optimism, assertiveness, and delay of gratification are all abilities that constitute EI. Goleman's (1995) popular version of EI expanded Mayer and Salovey’s (1990) conceptualization to include motivational elements as well as personality traits (e.g., zeal, persistence). Goleman (1995) himself equated EI with “character” (p. 285). The problem with this conceptualization is that if EI (according to the mixed model) is almost any-
thing then it may well be nothing. Unlike the mixed model of EI the Mayer and Salovey (1997) model quite narrowly defines EI as composed of four cognitive abilities: the ability to (1) accurately perceive emotions; (2) use emotions to facilitate thinking, problem solving, and creativity; (3) understand emotions; and (4) manage emotions for personal growth.

Several researchers (e.g., Bar-On, 1997; Goleman, 1995; Palmer, Walls, Burgess, & Stough, 2001; Mayer & Salovey, 1997) noted that the popularity of emotional intelligence in both the popular and professional literature has resulted in a plethora of assumed relationships between emotional intelligence and other important human qualities (e.g., life satisfaction, the quality of interpersonal relationships, and success in occupations that involve considerable reasoning with emotional information such as those involving creativity, leadership, sales and conducting psychotherapy).

However, a review of this literature also revealed that speculation regarding proposed relationships has far exceeded the empirical research. Some researchers (e.g., Mayer, Salovey & Caruso 2000a) assert that the utility of emotional intelligence remains unknown largely because its validity has not yet been established. However, some researchers (e.g., Palmer, Donaldson, and Stough 2002) note that EI has reached a stage of theoretical and instrument development now supportive of research intended to investigate such relationships. A review of the EI literature (e.g., Goleman, 1995; Bar-On, 1997; Mayer, Caruso, & Salovey, 2000) suggested that EI has often been theoretically linked with satisfaction with life. Therefore, the
literature suggested an empirical study of the theoretically proposed relationship between EI and satisfaction with life among community college students.

Some researchers (e.g., Ciarrochi, Chan, & Caputi, 2000; Mayer, Caruso, & Salovey, 1999; Palmer, Donaldson, & Stough, 2002) have investigated the relationship between individual differences in satisfaction with life and EI and reported correlations ranging from $r = .11$ to $.45$. Other researchers (e.g., Mayer, Caruso, & Salovey, 2000; Newsome, Day, & Catano, 2000; Petrides & Furnham, 2000) reported results that suggest emotional intelligence may predict important human values such as satisfaction with life because it essentially measures other personality traits already known to predict these criteria. Therefore, the predictive validity of emotional intelligence can be clearly established only when it is disentangled from related and overlapping constructs such as self-esteem, depression, and locus of control.

Many researchers have conducted empirical investigations of life satisfaction (e.g., Diener, 1984; Huebner, 1991; Ramanaiah, Detwiler & Byravan, 1997; Hong & Giannakopoulos, 1994; Kopp & Ruzicka, 1993) and report findings that suggest significant correlations between life satisfaction and such personality traits as locus of control, self-esteem, depression, extraversion, optimism, neuroticism and anxiety. Some of the literature (e.g., Hong & Giannakopoulos, 1994) suggests that three of the most frequently cited predictors of life satisfaction are self-esteem, depression, and locus of control respectively. Several researchers (e.g., Diener, 1984; Emmons & Diener, 1985; Lewinsohn, Redner, &
Seeley, 1991; Parkerson, Broadhead, & Tse, 1990; Schmitt & Bedeian, 1982; Vermunt, Spaans, & Zorge, 1989; Weiner, Muczyk, & Gable, 1987) have reported results that suggest a positive relationship between self-esteem and satisfaction with life. Other researchers (e.g., Hyer, Harrison, & Warsaw, 1987; Kammann & Flett, 1983; Evans, Kleinman, Halar, & Herzer, 1984; Martinez-Pons, 1997) have reported results that suggest a negative relationship between depression and satisfaction with life. Related empirical studies (e.g., Hickson, Housley, & Boyle, 1988; Klein, Tatone, & Lindsay, 1989; Lewinsohn, et al., 1991; Morganti, Nehrke, Hulicka, & Cataldo, 1988; Raphael, 1988; Schulz, Tompkins, Wood, & Decker, 1987) have reported results that suggest internal locus of control is positively related to satisfaction with life. The current study investigated the relationship between emotional intelligence and satisfaction with life among community college students after accounting for the following known predictors: self-esteem, depression, and locus of control.

**Purpose of Study**

The purpose of the present study was to provide additional evidence to help distinguish between what is theoretically assumed and what may be empirically demonstrated about the relationship between emotional intelligence and life satisfaction. Thus, this empirical study may help further establish (or not) the utility of emotional intelligence. Block (1995) asserted that “To the extent a variable correlates with other variables it is said to be explainable by these other variables and conveys no unique information” (p.188). The utility of emotional intelligence
resides in whether it accounts for variance in important human values (e.g., satisfaction with life) above the level of variance explained by other personality constructs such as self-esteem, locus of control, and depression.

The popularization of EI in both the popular as well as academic literature has resulted in a level of speculation regarding EI and its relationship with other variables not supported by the empirical research. However, Palmer, Donaldson, and Stough (2002) argue that “The advent of assessment measures has provided a platform for research to examine the relationship between emotional intelligence and theoretically related life criteria” (p. 1092). Thus, 10 years of theoretical and instrument development since Goleman (1995) published Emotional Intelligence now makes it possible to empirically investigate the relationship between EI and theoretically related life criteria.

The current study is important for two reasons. First, because it empirically investigated the relationship between EI and an important life criteria (satisfaction with life) among community college students. Second, because decisions about educational practices regarding emotional intelligence should be based on solid research, empirical investigations that suggest relationships, rather than on sensationalistic claims such as “Emotional intelligence is at times as powerful, and even twice as powerful as IQ” (Goleman, 1995, p. 34).

Research Questions

1) Does emotional intelligence conceptualized as a cognitive ability and measured by the MSCEIT account for greater variance in satisfaction with life
among community college students than self-esteem, depression, and locus of control?

2) Does the ability to perceive and accurately express emotion (a component of emotional intelligence as measured by the MSCEIT) account for greater variance in satisfaction with life among community college students than self-esteem, depression, and locus of control?

3) Does the ability to use emotion to facilitate thought (a component of emotional intelligence as measured by the MSCEIT) account for greater variance in satisfaction with life among community college students than self-esteem, depression, and locus of control?

4) Does the ability to understand emotions (a component of emotional intelligence as measured by the MSCEIT) account for greater variance in satisfaction with life among community college students than self-esteem, depression, and locus of control?

5) Does the ability to manage emotions for emotional growth (a component of emotional intelligence as measured by the MSCEIT) account for greater variance in satisfaction with life among community college students than self-esteem, depression, and locus of control?

**Hypotheses**

Null hypothesis 1. Emotional Intelligence as measured by the MSCEIT (total score) does not account for variance in satisfaction with life among community college students greater than self-esteem, depression, and locus of control.
Research hypothesis 1. Emotional Intelligence as measured by the MSCEIT (total score) accounts for variance in satisfaction with life among community college students greater than self-esteem, depression, and locus of control.

Null hypothesis 2. The ability to perceive and accurately express emotion, a component of emotional intelligence as measured by the MSCEIT does not account for variance in satisfaction with life among community college students greater than self-esteem, depression, and locus of control.

Research hypothesis 2. The ability to perceive and accurately express emotion, a component of emotional intelligence as measured by the MSCEIT accounts for variance in satisfaction with life among community college students greater than self-esteem, depression, and locus of control.

Null hypothesis 3. The ability to use emotion to facilitate thought, a component of emotional intelligence as measured by the MSCEIT does not account for variance in satisfaction with life among community college students greater than self-esteem, depression, and locus of control.

Research hypothesis 3. The ability to use emotion to facilitate thought, a component of emotional intelligence as measured by the MSCEIT accounts for variance in satisfaction with life among community college students greater than self-esteem, depression, and locus of control.

Null hypothesis 4. The ability to understand emotions, a component of emotional intelligence as measured by the MSCEIT does not account for
variance in satisfaction with life among community college students greater than self-esteem, depression, and locus of control.

Research hypothesis 4. The ability to understand emotions, a component of emotional intelligence as measured by the MSCEIT accounts for variance in satisfaction with life among community college students greater than self-esteem, depression, and locus of control.

Null hypothesis 5. The ability to manage emotions for emotional growth, a component of emotional intelligence as measured by the MSCEIT does not account for variance in satisfaction with life among community college students greater than self-esteem, depression, and locus of control.

Research hypothesis 5. The ability to manage emotions for emotional growth, a component of emotional intelligence as measured by the MSCEIT accounts for greater variance in satisfaction with life among community college students than self-esteem, depression, and locus of control?

Definition of Terms

Cognitive ability model of emotional intelligence. The ability to use information in regards to emotions in order to enhance decision making. Mayer and Salovey (1997) defined emotional intelligence in terms of four factors: (a) ability to perceive accurately, appraise and express emotions (e.g., the degree to which a person can identify emotion in self and others), (b) ability to access and generate feelings in order to facilitate thought (e.g., the degree to which a person can use his or her emotions to improve thinking), (c) ability to understand emotion
and emotional knowledge (e.g., the degree to which a person can understand the complexities of emotional meanings, emotional transitions, and emotional situations), and (d) ability to regulate emotions in both self and others to promote emotional and intellectual growth (e.g., a person’s level of control over their emotions). The Mayer and Salovey (1997) conceptualization of emotional intelligence is referred to as the cognitive ability model of emotional intelligence because it focuses exclusively on cognitive abilities related to processing emotional information and managing emotions. The cognitive ability model uses performance or ability measures to index an individual’s level of EI.

*Performance Measure.* Sometimes referred to as an ability measure because it asks people to solve problems with some objective criteria that divides responses into right and wrong responses (e.g., what is the sum of 7 + 7).

*Mixed model of emotional intelligence.* All cognitive abilities and personality traits that enhance decision making. Goleman (1995) broadly describes “EI as composed of five dimensions: a) self-awareness, b) self-regulation, c) motivation, d) empathy, and d) social skills” (p. 15). This model mixes cognitive abilities with social competencies, personality traits, behaviors and even motivational concepts (e.g., persistence), equating EI with “character” (Goleman, 1995; p. 285).

*Self-Report Measures.* These measures ask people to self evaluate and self report their level of important human qualities (e.g., intelligence). The problem with such measures are that they may reflect subjective rather than objective qualities (e.g., How intelligent are you?). Mayer, Salovey, and Caruso (2000a)
stated that “Early evidence suggests that self-reported EI is fairly unrelated to actual ability.” (p. 397).

*Satisfaction with Life (SWL).* The degree to which an individual (in general) is satisfied with his life Diener, Emmons, Larsen, and Griffin (1985) discussed satisfaction with life as an overall (Global) satisfaction with life. Pavot and Diener (1993) stated that “Life satisfaction refers to a judgmental process, in which individuals assess the quality of their lives on the basis of their own unique set of criteria” (p. 164).

*Self-Esteem.* The attitude a person has toward the self. Blascovich and Tomaka (1991) noted that self-esteem is generally considered the evaluative component of one’s self-concept, a broader representation of the self that includes cognitive and behavioral aspects as well as evaluative or affective ones. The most broad and frequently cited definition of self-esteem is Rosenberg’s (1965) who described self-esteem as a “favorable or unfavorable attitude toward the self” (p. 9).

*Depression.* An abnormally low and persistent mood that significantly disrupts previously established levels of functional behavior. The American Psychiatric Association (1994) *Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM-IV)*, defines depression as a mood disorder with five or more of the following symptoms present during the same two week period: a) depressed mood, b) feelings of sadness or emptiness, c) significant decrease in interest or satisfaction from previously enjoyed activities, d) significant changes in appetite, e) sleep disturbances, f) psychomotor agitation or retardation,
g) fatigue or loss of energy, (h) feelings of worthlessness or inappropriate guilt, i) cognitive disturbances, j) recurrent thoughts of death or suicide. The effect of all symptoms must represent a significant decrease from previous functioning.

*Locus of control.* Rotter (1966) defined locus of control as a “Generalized expectancy of the extent to which a person perceives that events in one’s life are consequences of one’s behavior” (p. 1). Shapiro, Schwartz, and Astin (1996) stated “An individual’s beliefs about the controllability of what happens to them is a core element of their understanding of how they live in the world” (p. 1214).

*Construct validity.* Judd, Smith, and Kidder (1991) discussed construct validity as the extent to which the concrete measures in a study successfully duplicate the theoretical constructs in the hypotheses. Thus, construct validity may be thought of as an index of the extent to which the test may be said to measure the theoretical construct or trait it purports to measure. Campbell and Fiske (1959) noted that “Construct validity is validated using both convergent and discriminant validity” (p. 80).

*Convergent validity.* Campbell and Fiske (1959) stated that “Measures of the same variable made by different methods should agree (converge) and certainly should agree better than measures of different variables made by those several methods” (p. 81).

*Discriminant validity.* Campbell and Fiske (1959) noted that “Discriminant validity refers to the degree to which measures of different constructs are unique” (p. 81).
Criterion validity. Cronbach and Meehl (1955) state that “Criterion validity has two sub-components: predictive validity and concurrent validity” (p. 287).

Predictive validity. Cronbach and Meehl (1955) note that predictive validity refers to how well a construct or measurement instrument forecasts or predicts a future behavior (criterion) or outcome (e.g., college GPA from high school GPA).

Concurrent validity. Cook and Campbell (1979) argued that concurrent validity is an index of the correlation between instrument measurement items and known and accepted standard measures or criteria. Essentially, it is an index of how well the instrument compares with other tests known to measure the same domain in question (e.g., ACT and SAT scores).

Incremental validity. Dawes (2001) as well as Haynes and O’Brien (2000) noted that incremental validity refers to the degree to which a measure accounts for variance in a criterion beyond that which is already accounted for by other predictors. Haynes and Lench (2003) stated that “Incremental validity supplements traditional dimensions of content, convergent, predictive, and discriminant validity (e.g., Foster & Cone, 1995; Nunnally & Bernstein, 1994; Haynes, Nelson, and Blaine, 1999; Silva, 1993), because it addresses the performance of a measure relative to others” (p. 456).

Internal validity. Cook and Campbell (1979) defined internal validity as the “Approximate validity with which we infer that a relationship between two variables is causal” (p. 37). Gay and Airasian (2003) discussed internal validity as “The con-
dition that observed differences on the dependent variable are a direct result of the independent variable, not some other variable” (p. 345).

*External validity.* Johnson and Christensen (2000) defined external validity as “The extent to which the results of a study can be generalized to and across populations, settings, and times” (p. 200).

*Population validity.* Onwuegbuzie (2003) noted that population validity refers to the “Extent to which findings are generalizable from the sample of individuals on which a study was conducted to the larger target population of individuals, as well as across different subpopulations within the larger target population” (p. 80).

*Ecological validity.* Onwuegbuzie (2003) proposed that “Ecological validity refers to the extent to which findings from a study can be generalized across settings, conditions, variables, and contexts” (p. 80).

*Temporal validity.* Onwuegbuzie (2003) noted, “Temporal validity refers to the extent to which research findings can be generalized across time” (p. 80).

**Delimitations of the Study**

This study deliberately limited itself to community college students enrolled in at least one, three credit hour college level course at Central Florida Community College (CFCC). This delimitation (one community college) somewhat diminishes the degree to which results from the present study may be generalized beyond the present study. However, results from the present study may be generalized to the population of interest, students attending credit courses at CFCC. The focus of the present study also limited itself theoretically to the cognitive ability model of EI

The two relatively distinct models of EI (cognitive ability and mixed model) in general employ two equally distinct measurement methods. First, the mixed model generally employs self-report methods to assess EI. Self-report measures ask people to evaluate and report their level of a quality (e.g., How well do you solve problems?). Second, the cognitive ability model employs ability or performance measures. Ability or performance measures ask people to solve problems and then their responses are evaluated against some criterion (e.g., expert or general consensus scoring) in order index their level of a quality (e.g., How many degrees are there in a right angle?). Mayer, Salovey, and Caruso (2000) noted that the relationship between self-report measures of EI and actual ability like the relationship between self-report intelligence and actual intellectual ability is low. Thus, in the present study I assessed EI with the Mayer, Salovey, Caruso, Emotional Intelligence Test (MSCEIT), a performance measure. However, future studies that include assessment of EI with both self-report measures for example, the Self-Report Emotional Intelligence Test (SREIT) as well as performance measures are recommended.

Limitations of the Study

Onwuegbuzie (2003) noted that “Threats to internal and external validity may take place at the data collection, data analysis or data interpretation stage of all investigations” (p. 74). At the data collection stage of the present study, one
potential threat to internal validity is history. Unique experiences or significantly
different experiences among participants or groups can threaten internal validity
by providing rival explanations of findings (e.g., surveys completed one day
before and one day after 9-11-01, surveys completed toward the beginning and
toward the end of a semester).

One possible threat to the external validity of the present study and virtually
all educational studies at the data collection stage is population validity
(Onwuegbuzie, 2003). This threat regarding population validity according to
Johnson and Christensen (2000) have two causes. First, all members of the target
population rarely are available for selection in a study. Second, random samples
are difficult to obtain due to practical considerations such as time, resources, and
logistics. In the present study both of these considerations were important to
external validity. All members of the target population (CFCC students) were not
available for selection in the study, and limited resources and logistics precluded
the use of a random sample. Thus, population validity in the present study as well
as in most non-experimental research involving college students presents a threat
to external validity.

At the data analysis stage of the present study, population validity once
again presented a possible threat to external validity. Any type of sub-sampling
from the original sample decreases population validity. Therefore, in order to
minimize this threat to external validity from discrepancies between the sample
and population I did not conduct any sub-sample analysis. Furthermore, the total
sample of 200 participants was inspected for representativeness or how well the sample actually reflected the population (all students enrolled in credit courses at CFCC). No significant discrepancies (e.g., gender, age, race) between the obtained sample and target population was detected.

Life satisfaction is generally considered both an important outcome goal of higher education as well as an important human value (e.g., Argyle, 1987; Myers, 1992). At the data analysis stage of the present study, the choice of life satisfaction as the criterion variable was an important limitation. Unlike more clearly defined and more stable variables (e.g., age, gender, grade point average) life satisfaction is expected to change over time. The study of important yet less stable constructs (e.g., happiness, spirituality, life satisfaction) often involves the use of assessment instruments that demonstrate relatively low to moderate reliabilities. The satisfaction with life scale (SWLS) used to measure satisfaction with life in the present study demonstrated less reliability than typically reported by many other instruments assessing other more stable constructs (e.g., age, race, gender). However, prior research on the relationship between satisfaction with life and other important variables (e.g., happiness, academic success, occupational success) suggests it is an important area of investigation.

At the data interpretation stage of the present study there are several possible threats to external validity (e.g., population, ecological, and temporal). Onwuegbuzie (2003) argued that “Only if findings are consistent across different populations, locations, settings, times, and contexts can researchers be justified
in making generalizations from samples to target populations” (p. 74). In order to minimize the threat to external validity at the data interpretation stage from threats to population, ecological, and temporal validity, I acknowledged the limits of the present study, avoided the inclination to over generalize, and at best proposed qualified conclusions.

A further limitation of the present study and a serious threat to the extent one may reasonably generalize findings from the sample to a population (external validity) is small sample size. The present study is a correlation study, in summary I am interested in the relationship between the dependent variable (satisfaction with life) and the independent variable (emotional intelligence) after controlling for the independent variables self-esteem, depression and locus of control. At the heart of correlation research is prediction, how well does one variable, or in regression analysis a combination of variables, predict another variable. The present study is particularly interested in how much (if any) emotional intelligence adds to the prediction of satisfaction with life among community college students over other known predictors (self-esteem, depression, and locus of control).

Previous research (e.g., Hong & Giannakopoulos, 1994) suggested the effect size between self-esteem and satisfaction with life is high medium ($\Delta R^2 = .21$; effect size = .26). However, this same study reported the addition of a second variable, depression resulted in a small effect size ($\Delta R^2 = .03$; effect size = .03). Likewise the addition of a third variable locus of control resulted in an even smaller effect size ($\Delta R^2 = .01$; effect size = .01).
With a sample size of 200 participants and a pre-set alpha of .05, the present study should have adequate power (.80) to detect a moderate to large effect size (as large or larger than self-esteem). However, it must be remembered that at the current stage of construct development we can only estimate the associated effect size between EI and other important variables. Much research is constrained by the availability of resources and logistics, thus many independent studies utilize less than desirable sample sizes. However, the value of these small sample size studies are realized when subsequent meta-studies pool data from many smaller studies.

Significance of the Study

Some public and private K–12 schools (e.g., La Salle Academy, R.I.; Nueva School in Hillsborough, C.A.) as well as colleges (e.g., Northern Kentucky University Business School; Department of Educational Leadership, East Carolina University (ECU); Texas A & M University-Kingsville) across the nation have already revised their curriculum and/or revised their instructional practices to include elements of emotional intelligence. Elias, Zins, Weissberg, Frey, Greenberg, Haynes, Kessler, Schwab-Stone and Schriver (1997) noted that the state of Rhode Island attempted to integrate emotional learning into all its social, health, and education programs. O’Shea (2002) as well as Nelson and Low (2002) concluded that many colleges and universities offer freshman seminar classes designed to orient students to the campus and integrate components of emotional and social learning. Matthews, Zeidner, and Roberts (2002) wrote that
“The collaborative for social and emotional learning at the University of Illinois reports that today thousands of U.S. schools are using more than 150 emotional literacy programs” (p. 222).

However, Cobb and Mayer (2000) argued that “Early claims of the benefits of emotional intelligence to students, schools, and beyond were made without much empirical justification” (p. 75). Mayer, Salovey, and Caruso (2004b) noted that “Such claims suggest that EI predicts major life outcomes at levels virtually unheard of in psychological science” (p. 206). Contrary to such claims several researchers (e.g., Ashkanasy & Dasborough, 2003; Barchard, 2003; Brackett & Mayer, 2003; Lam, & Kirby, 2002) investigated the relationship between EI and problem solving ability or school grades and reported correlations that ranged between $r =.20$ and .25. Other preliminary research (e.g., Schutte, Malouff, Hall, Haggerty, Cooper, Golden & Dornheim, 1998) suggest a positive yet more moderate relationship between EI and academic performance.

Interest in EI will remain high in higher education for the following three reasons. First, Springer, Terenzini, and Pascarella (1995) stated that “Historically the mission of American higher education encompassed more than intellectual development” and “The Socratic imperative to know thyself continues to represent an educational outcome of intrinsic value to many American college students” (p. 5). The need to integrate the intellectual, social, and emotional aspects of undergraduate student learning in higher education has been voiced periodically during the last half-century (e.g., Williamson, 1957; Brown, 1972;
Boyer, 1987; Pascarella & Terenzini, 1991; Astin, 1993; Tinto, 1993). The central mission of higher education remains the education of the whole student which includes cognitive, social, and emotional elements. The traditional yet often elusive goal of holistic education continues to be an important educational outcome.

Second, other researchers (e.g., Chickering & Reisser, 1993; Brower, 1990; Upcraft & Gardner, 1989) argue that emotional skills are major factors in college student development (e.g., learning, grades, and retention). Tinto (1987) asserts that 57% of college students leave their first college choice without receiving a degree and 43% of college students leave altogether without obtaining a degree. Levitz and Noel (1989) noted that although students leave for a variety of reasons, most attrition is preventable. Other researchers (e.g., Szulecka, Springett, and De Pauw, 1987) have reported results that suggest the major causes of attrition among college freshman are emotional rather than academic. Sylvester (1994) stated that “Emotion is important in education because it drives attention, which in turn drives learning and memory” (p. 60). Love and Love (1995) noted that “A student’s development can be enhanced by actively bringing the dimensions of affect and cognition together” (p. 15). Emotional skill is valued both as an outcome goal of higher education as well as an important element of the total undergraduate learning experience.

Third, Goleman (1998) asserted that “EI accounts for over 85 percent of outstanding performance in top leaders” and “Compared to IQ and expertise, EI is twice as important to job performance” (p. 31). In addition, the recent publication
of popular books such as *The Emotionally Intelligent Workplace*, by Cherniss and Goleman (2001), as well as recent research (e.g., Abraham, 2000; Ashforth & Humphrey, 1995; Ashkanasy & Daus, 2002; Janovics, & Christiansen, 2002) suggest a positive relationship between EI and worker performance. Also, the publication of *Primal Leadership*, by Goleman, Boyatzis, and Mckee (2002) as well as other recent research (e.g., Atwater & Yammarino, 1993; Gibbons, 1986; Howell & Avolio, 1993; Southwick, 1998; Mandell & Pherwani, 2003) suggest a positive relationship between EI and effective leadership. However, other research (e.g., Mayer & Cobb, 2000) suggests there is little or no direct evidence to support such claims. Thus, the assumption relating EI with both worker performance and effective leadership continues despite the lack of and relatively mixed results reported in the research.

Palmer, Donaldson, and Stough (2002) proposed that emotional intelligence has reached a stage of theoretical and instrument development now supportive of research intended to establish its utility (usefulness). Only by investigating the level of variance emotional intelligence accounts for in important outcomes (e.g., satisfaction with life) over known predictors may we establish the utility of emotional intelligence in the prediction of those outcomes.

I hope that the present investigation helps further establish the relationship or lack of relationship between emotional intelligence and satisfaction with life among community college students. Second, I hope the present study helps reveal which if any of the four relatively independent components of the Mayer and
Salovey (1997) cognitive ability model of emotional intelligence most strongly accounts for variance in satisfaction with life. Third, I hope the results from the present study adds to the empirical research base used to inform decisions in both curriculum development and instructional design within educational settings. For example, Salovey, Stroud, and Woolery (2002) reported results from their study (community sample) that suggested a moderate negative relationship between EI and later adult undesirable behaviors (e.g., smoking, alcohol abuse, and fighting).

The conclusion suggested by the above studies and similar investigations (e.g., Rubin, 1999; Trinidad & Johnson, 2002) is that higher EI predicts lower incidents of undesirable behavior. This research supports other research (e.g., Chickering & Reisser 1993) that suggests a positive relationship between emotional skills development and college student development. Other researchers (e.g., Barefoot & Fidler, 1996) note that in general the goals of freshmen seminar programs nationally emphasize the development of emotional skills. Nelson and Nelson (2003) reported from their study with 135 first semester university students that “Emotional skills are very important factors in the achievement and retention of university freshmen” (p. 4). Thus, freshmen seminar programs across the nation may influence college student achievement as well as retention by improving student emotional skills and thus reducing undesirable behavior. Given the positive relationship between emotional skills and college student achievement and retention as well as the negative relationship between emotional skills and undesirable behavior EI may be an important consideration in curriculum develop-
ment and instructional design. Fourth, I hope the results of this study suggests additional studies to further enrich the emotional intelligence literature.

Organization of Remaining Chapters

Chapter 2 includes an examination of the existing literature on emotional intelligence, satisfaction with life, self-esteem, depression, and locus of control. Chapter 3 includes a description of the research design and procedures I utilized in the present study to investigate the relationship between emotional intelligence and satisfaction with life, after accounting the following personality constructs self-esteem, depression, and locus of control. Chapter 4 contains a description of the procedures used and results of the data analysis. Chapter 5 contains an overview of the study; major findings are discussed within the context of previous research. Some suggestions for future research as well as limitations of the present study are identified. Conclusions as well as implications for practice in higher education are discussed.
Chapter Two

Review of the Literature

In Western culture the relationship between intellect (rational thought) and affect (emotion) has historically been viewed as somewhat ambiguous. The ambiguity is not in the relative worth of either rational thought or emotion, but rather in deciding whether emotions should be excluded or integrated with rational thought. Traditionally educators have recognized or at least paid lip service to the importance of the emotional domain in the teaching and learning process. Beck and Kosnik (1995) noted that “Education in Western culture, in general, acknowledges the importance of emotions, and yet may best be described as preoccupied with intellectual skills” (p. 161). Zeidner, Roberts and Matthews (2002) similarly proposed that in educational practice, and to a somewhat lesser extent in educational research, emotions have been neglected or at best overshadowed by the cognitive domain.

On the other hand, Freshwater and Stickley (2004) argued that the concept of emotional intelligence reminds us that we conceptualize the “Mind as composed of two minds, a rational mind that thinks, and an emotional mind that feels” (p. 91). Salovey, Woolery, and Mayer (2001) assert the construct emotional intelligence has gained prominence partly because it represents emerging contemporary cultural values. Continuing this line of reasoning, Zeidner et al., (2002) proposed that increasing recent interest in emotional Intelligence is in part a reflection of the
times, the zeitgeist of contemporary western society, which is increasingly recognizing the importance of emotions across a variety of important life domains (e.g., academic, occupational, and social) all of which contribute to one’s global satisfaction with life.

Research on satisfaction with life over the past thirty years suggests satisfaction with life is an important human value for two reasons. First, Argyle (1987) noted that higher levels of satisfaction with life are associated with higher levels of positive affect. Second, Myers (1992) stated that “high levels of satisfaction with life are associated with other important and much desired characteristics (e.g. greater sense of control, higher self-esteem, and less stress” (p. 5).

Several well studied personality constructs in psychology (e.g., self-esteem, depression, and locus of control) have been consistently found to be predictive of satisfaction with life. Many researchers (e.g., Bar-On, 1997; Ciarrochi, Chan, & Caputi, 2000; Martinez-Pons, 1997, 1999; Mayer, Caruso, & Salovey, 2000) have investigated the relationship between satisfaction with life and emotional intelligence (EI) and reported findings that suggest a low to moderate positive relationship. Bar-On (1997) reported results from his study employing a self-report measure of EI the EQ-i (Emotional Quotient Inventory) suggesting $r = .41$, $p < .001$. Martinez-Pons (1997) reported results from his study that employed another well known self-report measure of EI, the Trait Meta-Mood Scale (TMMS) that suggested $r = .51$. Other researchers such as Ciarrochi et al., (2000) as well as Mayer,
Salovey and Caruso (2000) employed performance based measures of EI such as the Multi-Factor Emotional Intelligence Scale (MEIS). They reported findings suggesting a positive correlation between emotional intelligence and satisfaction with life $r = .28$, $p < .001$ and $r = .11$, $p = .001$ respectively.

The present study investigated the relationship between emotional intelligence (total score) as well as each of the four components of the Mayer and Salovey (1997) cognitive ability model of emotional intelligence and satisfaction with life. This chapter reviews the relevant research and theory related to the present study. The chapter is organized into five parts: life satisfaction, emotional intelligence, self-esteem, locus of control, and depression. Each part addressed an important variable related to the present investigation. A similar outline has been followed within each section so that the relationships among the individual variables may be better understood.

**Theoretical Development of Satisfaction With Life**

Gilman and Huebner (2003) suggested that research on the nature and correlates of satisfaction with life had become a focus of attention among researchers in a variety of areas of inquiry (e.g., occupational functioning, physical and mental health, education, retirement, and interpersonal relationships) during the past thirty years. Other researchers, such as Strack, Argyle, and Schwarz (1991) suggested achieving greater satisfaction in life is important not only because it is a goal for which all individuals strive but because increased life satisfaction appears to contribute to health attributes (e.g., less stress and reduced
high risk behaviors such as substance abuse). Myers (1992) as well as Veenhoven (1988) reported findings that suggested people with greater satisfaction with life generally are more social, loving, forgiving, trusting, helpful, energetic, decisive and creative as well as less self-focused, hostile and vulnerable to disease. Therefore, increasing an individual's satisfaction with life may buffer the impact of negative life events, broaden perception, increase creativity, encourage active living, foster social contact, and improve mental health.

Early satisfaction with life research (e.g., Fordyce, 1983) suggested everyone strives for personal happiness or satisfaction with life. More recent satisfaction with life research such as Scollon, Diener, Oishi, and Biswas-Diener (2004) reported similar findings from an international study of both Eastern and Western college student samples suggesting the vast majority of college students around the world consider satisfaction with life to be extremely important (more important than money).

Diener (1984) proposed that both satisfaction with life and the affective components of well-being are influenced by the appraisals individuals make of their life circumstances. Lawton (1983) as well as Liang (1985) suggested that while the cognitive and affective components of subjective well-being are distinct, they are also moderately correlated. Emmons and Diener (1985) as well as Bryant and Veroff (1982) suggested that satisfaction with life and the affective components of well-being are qualitatively different. Several researchers (e.g.,
Costa & McCrae, 1980; Michalos, 1991) suggested that while satisfaction with life and affective well-being are moderately correlated, both may act differently across time and have different correlates. Gilman and Huebner (2003) as well as McCullough, Huebner, and Laughlin (2000) proposed that although the cognitive component (satisfaction with life) and affective components (emotion) are not exclusive of each other, they are relatively distinct in both adults and children. Gilman and Huebner (2003) argued that “Given the degree of independence between the cognitive and affective components of subjective well-being, discussions of subjective well-being should focus on each component separately” (p. 198).

Andrews and Withey (1976) asserted that in the field of subjective well-being research, three relatively independent components have been identified: (a) positive affect, (b) negative affect, and (c) satisfaction with life. However, Diener (1984) argued that life satisfaction is one of two components of subjective well-being. Based upon Diener’s conceptualization, satisfaction with life is the cognitive evaluation an individual makes regarding his or her global satisfaction with life across multiple domains. Moods and emotions, which together constitute the affective component represent people’s momentary evaluations of the events that occur in their lives. Diener, Emmons, Larsen, and Griffin (1985) as well as Shin and Johnson (1978) defined satisfaction with life as an individual’s personal judgment of well-being and quality of life based on his or her own chosen criteria. Diener (1984) stated that “The hallmark of satisfaction with life is that it centers on
personal judgments, not upon some criteria that is judged to be important by the researchers” (p. 546). Diener (1994) noted that the more global construct of subjective well-being is a multidimensional construct, composed of cognitive appraisals (life satisfaction) and affective components. Diener, Suh, Oishi, Lucas, and Smith (1999) suggested that the most commonly accepted model of subjective well-being conceptualizes it as having an emotional component (e.g., sadness, anxiety, and joy) and a cognitive component (satisfaction with life).

Although much of the quality of life literature fails to distinguish between subjective well-being and satisfaction with life, it should be noted that the constructs are not equivalent. Subjective well-being is a more broadly defined construct having both cognitive and affective components. Life satisfaction, on the other hand, is limited to the cognitive component of subjective well-being and thus tends to be more stable. Satisfaction with life is the criterion variable (dependent measure) in the present study. I chose satisfaction with life because some research (e.g., Diener, 1984; Diener & Larsen, 1984) suggested satisfaction with life demonstrates greater stability over subjective well-being.

Relationship of Satisfaction With Life to the Present Study

Satisfaction with life was chosen for the criterion variable (dependent measure) in the present study for the following reasons. First, as previously stated, several researchers (e.g., Bar-On, 1997; Ciarrochi, Chan, & Caputi, 2000; Martinez-Pons 1997, 1999; Mayer, Caruso, & Salovey, 2000) reported finding a positive relationship between emotional intelligence and satisfaction with life.
Second, previous research suggests several well known personality constructs such as self-esteem, depression, and locus of control, are related (correlated) to satisfaction. Third, Diener (1984) as well as Diener and Larsen (1993) have reported similar findings suggesting satisfaction with life may be the most stable component of subjective well-being. Fourth, Pavot and Diener (1993) as well as Schuessler and Fisher (1985) suggested satisfaction with life is relatively stable and consistent over time. In support of these findings, Pavot, Diener, Colvin, and Sandvik (1991) noted that although day to day fluctuations in mood and daily events can slightly influence subjective reports of satisfaction with life, the consensus is that considerable stability exists in satisfaction with life. In a more recent study, Diener et al., (1999) asserted that “Defined as an individual’s overall appraisal of the quality of her or his life, satisfaction with life incorporates but also transcends the immediate effects of life events and mood states” (p. 276).

In summary, the affective components of subjective well-being are important. However, satisfaction with life (the cognitive component) was chosen as the dependent measure for the present investigation rather than affective well-being. Satisfaction with life was chosen for the following reasons, previous research suggested that: (a) emotional intelligence is related to satisfaction with life, (b) self-esteem, depression, and locus of control are related to satisfaction with life, (c) satisfaction with life has greater stability than affective well-being, (d) satisfaction with life is related to many other important variables (e.g., health
attributes) and (e) satisfaction with life may be the key indicator of the more global construct subjective well-being.

Measurement of Satisfaction With Life and Instruments

A review of the literature suggested that at least some of the published studies failed to adequately differentiate between satisfaction with life and related constructs (e.g., quality of life and subjective well-being). Diener (1994) stated that “The definitions of satisfaction with life are often not made explicit in the literature and are only implied by the types of measures that are used” (p. 104). Both subjective well-being and satisfaction with life are quality of life measures. However, subjective well-being is composed of two elements, cognitive and affective. Diener (1994) stated that “Life satisfaction, the cognitive component of subjective well-being, refers to a global judgment of a life as a whole.” And “The affective component of subjective well-being consists of ongoing reactions to events” (p. 104).

Gurin, Veroff, and Feld (1960) conducted the first American quality of life research. This study and similar studies (e.g., Braburn & Caplovitz, 1965) typically used objective measures of quality of life (e.g., income, place of residence, food supply, crime rates, and education level). However, Andrews and Robinson (1991) as well as Argyle (1987) Diener (1994) and Diener and Suh (1997) noted that studies with adults as well as children demonstrated only a weak relationship exists between objective factors and an individual’s life satisfaction. For example, Diener, Sandvik, Seidlitz, and Diener (1993) reported finding a correlation between income and life satisfaction of $r = .12$ in a nationally representative sample of
adults in the United States. However, this small yet statistically significant and interesting relationship was not reported by Clark and Oswald (1994) in their study of the effect of income on satisfaction with life in a nationally representative sample from Britain. Thus, even the small relationship between income and satisfaction with life reported by Diener, et al., (1993) was not found in this cross cultural study. Shmotkin (1990) as well as Okma and Veenhoven (1996) noted that any small decline in satisfaction with life with increasing age is eliminated when other variables such as income are controlled for. Other studies of satisfaction with life have also suggested limitations of using only objective measures. Campbell, Converse, and Rogers (1976) argued that objective measures (e.g., age, sex, income, race, education, and marital status) accounted for less than 20% of the variance in satisfaction with life in their study.

Although much of this research is more than twenty years old, more recent investigations such as Diener and Suh (1997) as well as Diener et al. (1999) reported similar small correlations between objective factors and satisfaction with life. Further research such as Pinquart and Sorensen (2000) reported a relationship between satisfaction with life and numerous demographic variables (e.g., education, income, and social class). This research suggested that “social economic status explains 2.2% to 3.2% of the variance in satisfaction with life” (p. 197). In this study, the combined influence of socioeconomic status, social support, and activity levels were found to be significantly and positively related to satisfaction with life. However, when a hierarchical analysis was performed, the
demographic variables when considered together accounted for less than 15% of the variance in satisfaction with life. Because of the small effect sizes reported in many of the published studies, researchers have turned away from the exclusive use of demographic or objective variables in investigations of satisfaction with life. Bearsley and Cummins (1999) as well as Argyle (1999) reported findings that suggest satisfaction with life is largely regulated by internal mechanisms rather than objective factors. The Bearsley and Cummins (1999) study (N = 524) compared two groups of youths, one group consisted of homeless youths while the other group consisted of youths with homes. Their results suggested that the level of satisfaction with life reported by both groups of youths is largely regulated by internal mechanisms (p. 208).

All of this research taken together suggests objective predictors of satisfaction with life may not account for much of the variance in satisfaction with life among children and adults. One explanation for the relatively small amount of variance in satisfaction with life accounted for by objective variables may be found in the individual rather than the situation. Individuals may give very different personal meaning to the same objective situation. Huebner (1994) as well as Huebner, Gilman, and Laughlin (1999) suggested the limitations of objective factors have led to increasing appreciation of the importance of subjective factors in the prediction of satisfaction with life.

Diener et al. (1999) stated that “People react differently to the same circumstances, and they evaluate conditions based on their unique expectations, values,
and previous experiences” (p. 277). Diner (2000) as well as Diner et al. (1999) defined satisfaction with life (SWL) as an evaluation of one’s own happiness and satisfaction. This self assessment typically involves four main components: (a) pleasant emotions, (b) unpleasant emotions, (c) global life satisfaction, and (d) satisfaction in specific life domains. Other researchers (e.g., Heady & Wearing, 1989) have investigated the stability of satisfaction with life across time. Their research suggested that while positive and negative events may influence slight shifts in satisfaction with life from established baselines, most individuals tend to return to their usual level of satisfaction with life within a few days. This line of research suggested that there may well be both state-like (situational) and trait-like (dispositional) factors involved in the determination of one’s satisfaction with life. In agreement with this line of research, Stones, Hadjistavropoulos, Tuuko, and Kozma (1995) reported results suggesting that dispositional factors may explain more of the variability in life satisfaction than situational factors.

A review of the SWL literature suggested there have been two approaches to the investigation of satisfaction with life. Huebner (1996) argued that one approach is the one-dimensional method while the second approach is multidimensional. The one-dimensional approach measures satisfaction with life as a global construct and measures an individual’s subjective evaluation of the quality of his or her life in general. The multidimensional approach measures life satisfaction within various life domains such as work, school and family. Lewinsohn, Redner, and Seeley (1991) stated that “The existence of global life
satisfaction is supported by research findings reporting moderate positive correlations among satisfaction in various domains of a person’s life” (p. 142). Huebner (1996) stated that “Life satisfaction may be assessed as a multi-dimensional construct, which can be separated into satisfaction with various life domains (e.g., school, work, social)” (p.131).

The advantage of measuring satisfaction with life as a global construct is that a single summed score allows comparisons of group differences in satisfaction with life (e.g., students with learning disorders and students without learning disorders). However, one disadvantage or limitation of measuring satisfaction with life as a global construct involves ignoring differences in satisfaction with life within specific life domains.

The number of measures developed to measure satisfaction with life, the cognitive component of subjective well-being, are far fewer than those developed to measure the affective component of subjective well-being. The majority of the early satisfaction with life measurement scales consisted of single items. For example, Gurin, et al. (1960) simply asked participants to report “how happy they were.” Bradburn and Caplovitz (1965) asked participants to respond to “how would you say things were these days, would you say you are very happy, pretty happy, or not too happy?” Another well known single item scale is the Delighted-Terrible Scale (D-T) developed by Andrews and Withey (1976). The D-T Scale is a one-item scale that requires subjects to rank how they feel about their current level of happiness on a seven-point Likert-type scale ranging from delighted to terrible. It is
not possible to calculate internal reliabilities of one item scales (you just can’t split one item). However, Diener (1984) reported average test-retest reliability for the D-T scale of $r = .66$, at 15 minutes apart, and a six-month averaged reliability of $r = .40$ which suggest as suspected (from single item measures) relatively low test-retest reliability. Andrews and Withey (1976) noted that scores on one item measures tend to be skewed with most responses falling in the delighted or satisfied range. The social desirability response set may explain many of the low test-retest reliability estimates of single item scales. Participants may not wish to describe themselves as only unsatisfied or satisfied. The transparency of the measure coupled with very short intervals between tests may result in very low reliability estimates. Regarding single item scales Diener (1984) stated that “They do not offer a differentiated view of a persons satisfaction with life” (p. 544).

An advantage of multi-item scales is that participants may be willing to give more varied and genuine responses. Marsh, Barnes, and Hocevar (1985) as well as Diener (1994) suggested that while the interpretation of single item measures are easy, they posses important psychometric limitations (e.g., low reliability). Thus, there are two important reasons why multi-item scales were developed. First, because the psychometric properties of multi-item scales are an improvement over those of single item scales (response bias presents less of a threat and internal consistencies can be estimated). Second, because multi-item scales offer a more differentiated or holistic view of satisfaction with life.
Satisfaction With Life Scale

The satisfaction with life scale (SWLS) was developed by Diener, Emmons, Larsen and Griffin (1985). It is a 5-item scale designed to address the limitations of single item scales by measuring global satisfaction with life as a cognitive judgmental process. Pavot and Diener (1993) stated that “Satisfaction with life is a global judgment, theoretically predicted to depend on a comparison between one’s life circumstances and subjective standards” (p. 165). This may be accomplished by asking participants to rate their satisfaction with life as a whole (in general) in order to obtain an overall index of life satisfaction. The SWLS allows participants to subjectively integrate and weigh all of the important life domains. Subjects’ rate their satisfaction with each item using a seven point Likert scale that ranges from a score of 1 = strongly disagree to 7 = strongly agree with 4 as a neutral score. Examples of items from the SWLS are; “I am satisfied with my life” and “The conditions of my life are excellent.”

The original SWLS was composed of 48 self-report items which included questions that measure both the cognitive and affective domains. Factor analysis allowed elimination of all items with loading of less than .60 and items measuring the affective domain. The result was a revised scale containing ten items. The developers then removed five additional items because of high semantic similarity. Gilman and Huebner (2003) noted that what emerged was the five item narrowly focused SWLS that is now widely known and used in social science research today (p. 195).
Stability of measurement versus sensitivity to change is a critical issue for any assessment instrument. Pavot and Diener (1993) argued that measures of life satisfaction must demonstrate that they are measuring more than momentary changes in emotion. At the same time, they must demonstrate that they are sensitive enough to detect changes in satisfaction with life, such changes as those occurring during psychotherapy or those due to major life events (e.g., death of a loved one). Diener et al. (1985) stated that “Regarding the psychometric properties (construct validity) of the SWLS it seems to measure what it purports to measure” (p .74).

In the initial validity and reliability testing of the SWLS, Diener et al. (1985) reported an internal consistency and two-month test-retest reliability with a sample of 300 undergraduates from the University of Illinois, as having a correlation of $r = .82$, and a coefficient alpha of $r = .87$. More recent researchers have examined the satisfaction with life scale for internal consistency and test-retest reliability. For example, Alfonso and Allison (1992) reported a coefficient alpha of $r = .89$ and a test-retest correlation of $r = .83$ with a two week interval. Other researchers (e.g., Pavot, Diener, Colvin, & Sandvik, 1991) reported results from two samples, one ($N = 39$) composed of elderly persons (age 53-92), the other sample ($N = 136$) composed of undergraduates (age 18-29). Researchers in this study reported a coefficient alpha of $r = .85$ and a test-retest reliability of $r = .84$ with a four week interval.
In agreement with this line of research other researchers (e.g., Yardley & Rice, 1991) investigated the reliability of the SWLS among undergraduate students (N = 65) and reported a coefficient alpha within a range of $r = .80$ to $.86$, and a test-retest reliability of $r = .50$ with a ten week interval. Other researchers (e.g., Magnus, Diener, Fujita, & Pavot, 1993) have investigated intervals as long as two hundred and eight weeks (4 years) with a sample of young adults and reported a coefficient alpha of $r = .87$ and a test-retest reliability of $r = .54$. Pavot and Diener (1993) reported on the basis of data from several different samples that the SWLS reflects a one dimensional, internally consistent measure of life satisfaction.

Vitaliano, Russo, Young, Becker, and Maiuro (1991) as well as Magnus, et al., (1993) have contributed to the research base regarding the reliability of the SWLS as well as the validity of the satisfaction with life construct. These researchers noted that results from their studies suggested the SWLS can detect change over time, such as the increase of satisfaction with life after a period of psychotherapy or the decrease in satisfaction with life as one’s spouse becomes more debilitated. In general, results reported from the above cited studies suggest the satisfaction with life scale demonstrates both high moderate internal consistency (range of $r = .80$ to $.89$) and moderate test-retest reliability (range of $r = .50$ to $.87$) within the context of the above cited studies.

In summary, the above cited research suggests that there is relative long-term consistency of life satisfaction over time. The research suggests that the
SWLS measures more than momentary mood changes. The SWLS appears to be reliable sensitive enough to detect changes in life satisfaction across time (e.g., after the death of a loved one, after divorce, after completion of psychotherapy).

Anastasi (1988) noted that construct validation is a process of gradually accumulating information from a variety of sources about a construct and what may influence it. Cronbach and Meehl (1955) cited three methods of establishing construct validity. First, demonstrate that the internal factor structure of a measure is consistent and stable. Second, demonstrate the measure has adequate convergent validity with measures of theoretically related constructs and discriminate validity with measures of constructs from which it should be distinct. Third, demonstrate the measure is related to theoretically important external criteria (e.g., College G.P.A., occupational success, and satisfaction with life).

Theoretically related evidence of construct validity for the SWLS begins with the groups scoring lowest on the measure (e.g., prisoners and psychiatric patients). These groups as well as others (e.g., homeless) are expected to score low on measures of satisfaction with life. Pavot and Diener (1993) argued that “Satisfaction as we conceptualize it currently involves a comparison of our situation with self-imposed subjective standards” (p. 164). In essence, we evaluate our level of life satisfaction by comparing our perception of our life situation against what we believe our life situation should be. Thus, events or conditions that makes the individual’s circumstances better or worse will influence life satisfaction.
In agreement, Diener et al. (1985) reported findings from their study that included more than 300 undergraduate students and 53 elderly persons (75 years or more of age) suggesting a negative correlation of $r = - .31$ between the SWLS and negative affect. Arrindell, Meeuwesen, and Huyse (1991) investigated the psychometric properties of the SWLS with a sample ($N = 107$) of adult medical outpatients (ages 18 - 65) and reported similar findings. This study reported results suggesting the SWLS is negatively correlated with all eight symptom dimensions assessed by the Symptom Checklist-90 (SCL-90) including depression ($r = - .55$), anxiety ($r = .54$), and general psychological distress ($r = - .52$). In terms of individual difference dimensions, Diener et al. (1985) as well as Pavot and Diener (1993) reported results suggesting a positive correlation between the SWLS and extraversion, as well as a negative correlation between the SWLS and neuroticism, which suggested construct validity.

Pavot and Diener (1993) suggested the SWLS has demonstrated adequate convergence with related measures of life satisfaction (e.g., Andrews & Withey Scale, $r = .68$; Fordyce Global Scale $r = .58$), including studies employing different methodological approaches (e.g., interviews & informant ratings). Campbell, Converse and Rogers (1976) reported results from their study of undergraduates that suggest the SWLS correlates with other life satisfaction scales including the Semantic Differential-Like Scale ($r = .75$); Well-Being Sub-scale of the Differential Personality Questionnaire ($r = .68$); Self-Anchoring Ladder ($r = .66$) and Affect Balance Scale ($r = .50$) for positive affect and ($r = - .37$) for negative affect.
Pavot and Diener (1993) reported results suggesting construct validity for the SWLS after investigating the relationship between the SWLS and interviewers’ and informants’ ratings. The results of this study suggested moderate convergence of self-reports of satisfaction with life with interviewers and informants who were asked to judge their life satisfaction. Other studies which investigated the relationship between the SWLS and interviewer/informant measures included Pavot et al. (1991) who reported a correlation of $r = .54$ between the SWLS and informant reports. Deiner and Allman (1991) reported results of a study with undergraduates ($N = 189$) at the University of Illinois, and reported a correlation of $r = .58$ between the SWLS and informant reports. Frisch (1991) reported a correlation of $r = .66$ between the SWLS and interviewer ratings as well as a correlation of $r = .28$ between the SWLS and informant reports. Pavot and Deiner (1991) reported a correlation of $r = .46$ between the SWLS and informant reports. Judge (1990) reported a correlation of $r = .43$ between the SWLS and informant reports among medical students.

The relationship between satisfaction with life and theoretically important external criteria has been investigated by several researchers. For example, Lewinsohn, Redner, and Seeley (1991) reported findings from a non-clinical sample suggesting a high moderate relationship ($r = .69$) between decreasing satisfaction with life and the onset of depression two to three years later. Marks and Flemming (1999) in their study analyzed data from the Australian Youth in Transition study, a longitudinal study of four nationally representative cohorts of
young people (initial total N = 20,000). This study reported findings suggesting a low to moderate positive correlation between satisfaction with life and occupational success. Furr and Funder (1998) reported findings from a study involving undergraduate students (N = 146) suggesting even non-clinical levels of self dissatisfaction may have important consequences on quality of interpersonal relationships.

Other researchers investigating the relationship between satisfaction with life and educational outcomes (e.g., Frisch, Clark, Rouse, Rudd, Paweleck, Greenstone, & Kopplin, 2005) reported results suggesting a moderate positive relationship between satisfaction with life and school retention.

**Theoretical Development of Emotional Intelligence**

While the label emotional intelligence may be relatively new to some researchers, the idea has been around for some time. Some researchers as early as the 1920s (e.g., Thorndike, 1920) were suggesting that social intelligence, “The ability to understand others and to act or behave wisely in relation to others was an important component of intelligence” (p. 228). Gardner (1983) published *Frames of mind: The theory of multiple intelligences* in which he proposed his theory of multiple intelligences. With this model, Gardner proposed that “Interpersonal and intrapersonal intelligences comprises an individual’s social intelligence” (p. 239). Law, Wong, and Song (2004) noted that Salovey and Mayer (1990) were two of the first researchers to build upon this model and conceptualize emotional intelligence as the ability of a person to deal with his or her emotions.
They defined emotional intelligence as “The sub-set of social intelligence that involves the ability to monitor one’s own and others’ feelings and emotions, to discriminate among them and to use this information to guide one’s thinking and actions” (p. 189). Thus, it may be argued that the notion of emotional intelligence began with E. L. Thorndike’s concept of social intelligence or Howard Gardner’s concept of multiple intelligences (especially social intelligence).

Plucker (2003) argued that the nature of the human intellect has fascinated scholars for centuries. However, the earliest modern concepts of intelligence and intelligence testing evolved during the first half of the 20th century. Alfred Binet and Theodore Simon (1905/1916) developed the Binet-Simon Intelligence Scale. During the first three-quarters of the 20th century, intelligence and emotion research were largely separate fields. In the case of intelligence, abstract reasoning was stressed to differentiate it from personality theories. While in the case of emotion, most investigations pursued one of two distinct paths. One path of investigation focused on biological associations, as earlier researchers beginning with Darwin had argued emotions evolved over time and were primitive impulses to act. The second path of investigation focused upon the social adaptive or cultural aspects of emotions. Whether emotions were a product of biology or culture or some interaction of both, emotions were held separate from the intellect (Mayer, 2001).

Several events beginning in the early 1970’s radically influenced how intelligence is both conceptualized and measured. First, the cognitive movement
inadvertently stimulated interest in emotions as well as interest in the relationship between thoughts and emotions. Mayer (2001) noted that the investigation of cognition and affect merged to examine how emotions interacted with thoughts. Second, both artificial intelligence and non-verbal communication were examined in connection with cognition and affect (Mayer, 2001). Third, Robert Sternberg (1985) advanced his theory of practical intelligence in his publication, *Beyond IQ: A triarchic theory of human intelligence*. In this book, Sternberg conceptualized intelligence as comprising three different aspects of intelligence the mental abilities necessary for: (a) adaptation to, (b) the shaping of, and (c) the selection of an environment. The key theme of this model is adaptation that he refers to as “practical intelligence” (Sternberg, 1997, p. 1030). Fourth, Howard Gardner (1983) proposed a theory of multiple intelligences arguing that there were many different ways to be intelligent (Pfeiffer, 2001).

Gardner’s original model of multiple intelligences contained seven intelligence: however, the model was revised to include an eighth primary intelligence: (a) verbal, (b) mathematical-logical, (c) spatial, (d) kinesthetic, (e) musical, (f) interpersonal, (g) intrapersonal, and (h) naturalistic (Gardner, 1983). The construct of intrapersonal intelligence was used by Gardner to mean social intelligence that included such components as social skills, empathic proficiency, pro-social attitudes, social anxiety, emotionality and sensitivity. Mayer (2001) noted that prior to his and associate Peter Salovey’s (1990; 1993) publications the term emotional intelligence was sporadically used in reference to an intertwining of social know-
ledge and access to those social and emotional feelings. Tenhouten, Hoppe, and Bogen (1986) noted that brain research began to separate out connections between emotion and cognition. Similar research (e.g., Marlowe, 1986) reported that “Empirical research in social intelligence was discovered to divide into social skills, empathy skills, pro-social attitudes, social anxiety, and emotionality” (p. 57).

The construct emotional intelligence, as we know it today, began with a series of papers published in the professional literature by John Mayer and Peter Salovey (1990, 1993). Mayer and Salovey (1993) argued emotional intelligence was a distinct cognitive ability and thus a long overlooked intelligence which promises to meet the standard of a basic intelligence (pp. 433-434).

A pivotal event in the evolution of emotional intelligence was Daniel Goleman’s (1995), publication of *Emotional Intelligence* which soon became a best seller. Goleman’s theory of emotional intelligence focuses on motivational and social relationship factors. In contrast, the framework of Mayer and Salovey’s (1997) ability model focuses on ability to understand and process emotions. Ciarrochi, Forgas, and Mayer (2001) noted that the second half of the 1990s witnessed an accelerated period of refinement of both theoretical models and measures of emotional intelligence.

In summary, the term emotional intelligence first appeared in two academic articles authored by John Mayer and Peter Salovey (1990; 1993) which at the time generated relatively little interest. The popularization of the construct
emotional intelligence followed Daniel Goleman’s (1995) publication of his best-seller titled *Emotional Intelligence*.

Thus, two similar yet distinct models of emotional intelligence developed. First, the more academic cognitive ability model developed by Mayer, and Salovey (1990) defined emotional intelligence as “The subset of social intelligence that involves the ability to monitor one’s own and other’s feelings and emotions, to discriminate among them and to use this information to guide one’s thinking and actions” (p. 189). Mayer and Salovey (1997) revised this conceptualization to make more explicit how emotional intelligence represents cognitive abilities. The cognitive ability model narrowly defines emotional intelligence as a set of cognitive abilities which together constitutes a relatively distinct intelligence. The cognitive ability model makes relatively conservative claims about the importance of EI to important outcomes. Second, is the mixed model which is more popularly oriented and based largely on the work of Daniel Goleman and associates. This model mixes emotional intelligence as an ability with social competencies, personality traits, and behaviors (Cobb & Mayer, 2000).

*Relationship of Emotional Intelligence to the Present Study*

Emotional intelligence is the primary focus of investigation in the present study. The primary research question in the present study is, does emotional intelligence account for additional variance in life satisfaction not accounted for by other known predictors (e.g., self-esteem, depression, and locus of control)?
Measurement of Emotional Intelligence and Instruments

A review of the EI literature revealed that there are several similar yet different operational definitions of emotional intelligence. Several authors have contributed to the notion of emotional intelligence, such that the multitude of qualities covered by the construct requires specification of the particular model. Among the leading theorists, Mayer and Salovey (1997) argued emotional intelligence is a cognitive ability and proposed a four component model which include these abilities: (a) perceive and accurately express emotion, (b) use emotion to facilitate thought, (c) understand emotions, and (d) manage emotions for emotional growth.

Another leading theorist, Daniel Goleman (1995) described emotional intelligence as composed of five dimensions: (a) self-awareness, (b) self-regulation, (c) motivation, (d) empathy, and (e) social skills. In contrast to the more narrowly defined cognitive ability model, Goleman (1995) almost defines emotional intelligence by exclusion. He argued a large number of human abilities fall within the emotional intelligence construct “frustration tolerance, delay of gratification, motivation, zeal, persistence, impulse control, regulation of mood, hopefulness, and optimism” (p. 6). In contrast to the ability model of EI Goleman's mixed model makes relatively broad claims as to the importance of EI to important outcomes (e. g., leadership). In Goleman’s 1995, publication entitled Emotional Intelligence he stated that “EI is equal to if not more valuable than IQ as an indicator of one’s professional and life success” (p. 34). In his second book entitled Working with
Emotional Intelligence Goleman (1998) elaborated on the importance of EI in the work place. In a subsequent publication The Emotionally Intelligent Workplace Goleman (2001) argued that “EI more than any other asset is the most important overall success factor in careers” and “EI accounts for 85% to 90% of the success of organizational leaders” (p. xv). In his most recent book Primal Leadership: Realizing the Power of Emotional Intelligence, Goleman, Boyatzis, and McKee (2002) asserted that “The effective use of emotion is basic to successful leadership” and “The emotional task of the leader is primal: It is both the original and the most important act of leadership” (p. 5).

A third leading theorist, Bar-On (2000) defined emotional intelligence as “An array of non-cognitive capabilities, competencies, and skills that influence ones ability to succeed in coping with environmental demands and pressures” (p. 1108). This model is very similar to the mixed model of emotional intelligence proposed by Goleman (1995). Beyond the relatively distinct mixed model proposed by Daniel Goleman and the cognitive ability model proposed by Mayer and Salovey, all other models of emotional intelligence (e.g., Bar-On, 1997; Wong & Law, 2002) share a great deal of similarity. In their review of the EI literature, Ciarrochi, Chan, and Caputi (2000) stated that “While the definitions of EI are often varied for different researchers, they nevertheless tend to be complementary rather than contradictory” (p. 540). Law, Wong, and Song (2004) argued that “Although definitions of emotional intelligence are not identical, the differences between definitions tend to be minor” (p. 484).
The research on ability emotional intelligence began in the early 1990’s (e.g., Salovey & Mayer, 1990, 1993). However, within half a decade, Goleman (1995) expanded the initial version of the concept such that it included traits such as frustration tolerance, delay of gratification, optimism, motivation, and well-being along with aspects of ability emotional intelligence. The broad nature of Goleman’s theorizing in the final analysis defined emotional intelligence as very similar to character (Goleman publishes primarily in the popular press). Thus, emotional intelligence is typically conceptualized in the professional literature from three different models. First, a four component cognitive ability model (e.g., Mayer & Salovey, 1997). Second, a five component model (e.g., Bar-On, 1997). Third, a model consisting of five dimensions (e.g., Goleman, 1995).

The literature suggested two primary ways researchers measure emotional intelligence and each reflects a different model of emotional intelligence. Carroll (1993) noted that researchers investigating emotional intelligence as a cognitive ability, a distinct intelligence, utilize standard performance scales because they are based on the capacity to solve mental tasks (e.g., MSCEIT). However, researchers investigating emotional intelligence from the mixed model perspective utilize self-report scales for example, the Bar-On Emotional Quotient Inventory (EQ-i) and the Self-Report Emotional Intelligence Test (SREIT). These self-report scales are based on subjective endorsements of descriptive statements regarding themselves (e.g., “I feel sure of myself in most situations”). Paulhus, Lysy, and Yik
(1998) stated that “Empirical studies suggest that the correlations between ability and self-report measures of intelligence are relatively low \((r = .00 \text{ to } .35)\)” (p. 550).

There are two arguments against self-report measures of EI discussed in the EI literature. First, Geher, Warner, and Brown (2001) argued that the social desirability bias may skew reporting. Subjects may simply respond in such a way as to appear in a more positive light or avoid appearing socially undesirable. Second, Mayer, and Geher (1996) as well as Mayer et al., (2001) assert that if the subjects reporting do not have an accurate understanding of themselves and their abilities, then the data gathered will not render an accurate measure of the subjects ability.

Bracket and Mayer (2003) stated “Therefore with respect to emotional intelligence, it is likely that ability and self-report models will yield different representations of the same person” (p. 1147). Also, they noted that “At the present date there are only three full-scale tests of emotional intelligence (EQ-i; SREIT; MSCEIT) in the scholarly literature for which preliminary empirical data are now available” (p. 1148). An extensive search of the literature revealed four additional instruments frequently used to measure EI. However, it is no surprise that of the many instruments purporting to measure emotional intelligence, these same three emotional intelligence tests, (a) the Emotional Quotient Inventory (EQ-i) (Bar-On, 1997); (b) Self-Report Emotional Intelligence Test (SREIT) Schutte, Malouff, Hall, Haggerty, Cooper, and Golden (1998); and (c) the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) (Mayer, Salovey, & Caruso, 2002) are the most frequently cited as well as the best known. Each of
these EI instruments will be discussed in turn beginning with the four instruments lacking empirical validation of their psychometric properties in the literature followed by those with psychometric data available.

*The Emotional Competence Inventory (ECI).* The ECI is a self-report scale designed to measure emotional competencies. This scale was developed by Boyatzis and Goleman (1998) and based on Goleman’s (1995) mixed model of EI. This model links personality with performance and presents a relatively non-cognitive conceptualization of EI. The psychometric properties of this instrument remain largely unknown.

*The Emotional Intelligence Inventory (EII).* Tapia (2001) developed this scale based upon Mayer and Salovey’s (1997) ability model of emotional intelligence. The EII is a 45 item self-report inventory designed to measure the emotional intelligence of high school students. Some preliminary research (e.g., Tapia, 2001) suggest high internal consistency ($r = .81$) however, the instrument has not been validated with college students. The psychometric properties of this instrument remains largely unknown.

*Trait Meta-Mood Scale (TMMS).* The TMMS was developed by Salovey, Mayer, Goldman, Turvey, and Palfai (1995). Although designed to measure reflective mood the TMMS has been used by several researchers (e.g., Salovey, et. al., 2001; Palmer, Walls, Burgees, & Stough, 2001; Palmer, Donaldson, & Stough, 2002) as a measure of perceived emotional intelligence. Salovey et al. 2001 report the TMMS demonstrates convergent validity and evidence of divergent validity among subscales; however, the psychometric properties (reliability,
construct validity) of this instrument remain largely unknown. The TMMS is a measure of perceived emotional intelligence and thus not an appropriate measure of EI (cognitive ability) for the present study.

The Wong and Law 16-Item Emotional Intelligence Measure. This 16-item measure was developed by Wong and Law (2002) based upon Mayer and Salovey’s (1997) ability model of EI. The scale is a self-report measure primarily used in organizational research however the psychometric properties (reliability, construct validity) of this measure remain largely unknown.

The Bar-On Emotional Intelligence Inventory (EQ-i). is a 133 item self-report measure of emotional intelligence. Respondents answer questions using a five point Likert-type scale (1 = very seldom or not true of me, 5 = very often true of me). The test publisher provides scoring which consists of a total EQ-i score and five composite scores. The composite scores consist of (a) intrapersonal EQ, (b) interpersonal EQ, (c) adaptability, (d) stress management, and (e) general mood. Three examples of items from the EQ-i include “I feel sure of myself in most situations,” “I have strong impulses that are hard to control,” and “It is easy for me to make friends.” The EQ-i generally takes about 35 - 40 minutes to complete and is appropriate for individuals 16 years of age and above.

Several researchers, including Dawda and Hart (2000); Newsome, Day, and Catano (2000); Parker, Taylor, and Bagby (2001) have published recent studies that suggest the EQ-i is strongly correlated with several personality constructs, such as depression, anxiety, and alexithymia (a disorder which involves the inability to understand and or express emotions). Bar-On (2000) reported in a
study of normal college students that “The EQ-i substantially overlapped with several measures of anxiety and the Symptom Checklist-90 (SCL-90), which is a general indicator of social and emotional functioning” (p. 364). Other researchers, (e.g., Davies, Stankov, & Roberts 1998; Roberts, Zeidner, & Matthews, 2001) have suggested self-report measures like the EQ-i and the SREIT may simply reassess basic personality.

Self-Report Emotional Intelligence (SREIT). The SREIT is a brief self-report measure of emotional intelligence developed by Schutte et al., (1998). The authors of the SREIT developed this instrument based primarily upon Mayer and Salovey’s (1990; 1993) model which conceptualized emotional intelligence as the ability to monitor and discriminate emotions and to use emotions to guide one’s thinking and actions (Bracket & Mayer, 2003). Participants respond to 33 self-report items such as “I know why my emotions change” using a 5-point Likert-type scale, in which 1 represents strongly disagree and a 5 represents strongly agree. For example, some of the instruments items measure a person’s self-perceived ability to monitor private feelings or the feelings of others.

Schutte et al., (1998) noted that the SREIT correlates moderately to strongly with a number of personality constructs, including alexithymia, $r = -.65, p < .001$; optimism, $r = .52, p < .006$; impulse control, $r = -.39, p < .003$; and openness to experience, $r = .63, p = < .001$ (p. 171). Brackett and Mayer (2003) argued that “Most of the attributes measured by the EQ-i and SREIT substantially overlap with existing measures, which suggests that these scales have a breath of coverage
that is not all that different from well-studied personality and well-being scales” (p. 1150). The research cited above suggests the EQ-i and the SREIT are self-report instruments which do not appear to be valid measures of emotional intelligence when conceptualized from the four part cognitive ability model proposed by Mayer and Salovey (1997).

Multifactor Emotional Intelligence Scale (MEIS). Mayer et al., (1999) developed the (MEIS), the first instrument designed to measure emotional intelligence when conceptualized as a cognitive ability. This instrument was intended to measure EI according to Mayer and Salovey’s (1997) four component cognitive ability model that includes the following: (a) the ability to perceive emotions in oneself and others, as well as in objects, art, and stories (perception of emotion), (b) the ability to generate emotions in order to make use of them in other mental processes (e.g., emotional facilitation of thought), (c) the ability to understand and reason about emotional information and how emotions combine and progress through relationship transitions (understanding emotions), and (d) the ability to be open to emotions and moderate them in oneself and others (managing emotions).

However, factor analysis performed on the MEIS, by the instrument developers Mayer et al., (1999) as well as other researchers (e.g., Roberts, Zeidner, & Matthews, 2001) reported recovering only three of four factors: (a) Perception, (b) understanding, and (c) regulation of emotion. This lack of psychometric validity coupled with the length (402 items) of the MEIS contributed to the development of the MSCEIT.
Mayer, Salovey, and Caruso, Emotional Intelligence Test (MSCEIT) is the direct descendent of the MEIS. Like the MEIS (1999) the MSCEIT (2000) was developed by the original authors, John Mayer and Peter Salovey along with colleague David Caruso. Upon initial psychometric evaluation Mayer, Caruso and Salovey, (2000) as well as Mayer et al., (2003) noted that the MSCEIT appears to be content valid and possesses a factor structure congruent with the Mayer and Salovey (1997) four-component cognitive ability model of emotional intelligence. Participants respond to 141 items, endorsing one of five choice alternatives on a Likert-type scale for different problems with 1 = indicating no happiness, and 5 = indicating extreme happiness. The MSCEIT yields 5 different scores of interest in the present study. First, a total score, which is an overall index of the respondent’s level of emotional intelligence according to the model. Second, the MSCEIT yields four branch scores (component scores): (a) perceiving emotions score, which provides an index of how well the respondent can identify emotions in himself or herself and others, (b) facilitating thinking score which indicates the degree to which the respondent can use his or her emotions to improve thinking, (c) an understanding emotions score indicates how well the respondent understands the complexities of emotional meanings, emotional transitions, and emotional situations, and (d) an emotional management score measures how well the respondent is able to manage emotions in his or her own life and in the life of others.
Brackett, Mayer, and Warner (2003) noted that the MSCEIT measures the ability to perceive emotions by showing people faces and designs and asking them to identify emotions in them. The use of emotions to facilitate thought is measured by assessing people’s ability to describe emotional sensations and their parallels to other sensory modalities. Understanding emotions is measured by asking participants how emotions combine to form other emotions, and how emotions change over time. Emotion management is measured by having test-takers choose among more or less effective means of emotional management in private and interpersonal emotional situations.

There are two types of scoring available for the MSCEIT general scoring and expert scoring. The developers of the MSCEIT (Mayer, Salovey, & Caruso, 2002) “Recommend that most users employ the general scoring method rather than the expert scoring method” (p 33). The general scoring method utilizes the entire normative sample of 5,000 to score item responses. For example, if 65% of the norming sample selected option B, as their choice for an individual item then the choice of B for that item would yield a score of .65. Similarly, if 15% choose option A, and 10% option C, as well as 10% option D then each of these responses would be scored .15, .10, and .10 respectively. Expert scoring was developed in a similar fashion however, instead of utilizing the normative sample, a sample of 21 emotion experts drawn from membership in the International Society for Research in Emotions (ISRE) was utilized. The sample of experts consisted of 10 men and 11 women aged 30 to 52 with a mean of just under 40
and a standard deviation of 6.4. The general normative sample consisted of 5,000 individuals of which approximately 40% were males and 60% females, 73% were between 17 and 30 years of age and 58% reported having at least some college education.

I have used the general consensus method of scoring for the present study for the following two reasons. First, the test developers Mayer, Salovey, and Caruso (2002) recommend the general consensus method of scoring in most settings. Second, the descriptors of the normative sample rather than the expert sample more closely resembled the obtained sample as well as the target population (CFCC students) of the present study. Mayer, Salovey, and Caruso (2002) reported the following correlations between MSCEIT general and expert scoring: total score $r = .98$; perceiving emotions $r = .98$; facilitating thought $r = .97$; understanding emotions $r = .98$; and managing emotions $r = .96$ (p 33). The above reported correlations between MSCEIT general consensus and expert scoring suggest a high degree of correspondence between expert and the general population sample. However, given the similarity between methods of scoring I believe the general consensus method of scoring is most suited to the present study.

Brackett and Mayer (2003) report findings from their study with 207 predominantly Caucasian (97%) college students. In this study the split-half reliability coefficients for the four branches ranged from $r = .80$ to .91, and for the total score $r = .91$. In the same study, test-retest reliability was estimated by
having 60 college students (18 men, 42 women) return 3 weeks after initial testing to retake the MSCEIT. The test-retest reliability was relatively high, $r = .86$, ($p < .001$). Mayer, Salovey, Caruso, and Sitarenios (2003) conducted a study with 2,112 college age participants (58.6% women; 41.4% men; 52.9%) of the participants were drawn from 36 academic settings from several different countries, in which confirmatory factor analysis supported the theory-driven four factor model of emotional intelligence. These analyses also found support for a general factor of emotional intelligence encompassing all four branches. Other researchers (e.g., Day & Carroll, 2004 p. 1451) reported similar findings from their study with 246 undergraduate students (70 men and 176 women) from a Canadian University, suggesting overall the MSCEIT showed low correlations with the big five personality factors: (a) extraversion, (b) neuroticism, (c) conscientiousness, (d) agreeableness, and (e) openness to experience ($r$ values ranged from .13 to 23, all significant at $p < .05$).

These relatively low correlations between the MSCEIT and measures of personality contribute to the establishment of the MSCEIT’s construct validity. Davies, Stankov, and Roberts (1998) as well as Newsome, Day, and Catano (2000) noted that their findings highlight the differences between the trait-based self-report measures of emotional intelligence (e.g., EQ-i and SREIT) and ability based measures (e.g., MEIS & MSCEIT) which typically show greater discriminant validity with personality traits. In the present study, the MSCEIT was chosen as the instrument to measure emotional intelligence for two reasons. First, the
MSCEIT was chosen because it closely fits Mayer and Salovey’s (1997) cognitive ability model of emotional intelligence. Second, unlike self-report measures, ability measures such as the MSCEIT have low correlations with personality constructs. Thus, ability measures are more suitable for assessing additional variance in a criterion over personality.

Theoretical Development of Self-Esteem

Since the concept of self-esteem first entered the discourse of social sciences more than 100 years ago, it has become both an important and prolific research topic. Brown and Dutton (1995) stated that “Self-esteem has become the panacea of modern life. It has been touted as the antidote to poverty, drug use, and under-achievement, and lauded as the royal road to financial success, health, and personal fulfillment” (p. 712).

According to Wells and Marwell (1976) there are four ways of defining self-esteem. First in the attitudinal definition, the self is treated as an object. Just as people have cognitive, emotional, and behavioral responses to objects, they can have them toward the self. Second, is a definition developed by social scientists to understand self-esteem that relies on attitudes, however it is more formal focusing on the relation between different sets of attitudes (e.g., the differences between one’s attitude toward goals and accomplishments, such as the importance one attaches to being loved and how much a person feels loved). The third method of defining self-esteem focuses on the psychological responses a person holds toward himself. The fourth method of defining self-esteem discussed by
Wells and Marwell conceptualizes self-esteem as a component of personality, thus self-esteem becomes concerned with or a component of motivation and/or regulation.

Mruk (1995) identified six major contributors to the development of the concept of self-esteem spanning more than 100 years. William James (1890) made the first reference to self-esteem; he defined self-esteem as “Determined by the ratio of our actualities to our supposed potentialities” (p. 292). This conceptualization defines self-esteem as a fraction of which pretensions (self-imposed subjective demands) are the denominator and the numerator our successes. Thus, James framed self-esteem as affective (it is lived as a feeling or emotion), as well as a dynamic process, affected by successes and failures and thus open to enhancement or decay. During the next 60 years very little was said about self-esteem, its popularity declined mostly because of the behavioral insistence on observation and measurement which dominated American psychology until after mid-century.

The second major contributor to the theoretical development of self-esteem according to Mruk (1995) was White (1963) who conceptualized self-esteem as emerging from a complex developmental framework characterized by primitive impulses that are modified into the higher functions of the self over time. Like James, White conceptualized self-esteem as a developmental phenomenon, but more so in that self-esteem develops gradually, affected by and effecting both experience and behavior. White argued that self-esteem has two sources: an
internal source (e.g. one’s subjective accomplishments) and an external source (e.g., the affirmations of others).

The third major contributor to the theoretical development of self-esteem is Rosenberg (1965) who takes a socio-cultural approach by stating that “By self-esteem we refer to the evaluation which the individual makes and customarily maintains with regard to himself, which expresses an attitude of approval or disapproval” (p. 5). This definition frames self-esteem as the product of culture, society, family, and interpersonal relationships. The amount of self-esteem an individual has is proportional to the degree to which they positively measure up to a core set of self values. Rosenberg developed his theory after analyzing data from a large sample (N = 5,000) of adolescence 13-17 years of age. Rosenberg introduced the notion of the importance of values in self-esteem, and thus opened the door to another important dimension of self-esteem. In addition to self-esteem being a personal and psychological phenomenon, Rosenberg recognized self-esteem as a social phenomenon.

Another significant contributor to the theoretical development of self-esteem is Coopersmith (1967) who defined self-esteem from a behavioral perspective noting that “Self-esteem is a personal judgment of worthiness that is expressed in the attitude the individual holds toward himself” (p. 7). Coppersmith’s (1967) publication of the *Antecedents of Self-Esteem*, was especially important because it represents the return of self-esteem to mainstream academic psychology. From this perspective, self-esteem is a construct or an acquired trait. Thus, individuals
learn how worthy they are initially from their parents or other caretakers. This initial self worth is reinforced by others; thus, children model the respect and worthiness of self they observe in their parents and others. This definition includes success as well as self-worth as an indicator of self-esteem.

The next important contributor to the theoretical development of the self-esteem construct was Branden (1969) who defined self-esteem from the humanistic perspective. He was the first to describe self-esteem in terms of two basic components: worthiness and competence. Mruk (1995) noted that “This definition adds a new dimension of self-esteem to consider, the relationship between the components or how competence and worthiness interact with one another” (p.139). Branden was one of the first to discuss self-esteem as a basic human need and propose the lack of self esteem often has serious consequences (e.g., substance abuse, suicide, anxiety and depression). He considered competence, sense of personal worth, and self respect all important values effecting self-esteem. In summary, Branden defined self-esteem as a measure of one’s ability to live in such a way as to honor our view of ourselves. He seems to bridge the distinction between the cognitive and affective evaluative components of self-esteem, which are imbedded in other definitions. The limitations of this theory are that the findings were derived exclusively from case studies and driven by a philosophy rather than empirical data.

Although the decade of the sixties witnessed an increased interest in definitional work regarding self-esteem, subsequent decades have not been as pro-
ductive. Mruk (1995) noted that more recent work either repeated the themes of earlier works or used one of the existing definitions, choosing to focus on what factors influence self-esteem rather than self-esteem itself.

Another significant contributor to the theoretical development of self esteem was Epstein (1985) who defined self-esteem from a cognitive-experiential perspective. Epstein (1985) argued that “Self-esteem is a subjective and enduring sense of realistic self-approval. It reflects how the individual views and values the self at the most fundamental levels of psychological experiencing” (p. 284).

Like Branden, Epstein considered self-esteem a basic human need equating self-esteem with worthiness which motivates us both consciously and unconsciously. Epstein argued self-esteem is a consequence of an individual’s understanding of the world and others we are in relation with. Thus, Epstein noted that we strive to maintain equilibrium of self. An important new dimension added to self-esteem by Epstein is the notion of levels of self-esteem. Epstein proposed there are three different levels of self-esteem: (a) global or general overall self-esteem, (b) intermediate self-esteem which is specific to certain domains (e.g., personal power) and (c) situational self-esteem which are the everyday manifestations of self-esteem.

In addition to Epstein, self-esteem has been defined from a range of perspectives by numerous recent theorists such as Kernberg (1975) emphasizing primitive libidinal impulses. Solomon, Greenberg, and Pyszczynski (1991) emphasized feelings of existential security in a meaningful universe. Other researchers
(e.g., Baumeister, Tice, & Hutton, 1989) noted that within normal populations, high self-esteem is characterized by a general fondness for oneself while low self-esteem is characteristic of ambivalent or negative feelings toward oneself.

In agreement with this line of reasoning, a review of the self-esteem literature suggests some relative consensus among researchers. Several researchers (e.g., Coopersmith, 1967; Harter, 1990; Baumeister, 1993; & Rosenberg, 1979) proposed a cognitive model of self-esteem. They assume self-esteem develops from a judgmental process in which people evaluate their various qualities, weight them by personal importance, and then sum up these values to derive an overall index of self-esteem.

One constant which runs through much of the recent self-esteem research is the work of Morris Rosenberg (1965), a sociologist that conducted a study of self esteem with over 5,000 subjects. Rosenberg's brief definition of self-esteem is “Simply a positive or negative attitude toward a particular object, namely the self” (p. 3). Following Rosenberg’s lead other researchers (e.g., Joubert, 1990) proposed similar simplistic definitions such as “Self-esteem is a personal judgment of general self-worth that is a product of an implicit evaluation of self-approval or self-disapproval made by the individual” (p. 1147). However, Rosenberg’s simplicity in definition, coupled with the simplicity of his 10 item Rosenberg Self-Esteem Scale makes him a prominent figure in both the theory and measurement of self-esteem. Meisenhelder (1986) noted that “Self-esteem may be broadly defined as
the degree to which one values oneself, and almost universally, self-esteem is measured using Rosenberg’s Self-Esteem Scale” (p. 8).

**Relationship of Self-Esteem to the Present Study**

It has consistently been reported that self-esteem is positively related to satisfaction with life, the dependent variable in the present study (e.g., Diener, 1984; Emmons & Diener, 1985; Lewinsohn, Redner, & Seeley, 1991; Parkerson, Broadhead, & Tse, 1990; Schmitt & Bedeian, 1982; Vermunt, Spaans, & Zorge, 1989; Weiner, Muczyk, & Gable, 1987). Other researchers such as Lewinsohn et al. (1991) as well as Sekaran (1986) reported findings suggesting self-esteem to be the best predictor of satisfaction with life. Other researchers (e.g., Huebner & Alderman, 1993; Dew & Huebner, 1994; Gilman, Huebner & Laughlin, 2000; Terry & Huebner, 1995) investigating the relationship between self-esteem and satisfaction with life among U.S. students reported correlations within a range of $r = .40$ to $.60$.

Cultural differences in satisfaction with life have been well documented (e.g., Michalos, 1991; Myers & Diener, 1995). Several explanations have been offered for these cultural differences including relative importance of predictors that contribute to satisfaction with life, such as interpersonal relations and self-esteem. Kwan, Bond, and Singelis (1997) reported findings from their study of college students in both the United States and Hong Kong that suggest self-esteem is a better predictor of satisfaction with life among college students in the U.S. However, their findings also suggest self-esteem is at least equal in
importance with interpersonal relations among college students in Hong Kong. Their results were replicated by Uchida, Kitayama, Mesquita, and Reyes (2001) utilizing college students in the U.S., Japan, and the Philippines. They reported results that suggest self-esteem is the best predictor of satisfaction with life among college students in the U.S. However, they also reported findings that suggest self-esteem is at least equal to happiness and perceived social support in predicting satisfaction with life among both Japanese and Filipino students. This research suggests that self-esteem is an important predictor of satisfaction with life cross culturally. However, just how important self-esteem is in the prediction of satisfaction with life may be influenced culturally.

Measurement of Self-Esteem and Instruments

The types of methods used to study self-esteem is fairly standard throughout the social sciences. Mecca, Smelser, and Vasconcellos (1989) list the following: Epstein, (1979); as well as James, (1890) used introspection, Bednar, Wells, and Peterson, (1989) used case studies, Branden, (1969); as well as Pope, McHale, and Craighead (1988) used surveys, Rosenberg (1965); employed an experimental design, Coopersmith (1967); Jackson (1984) as well as Mruk (1983) used phenomenological methods.

Scales measuring self-esteem and related constructs (e.g., self-concept) suffer from a lack of consensus regarding definitions. However, some recent researchers (e.g., Harter, 1990; Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995; Willoughby, King & Polatajko, 1995) have noted that self-esteem in general
reflects an overall evaluation of one’s self, whereas self-concept represents one’s selfdescription. A review of the literature (e.g. Mruk, 1995; Winters, Myers, & Proud, 2002) suggest in general most scales address self-esteem as a global construct. Mruk, (1995) as well as Winters et al., (2002) reported that three of the best known and most widely used instruments for assessing self-esteem include the Coopersmith (1967) adult version of the Self-Esteem Inventory, (SEI); Piers-Harris Children’s Self-Concept Scale (PHCSCS), (Piers, 1984; Piers & Harris, 1969); and the Rosenberg (1965) Self-Esteem Scale (RSES).

*The Self-Esteem Inventory (SEI).* Coopersmith (1967) developed this 25 item paper and pencil forced choice self-report questionnaire to measure self-esteem. The respondents are presented with straightforward questions and asked to choose between either like me or unlike me. Scores are interpreted in terms of ranges such as low, medium, and high self-esteem. The SEI provides six scores: total self-esteem, lie scale, school-academic life, social-peers, home parents, and general self. Overall, the instrument (SEI) seems to possess adequate psychometric properties. Franklin, Duley, Rousseau, & Sabers (1981) report in their study with undergraduates an internal reliability (split-half) within a range of $r = .75$ to $.92$, and a seven day test-retest coefficient between a range of $r = .72$ and .84. More recent research such as Winters et al., (2002) reported similar findings, with a community sample (internal reliability ranged between $r = .75$ and $r = .95$, with a seven day test-retest coefficient of $r = .88$) suggesting adequate reliability within the context of the above cited studies.
Other researchers have studied the relation between the SEI and other measures of self-esteem (e.g., Griffiths, Beumont, & Giannakopoulos 1999; Johnson, Redfield, Miller, & Simpson 1983; Wood, Hillman, & Sawilowsky, 1996) reported findings in support of concurrent validity for the SEI. Additional researchers (e.g., Fendrich, Weissman, & Warner 1990; Marciano & Kazdin 1994; Miller, Warner, Wickramaratne, & Weissman 1999; Mullis & Mullis, 1997; Vila, Robert, & Nollet-Clemencon 1995) investigated the relationship between the SEI and depression, suicidality, hopelessness, locus of control, and social competence and reported results in support of convergent validity for the SEI.

Overall, within the context of the above mentioned studies the SEI appears to be a relatively reliable and valid measure of self-esteem (consistent with the Coopersmith model). Mruk (1995) noted that there is an independent body of research using the SEI that supports its credibility. However, the instrument also suffers from the following serious weaknesses: (a) the instrument does not provide a way to estimate how much respondents distort their responses in a desired direction, (b) the ceiling effect is strong, and the instrument is relatively transparent. (c) the instrument does not indicate whether global and/or situational self-esteem is being assessed.

*The Piers-Harris Children’s Self-Concept Scale (PHCSCS)* measures global self-concept and six component domains: (a) behavior, (b) intellectual and school status, (c) physical appearance and attributes, (d) anxiety, (e) happiness / satisfaction, and (f) popularity. However, some research (e.g., Platten & Williams,
1979) report findings from factor analysis that do not support the sub-scales of this model. Winters et al. (2002) report findings from their review of the recent literature suggesting internal consistency within a range of \( r = .73 \) to .81, with a seven day test-retest coefficient between \( r = .42 \) and .96. The authors further report a coefficient between the PHCSCS and other measures of self-esteem such as the SEI within a range of \( r = .42 \) to .85, and a coefficient between the PHCSCS and other related constructs within a range of \( r = .67 \) to .75. Thus the instrument appears to have adequate concurrent and convergent validity. Other researchers (e.g., Franklin, et al, 1981; Piers, 1984) report findings that internal consistency of the PHCSCS total score and sub-scores range between \( r = .60 \) and \( r = .75 \).

In general, within the context of the above mentioned studies the PHCSCS appears to be a relatively reliable and valid measure of self-esteem predominantly validated with community samples under 18 years of age. However, some researchers (e.g., Austin & Huberty 1993; Mannarino, Cohen, & Berman 1994) question the PHCSCS construct validity by noting the strong correlations between the instrument and anxiety, depression, intelligence, and other health measures. Thus, the mixed results reported in the research suggest that just what the instrument measures, does not appear to be clear at this time.

*The Rosenberg Self-Esteem Scale (RSES).* This instrument consists of ten questions rated on a Likert-type scale with 1 representing “strongly agree” and 4 representing “strongly disagree.” The tone of the questions are varied to avoid
the confounding influence of response set among participants (e.g., “You feel you
do not have much to be proud of,” and “You take a positive attitude toward your-
self”). Certain questions are then scored in reverse in order to maintain consistent
answer values. Kaplan & Pokorny (1969) noted that although the RSES was
originally developed for use with high school students, it has become a popular
measure of self-esteem with adult samples.

The RSES has also been popular among researchers investigating the
stability of self-esteem over time (e.g., Bachman & O’Malley, 1977; Chubb,
Fertman, & Ross, 1997; Wigfield, Eccles, Iver, Reuman, & Midgley, 1991;
Zimmerman, Copeland, Shope, & Dielman, 1997). Other researchers, such as
Wylie (1989) as well as Lynch (1999) reported similar psychometric findings (e.g.,
internal consistency of $r = .77$ to $.87$, test-retest $r = .85$ to $.88$, and convergent
validity $r = .58$ to $.83$). Lewinsohn, Seeley, and Gotlib, (1997) reported from their
study of both clinical and non-clinical adolescents ($N = 1,219$) that the RSES
identified depressed adolescents when other instruments did not. Overall, within
the context of the above cited studies the RSES appears to be a relatively reliable
and valid measure of self-esteem among adolescents and young adults.

The RSES was chosen to assess self-esteem in the present study for the
following reasons. The RSES, PHCSCS, and SEI may all appear to be relatively
reliable and valid measures of self-esteem. However, only the RSES was devel-
oped specifically as a global measure of self-esteem. Thus, with the RSES one
avoids the questionable task of summing across sub-scales to derive a total score.
When competing instruments fall within an acceptable range of construct and psychometric properties, Winters, et al., (2002) noted that “Selection of the most appropriate scale then depends upon aspects of the sample and the application” (p. 1177). In a review of more than a dozen scales, including the RSES, PHCSCS, and SEI, Cross, McDonald, and Lyons (1997) argued that the RSES offers the more powerful multiple response format. It also has a rich data base, as it is the most frequently cited self-esteem scale. Some relative disadvantages of the PHCSCS is its time for administration, and it is less sensitive because it utilizes two point scoring. The PHCSCS estimated time for administration is 30 minutes, the SEI requires about 20 minutes, while the RSES requires only about 10 minutes. The SEI is similar to the RSES in length and simplicity of scoring; however, the SEI does not have the extensive data base, especially in regards to college students possessed by the RSES.

Theoretical Development of Depression

Depression has been recorded since antiquity, and descriptions of what we now refer to as depression can be found in several ancient documents. Kaplan and Sadock (1985) proposed that depression is a broad term with multiple meanings. Depression can denote a variety of phenomena: a sign, a symptom, a syndrome, an emotional state, a reaction, a disease, or a clinical entity. Webster (2001) defined depression as (a) hollow or low place, (b) low spirits; dejection, (c) a decrease in force, activity, etc., and (d) a period of reduced business, etc. A review of Roget’s International Thesaurus (1992) revealed the following synonyms
for depression: (a) downcast, (b) dejection, (c) melancholia, (d) the blues, (e) in the doldrums, (f) down hearted, (g) moping, and moonstruck madness.

A review of the depression literature revealed the following definitions: Taylor (1996) defined depression as a morbid sadness, dejection, or melancholy. Keltner, Schwecke, and Bostrom (1995) defined depression as a lowered or saddened mood state or major affective disorder listed as a mood disorder in the American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition. (DSM-IV).

To meet the DSM-IV criteria for a major depressive episode requires the presence of at least five of the following symptoms within a period of two weeks, and a significant change from a person's previous level of functioning. One of the five symptoms must be symptom number 1 or number 2 from the following list: (1) depressed mood most of the day, (2) markedly diminished interest in all, or almost all, activities, (3) significant weight gain or loss when not dieting, greater than 5% per month, (4) insomnia or hypersomnia nearly everyday, (5) psycho-motor agitation or retardation nearly everyday, (6) fatigue or loss of energy nearly everyday, (7) feelings of worthlessness or excessive/ inappropriate guilt nearly everyday, (8) diminished ability to think, indecisiveness nearly everyday and (9) recurrent thoughts of death or suicide.

Additionally, the depression cannot be due to a substance condition or general medical condition. It cannot occur within two months of the loss of a loved one. Major depressive disorders are further classified as mild, moderate, or severe.
Keltner, et al. (1995) as well as Valente (1994) noted that the common element in all of the definitions presented, regardless of resource, is a significant change in mood. Haber, Krainovich-Miller, Leach, and Price-Hoskins (1997) defined mood as a sustained, internal, emotional state associated with characteristic emotions and feelings that are reflected in personality.

In an effort to be consistent with current thinking, to reduce confusion, and to foster interdisciplinary exchange, the current trend in conceptualizing depression is to use the DSM-IV diagnostic criteria. In the present study, I will follow this trend by using the DSM-IV criteria to define depression. Thus, depression in the present study is defined as the persistence of altered mood, whether mild, moderate, or severe, for a time period of two weeks or more.

*Relationship of Depression to the Present Study*

Researchers have consistently reported an inverse (negative) relationship between life satisfaction and depression in a variety of samples: with clinical subjects (e.g., Hyer, Gouveia, Harrison, & Warsaw, 1987), non-clinical subjects (e.g., Parkerson et al., 1990), men (e.g., Kammann & Flett, 1983), women (e.g., Raphael, 1988) and the physically disabled (e.g., Evans, Kleinman, Halar, & Herzer, 1984).

Levisohn et al. (1991) reported findings that suggest low life satisfaction tends to precede the onset of depression. A more recent investigation, Martinez-Pons (1997) utilizing a non-clinical convenience sample (N = 108) and path analysis suggested a negative relationship between depression and life satis-
faction. Based on previous research that suggested a negative relationship between depression and life satisfaction, I expected to find a similar relationship between depression and life satisfaction in the present study. Also, I expected depression to demonstrate a small effect size (account for about 3% or less of the variance in life satisfaction) after accounting for self-esteem.

Measurement of Depression and Instruments

There are many measurement tools available to assess depression. However, a review of the professional literature revealed the following three instruments are the most frequently used and thus best known instruments in both clinical practice as well as research: (a) Zung Self-Rating Depression Scale (SDS), (b) Center for Epidemiologic Studies Depression Scale (CES-D), (c), Beck Depression Inventory (BDI).

Zung Self-Rating Depression Scale (SDS). This scale was developed by Zung (1965) it is a 20-item self-rating scale. The items consist of statements, (e.g., “A good part of the time I have crying spells or feel like it” and “I always feel down-hearted or blue”). Subjects are asked to express their degree of agreement with each item on a Likert-type scale with 1 representing “completely disagree” and 7 representing “completely agree”.

Dugan, McDonald, Passik, Rosenfeld, Theobald, and Edgerton (1998) as well as Lane, Shellenberger, Gresen, and Moore (2000) reported estimates of internal consistency ranging from $r = .78$ to $.92$. Tanaka and Huba (1987) noted that a limitation with this instrument is a lack of validation among college students.
that appears to differ from adult samples. Another limitation of the SDS according to Sue (1999) is that the instrument has not been validated with samples representative of people of color.

Center for Epidemiologic Studies Depression Scale (CES-D). The CES-D was developed by researchers at the Center for Epidemiologic Studies at the National Institute of Mental Health. The CES-D scale consists of 20-items, and may be either self or interviewer administered. The time frame for reporting symptoms is the past week. An example of an item is “I have thoughts about hurting myself.” Subjects must choose from a Likert-type scale beginning with “rarely or none of the time” (scored 0), “some or a little of the time” (scored 1), “occasionally or a moderate amount of time” (scored 2), and “most or all of the time (scored 3).

The internal psychometrics (internal and test-retest reliability) of the CES-D scale appear adequate. Several researchers utilizing adult clinical samples (e.g., Craig & Van Natta, 1983; Weissman, Sholomska, Pottenger, Prusoff, & Locke, 1977) as well as researchers utilizing non-clinical samples (e.g., Radloff, 1977; Roberts 1983; Lewinsohn & Teri, 1982) reported internal consistency reliability within a range of $r = .8$ to $.9$, with test-retest reliabilities ranging from $r = .5$ to $.6$ over a period ranging from several days to several weeks.

Beck Depression Inventory (BDI). The BDI was developed by Beck, Ward, Mendelson, Mock, and Erbaugh (1961). This instrument is a 21 item self-report depression scale. The items are scored on a 0 to 3 scale. Zero represents “not at
all” and 3 represents “intense.” The total BDI score represents the sum of the individual items; scores can range from 0 to 63. The BDI is a widely used measure with a substantial research base. Some researchers (e.g., Beck & Steer, 1984; Beck, Steer, & Garbin, 1988) report adequate internal consistency and test retest reliabilities with the BDI (the \( r \) values for internal consistency ranging from \( r = .72 \) to \( .85 \) and test re-test estimates from \( r = .65 \) to \( .82 \)). Research with adolescents for example, Kaplan, Hong, and Weinhold (1984) as well as research with college students (e.g. Bumberry, Oliver, & McClure 1978) reported internal consistency and test re-test reliability estimates range between \( r = .80 \) and \( .90 \).

However, the original BDI has been revised. The new instrument the BDI-II was developed by Beck, Steer, and Brown (1993). The BDI-II is designed to assess depression in persons over 13 years of age. Like the BDI, the BDI-II has a 21-item format, with a choice of four possible answers for each item ranging in value from zero to three. For example, item 5 asks about guilty feelings: 0 = I don’t feel particularly guilty, 1 = I feel guilty over many things I have done or should have done, 2 = I feel guilty most of the time, or 3 = I feel guilty all of the time.

Although, a number of changes have been made to successive versions of the original BDI, the general structure of the instrument has not changed. The most significant changes found in the BDI-II are intended to make item content more consistent with the major depressive episode concept as defined in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV). The BDI-II was chosen to assess depression in the present study for the following
reasons; first, because in comparison with SDS and CES-D the BDI and BDI-II has the richest research base, including research with college student samples. Second, the BDI-II appears to be the measure most consistent with the DSM-IV definition of depression.

*Theoretical Development of Locus of Control*

Shapiro, Schwartz, and Astin (1996) stated that “Individual’s beliefs about the controllability of what happens to them is a core element of their understanding of how they live in the world” (p. 1217). Rotter, Seeman, and Liverant (1962) reported from their early investigations of these beliefs that some individuals change their beliefs more than others after new experiences. The proposed psychological construct to account for this difference is “locus of control” which evolved out of social learning theory. Rotter (1966) defined locus of control as “A person’s perception of the degree of control he/she has over events that occur in the world” (p. 1). Lefcourt (1982) as well as Rotter (1990) noted that because of the significance of locus of control in determining behavior, research of this construct has proliferated in a variety of areas (e.g., education, psychotherapy, management).

Rotter (1966) asserted that the importance of reinforcement is universally recognized in the acquisition of skills and knowledge. However, how individuals perceive reward and punishment determines their future behavior. Thus, the effect of reinforcement is not simply a mechanical process, but “depends upon whether or not the person perceives a causal relationship between his own behavior and the reward” (p. 1).
Rotter (1966) made two additional observations regarding the importance of locus of control to personality. First, depending upon the individual’s history of reinforcement, individuals would differ in the degree to which they attributed reinforcements to their own actions (p. 2). Thus, one’s locus of control is both shaped by one’s experiences in the world, and one’s locus of control shapes one’s experiences in the world. Second, “Expectancies generalize from specific situations to a series of situations which are perceived as similar. Consequently, a generalized expectancy for a class of related events has functional properties and makes up one of the important classes of variables in personality description” (p. 2).

Rotter (1954) was the first to use the term internal locus of control in his social learning theory to describe persons who believe that their own behaviors determine the positive reinforcements they receive. In general, persons who perceive themselves as the cause of their positive reinforcements tend to feel they are in control of their lives and thus take greater responsibility for their lives. Some researchers (e.g., Demellow & Imms, 1999; Peterson, Maier, & Seligman, 1993; Rothbaum, Weisz, & Snyder, 1982) reported findings that suggest people with internal locus of control typically engage in proactive and adaptive behaviors. On the other hand, people who perceive themselves as controlled by external forces (have an external locus of control) tend to feel detached from the positive as well as the negative reinforcements in their lives. In agreement with this line of research Gomez (1997; 1998) reported findings suggesting individuals with an
external locus of control tends to be reactive and avoid stressful situations. Thus, the research suggested that people with an external locus of control tend to take less responsibility for their lives.

Rotter (1966) asserted that locus of control was originally formulated as a generalized expectancy of reinforcements; where individuals believe that what happens to them is a result of their control or the result of forces beyond their control such as chance, fate, or powerful others. Therefore, locus of control is best conceptualized along a dynamic continuum with a range that spans external to internal perceived control. Weiten (1989) stated that “Although people are often classified as internals or externals, the concept should not be perceived dichotomously. Rather, it should be viewed as a continuum ranging from highly internal to highly external” (p. 39). Rotter (1966) argued that even though locus of control was conceptualized along a continuum, it was a fairly stable psychological construct. Several researchers (e.g., Figurelli, Hartman, & Kawalski 1994; Gaa, 1979; Kim, Omizo, & D’Andrea 1998; St. Lawrence, Jefferson, Alleyne & Brasfield, 1995; Trice, 1990) reported findings that support Rotter’s arguments that locus of control is best conceptualized along a continuum and it is also a relatively stable psychological construct.

Rotter (1975) warned against falsely assuming that characteristics of persons with an internal locus of control are all positive and the characteristics of persons with an external locus of control are all negative. However, some researchers (e.g., Evans, Shapiro, & Lewis, 1993; Furby, 1979) reported that in both locus of
control research as well as in practice, there is bias from the popular assumption that an internal locus of control is more desirable than an external locus of control.

Driven by the assumption that internality is more desirable than externality, some researchers (e.g., Duke & Nowicki 1974; Young & Shorr, 1986) reported finding a positive relationship between internal locus of control and achievement among male college students. Other researchers (e.g., Renn & Vandenberg, 1991) reported findings that suggest employees with an internal locus of control were rated higher than those with an external locus of control on important job variables. Koeske and Kirk (1995) reported that even among mental health professionals, those with a greater sense of internal control beliefs report higher satisfaction with their jobs, life and expected more favorable outcomes for their clients. Bandura (1989) demonstrated a positive relationship between internal locus of control and success in mental health therapy. Blumenthal, Matthews, and Weiss, (1994) demonstrated a positive relationship between internal locus of control and physical health. Alfonso, Allison, and Rader (1996) reported a positive relationship between locus of control and life satisfaction.

Relationship of Locus of Control to the Present Study

Hong and Giannakopoulos (1994) noted that it has been consistently reported that internal locus of control is positively related to life satisfaction (e.g., Hickson, Housley, & Boyle, 1988; Klein, Tatone, & Lindsay, 1989; Lewinsohn, et al., 1991; Morganti, Nehrke, Hulicka, & Cataldo, 1988; Raphael, 1988; Schulz, Tompkins, Wood, & Decker, 1987). These researchers reported a range of results
suggesting locus of control accounts for between 4.6% to 23% of the variance in satisfaction with life.

Shapiro, et al. (1996) in reviewing the literature on locus of control and satisfaction with life concluded that research findings strongly support the importance of an internal locus of control in enhancing one’s satisfaction with life. Hong and Giannakopoulos (1994) reported that internal locus of control remains an important predictor of satisfaction with life after accounting for both self-esteem and depression. The present study investigated whether emotional intelligence or one or more components of emotional intelligence predicts or accounts for additional variance in life satisfaction greater than self-esteem, locus of control, and depression. Locus of control has been included as one of the independent variables in the present study because previous research strongly suggests it is related to satisfaction with life.

Measurement of Locus of Control and Instruments

Marks (1998) stated that “Western culture has always placed a high value on personal autonomy, and this value has influenced the theoretical development and measurement of the locus of control concept” (p. 251). Fink and Hjelle (1973) as well as Mirels and Garrett (1971) and Lefcourt (1982) argued that internal locus of control is related to the Protestant ethic and traditional American values. Therefore, the theoretical development, as well as the measurement of locus of control has been influenced from its beginning by Western cultures emphasis on taking personal control in all situations.
Phares (1957) was one of the first to measure individual differences in a
generalized expectancy or belief in external control as a psychological construct. The instrument developed by Phares was a 13 item, two point, Likert-type scale. This scale was a crude attempt to measure locus of control utilizing a two point, forced response format. However, the effect of the social desirability response set severely limits the usefulness of this instrument.

The next attempt to develop an assessment scale for locus of control was in an unpublished dissertation by James (1957). James revised Phares instrument retaining the Likert format, which is now known as the James-Phares Scale. However, Liverant, Rotter, and Seeman revised the James-Phares Scale, developing subscales and using factor analysis reducing the number of items from 100 to 60. The final revisions were made by Rotter, Liverant and Crowne (1961) by changing the wording of some items (making them appropriate for non-college subjects) and eliminating those items with high correlations with the Marlowe-Crowne Social Desirability Scale. The final version of the scale is known as the Rotter (1966) Internal-External Locus of Control Scale, or simply the I-E Scale.

*Internal-External Locus of Control Scale (I-E Scale).* The I-E Scale is a 29 item, forced-choice test including 6 filler items intended to make the true purpose of the test somewhat more ambiguous. Each of the 29 items has an a and b part; respondents are asked to choose which one of the pair most accurately reflects their view. Examples of items from the I-E Scale include: (a) “Children get into trouble because their parents punish them too much” and (b) “The trouble with
most children these days is that their parents are too easy on them.” The I-E Scale appears to have good face validity; a careful examination of each of the items reveals the items deal exclusively with the subjects’ beliefs about how reinforcements are controlled. Cherlin and Bourque (1974) reported alpha coefficients of $r = .80$ for college students and $r = .71$ for a general population sample. Franklin (1963) reported an alpha of $r = .69$ (Kuder-Richardson) with a nationally stratified sample ($N = 1,000$). Other researchers (e.g., Rotter, 1982; Gilman & Huebner, 2000) reported a relatively stable internal consistency ranging from $r = .65$ to $.76$, and test-retest reliabilities ranging from $r = .83$ over a 30 day period to $r = .49$ over a 60 day period. Overall, within the context of the above cited studies the final version of the I-E Scale (Rotter, 1966) appears to be a relatively reliable and valid measure of locus of control according to Rotter’s 1962, one dimensional model.

Page and Scalora (2004, p. 527) reported that “Generally, locus of control scales include several forced choice questions focusing on an individual’s beliefs about internal versus external influences in a variety of settings” (e.g., Rotter’s I-E Scale, 1966; and Nowicki & Strickland, 1973). A review of the literature revealed that Rotter’s I-E Scale and the NS-LOC are two instruments often utilized to assess locus of control in the social sciences. Since I have already discussed the I-E Scale, a review of the NS-LOC is in order.

*Nowicki-Strickland Locus of Control Scale (NS-LOC).* Nowicki and Strickland (2000) developed the NS-LOC to assess locus of control. The NS-LOC is grounded in Rotter’s social learning theory, which conceptualizes locus of
control of reinforcement as an important personality construct. The full scale contains 40 statements concerning perceptions to which respondents answer yes or no. An example of an item from the NS-LOC is “Do you feel you have a lot of choice in deciding who your friends are?” The NS-LOC appears to have good construct validity as the items clearly target one’s perception of control over consequences. However, the scale is somewhat transparent and thus may suffer from the social desirability bias. Madsen and Goins (2002) reported findings from their study utilizing a sample of college students (N = 120) suggesting relatively good psycho-metric properties for the NS-LOC (split-half reliability ranged from $r = .75$ to .86; test-retest reliability over a 30 day period was $r = .82$). Nowicki and Strickland (1973) the developers of the scale reported an internal consistency (the split-half method) of $r = .63$. Overall, within the context of the above cited studies the NS-LOC like the I-E Scale appears to possess relatively good psychometric properties (reliability and validity). However, while both the NS-LOC and I-E Scale appear to be satisfactory measures of locus of control, the I-E Scale has a much richer data base than the NS-LOC. The instrument chosen to assess locus of control in the present study was the I-E Scale.
Chapter Three
Methodology

Introduction to Methodology

This study evolved from recent research (e.g., Cobb & Mayer, 2000) suggesting that “Some educators have implemented emotional intelligence programs and policies without much empirical justification” (p. 16). The current study investigated the utility (usefulness) of emotional intelligence in the prediction of life satisfaction among community college students. Emotional intelligence was conceptualized from the Mayer and Salovey (1997) cognitive ability model.

The instrument chosen to measure emotional intelligence was the Mayer, Salovey, and Caruso Emotional Intelligence Test (MSCEIT). The other variables included in the study are self-esteem, depression, and locus of control, have consistently been reported in previous research (e.g., Hong & Giannakopoulos, 1994) to predict satisfaction with life. I attempted to help establish (or not) the utility of emotional intelligence by investigating its relationship or lack of a relationship with satisfaction with life among community college students after accounting for variance explained by self-esteem, depression, and locus of control.

Restatement of the Research Questions

1. Does emotional intelligence conceptualized as a cognitive ability and measured by the Mayer, Salovey and Caruso Emotional Intelligence Test

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(MSCEIT) account for greater variance in satisfaction with life among community college students than self-esteem, depression, and locus of control?

2. Does the ability to perceive and accurately express emotion (a component of emotional intelligence as measured by the MSCEIT) account for greater variance in satisfaction with life among community college students than self-esteem, depression, and locus of control?

3. Does the ability to use emotion to facilitate thought (a component of emotional intelligence as measured by the MSCEIT) account for greater variance in satisfaction with life among community college students than self-esteem, depression, and locus of control?

4. Does the ability to understand emotion (a component of emotional intelligence as measured by the MSCEIT) account for greater variance in satisfaction with life among community college students than self-esteem, depression, and locus of control?

5. Does the ability to manage emotion for emotional growth (a component of emotional intelligence as measured by the MSCEIT) account for greater variance in satisfaction with life among community college students than self-esteem, depression, and locus of control?

*Population Size/Characteristics.*

Central Florida Community College (CFCC) enrolled 28,518 students for credit courses during the 2003-2004 academic year (Spring -10,378; Summer -7,587; and Fall -10,553). Approximately sixty-five (65) percent of these students
during the 2003 – 2004 academic year were females, and approximately 35 percent were males. Approximately 78 percent of these students were White, Non-Hispanic, followed by approximately 13 percent Black, Non-Hispanic. Hispanic students comprised the next largest group with approximately 6 percent, followed by Asians, Native Americans, and others; each comprising approximately 1 percent of the student population. All but 59 students were from the state of Florida and all but 266 students were from Marion, Citrus, and Levy Counties. Average age was 26; however, 43 percent were under 22 years of age and 55 percent were 24 years of age and under. A review of the demographic records for CFCC covering the two previous academic years (2001-2002; 2002-2003) suggested little change from one year to the next in the total number or the characteristics (gender, race, age) of CFCC students.

The study was conducted during the 2005 Fall semester. The CFCC student population was approximately 9,345 students enrolled in one or more credit courses. The present study is anonymous research. Thus, I did not collect any participant information that could personally identify participants. However, I did ask participants to indicate their gender, age, and race on two of the instruments (MSCEIT and BDI-II) not included in the appendixes because they are propriety instruments. In order to evaluate how well the sample characteristics reflect the population characteristics (sample representativeness) I compared the obtained sample characteristics to the Fall 2005 population characteristics. First, the percentage of females in the present study (67.5%) is similar to the per-
centaje in the population (65.5%). Second, the percentage of Whites (89%) in the sample is similar to the percentage of Whites in the population (86.5%). Thus, the sample may somewhat over represent Whites in the population. Blacks comprised a smaller percentage of the sample (5%) than in the population (7.5%). The percentage of Hispanics in the sample (4.0%) is similar to the percentage in the population (4%). The percentage of Asians, Native Americans, and others (1%; 1%; 0% respectively) in the sample is similar to the percentage found in the population (1%; 1%; 1% respectively). Third, the mean age of students in the sample was 23.5 similar yet somewhat younger than the CFCC population mean 25.3. Overall, within the limits of the above discussion (gender, ethnicity, and age) the obtained sample of 200 participants appears to be representative of the CFCC student population.

Selection Eligibility Characteristics

All participants in the study were enrolled in at least one three credit hour course of study at CFCC (Citrus campus) during the Fall 2005 semester. In addition, all participants were enrolled in a course section selected to take part in the study. Additionally all participants in the study volunteered to participate.

Sampling Scheme/Size/Characteristics.

The sampling scheme utilized in the present study was convenience sampling. Although, a random sample of all CFCC students would potentially increase external validity by allowing for greater generalizability, limited resources and logistical constraints precluded the use of a random sample. Limited
resources and logistics also restricted the size of the sample to 200 participants. I began by soliciting students to participate in the study from classes taught at the CFCC Citrus campus, where I am employed as an instructor. The Citrus campus is located in Lecanto about 18 miles from the main campus in Ocala. CFCC serves students from Marion, Citrus, and Levy counties. However, over 89 percent of all CFCC students attend classes at the Marion (Ocala) and/or Citrus (Lecanto) campuses.

Although, CFCC does not publish student demographic data by campus I expected there would be little difference between students gender, age, and ethnicity attending the Ocala or Citrus campuses. Many students attend classes on both campuses and many faculties teach at both facilities. I received permission from CFCC office of Institutional Effectiveness to conduct my study on both the Citrus County campus and Ocala campus. My initial plan was to solicit as many participants as possible from the Citrus campus and then solicit the remaining participants from the Ocala campus. However, I was able to solicit a sufficient number of participants (N = 200) for my study from the Citrus County campus.

I began by soliciting the aid of fellow instructional faculty for permission to seek volunteer participants from among their students. None of the instructors I made personal contact with declined my request. The test publishers report an estimate of time needed for completing each instrument. However, I suspected the actual total time needed to complete all five instruments would be greater for
most students. Thus, in order to determine the actual time needed for completion of all five instruments I administered the five instruments to myself, I completed all five in 62 minutes. I then administered all five instruments to two community college students and one high school student. The students completed all five instruments in 65, 55, and 51 minutes respectively. Thus, knowing that most students will need about 60-75 minutes to complete all five instruments I located physical space (classrooms) where students could complete all five instruments without interruption. Students were advised they needed about 60-75 minutes to complete all five instruments. All students were monitored by me during the completion of the instruments and all instruments were inspected for completeness and compliance with instructions. This method of participant selection and data collection continued until the target number (N = 200) of participants as well as completed assessment packets were obtained.

During the first week of data collection I solicited participants from three sections of humanities and one section of general psychology; while two students declined to participate in the study; 84 students completed all five assessment instruments. The second week of data collection I solicited participants from two sections of introduction to social science and two sections of college skills. All students solicited agreed to take part in the study except for four students who had already taken part in the study in other classes. However, 76 students completed all five assessment instruments. During the last week of data collection I solicited participants from one section of general psychology,
two sections of freshmen English skills and one section of college success skills; although, none of the students solicited declined to take part in the present study more than a dozen had already participated as part of another class. However, forty students did complete all five assessment instruments bringing the total number of students taking part in the study to the target number of 200.

The sample size in the study is largely the result of limited resources and logistical constraints. The cost of the research instrumentation limited the study to a sample size of 200 participants. A review of the life satisfaction literature revealed a number of studies (e.g., Lewinsohn et al., 1991; Schmitt & Bedeian, 1982; Sekaran, 1986) report results that suggest self-esteem is one of the most frequently cited predictors of life satisfaction. For example, a study conducted by Hong and Giannakopoulos (1994) using a large sample of 1,749 adults (17-40 years of age) investigated the relationship between life satisfaction and seven other variables: a) psychological reactance, b) self-esteem, c) religiosity, d) trait anger, e) locus of control, f) depression, and g) age. The results of this study suggest that self-esteem, depression, and locus of control are three of the best predictors of life satisfaction, respectively. The above researchers report self-esteem accounts for 21.4% of the variance in life satisfaction, \( r = .46, p < .001 \). This study also revealed an inverse relationship \( r = -.31 \) between depression and life satisfaction. Depression accounted for an additional 2.8% of the variance in life satisfaction \( \Delta R^2 = .03 \). The third strongest predictor of life satisfaction was locus of control \( r = .23 \) which accounted for an additional 1% \( \Delta R^2 = .01 \) of
variance in satisfaction with life. The other variables included in the Hong and Giannakopoulos (1994) study, trait anger, religiosity, psychological reactance, and age contributed less than 1% toward the prediction of life satisfaction. Thus, trait anger, religiosity, psychological reactance, and age do not significantly contribute in the prediction of satisfaction with life above the variance accounted for by self-esteem, depression, and locus of control.

According to the Hong and Giannakopoulos (1994) study, the $\Delta R^2$ for self-esteem (first variable entered) in the prediction of life satisfaction was .214. This $\Delta R^2$ when converted to an $f^2$ (effect size) equals .27. According to Cohen's (1988) scale .27 falls about mid-way between a medium (.15) and large (.35) effect size for multiple regression analysis in the social sciences. According to Cohen’s (1988) sample size chart, studies involving multiple regression analysis with four independent variables, a predetermined statistical significance of alpha $= .05$, and an estimated effect size between medium and large, would need a minimum of between 45 to 97 subjects for a power of .80 (80% chance of rejecting a false null hypothesis). Thus, if the relationship between emotional intelligence and life satisfaction is between medium and large, a sample size of 200 should give me a good chance (equal or greater than .80) of rejecting a false null hypothesis.

Returning to the literature, the Hong and Giannakopoulos (1994) study reported the $\Delta R^2$ for depression and locus of control combined after accounting for self-esteem was .038. When this $\Delta R^2$ value is converted to an $f^2$ (effect size)
value the result is .04 which according to Cohen’s (1988) scale of effect sizes is a small effect size. According to Cohen’s (1988) sample size chart a study using multiple regression analysis with four independent variables, a predetermined Alpha of .05 and an estimated effect size between small and medium, the minimum sample size needed for a power of .80 would be between 97 and 599 subjects. If the effect size between emotional intelligence and satisfaction with life is small then my sample of 200 subjects would not provide a reasonable expectation of rejecting a false null hypothesis. If the effect size of emotional intelligence on satisfaction with life is greater than the combined effect size of self-esteem, depression, and locus of control on satisfaction with life then my sample of 200 subjects may well be adequate to provide a reasonable expectation of rejecting a false null hypothesis.

Some recent research suggests the effect size between emotional intelligence and satisfaction with life is at least in the medium ($r = .15$) range (e.g., Bar-On, 1997). In this study, the relationship between emotional intelligence and satisfaction with life was reported to be $r = .41$ with an estimated effect size index of $f^2 = .15$ which according to Cohen (1988) is a medium effect size. A more recent study by Ciarrochi et al. (2000) investigated the relationship between emotional intelligence and satisfaction with life among undergraduate students ($N = 118$) after controlling for general intelligence (IQ) and the following personality variables: a) extraversion, b) neuroticism, c) empathy, d) openness to feelings, and e) self-esteem. The importance of this study is that it reported a
correlation of $r = .22, p < 0.05$ between emotional intelligence and satisfaction with life after controlling for general IQ, as well as the above mentioned five well known personality variables.

The Ciarrochi et al. (2000) study reported that emotional intelligence accounts for additional variance in life satisfaction over the variance accounted for by IQ, self-esteem, or the other four personality variables (extraversion, neuroticism, empathy, and openness to feelings) included in the study. Thus, the Ciarrochi et al. (2000) study suggests if EI alone accounts for greater variance in satisfaction with life then self-esteem, IQ, and four additional personality variables the effect size between emotional intelligence and satisfaction with life may be large.

Other researchers (e.g., Saklofske, Austin, & Minski, 2003) have elected to investigate the relationship between emotional intelligence and life satisfaction among Canadian undergraduate students ($N = 354$) while accounting for the big five personality dimensions (neuroticism, extraversion, openness, agreeableness, and conscientiousness). These researchers report “the results of regression modeling shows that emotional intelligence accounts for additional variance in satisfaction with life not accounted for by personality” (p. 707). This study suggests when emotional intelligence is the first variable added to the hierarchical regression analyses (when other variables are not controlled for) the result in $\Delta R^2 = .265$. When I transform this value into an estimate of effect size the result is $f^2 = 36$, which according to Cohen’s (1988) scale is a large effect size.
A recent study by Lopes, Brackett, Nezlek, Schutz, Sellin, and Salovey (2004) reported that the effect size between emotional intelligence and satisfaction with life among college students (N = 118) falls within a range of medium to large. These researchers reported that emotional intelligence as measured by the MSCEIT demonstrated incremental validity by accounting for between 7 and 11 percent of additional variance in satisfaction with life over the big five personality dimensions (neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness).

Contemporary researchers (e.g., Law, Wong, & Song, 2004) reported results from their investigation with undergraduate university students (N = 202) of the relationship between self-report measures of emotional intelligence and satisfaction with life, controlling for personality variables among undergraduate students (N = 202), as well as high school students (N = 560). These researchers reported the results of the hierarchical regression analysis for both samples was similar. When emotional intelligence was added to the regression model, the increases in the model multiple correlation squared was significant ($p < .01$), although the absolute magnitude was not large ($\Delta R^2 = .05$ and .06 for samples 1 and 2, respectively). The authors interpreted the additional 5% of variance in satisfaction with life accounted for by EI to be of reasonable practical significance (p. 488).
In regards to sample size in multiple regression, there is no clear consensus as to what constitutes an adequate or ideal number of participants. In general, there are three schools of thought on this subject. First, many researchers conduct a power analysis by a) estimating the probable effect size between independent and dependent variables, b) consider the number of independent variables, and c) consider a predetermined margin of error or power (usually .80).

Informed by this information the researcher determines the minimal sample size necessary for a desired power by consulting the power analysis tables published by Cohen (1988). Second, some researchers suggest a minimum total sample size, for example, Comfrey & Lee (1992) reported that “50 = very poor; 100 = poor; 200 = fair; 300 = good; 500 = very good; 1,000 or more = excellent” (p. 217). The third school of thought suggests a particular ratio between subjects and independent variables. For example, Pedhazur (1997, p. 207) as well as Stevens (2002, p. 72) recommend a nominal number of 15 participants per independent variable. Other researchers recommend different ratios such as 20, 30, or 40 participants per independent variable.

The study utilized a sample size of 200 participants that I believe to be an adequate sample size for the following reasons. First, the five particular research questions all involve the addition of one additional independent variable to the stem multiple regression equation ($L$ = $b_0 + b_1$ self-esteem + $b_2$ depression + $b_3$ locus of control). Thus, with 4 independent variables, the ratio of participants to variables is 50 to 1, which exceeds most fixed ratio recommendations. Second, a review of the emotional intelligence literature regarding the relation-
ship between emotional intelligence and satisfaction with life is both limited (relatively little) and mixed (inconsistent). Therefore, estimating effect size between emotional intelligence and satisfaction with life is difficult.

Ethical Nature of Data Collection

Prior to data collection or administering any assessment instrument I completed the University of South Florida (USF) required training for researchers utilizing human subjects (see Appendix B). The present study involved minimal risk to participants and I did not collect any personal identifiers. Thus, I elected to make application to the University of South Florida Division of Research Compliance to conduct the study as an exempted study. My application to conduct the present study as an exempted study was approved on October 21, 2005 (see Appendix B). In addition, prior to any data collection I obtained permission from the office of Institutional Effectiveness CFCC to conduct the present study at the Citrus as well as the Ocala campus (see Appendix B).

All potential participants received a written request from me to take part in the study (see Appendix B). The written request explicitly informed students that I was conducting social science research and that their participation is both voluntary and anonymous. Students were informed of what is expected of them as participants (completion of five assessment instruments) as well as how much time most students take to complete all five assessment instruments (60-75 minutes). In summary students were invited to take part in the study if they had no concerns and wished to do so. Students were given names, phone numbers,
and e-mail addresses of persons they may contact in the event they have questions or concerns at a later time regarding their participation in the present study.

**Instruments**

Five instruments were used in the study to measure emotional intelligence, satisfaction with life, self-esteem, depression, and locus of control among community college students. Each of the five instruments used in the study are now discussed in turn.

*The Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT).* I used the MSCEIT to measure EI for three reasons. First, it was developed by the original authors (Mayer & Salovey, 1997) together with a later associate David Caruso to measure emotional intelligence according to the Mayer and Salovey (1997) revised model of EI. The MSCEIT measures emotional intelligence according to the authors' four components (branch), cognitive ability model which includes: a) perceiving emotions, b) facilitating thought, c) understanding emotions, and d) managing emotions. The MSCEIT yields a total score, and the above mentioned four component (branch) scores. Thus, use of the MSCEIT can reveal which if any of the four components of the cognitive ability model of EI accounts for additional variance in life satisfaction.

Second, both the paper/pencil and on-line versions of the MSCEIT contain 141 multiple choice items, the MEIS contains 402 items. Thus, the MSCEIT requires about half the time for administration as the Multi-Factor Emotional
Intelligence Scale (MEIS). I used the paper/pencil version of the MSCEIT in the present study to maintain format consistency among the five instruments. All five of the instruments I employed in the present study are of the paper/pencil type.

Third, the developers Mayer, Salovey, and Caruso (2002) report the MSCEIT has a full scale reliability of \( r = .91 \) (split-half reliability). Bracket and Mayer (2003) report a test-retest reliability for the full scale MSCEIT of \( r = .86 \) and branch (component) score reliability between \( r = .74 \) and \( .89 \). This suggests within the context of the above studies a highly reliable instrument at the branch and total scale levels. Construct validity appears to be high as it gives comprehensive coverage of the four component cognitive ability model developed by Mayer and Salovey (1997).

**Satisfaction With Life Scale.** (SWLS) I chose the SWLS developed by Diener, Emmons, Larsen, and Griffin (1985) to assess global satisfaction with life. The instrument measures satisfaction with life as a cognitive-judgmental process using a five-item scale. The SWLS utilizes a seven-point rating scale ranging from strongly disagree to strongly agree. Short term reliabilities with an interval of up to two weeks have been consistently reported (e.g., Diener, et al., 1985) to be \( r = .8 \) or greater.

Other researchers (e.g., Pavot, Diener, Colvin, & Sandvik, 1991) investigated the reliability and validity of the SWLS with select samples (e.g., elderly persons; college students). This study reported test-retest reliabilities for the SWLS to be \( r = .7 \) or greater among the elderly sample and \( r = .6 \) or greater.
among university students with two week intervals. Alfonso and Allison (1992) reported from their study of 106 university undergraduate students a coefficient alpha of $r = .89$ and a test-retest correlation of $r = .83$ with two week intervals.

The Pavot et al. (1991) study also investigated the predictive and convergent validity of the SWLS. Peer reports, a memory measure, and clinical ratings were used as external criteria for validation. In this study the SWLS was compared to other related scales (e.g., Philadelphia Geriatric Center Morale Scale). The researchers in this study report results that suggest the high convergence of self and peer reported measures of satisfaction with life, and the SWLS suggest that satisfaction with life is a relatively global and somewhat stable phenomenon.

The Rosenberg Self-Esteem Scale (RSES). The RSES was chosen by me to measure self-esteem. The RSES (Rosenberg, 1965) provides a global measure of self-esteem. As measured by this scale, high self-esteem indicates cognitive evaluations of self-worth and self-respect. Low self-esteem implies dissatisfaction with oneself and self-rejection. A review of the self-esteem literature (e.g., Rosenberg, 1965; Crandall, 1973; Goldsmith, 1986; Blascovich & Tomaka, 1991) revealed the Rosenberg Self-Esteem Scale is one of the most widely utilized measures in social science research and considerable empirical data support its validity. The RSES is a 10 item Likert inventory employing a scale of strongly agree to strongly disagree as response options. Half the items are positively worded and half are negatively worded, to control for responder
bias. Two examples of items from the RSES are “on the whole, I am satisfied with my self, “ and “at times I think I am no good at all.” Several researchers (e.g., Silbert & Tippett, 1965; Crandall, 1973; McCarthy & Hoge, 1982) report findings supporting the RSES one dimensionality among college students. 

Multiple studies have reported results that suggest validity and reliability estimates within the context of particular studies for the RSES. For example, Silbert and Tippett (1965) report a 2-week test-retest coefficient of reliability $r = .85$ (N = 28). Other researchers such as McCarthy and Hoge (1982) report a one year test-retest coefficient $r = .77$ (N = 1,852). Crandall (1973) investigated the reliability of the RSES and convergent validity between related scales (e.g., Global Self-Worth Scale) and the RSES. This research reported a test-retest reliability of $r = .76$ which suggests overall reliability of the scores obtained.

The Internal-External Locus of Control Scale (I-E Scale). The I-E Scale was developed by J.B. Rotter (1966). The I-E Scale was used in the study to measure internal vs. external locus of control. This instrument was chosen because it was developed by Rotter (1966) who first conceptualized the distinction between internal vs. external locus of control derived from his comprehensive social learning theory. Marsh and Richards (1986) noted that Rotter’s locus of control instrument has an extensive history and still remains in wide use within the social sciences.
The I-E Scale measures locus of control as a generalized expectancy of the extent to which a person perceives that events in one’s life are consequences of one’s behavior. The instrument is a paper and pencil 29 item, forced choice scale. The developer of the I-E Scale (Rotter, 1966) reported reliability estimates which ranged from $r = .69$ to $.73$ using the Split-half Spearman-Brown and Kuder-Richardson formulas. Other more recent research (e.g., Baumeister, 1991) has investigated the reliability of the I-E Scale with undergraduate students ($N = 125$) and reported a test-retest reliability of $r = .69$ with a two week interval. In a review of the locus of control literature, Cherlin and Bourque (1974) noted that much of the locus of control scale research has employed a very specific population (e.g., under 30 years of age).

Blau (1984) investigated the construct validity of the I-E Scale ($N = 267$) with undergraduate business students. This study compared the I-E Scale with the Levenson Measure of Locus of Control, another well known measure of locus of control. The authors reported a strong positive relationship $r = .71$ between the I-E Scale and the Levenson measure of locus of control. Thus, this study suggested some evidence supporting both convergent and construct validity for the internal-external locus of control construct.

The Beck Depression Inventory-II (BDI-II). The BDI-II was chosen to measure depression in the present study. The BDI-II (Beck, Steer, & Brown, 1997) is a revised version of the original Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The BDI-II contains 21 items, each of which
assesses a different symptom or attitude by asking the examinee to consider a group of graded statements weighted from 0 to 3 based on levels of severity. The BDI-II is designed for persons 13 years of age and older, and can usually be completed within 5 to 10 minutes.

Overall, the psychometric properties of the BDI-II are relatively good. The authors’ Beck, Steer, and Brown (1997) report estimates of internal reliability (Cronbach’s Alpha) with outpatients (N = 500) as well as with a non-clinical population of college students (N = 120) of \( r = .92 \) and \( r = .93 \) respectively. Test-retest reliability was assessed over a one week interval (N = 26) among a sub-sample of outpatients (\( r = .93 \)). The authors also report a correlation of \( r = .71 \) between the BDI-II and the Hamilton Psychiatric Rating Scale for Depression (HPRSD-R) among psychiatric outpatients (N = 210), suggesting good convergent validity.

The BDI-II was chosen to measure depression in the present study for three reasons. First, because it has a strong theoretical foundation closely fitting the criteria established in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition,* (DSM-IV) published by the American Psychiatric Association (1994). Second, the BDI-II was chosen to measure depression in the present study because of the strong empirical foundation upon which it was developed (more than 35 years of research). Third, in addition to its solid psychometric properties the instrument is relatively easy to administer, score, and interpret.
One or more individual items of the BDI-II ask participants to report if they have any thoughts of harming themselves. Data will be inspected at time of collection for compliance with instructions (e.g., one option chosen for each item). However, the study is anonymous research thus, the identity of the participants will not be known to me, nor will I have any means of identifying participants. Therefore, rendering any intervention on my part impossible.

**Research Design**

A correlational research design was used in the present study to assess the relationship between emotional intelligence and satisfaction with life among community college students after accounting for self-esteem, depression, and locus of control. I employed a hierarchical regression analyses to investigate each of the five specific research questions discussed in Chapter One.

**Procedures**

The type of sample I used for the study is a convenience sample consisting of 200 participants. All participants in the present study were asked to complete the following instruments: The Mayer, Salovey, and Caruso Emotional Intelligence Test (MSCEIT); Diener’s (1985) Satisfaction With Life Scale (SWLS); Rotter’s (1966) Internal-External Locus of Control Scale (I-E Scale); Rosenberg’s (1965) 10 item Self-Esteem Scale (RSES); and Beck’s (1997) revised 21 item Depression Inventory, the Beck Depression Inventory-II (BDI-II). All five instruments are of the paper/pencil format. The estimated time for completion of all five instruments ranged between sixty (60) to seventy-five (75) minutes.
Before conducting the present study I made application to the USF Division of Research Compliance for authorization to conduct the present study as an exempt study (application was approved October 21, 2005). I also made application to the office of Institutional Effectiveness CFCC requesting authorization to conduct the present research on both the Ocala and Citrus campuses (I received this authorization on 10-15-05). Having received approval from both institutions (USF and CFCC) I began the study by soliciting the aid of several fellow instructors at the CFCC Citrus County campus. The aid I requested was permission to recruit participants from among their students. I had authorization from Mr. Edwin Goolsby (instructional manager of the Citrus campus) to meet with students in pre-approved locations (e.g. classrooms, student lounge) for the purpose of having students take part in my study. I had a written script (see Appendix C) which I distributed and read to students that makes explicit what was expected from participants as well as the voluntary and anonymous nature of the study.

The first week of data collection I solicited participants from four classes, 84 students agreed to take part in the study, while two students declined. The second week of data collection I solicited participants from four classes, 76 students agreed to take part in the study, while 4 students declined to take part noting participation as part of another class. The third and final week of data collection I solicited students from five classes, 40 students agreed to take part in the study,
but more than 12 students declined because they participated as part of another class. I recognized most students claiming prior participation as participants.

Students that elected to take part in the study received all five instruments along with written instructions for completing the instruments. I monitored all students while they completed the instruments. I also collected and inspected all instruments for compliance with instructions before students exited the room.

Data Analysis

The SAS (2003) system for statistical analysis of data was used to calculate the mean, standard deviation, and internal consistency reliabilities (coefficient alpha) for all measured variables and present them in table form. Scatter plots for each pair of variables were examined for linear relationships between each pair of variables. Pearson correlations between each of the measured variables were calculated and presented in matrix form in order to evaluate relationships among all variables.

It was my intention to build upon previous research in the present study. Therefore, similar to the Palmer et al. (2002) study I investigated the relationship between emotional intelligence and satisfaction with life. Similar to the Palmer et al. (2002) study I was primarily interested in whether emotional intelligence accounts for additional variance in satisfaction with life, not accounted for by other predictor variables such as self-esteem, depression, and locus of control.
However, unlike the Palmer et al. (2002) study that employed a self-report measure of emotional intelligence, I employed an ability measure of emotional intelligence (MSCEIT). I employed the same dependent variable (satisfaction with life) as the Palmer et al. (2002) study. However, my target population in the present study is CFCC students rather than the general population.

My review of the satisfaction with life literature (e.g., Hong & Giannakopoulos, 1994) revealed that three of the most frequently cited predictors of satisfaction with life is self-esteem, followed by depression and locus of control respectively. In the present study the combination of self-esteem, depression, and locus of control in an equation is referred to as the stem equation (LS = b₀ + b₁ self-esteem + b₂ depression + b₃ locus of control). As the prior research suggested, these three variables together accounted for some portion of the variance (44%) in satisfaction with life in the present study.

To test each of the research questions identified in the present study it was necessary to add each of the other independent variables individually to the stem equation. The following five research equations were investigated; first, SWL = b₀ + b₁ self-esteem + b₂ depression + b₃ locus of control + b₄ EI total score. Second, SWL = b₀ + b₁ self-esteem + b₂ depression + b₃ locus of control + b₄ perceive emotion. Third, SWL = b₀ + b₁ self-esteem + b₂ depression + b₃ locus of control + b₄ facilitate thought. Fourth, SWL = b₀ + b₁ self-esteem + b₂ depression + b₃ locus of control + b₄ understand emotion. Fifth, SWL = b₀ + b₁ self-esteem + b₂ depression + b₃ locus of control + b₄ manage emotion. As each independent variable is added to the stem equation any additional variance accounted for in the depen-
dent variable (life satisfaction) will result in changes to the overall $R^2$ value of the equation. I first added emotional intelligence total score to the stem equation as discussed above followed by each of the four EI component variables.

Multiple regression analysis is an extension of simple linear regression. Thus, I began with an evaluation of all univariate data for violations of assumptions regarding linear regression. The first assumption I consider was whether all variables have been measured without error. Since measurement error in multiple regression analyses may lead to overestimates or under-estimates of relationships it is critical that measurement error be kept to a minimum. I evaluated measurement error by inspecting the reliability estimates reported for all instruments used in the present study. I also calculated internal reliability estimates for each of the measures used in the present study using Cronbach’s alpha. All scores from each of the five instruments were available in order to calculate Cronbach’s alpha.

The second assumption I evaluated was the assumption of linearity. I inspected the scatter plot of the dependent variable and each independent variable for a linear relationship. The third assumption I evaluated was the assumption of homoscedasticity of errors which is the condition of equality of variance of errors. I evaluated this assumption visually by plotting residuals with predicted values looking for equal amounts of scatter all along the regression line. Extreme scores or outliers were evaluated by calculating Cook’s D. Cook’s D indicates the influence of an extreme score by taking into account both the
size of the residual and leverage (position). Scores that have a Cook’s D greater than 1 or much larger relative to others would be designated outliers. However, in the present study no outliers were identified.

It is important to recognize that $r$ values in simple linear regression represent the degree of relationship between two variables. However, in the present study I employed a multivariate analysis in order to investigate the relationship among the criterion (dependent) variable and multiple predictors (independent variables). Unless predictor variables have zero correlations among them their combined $r$ (s) are always less than additive.

The primary focus of the present study was the investigation of incremental predictive validity (does the addition of a variable account for additional variance in the criterion variable) between emotional intelligence (including sub-components of emotional intelligence) and satisfaction with life after controlling for specific known predictors. In the present study, previous research exist to suggest the order of entering the variables into a prediction equation. I entered the variables logically in the order suggested by prior research. The scope of the present study is limited to the five specific research questions identified in Chapter One.
Chapter Four

Results

This chapter presents results of statistical analysis related to the five specific research questions discussed in Chapter One. First, I restate the five specific research questions. Second, univariate statistics for each of the scaled variables are presented in Table 1. Third, all possible bivariant relationships among the variables as well as their $p$ values are presented in a correlation matrix in Table 2. Fourth, I evaluate the data for critical violations of the most important assumptions for multiple regression. Fifth, I present the results of each hierarchical regression analysis employed to test each of the five specific research questions (Does EI or any of the four components of EI account for variance in satisfaction with life greater than self-esteem, depression, and locus of control?). I conclude this chapter with a summary of the results.

Restatement of the Research Questions

2. Does emotional intelligence conceptualized as a cognitive ability and measured by the Mayer, Salovey and Caruso Emotional Intelligence Test (MSCEIT) account for greater variance in satisfaction with life among community college students than self-esteem, depression, and locus of control?

2. Does the ability to perceive and accurately express emotion (a component of emotional intelligence as measured by the MSCEIT) account for greater
variance in satisfaction with life among community college students than self-
esteeem, depression, and locus of control?

3. Does the ability to use emotion to facilitate thought (a component of emotional intelligence as measured by the MSCEIT) account for greater variance in satisfaction with life among community college students than self-esteem, depression, and locus of control?

4. Does the ability to understand emotion (a component of emotional intelligence as measured by the MSCEIT) account for greater variance in satisfaction with life among community college students than self-esteem, depression, and locus of control?

5. Does the ability to manage emotion for emotional growth (a component of emotional intelligence as measured by the MSCEIT) account for greater variance in satisfaction with life among community college students than self-esteem, depression, and locus of control?

*Univariate Statistics*

Before conducting regression analysis of scores, simple univariate statistics were calculated in order to gain some overall understanding of how each variable is distributed. Univariate statistics are presented in Table 1.
Table # 1

Univariate Statistics for all Scaled Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>EIT</td>
<td>200</td>
<td>84.79</td>
<td>16.07</td>
<td>-0.03</td>
<td>-0.76</td>
<td>40.00</td>
<td>123.00</td>
</tr>
<tr>
<td>EI1</td>
<td>200</td>
<td>98.44</td>
<td>16.01</td>
<td>-0.12</td>
<td>-0.23</td>
<td>51.00</td>
<td>132.00</td>
</tr>
<tr>
<td>EI2</td>
<td>200</td>
<td>86.97</td>
<td>16.52</td>
<td>0.06</td>
<td>-1.04</td>
<td>56.00</td>
<td>124.00</td>
</tr>
<tr>
<td>EI3</td>
<td>200</td>
<td>81.50</td>
<td>14.68</td>
<td>-0.16</td>
<td>-0.40</td>
<td>41.00</td>
<td>118.00</td>
</tr>
<tr>
<td>EI4</td>
<td>200</td>
<td>86.63</td>
<td>13.72</td>
<td>-0.06</td>
<td>-0.59</td>
<td>42.00</td>
<td>114.00</td>
</tr>
<tr>
<td>swl</td>
<td>200</td>
<td>22.56</td>
<td>6.29</td>
<td>-0.36</td>
<td>-0.51</td>
<td>8.00</td>
<td>35.00</td>
</tr>
<tr>
<td>self</td>
<td>200</td>
<td>20.94</td>
<td>4.67</td>
<td>-0.01</td>
<td>-0.20</td>
<td>9.00</td>
<td>30.00</td>
</tr>
<tr>
<td>dep</td>
<td>200</td>
<td>9.60</td>
<td>8.14</td>
<td>1.15</td>
<td>0.90</td>
<td>0.00</td>
<td>34.00</td>
</tr>
<tr>
<td>loc</td>
<td>200</td>
<td>10.73</td>
<td>3.60</td>
<td>0.22</td>
<td>0.19</td>
<td>2.00</td>
<td>22.00</td>
</tr>
</tbody>
</table>

Note EIT = emotional intelligence total score, EI1 = perceiving emotions, EI2 = facilitating thought, EI3 = understanding emotions, EI4 = managing emotions, swl = satisfaction with life, self = self-esteem, dep = depression, loc = locus of control
I calculated N values (number of observations), mean, standard deviation, skewness, kurtosis, and minimum and maximum scores of all variables. In addition, the following statistical displays were generated for each variable: box plots, stem and leaf displays, and normal probability plots.

The N for each variable was 200 suggesting no observations were missing. The completeness of the data is probably the result of the method I employed to collect data. Participants were given at least one week prior notice to the administration of the study. Thus, all participants had an opportunity to make necessary arrangements in order to participate in the study. All participants completed the assessment instruments individually (independently) during or immediately after class. All participants were monitored by me while they completed instruments and all instruments were checked by me for compliance with instructions at the time of collection (e.g., one response for each item). The original intended sample size was 160 or more. However, the obtained sample size turned out to be 200. The data collection stage of the present study was completed when the revised target number of 200 completed assessment packets were obtained.

Some problems with scoring as well as data entry was detected at the data analysis stage. However, these errors once detected were corrected such that no observations were lost from the sample. An outlier score on the MSCEIT was found to be an error in data entry, and an unusual distribution of self-esteem scores (RSES) revealed an error in scoring (some items are reversed scored). Therefore, I replaced the incorrect MSCEIT score with the correct score, re-
scored the RSES and entered the corrected scores. An examination of the minimum and maximum values for each of the variables suggested confidence in scoring as well as accuracy in data entry (all scores were within the range of possibility). All variables except the demographic variables (gender, age, race) and depression demonstrated skewness within an acceptable range of normality (SK > -1.0 and < 1.0). Depression demonstrated a positive skew of 1.15. Thus, depression demonstrated a skew slightly greater than what is normally considered acceptable. However, it is not far enough outside what is normally considered acceptable to constitute an important concern. All non-demographic variables demonstrated kurtosis within an acceptable range of normality (KU > -2.0 and < 2.0).

Overall, univariate statistics discussed above as well as box plots, stem and leaf displays, and normal probability curves suggest all non-demographic variables (except depression) have relatively normal distributions. My discussion of each variable descriptive statistic is intended to help in the understanding of how individual variables are distributed. However, it should be remembered that normal distribution of individual independent variables is not an assumption of multiple regression analysis. Normal distribution of errors along the regression line is an assumption of regression analysis and will be discussed later along with other assumptions for multiple regression.
**Bivariate Correlations**

The next phase of data analysis consisted of computing all possible bivariate correlations among the variables and presenting them along with associated \( p \) values in a correlation matrix (see Table 2). This table should be reviewed in order to understand the pattern (level and direction) of correlation between all scaled variables. It is necessary to consider the simple bivariate correlations among all variables in multiple regression analysis for the following reasons. First, multiple regression is an extension of simple regression. However, unless all variables in a multiple regression are uncorrelated variables, the resulting \( R^2 \) (the percent of variance in the dependent variable that is accounted for by the linear combination of predictor variables) are less than additive. This is because intercorrelated variables always demonstrate some redundancy in the prediction of a dependent variable. All bivariate correlations between each pair of scaled variables are presented in the form of a correlation matrix in Table 2.
Table #2

Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>EIT</th>
<th>EI1</th>
<th>EI2</th>
<th>EI3</th>
<th>EI4</th>
<th>SWL</th>
<th>self</th>
<th>dep</th>
<th>loc</th>
</tr>
</thead>
<tbody>
<tr>
<td>EIT</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EI1</td>
<td>.67*</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EI2</td>
<td>.84*</td>
<td>.49*</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EI3</td>
<td>.85*</td>
<td>.40*</td>
<td>.65*</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EI4</td>
<td>.81*</td>
<td>.31*</td>
<td>.61*</td>
<td>.69*</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SWL</td>
<td>-.04</td>
<td>.02</td>
<td>-.02</td>
<td>-.03</td>
<td>-.06</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>self</td>
<td>.00</td>
<td>-.00</td>
<td>.06</td>
<td>-.02</td>
<td>.00</td>
<td>.56*</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>dep</td>
<td>.07</td>
<td>.01</td>
<td>.04</td>
<td>.07</td>
<td>.04</td>
<td>-.60*</td>
<td>-.58*</td>
<td>1.00</td>
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<tr>
<td>loc</td>
<td>.04</td>
<td>-.06</td>
<td>.02</td>
<td>.14</td>
<td>.03</td>
<td>-.12</td>
<td>-.32*</td>
<td>.21*</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Note: EIT = emotional intelligence total score, EI1 = perceiving emotions, EI2 = facilitating thought, EI3 = understanding emotions, EI4 = managing emotions, SWL = satisfaction with life, self = self-esteem, dep = depression, loc = locus of control, * = p < .05
In order to be consistent, I first discuss the relationship among EI total score and the four EI component scores. Second, I discuss the relationship among the four EI components with each other. Third, I discuss the relationship between EI total score as well as EI component scores with each of the study’s four remaining scaled variables (satisfaction with life, self-esteem, depression and locus of control). Fourth, I discuss the relationship between satisfaction with life (dependent variable) and each of the three known predictor variables self-esteem, depression and locus of control. Fifth, I discuss the relationship among the known predictor variables self-esteem, depression and locus of control.

The MSCEIT yields a total score and four component scores reflecting the Mayer and Salovey (1997) model of emotional intelligence. EI total score in the present study demonstrated moderate positive bivariate correlations with all four component scores (perceiving emotions $r = .67$, facilitating thought $r = .84$, understanding emotions $r = .85$ and managing emotions $r = .81$) all $p$ values $< .0001$ suggesting there is less than 1 chance in 10,000 of obtaining a sample correlation of this size if the population correlation were zero. Since the pre-set level of statistical significance in the present study is $p < .05$ all of the above $p$ values are significant. The results presented above are expected since the EI total score is comprised of four component scores.

Second, the model’s four component scores demonstrated the following relationships among each other a) perceiving emotions with facilitating thought $r = .49$, understanding emotions $r = .40$, and managing emotions $r = .31$ all with $p$
values < .05. b) facilitating thought with understanding emotions $r = .65$ and managing emotions $r = .61$ both with $p$ values < .05. c) understanding emotions with managing emotions $r = .69$, $p < .05$. The obtained intercorrelations between the EI components are consistent with the intercorrelations reported by the authors Mayer, Salovey, and Caruso (2002) in the MSCEIT manual. The authors report a) perceiving emotions with facilitating thought $r = .54$, understanding emotions $r = .30$, and managing emotions $r = .35$ b) facilitating thought with understanding emotions $r = .43$ and managing emotions $r = .50$ c) understanding emotions with managing emotions $r = .51$ all with $p < .05$. Overall, the four component scores are intercorrelated with EI total score as well as with each other. This pattern of low to moderate correlation suggests the four components are related without complete redundancy.

Third, EI total score as well as all four component scores demonstrated low or no correlation with each of the studies four remaining scaled variables. The correlation between EI total and the remaining variables are satisfaction with life, $r = -.04$, self-esteem, $r = .00$, depression, $r = .07$, and locus of control $r = .04$ all with $p > .05$). Failure to find even simple correlations between EI total and the dependant variable (SWL) as well as the other three independent variables suggest the primary research question; Does emotional intelligence conceptualized as a cognitive ability and measured by the Mayer, Salovey and Caruso Emotional Intelligence Test (MSCEIT) account for greater variance in satisfaction with life among community college students than self-esteem, depression, and
locus of control can not be answered in the affirmative. Correlations between components of EI with the remaining scaled variables ranged between $r = .00$ and $r = .14$, all with $p > .05$. Therefore, results of the present study do not support the findings of prior research such as: a) Bar-On (1997) Martinez-Pons (1999) Ciarrochi et al. (2000) Mayer et al. (2000) Palmer, et. al. (2002) Law et al. (2004) and Extreme et al. (2005) reporting low to moderate positive correlation between EI and satisfaction with life, b) Ciarrochi et al. (2000) reporting a positive correlation between EI and self-esteem, c) Martinez-Pons (1997) and Schutte et al. (1998) reporting a moderate negative relationship between EI and depression, and d) Brown and Schutte (2006) reporting a moderate positive relationship between EI and internal locus of control.

Fourth, satisfaction with life in the present study demonstrated an $r = -.60$ with depression followed by an $r = .56$ with self-esteem, each of the associated $p$ values $< .05$. This suggests that self-esteem has a low moderate positive relationship with satisfaction with life and depression has a low moderate although inverse (negative) relationship with satisfaction with life. Thus, the bivariate correlation between satisfaction with life and self-esteem as well as satisfaction with life and depression is significant at $p < .05$. These obtained correlations are in agreement with much of the literature that often report both self-esteem (e.g., Parkerson et al., 1990; Vermunt et al., 1989) and depression (e.g., Hyer et al., 1987; Martinez-Pons, 1997) as important predictors of satisfaction with life. It is important to note that the relationship between self-esteem and life satisfaction is
positive however, the relationship between depression and life satisfaction is negative (inverse). The correlation between satisfaction with life and the remaining scaled variable locus of control is $r = - .12$ however, its $p$ value is $> .05$ and thus is not statistically significant. Thus, the obtained correlation between satisfaction with life and locus of control does not support previous research (e.g., Hickson et al., 1988) reporting a small to moderate negative relationship between satisfaction with life and locus of control.

Fifth, the method of hierarchical regression analysis employed in the present study enters variables according to research (researcher logically enters variables). My review of the related research suggests self-esteem, followed by depression, and locus of control respectively are all important predictors of satisfaction with life. Thus, in order to maintain consistency I discuss correlations among each of these variables (self-esteem, depression, and locus of control) in that order. First, self-esteem demonstrated a correlation of $r = - .58$ with depression and $r = - .32$ with locus of control, both $p$ values $< .05$. It is important to note the direction of each of these correlations. Both of these relationships are negative (inverse) thus, the data suggests that self-esteem increases as depression decreases (low scores reflect less depression) and self-esteem increases, when internal locus of control increases (low scores). Rotter (1966) noted that low locus of control scores suggest an internal locus of control and high scores suggest an external locus of control. These correlations are in agreement with much of the research reporting an inverse correlation between self-esteem and
depression as well as locus of control. Depression in the study demonstrated a low positive correlation with locus of control \( r = .21, p < .05. \)

**Assumptions of Regression Analysis**

Pedhazur (1997) notes that “knowledge and understanding of the situations when violation of assumptions lead to serious biases, and when they are of little consequence, are essential to meaningful data analysis” (p. 33). The first assumption of regression analysis I discuss in regards to the present study is measurement without error. This assumption is critical to regression analysis; it is not robust to violations of this assumption regardless of sample size. Measurement error in multiple regression analysis may lead to over-estimate or under-estimate of relationships. Thus, it is critical that measurement error be kept to a minimum. Pedhazur (1997) discusses two methods of evaluating measurement error. First, a comprehensive review of the related research can suggest how reliable an instrument has been within specific contexts. Second, I calculated a well known estimate of internal reliability such as the Kuder-Richardson formula 20 coefficient or Chronbach’s coefficient alpha.

I reviewed the research literature on all of the scaled variables and identified each of the assessment instrument's employed in the present study. The first consideration, was the history of each instrument, how frequently as well as over what span of time the instrument has been used in related research. Second, for each instrument, what level of internal reliability was reported in previous research. The five assessment instruments used in the present study
are often used in related research, have been used for some length of time (are widely known), are often are used in contemporary research, and have been reported to demonstrate adequate internal reliability and validity within the context of specific studies.

In accord with Pedhazur’s second recommendation Cronbach’s alpha was calculated for each assessment instrument. Cronbach’s alpha is a measure of the extent to which the individual items that constitute a test correlate with one another. The theory behind this is that a reliable test should minimize the measurement error so that the error (inherent in all measures) is not highly correlated with the true score. Cronbach’s coefficient alpha’s can be found in Table 3.

The SWLS, RSES, BDI-II, and I-E scale all employ a straightforward method of scoring and interpretation. For example on the I-E scale answer choices are either correct or not and scores are derived by simply adding correct responses. In the case of the BDI-II answer choices are assigned numerical values corresponding to level and scores are derived by simply adding across items. Each individual’s cumulative score indicate the level of the variable Therefore, in regards to the SWLS, RSES, BDI-II, and I-E scale individual item responses were used to generate Cronbach’s coefficient alpha’s. The obtained Cronbach’s coefficient alpha’s are SWLS $r = .82$, RSES $r = .86$, BDI-II $r = .82$, and I-E scale $r = .64$. 
The MSCEIT is a proprietary instrument published by Multi Health Systems Inc. All MSCEIT scoring must be done by the publisher either by sending completed response forms or entering the data at a secure web page. I entered electronically all 141 MSCEIT item answer choices for all 200 participants.

The MSCEIT employs both expert consensus scoring (N = 21) and general consensus scoring (N = 5,000). Each MSCEIT response is assigned a score based on the proportion of the consensus sample (either general or expert) that selected that response. For example “if a person selects an alternative chosen by 75% of the norm group, the individual’s score is incremented by .75 and so on” (Mayer et al., 2004, p. 200). In the present study the MSCEIT proportional scores were entered in the calculation of Cronbach’s coefficient alpha’s EI total $r = .94$, perceiving emotions $r = .90$, facilitating emotions $r = .79$, understanding emotions $r = .85$ and managing emotions $r = .85$.

For the present study I chose general consensus scoring as the method of scoring the MSCEIT. However, their appears to be very little difference between types of scoring the MSCEIT. The authors report a very high correlation between general and expert consensus scoring at the full scale $r = .98$, and component level, perceiving emotions $r = .98$, facilitating thought $r = .97$, understanding emotions $r = .98$, and managing emotions $r = .96$. First, I present the estimate of internal reliability published in the MSCEIT manual by the authors Mayer, Salovey, and Caruso (2002). Second, I discuss estimates of MSCEIT internal reliability reported by other researchers.
The internal reliability estimates (split half) reported in the MSCEIT manual by the authors Mayer et al., (2002) are EI total $r = .93$, perceiving emotions $r = .91$, facilitating thought $r = .79$, understanding emotions $r = .80$, and managing emotions $r = .83$. Other researchers reporting internal reliability estimates for the MSCEIT include Bracket and Mayer (2003) reporting a test-retest with a two week interval ($r = .86$), and Ciarrochi et al. (2000) reporting a full scale split half reliability of $r = .90$. 
Table # 3

Cronbach’s Coefficient Alpha

<table>
<thead>
<tr>
<th>Variables</th>
<th>Raw</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSCEIT (total)</td>
<td>.94</td>
</tr>
<tr>
<td>EI1 (perceiving emotions)</td>
<td>.90</td>
</tr>
<tr>
<td>EI2 (facilitating thought)</td>
<td>.79</td>
</tr>
<tr>
<td>EI3 (understanding emotions)</td>
<td>.85</td>
</tr>
<tr>
<td>EI4 (managing emotions)</td>
<td>.85</td>
</tr>
<tr>
<td>SWL</td>
<td>.82</td>
</tr>
<tr>
<td>RSES</td>
<td>.86</td>
</tr>
<tr>
<td>BDI-II</td>
<td>.82</td>
</tr>
<tr>
<td>I-E Scale</td>
<td>.64</td>
</tr>
</tbody>
</table>

Note MSCEIT (total) = Mayer, Salovey and Caruso Emotional Intelligence Test, EI1 = perceiving emotions, EI2 = facilitating thought, EI3 = understanding emotions, EI4 = managing emotions, SWL = Satisfaction With Life Scale, RSES = Rosenberg Self-Esteem Scale, BDI-II = Beck Depression Inventory-2, and I-E Scale = Internal-External Locus of Control
The Mayer, Salovey and Caruso Emotional Intelligence Test (MSCEIT) demonstrated a full scale raw score Cronbach’s alpha $r = .94$ suggesting relatively high internal consistency. The four components of the Mayer and Salovey (1997) model of EI demonstrated the following Cronbach’s alpha (EI1) perceiving emotions $r = .90$; (EI2) facilitating thought $r = .79$; (EI3) understanding emotions $r = .85$; (EI4) managing emotions $r = .85$ The satisfaction with life scale (SWLS) demonstrated a raw score Cronbach’s alpha $r = .83$ suggesting relatively moderate internal consistency. Rosenberg’s Self-Esteem Scale (RSES) demonstrated a raw score Cronbach’s alpha $r = .86$ suggesting relatively moderate internal consistency. Beck’s Depression Inventory-II (BDI-II) demonstrated a raw score Cronbach’s alpha $r = .82$ suggesting relatively moderate internal consistency. Rotter’s Internal-External Locus of Control Scale (I − E Scale) demonstrated a raw score Cronbach’s alpha $r = .64$ suggesting a low level of internal consistency. Osborne, Christensen, and Gunter (2001) reported that the average alpha reported in top Educational Psychology journals was .83.

The question is how large must a reliability coefficient be to be considered acceptable? A widely used rule of thumb of $r = .70$ has been suggested by Nunnally (1978). However, it should be remembered that this is only a rule of thumb and many studies in the social science literature report coefficient alpha reliabilities under .70 and even under .60. Overall, the instruments employed to measure the scaled variables (except the I-E scale) demonstrated adequate internal consistency within the context of the present study.
The second assumption of multiple regression analysis I wish to discuss in regards to the present study is independence of errors. That is, the errors from different observations are independent of each other. This assumption is most often violated with studies that employ cluster sampling and/or repeated measures designs. The present study does not employ either cluster sampling or repeated measures design. The assumption of independence of errors is usually met with the proper design of the study. A plot of the errors (residuals) suggested a pattern-less distribution around zero. Thus, the design of the present study as well as an evaluation of plotted residuals suggest the independence of errors assumption has not been violated.

The third assumption of multiple regression analysis I discuss in regards to the present study is linearity of relationship between independent and dependent variables. Multiple regression represents the dependent variable as a linear function of a combination of independent variables. Thus, it is critical that the relationship between the independent variables and dependent variable as well as among the independent variables be linear. In regards to the present study, two methods of checking for violation of the linearity assumption were employed. First, prior related research was examined that suggested the relationship between the independent variables and the dependent variable as well as among the independent variables are linear. Second, scatterplots of the residuals of each regression analysis (EI, Self-Esteem, Depression, Locus of control) and the predicted values of the dependent variable (SWL) were examined for evi-
idence of nonlinearity. I evaluated each scatter plot of the residuals against the predicted values and observe relatively random scatter along a horizontal regression line. Overall prior research (e.g., Palmer et al., 2002) as well as plots of residuals against predicted values in the present study suggests the relationship between the independent variables and the dependent variable is linear.

The fourth assumption of multiple regression analysis I discuss in regards to the present study is equality of or constant variance of errors (homoscedasticity). This assumption asserts that for each combination of values of the independent variables (predictor) the variance of the errors are the same. The method of evaluating data in the present study for violations of this assumption was to plot regression residuals against predicted values. This assumption was evaluated by looking for evidence of nonconstant variance (heteroscedasticity) of residuals across the range of predicted values for each regression analysis. Overall the plots of residuals in the present study suggested relatively constant variance (equal dispersion) of errors for each of the independent variables. Multiple regression is relatively robust to minor violations of this assumption especially with large sample size. Based on an evaluation of the residual plots as well as evaluation of sample size (N = 200) the present study does not appear to critically violate the equality of or constant variance of errors assumptions.

The fifth assumption of multiple regression analysis I discuss in regards to the present study is normality of residuals. Pedhazur (1997) noted that for regression the normality test should be applied to the residuals rather than the
raw scores. I employed a test available with SAS (version 9.0) the Shapiro-Wilk, as one index of the normality of residuals as well as an evaluation of box plots, normal probability plots, and stem and leaf displays. The null hypothesis of a normality test is that there is no departure from normality. Thus, when the $p$ value is greater than .05, it fails to reject the null hypothesis and thus the assumption holds. The Shapiro-Wilk suggested $p > .05$ for each of the regression analysis in the present study. Additionally, an evaluation of the box plots, stem and leaf displays as well as normal probability plots of the residuals for each regression analysis suggest no critical violations of the normality of residuals assumption. Thus, there does not appear to be a critical violation of the assumption of normality of residuals in the present study.

Hierarchical Regression Analysis

Previous research suggests self-esteem, depression and locus of control are predictive of satisfaction with life. However, the present study attempts to determine how much additional variance in satisfaction with life emotional intelligence accounts for over and above these known predictors. Thus, the first regression analysis performed consisted of the three known predictors self-esteem, depression, and locus of control with satisfaction with life entered as the dependent variable and will be referred to as the stem equation. The results of this regression analysis (SWL= Self-Esteem + Depression + Loc) can be found in Table 4.
**Stem Regression Analysis**

The results of the multiple regression analysis suggested that the linear combination of self-esteem + depression + locus of control accounted for approximately 44% of the variance in satisfaction with life ($R^2 = .4375$). The significance test associated with this $R^2$ is $F (3, 196) = 50.81, p < .05$. Thus, the model is significant at the .05 level. Therefore, I may conclude that $R^2 = .4375$ is probably greater than zero in the population with a 95% confidence level.

SAS reports both non-standardized coefficients as well as standardized coefficients for each predictor. However, since different predictors normally have different standard deviations, and these differences affect the size of non-standardized coefficients it is more appropriate to review the standardized coefficients often called beta weights. The standardized coefficient represents the amount of change in the dependent variable associated with a one-unit standard deviation (SD) change in that predictor, while holding constant the remaining predictors.

The standardized coefficients for the stem model equation (SWL = self-esteem + depression + locus of control) can be found in Table # 4 under the column labeled standardized estimate ($B$). The calculated linear model for the stem equation is (SWL) $Y’ = 0.340$ (self-esteem) – 0.42280 (depression) + 0.07297 (locus of control). The significant predictors of this model are self-esteem and depression. The most important predictor of satisfaction with life is
depression ($B = -0.42$), followed by self-esteem ($B = 0.34$). locus of control did not significantly predict satisfaction with life ($B = 0.07$, $p > .05$).

The squared semi-partial correlation coefficient for depression as well as self-esteem is 0.11893 and 0.07258 respectively. This statistic suggests that depression uniquely accounts for approximately 12% of the explained variance in life satisfaction, and self-esteem uniquely accounts for approximately 7% of the explained variance in satisfaction with life. However, locus of control demonstrated a squared semi-partial correlation coefficient of 0.00478, not significant at the $p < .05$ level. Thus, results from the present study suggest depression and self-esteem are both important predictors of life satisfaction. However, when both self-esteem and depression were held constant locus of control did not account for additional variance in satisfaction with life.

Table # 4

Stem Equation

\[ \text{SWL} = \text{Self-esteem} + \text{Depression} + \text{Locus of control} \]

| Variable | Parameter Estimate | Standard Error | t Value | Pr > |t| | B Standardized Estimate | Squared Semi-partial Corr Type II |
|----------|--------------------|----------------|---------|-------|-----------------------------|-------------------------------|
| Intercept | 14.72224           | 2.66486        | 5.52    | <.0001| 0                           |                               |
| self     | 0.45879            | 0.09124        | 5.03    | <.0001| 0.34040                     | 0.07258                       |
| depress  | -0.32668           | 0.05075        | -6.44   | <.0001| -0.42280                    | 0.11893                       |
| loc      | 0.12759            | 0.09883        | 1.29    | 0.1982| 0.07297                     | 0.00478                       |

Note $R^2 = .4375$, $R^2_{adj} = .4289$, $R_{ms} = 4.7536$
Stem regression analysis plus EI total

The remainder of this chapter consists of the results of each regression analysis designed to test the five specific research questions discussed in chapter one. The focus of the study is the investigation of how much if any additional variance in satisfaction with life emotional intelligence accounts for over other known predictors (self-esteem, depression, locus of control). Therefore, the following five regression analysis consist of adding individually emotional intelligence total score as well as each of four EI component scores to the stem equation (discussed above) and noting any significant change in the $\Delta R^2$ (total amount of variance explained by the linear combination of predictors).

The first research question asked whether emotional intelligence, conceptualized as a cognitive ability and measured by the MSCEIT, accounts for greater variance in satisfaction with life among community college students than self-esteem, depression, and locus of control? When emotional intelligence total score was added to the stem regression equation the results suggest that the linear combination of depression, self-esteem, locus of control, and emotional intelligence has an $R^2 = 0.4376$ suggesting approximately 44% of the variance in satisfaction with life is accounted for. The small change in $\Delta R^2 = 0.0001$, suggest emotional intelligence total score accounts for little or no variance in life satisfaction over depression, self-esteem, and locus of control.
The linear combination of depression, self-esteem, locus of control, and emotional intelligence total score accounts for approximately 44% of the variance in satisfaction with life, significant at the .05 level. However, the relatively small change in $R^2$ (0.0001) when emotional intelligence was added to the stem model suggests that we can not reject the null hypothesis. Therefore, I can conclude that emotional intelligence (total score) does not account for additional variance in satisfaction with life over and above depression, self-esteem and locus of control.

Table # 5

Stem Regression Analysis Plus EI (total score)

| Variable | Parameter Estimate | Standard Error | t Value | Pr > |t| | Standardized Estimate | Squared Semi-partial |
|----------|--------------------|----------------|---------|-------|------------------------|---------------------|----------------------|
| Intercept | 15.11707           | 3.11056        | 4.86    | <.0001| 0                      |                     | 0.07275              |
| self     | 0.46010            | 0.09161        | 5.02    | <.0001| 0.34137                | 0.07275              |
| depress  | -0.32566           | 0.05104        | -6.38   | <.0001| -0.42148               | -0.01336             | 0.11742              |
| loc      | 0.12867            | 0.09917        | 1.30    | 0.1960| 0.07359                |                     | 0.00486              |
| EIT      | -0.00523           | 0.02112        | -0.25   | 0.8046| -0.01336               | 0.00017              |

Note $R^2 = .4376$, $R^2_{aj} = .4261$, $R_{ms} = 4.7650$, $\Delta R^2 = .0001$
Stem regression analysis plus perception of emotion (EI1)

In the present study the second research question asked whether the ability to perceive and accurately express emotion (a component of emotional intelligence as measured by the MSCEIT), accounts for greater variance in satisfaction with life among community college students than self-esteem, depression, and locus of control? When perceiving emotions (EI1) was added to the stem regression equation the results suggest that the linear combination of depression, self-esteem, locus of control, and perceiving emotions has an $R^2 = 0.4387$ suggesting approximately 44% of the total variance in satisfaction with life has been accounted for. Once again the significant predictors were depression ($B = -0.42364$) and self-esteem ($B = 0.34068$). The non-significant predictors were locus of control ($B = 0.07538$) and perceiving emotions ($B = 0.03535$). The standardized regression estimates are (SWL) $Y' = 0.34068 \times$ (self-esteem) – 0.42364 (depression) + 0.07538 (locus of control) – 0.03535 (EI1).

The squared semi-partial correlation coefficients are as follows; depression 0.11936, and self-esteem 0.07269, respectively. Once again suggesting depression uniquely accounts for approximately 12% and self-esteem 7% of the total explained variance in satisfaction with life. The squared semi-partial correlation coefficients of the non-significant remaining predictors are locus of control = 0.00508, and perceiving emotions (EI1) = 0.00124.
Therefore, the linear combination of depression, self-esteem, locus of control and perceiving emotions (EI1) accounts for approximately 44% of the variance in satisfaction with life. However, the relatively small change in $R^2$ (0.0012, $p > .05$) obtained when perceiving emotions was added to the stem model suggests that we can not reject the null hypothesis. Therefore, I can conclude that the ability to perceive emotion does not account for additional variance in satisfaction with life over and above depression, self-esteem, and locus of control.

Table # 6

Stem Regression Analysis Plus EI1 (perceiving emotions)

\[
\text{SWL} = \text{Self-esteem} + \text{Depression} + \text{Loc} + \text{EI1}
\]

| Variable | $b$ Parameter Estimate | Standard Error | $t$ Value | $Pr > |t|$ | Standardized Estimate | Squared Semi-partial |
|----------|-------------------------|----------------|-----------|-----------|-----------------------|---------------------|
| Intercept| 13.31056                | 3.42720        | 3.88      | 0.0001    | 0                     |                     |
| self     | 0.45917                 | 0.09137        | 5.03      | <.0001    | 0.34068               | 0.07269             |
| depress  | -0.32733                | 0.05083        | -6.44     | <.0001    | -0.42364              | 0.11936             |
| loc      | 0.13180                 | 0.09918        | 1.33      | 0.1855    | 0.07538               | 0.00508             |
| EI1      | 0.01387                 | 0.02112        | 0.66      | 0.5123    | 0.03530               | 0.00124             |

Note $R^2 = .4387$, $R^2_{adj} = .4272$, $R_{ms} = 4.7605$, $\Delta R^2 = .0012$
Stem regression analysis plus facilitating thought (EI2)

The third research question asked whether the ability to use emotion to facilitate thought (a component of emotional intelligence as measured by the MSCEIT), accounts for greater variance in life satisfaction among community college students than self-esteem, depression, and locus of control? When facilitating thought (EI2) was added to the stem regression equation the results suggest the following. The linear combination of depression, self-esteem, locus of control, and facilitating thought is $R^2 = 0.4379$ suggesting approximately 44% of the total variance in satisfaction with life is accounted for. Once again the significant predictors were depression ($B = -0.42035$) and self-esteem ($B = 0.34343$). The non-significant predictors were locus of control ($B = 0.07389$) and facilitating thought ($B = 0.02072$).

The standardized regression estimates are (SWL) $Y' = 0.34343$ (self-esteem) $-0.42035$ (depression) $+ 0.07389$ (locus of control) $– 0.02072$ (EI2). The squared semi-partial correlation coefficients were as follows depression and self-esteem 0.11645, and 0.07288, respectively. Once again suggesting depression uniquely accounts for approximately 12% and self-esteem 7% of the total explained variance in satisfaction with life. The squared semi-partial correlation coefficients of the non-significant remaining predictors were locus of control $= 0.00489$, and facilitating thought (EI2) $= 0.00042$. 
Therefore, the linear combination of depression, self-esteem, locus of control, and facilitating thought (EI2) accounts for approximately 44% of the variance in satisfaction with life. However, the relatively small change in $R^2$ (0.0004, $p > .05$) obtained when facilitating thought was added to the stem regression analysis suggests that we can not reject the null hypothesis. Therefore, I can conclude that facilitating thought does not account for additional variance in satisfaction with life over depression, self-esteem, and locus of control.

Table # 7

| Variable | $b$ | Standard Error | $t$ Value | $Pr > |t|$ | Standardized Estimate | Squared Semi-partial |
|----------|-----|----------------|-----------|--------|-----------------------|---------------------|
| Intercept| 15.28754 | 3.05166 | 5.01 | <.0001 | 0 | 0.07288 |
| self | 0.46288 | 0.09206 | 5.03 | <.0001 | 0.34343 | 0.07288 |
| depress | -0.32479 | 0.05110 | -6.36 | <.0001 | -0.42035 | 0.11645 |
| loc | 0.12919 | 0.09914 | 1.30 | 0.1941 | 0.07389 | 0.00489 |
| EI2 | -0.00789 | 0.02061 | -0.38 | 0.7022 | -0.02072 | 0.00042 |

Note $R^2 = .4379$, $R^2_{adj} = .4264$, $R_{ms} = 4.76399$, $\Delta R^2 = .0004$
Stem regression analysis plus understanding emotions (EI3)

The fourth research question asked whether the ability to understand emotions (a component of emotional intelligence as measured by the MSCEIT), account for greater variance in life satisfaction among community college students than self-esteem, depression, and locus of control? When understanding emotions (EI3) was added to the stem regression equation the results suggest the following. The linear combination of depression, self-esteem, locus of control, and understanding emotions has an $R^2 = 0.4375$ or accounts for approximately 44% of the total variance in satisfaction with life. The associated significance test is $F (4,195) = 37.91$, $p < .05$. Once again the significant predictors are depression ($B = -0.42274$) and self-esteem ($B = 0.34045$). The non-significant predictors are locus of control ($B = 0.07307$) and understanding emotions ($B = 0.00063$) $p > .05$.

The standardized regression estimates are (SWL) $Y' = 0.34045$ (self-esteem) - 0.42274 (depression) + 0.07307 (locus of control) - 0.00064 (EI3). The squared semi-partial correlation coefficients are as follows depression and self-esteem 0.11821, and 0.07288, respectively. Once again suggesting depression uniquely accounts for approximately 12% and self-esteem 7% of the total explained variance in satisfaction with life. The squared semi-partial correlation coefficients of the non-significant remaining predictors were locus of control = 0.00471, and understanding emotions (EI3) = 0.00004.
The linear combination of depression, self-esteem, locus of control, and understanding emotions (EI3) accounts for approximately 44% of the variance in satisfaction with life. However, no change in $\Delta R^2$ (0.0000) was detected when understanding emotions was added to the stem regression analysis; thus, suggesting we cannot reject the null hypothesis. Therefore I can conclude that understanding emotions does not account for additional variance in satisfaction with life over self-esteem, depression, and locus of control.

Table # 8

Stem Regression Analysis Plus EI3 (understanding emotions)

$\text{SWL} = \text{Self-esteem} + \text{Depression} + \text{Loc} + \text{EI3}$

| Variable | Parameter Estimate | Standard Error | t Value | Pr > |t| | Standardized Estimate | Squared Semi-partial |
|----------|--------------------|----------------|---------|-------|----------------|-----------------------|---------------------|
| Intercept| 14.74094           | 3.10890        | 4.74    | <.0001| 0             | 0                     | .                   |
| self     | 0.45886            | 0.09167        | 5.01    | <.0001| 0.34045       | 0.07228               |
| depress  | -0.32663           | 0.05103        | -6.40   | <.0001| -0.42274      | 0.11821               |
| loc      | 0.12773            | 0.10003        | -6.40   | <.0001| -0.07307      | 0.00471               |
| EI3      | -0.00027           | 0.02331        | -0.01   | 0.9906| -0.00063      | 3.98875               |

Note $R^2 = .4375, R^2_{aj} = .4259, R_{ms} = 4.76578, \Delta R^2 = .0000$
Stem regression analysis plus the ability to manage emotions (EI4)

The fifth research question asked whether the ability to manage emotions for emotional growth (a component of emotional intelligence as measured by the MSCEIT) accounts for greater variance in satisfaction with life among community college students than self-esteem, depression, and locus of control? When the ability to manage emotions (EI4) was added to the stem regression equation the results suggest the following. The linear combination of depression, self-esteem, locus of control, and managing emotions (EI4) demonstrated an $R^2 = 0.4400$ suggesting approximately 44% of the total variance in satisfaction with life is accounted for. The associated significance test is $F (4,195) = 38.30, p < 0.0001$. Again the significant predictors are depression ($B = -0.41953$) and self-esteem ($B = 0.34300$). The non-significant predictors are locus of control ($B = 0.07482$) and managing emotions ($B = -0.05045$).

The standardized regression estimates are $(SWL) Y' = 0.34300 \text{ (self-esteem)} - 0.41953 \text{ (depression)} + 0.07482 \text{ (locus of control)} - 0.05045 \text{ (EI4)}$. The squared semi-partial correlation coefficients are as follows depression and self-esteem 0.11677, and 0.07357, respectively. Again suggesting depression uniquely accounts for approximately 12% and self-esteem 7% of the total explained variance in satisfaction with life. The squared semi-partial correlation coefficients of the non-significant remaining predictors are locus of control = 0.00502, and the ability to manage emotions (EI4) = 0.00253.
The linear combination of depression, self-esteem, locus of control, and ability to manage emotions (EI4) accounts for approximately 44% of the variance in satisfaction with life. However, the relatively small change in $R^2$ (0.0025) obtained when managing emotions was added to the stem model regression analysis suggests that we cannot reject the null hypothesis. Therefore, I cannot conclude that the ability to manage emotions accounts for additional variance in satisfaction with life over and above self-esteem, depression and locus of control.

Table # 9

**Stem Regression Analysis Plus EI4 (managing emotions)**

$SWL = \text{Self-esteem} + \text{Depression} + \text{Loc} + \text{EI4}$

| Parameter | Value       | Standard Error | t Value | Pr > |t| | Standardized Estimate | Squared Semi-partial |
|-----------|-------------|----------------|---------|-------|----------|------------------------|-----------------------|
| Intercept | 16.59348    | 3.32768        | 4.99    | <.0001| 0        | 0                      | .                      |
| self      | 0.46230     | 0.09134        | 5.06    | <.0001| 0.34300  | 0.07357                |                       |
| depress   | -0.32416    | 0.05083        | -6.38   | <.0001| -0.41953 | 0.11677                |                       |
| loc       | 0.13082     | 0.09892        | -1.32   | 0.1876| 0.07482  | 0.00502                |                       |
| EI4       | -0.02313    | 0.02462        | -0.94   | 0.3487| -0.05045 | 0.00253                |                       |

**Note** $R^2 = .4400$, $R^2_{aj} = .4285$, $R_{ms} = 4.75503$, $\Delta R^2 = .0025$
Summary of Results

Univariate distributions of the scaled variables were examined and all found to be within acceptable parameters (skewness ≤ 1.00 and kurtosis ≤ 2.0). These distributions reflected the population that the sample was drawn from (CFCC students).

The bivariate correlations between emotional intelligence total score and each of the four components of EI ($r = .67, .84, .85, .81$) respectively, all significant at $p < .05$ suggested a pattern of low to moderate positive correlations. Correlations among the components range between $r = .31$ and $r = .68$, they are all positive, and significant at $p < .05$ suggesting the components are related without total redundancy.

The correlation between EI total as well as all four EI components with satisfaction with life (dependent variable) range between $r = - .01$ and $r = -.06$ and are not significant at $p < .05$ level. This finding is interesting because it does not support prior research (e.g., Palmer et al., 2002; Ciarrochi, et al., 2000; Law et al., 2004) that report finding correlations between EI or components of EI and satisfaction with life.

The correlation between emotional intelligence total as well as each of the four EI components with each of the other predictor variables (self-esteem, depression, locus of control) range between $r = .00$ and $r = .13$ and are not significant ($p > .05$). This finding is also interesting because it does not support prior research (e.g., Hong & Giannakopoulos, 1994; Kopp & Ruzicka, 1993).
that reported finding significant correlations between satisfaction with life and self-esteem, depression, and locus of control.

The correlation among each of the other predictor variables self-esteem, depression, and locus of control are as follows, self-esteem and depression \( (r = -0.58, p < .05) \), self-esteem and locus of control \( (r = -0.31, p < .05) \) and between depression and locus of control \( (r = 0.21, p < .05) \). This finding supports prior research (e.g., Palmer et al, 2002) reporting similar (magnitude & direction) correlations among these variables.

The correlation between the dependent variable (SWL) with self-esteem, depression, and locus of control are as follows, self-esteem with SWL \( (r = 0.56, p < .05) \), depression with SWL \( (r = -0.60, p < .05) \) and locus of control with SWL \( (r = -0.12, p > .05) \). This finding supports prior research (e.g., Palmer, et al., 2002) reporting similar correlations among theses variables.

An evaluation of the above data suggests first, that in general the predictor variables self-esteem and depression, demonstrate a low moderate correlation \( (r = 0.56 \) and \( r = -0.60 \) respectively) with the dependent variable (SWL) both significant at \( p < .05 \). Locus of control suggested a small non-significant correlation \( (r = -0.12, p > .05) \) with SWL.

Second, EI as measured with the MSCEIT demonstrated a small non-significant correlation with the dependent variable (SWL). Correlations between EI and EI components with SWL ranged between \( r = -0.01 \) and \( r = 0.06 \) \( p > .05 \). Correlations between the known predictor variables range between \( r = 0.21 \) and
\[ r = -0.57, \] thus, the predictor variables demonstrate relatively low correlations with each other. Therefore, the magnitude of intercorrelation among predictor variables suggests in the present study multiple regression analysis is an appropriate method to investigate relationships among these variables.

The data were checked for violations of the following important assumptions of multiple regression: a) measurement without error (checked with Chronbach’s coefficient alpha), b) independence of errors, c) linearity of relationship between predictor and dependent variables, d) equality of or constant variance of errors, and e) normality of residuals, with no critical violations of important assumptions discovered.

A review of the relevant literature suggested the following predictors self-esteem, depression, and locus of control be included in the first regression analysis with satisfaction with life entered as the dependent variable (stem equation). This regression analysis suggested the linear combination of self-esteem, depression, and locus of control accounts for approximately 44% of the variance in satisfaction with life. The significant predictors in the first regression analysis are self-esteem and depression.

The five specific research questions ask how much if any additional variance in satisfaction with life does emotional intelligence or any one or more components of emotional intelligence account for among college students over self-esteem, depression, and locus of control. In order to investigate the above five research questions a series of five regression analysis were conducted. I
added (individually) emotional intelligence total score as well as each EI component score to the stem equation (SWL = Self-esteem + depression + locus of control) and observed any significant change in $R^2$ (total amount of variance accounted for in the dependent variable).

The addition of emotional intelligence total score as well as each of the four EI component scores failed to demonstrate a significant change in $R^2$ and any small change was not significant at $p < .05$. Thus, I can not reject the null hypothesis for any of the five research questions. Therefore, I can conclude that emotional intelligence as measured with the MSCEIT does not account for additional variance in satisfaction with life among community college students over self-esteem, depression, and locus of control.
Chapter Five
Discussion

This chapter begins with an overview of the study and then discusses major findings within the context of previous research. Some suggestions for future research as well as limitations of the present study are identified. Conclusions as well as implications for practice in higher education are discussed in the final sections.

Overview of the Study

Since Daniel Goleman (1995) published Emotional Intelligence the construct has become linked with academic and occupational success as well as satisfaction with life. Mayer and Cobb (2000) noted that “Education policy experts quickly accepted the idea that EI predicted academic as well as other types of success” (p. 170). For example, Pool (1997) reviewed Goleman’s 1995 publication, and stated that “Emotional well-being (skills) is the strongest predictor of achievement in school and on the job” and that “Recent studies have shown that EI predicts about 80 percent of a person’s success in life” (p.12).

Schools have been especially receptive to the EI construct. O’ Connor and Little (2003) argue “The widespread societal acceptance of the EI concept has led some authors (e.g., Gottman & Declaire, 1998; Shapiro, 1997) to suggest strategies for developing and enhancing EI in our schools” (p.189). Elksnin and Elksnin (2003) noted that “Within two years after publication of Goleman’s (1995)
book more than 700 school districts across the nation implemented social emotional learning (SEL) programs designed to teach students social-emotional skills” (p. 65). Barefoot and Fidler (1996) asserted that the goals of freshman seminar programs nationally emphasize the development of emotional skills. Other researchers (e.g., Gardner & Jewler, 2003; Nelson & Low, 2002) noted that the goals of freshman seminar programs often include the development of emotional intelligence.

The problem is that much of this speculation regarding relationships between EI and important life domains has far exceeded the empirical research. Cobb and Mayer (2000) stated that “To date there has been relatively little research to suggest the relationship between EI and educational, occupational as well as other life domains” (p. 397). The present study empirically investigated the relationship between EI and satisfaction with life among community college students.

Satisfaction with life was chosen as the dependent variable in the present study for the following four reasons: First, some research (e.g., Argyle, 1987) suggest that increasing levels of satisfaction with life are associated with increasing levels of positive affect and positive affect is a quality rewarding in itself. Second, some research (e.g., Meyers, 1992) reports that high levels of satisfaction with life are associated with other important and much desired characteristics (e.g., higher self-esteem; greater sense of control; less stress). Third, some researchers (e.g., Witter, Okun, Stock, & Haring, 1984; Veenhoven, 1994)
report small but significant positive correlations between satisfaction with life and levels of education. Fourth, some researchers (e.g., Astin, 1977, 1993; Sanders & Chan, 1996) regard satisfaction with life as a key goal and outcome of higher education. Bean and Bradley (1986) reported findings that suggest a small positive relationship ($r = .21, p < .001$) between satisfaction with life and academic achievement among undergraduates. Koeske and Koeske (1991) reported a moderate positive relationship between satisfaction with life and retention among undergraduates. Thus, satisfaction with life is both an important variable for its affective association as well as its association with other important life outcomes including those of higher education (e.g., levels of education).

Fortunately, there is a rich research base on satisfaction with life. Pavot and Diener (1993) define satisfaction with life as “A cognitive judgmental process in which individuals assess the overall quality of their lives on the basis of their own unique set of criteria” (p. 64). Some of the research (e.g., Hong & Giannakopoulos, 1994) suggests that among the best predictors of satisfaction with life are self-esteem, depression, and locus of control respectively. The present study empirically investigates the relationship between EI and satisfaction with life after controlling for self-esteem, depression, and locus of control.

Emotional intelligence was conceptualized according to the Mayer and Salovey (1997) four component cognitive ability model. This model conceptualizes EI as composed of four distinct yet related cognitive abilities: a) the ability to perceive, appraise, and express emotions, b) the ability to access and
generate emotions in order to facilitate thought, c) the ability to understand emotion and emotional knowledge, d) the ability to regulate emotions in both self and others in order to promote emotional and intellectual growth.

The present study was conducted on the Lecanto campus (Citrus County) of Central Florida Community College (CFCC) during the Fall, 2005 semester. The method of sampling was convenience accomplished by the primary investigator, an adjunct psychology instructor on the campus asking fellow instructors for permission to solicit participants from among their students. During a three week span of time a total of 200 student participants completed the following five assessment instruments: a) the Mayer Salovey and Caruso Emotional Intelligence Test (MSCEIT), b) Rosenberg’s Self-Esteem Scale (RSES), c) Beck’s Depression Inventory-II (BDI-II), d) Rotter’s Internal-External Locus of Control Scale (I-E Scale), and e) Diener’s Satisfaction With Life Scale (SWLS).

All participants completed the assessment package individually during or after class in small groups. I administered all the assessments, monitored all sessions and at time of completion I evaluated all instruments for compliance with instructions. The MSCEIT was scored by the publisher (Multi-Health Systems Inc.). The remaining assessments were scored and tabulated by the primary investigator.

To investigate the relative importance of EI as a predictor of satisfaction with life among community college students, a series of hierarchical regression analyses was conducted. Three known predictors self-esteem, depression, and
locus of control were entered into the primary regression analyses with satisfaction with life entered as the dependent variable (stem regression analyses). EI total score as well as each of the models four component scores were then added individually and sequentially to the stem regression analyses. As each variable was added to the stem equation any resulting change in $\Delta R^2$ (total variance in the dependent variable accounted for) was observed.

**Major Findings and Comparisons with Previous Research**

The first major finding in the present study is that the bivariant relationship between the known predictors self-esteem, depression, and locus of control with satisfaction with life supports much of the prior research. Several researchers (e.g., Diener, 1984; Huebner, 1991; Ramanaiah, Detwiler & Byravan, 1997; Hong & Giannakopoulos, 1994; Kopp & Ruzicka, 1993) reported findings that suggest significant correlations between satisfaction with life and self-esteem, depression, and locus of control. In the present study the reported bivariant correlations (presented in Table 2) between satisfaction with life and the following predictor variables are self-esteem $r = .56$, depression $r = -.60$ and locus of control $r = -.12$. Thus, in the present study the predictor variables self-esteem and depression demonstrated statistically significant correlations in the strength and direction suggested by prior research. The correlation between locus of control and satisfaction with life was small, negative and not significant at $p < .05$. 
Some of the research (e.g., Hong & Giannakopoulos, 1994) suggested the relationship between self-esteem and SWL is both moderate and positive. The observed correlation was both moderate and positive ($r = .56, p < .05$). The same study suggested a moderate but negative correlation between depression and SWL. The observed correlation between depression and SWL was moderate and negative ($r = -.60, p < .05$). Hong and Giannakopoulos (1994) reported a small negative correlation between satisfaction with life and locus of control. The observed non-significant correlation between locus of control and satisfaction with life is both small and negative ($r = -.12, p > .05$).

The second major finding in the present study is that EI total as well as all four EI components demonstrated a small, but non-significant correlation with SWL. Several researchers (e.g., Bar-on, 1997; Ciarrochi, Chan & Caputi, 2000; Martinez-Pons 1997, 1999; Mayer, Caruso, & Salovey, 2000; Law et al., 2004; Cannon & Ranzijn, 2005) reported finding a positive correlation between EI and satisfaction with life. However, in the present study the results of all simple bivariant correlations between EI total as well as all four EI components with satisfaction with life does not support the above cited findings. None of the correlations between EI total or any of the four EI components and SWL were statistically significance ($p < .05$). The instruments used are the best available and most widely used. This is an important finding because it suggests little or no correlation between EI conceptualized as a cognitive ability, measured with the MSCEIT, and satisfaction with life among community college students.
The third major finding was that when EI total score was added to the multiple regression \( \text{SWL} = .34 \text{(SE)} - .42 \text{(Dep)} + .07 \text{(L of C)} -.01 \text{(El)} \) there was little or no change in \( \Delta R^2 = -.0001 \). It is important to note that even this very small change in \( R^2 \) is not significant at the \( p < .05 \) level. Thus, in regards to the first research question “Does EI conceptualized as a cognitive ability and measured by the MSCEIT account for greater variance in life satisfaction among community college student than self-esteem, depression, and locus of control?” I can not reject the null hypotheses and must conclude that EI does not account for additional variance in satisfaction with life above self-esteem, depression, and locus of control. Thus, the findings in the present study do not support prior research (e.g., Ciarrochi, Chan & Caputi, 2000; Mayer, Caruso, & Salovey, 1999; Palmer, Donaldson, & Stough, 2002; Saklofske Austin, & Minski, 2003) that reported EI demonstrates incremental prediction in satisfaction with life above self-esteem, depression and locus of control.

The fourth major finding is all four components of EI (perceiving, facilitating thought, understanding, and regulating emotions) when added individually and sequentially to the stem regression equation demonstrated little or no change in \( R^2 \). It is important to note that none of the \( \Delta R^2 \) associated with the components of EI was significant at the \( p < .05 \) level. Thus, in regards to research questions 2 through 5, I can not reject the null hypothesis. Therefore, I conclude that none of the components of the Mayer and Salovey (1997) model of EI accounts for vari-
ance in satisfaction with life above self-esteem, depression, and locus of control among community college students.

Summary of Findings

The predictor variables depression, self-esteem, and locus of control correlated with satisfaction with life. This finding agrees with prior research (e.g., Hong & Giannakopoulos, 1994) that reported a moderate negative (inverse) relationship between depression and SWL, a moderate positive correlation between self-esteem and SWL and a smaller negative correlation between locus of control and SWL.

Emotional intelligence total score as well as all four components of the Mayer and Salovey (1997) EI model demonstrated a small correlation with SWL. However, none of the correlations between EI or the components of EI with SWL are significant at $p < .05$.

In order to investigate EI incremental validity five sequential hierarchical regression analyses were conducted. EI total score and each EI component score was added individually and sequentially to the stem equation composed of three known predictors of SWL. The result of each regression analyses was a change in $\Delta R^2 < .01$. Therefore, EI total score as well as all four components of the Mayer and Salovey (1997) EI model accounted for little or no additional variance in SWL over self-esteem, depression, and locus of control and none of the $\Delta R^2$ are significant at the $p < .05$ level. In regards to all five research questions the null hypothesis can not be rejected. Thus, results suggest that neither EI nor
the four components of EI accounts for additional variance in satisfaction with life among community college students above self-esteem, depression, and locus of control.

Suggestions for Future Research

The concept of EI has evolved along two related yet distinct paths. The first path, the more popularly oriented (mixed model) is based largely on Goleman’s (1995) book. Goleman conceptualizes EI as incorporating both cognitive abilities as well as non-cognitive elements. The second path, the more academically oriented cognitive ability model is led primarily by John Mayer, Peter Salovey, and associates (e.g., Mayer, Salovey, & Caruso, 2002). This model conceptualizes EI as distinct yet somewhat similar to traditional intelligence.

At the current stage of EI construct and measurement development future research should address three important issues. First, increase definitional clarity and consensus, there is little agreement on what is emotional intelligence. Second, improve measurement tools such that research informs conceptual development. Third, generate a research base sufficient to evaluate whether EI has incremental validity. Unless EI demonstrates it can account for variance in some important variable beyond variance accounted for by known predictors it is simply old wine in a new bottle.

Proponents of EI such as Bar-On (2000) argue that “EI is a conceptually coherent construct” (p. 364). Ciarrochi, Chan, and Caputi (2000) note that “While the definitions of EI are often varied for different researchers they nevertheless
tend to be complementary rather than contradictory” (p. 540). Law, Wong, and Song (2004) state that “Although definitions of emotional intelligence are not identical the differences between definitions tend to be minor” (p. 484). A review of the EI literature suggests otherwise (e.g., Goleman, 1995; Mayer & Salovey, 1997; Bar-On, 1997). Matthews, Roberts, and Zeidner (2004) argue that “The label emotional intelligence has been rather haphazardly used to refer to a multitude of distinct constructs that may or may not be interrelated” (p. 8). Studies that employ competing measures of EI may help determine whether differences between competing models of EI are really complimentary or contradictory. Clearly, the results of the present study suggest EI as measured by the MSCEIT does not predict life satisfaction among community college students. The scope of this study did not include a mixed model measure of EI. However, the results from a competing measure could be important to EI conceptual refinement and understanding which EI predicts which variables at what level.

Palmer et al. (2002) noted that 10 years of theoretical and instrument development since Goleman (1995) published *Emotional Intelligence* now makes it possible to empirically investigate the relationship between EI and theoretically related life criteria. However, EI construct and measurement development is still in its early stages. The most appropriate method of measuring EI continues to be an area of controversy. Sakloske, Austin, and Minski (2003) said "It is not clear how, if at all, the two approaches to the measurement of EI should be reconciled" (p. 708). At the current stage of EI construct and measurement development
studies that employ different conceptualizations and measurements appear to
generate confusion. However, Spector and Johnson (2006) argue that “There will
eventually be a shakeout in terms of which components and definitions become
established in the research community and which are set aside” (p. 340).

A review of the literature revealed only one study by O’Connor and Little
(2003) employed both a self-report measure of EI, the Bar-on Emotional Quotient
Inventory (EQ-i) and an ability-based (performance) measure, the Mayer,
Salovey, Caruso, Emotional intelligence test (MSCEIT), to investigate the
relationship between EI and academic achievement or grade point average
(GPA) among college students. The results of the O’Connor and Little (2003)
study suggest EI measured with the EQ-i or MSCEIT is not a good predictor of
college GPA. Clearly, the O’Connor and Little study support an earlier study by
Newsome et al. (2000) investigating the relationship between EI and GPA among
(N=180) undergraduate students. Newsome et al. (2000) reported that EI as
measured by the EQ-i was not an important predictor of college GPA ($r = .01,$
$p > .05$).

Future research should include measures of EI from both the mixed model
and the cognitive ability model. Such a study would employ both self-report and
ability (performance) measures of EI. Some research (e.g., Petrides & Furnham,
2000) suggest that mixed models (self report measures) and cognitive ability
models (performance measures) are distinct from each other. Studies that
employ measures from both conceptual models may suggest relationships
between components or dimensions of EI and important life domains as well as suggest conceptual revisions of the EI construct and help refine measurement.

Spector and Johnson (2006) argue “Equally important will be a demonstration of incremental validity over existing constructs in order to demonstrate that EI is something unique” (p. 338). Gibbs (1995) and Goleman (1995) have made grandiose claims (e.g., EI is twice as important as IQ, and EI is the best predictor of success in life) regarding the relationship between EI and important life outcomes. Mayer, Salovey and Caruso, 2004 stated that “Such claims suggest that EI predicts major life outcomes at levels virtually unheard of in psychological science” (p. 206). Future research should investigate the relationship between EI and a variety of important life domains. For example, future studies should include dependent measures of a) intellectual (e.g. GRE scores), b) behavioral (e.g., risk taking), and c) emotional (e.g., depression) life outcomes. Large and comprehensive studies employing competing models and assessment measures may make it possible to empirically investigate what EI actually does predict and at what level.

Limitations of the Study

The findings presented should be interpreted with caution due to threats to both internal and external validity. Gay and Airasian (2003) stated internal validity is “The condition that observed differences on the dependent variable are a direct result of the independent variable, not some other variable” (p. 345). This study is correlational research and correlation does not imply causation. Johnson and
Christensen (2000) define external validity as “The extent to which the results of a study can be generalized to and across populations, settings, and times” (p. 200). Onwuegbuzie (2003) noted “Findings from every study in the field of education have threats to internal and external validity” (p. 72), and pointed out the importance of discussing threats to both internal and external validity. First, it allows the reader to place the findings in context. Second, it provides direction for future research (e.g., replication studies that are designed to minimize identified threats to internal and external validity).

**Threats to Internal Validity**

An important threat to internal validity at the data collection stage of many studies is instrumentation. Onwuegbuzie (2003) proposed that “Instrumentation threat to internal validity occurs when scores yielded from a measure lack the appropriate level of consistency (e.g., low reliability) and/or validity” (p. 76).

Instrumentation threat to internal validity was not a critical threat in the study. I generated Cronbach’s Coefficient Alpha’s for each instrument as follows: MSCEIT $r = .94$, SWL $r = .82$, RSES $r = .86$, BDI-II $r = .82$, I-E Scale $r = .64$. In order to evaluate the reliability of each instrument I compared the obtained Cronbach’s Coefficient Alpha’s with estimates of reliability reported in the literature. a) Mayer, Salovey, and Caruso (2002) report the MSCEIT has a full scale reliability of $r = .91$ (split-half reliability). Bracket and Mayer (2003) report a test-retest reliability for the full scale MSCEIT of $r = .86$ with a two week interval. b) Short term reliabilities for the SWLS have been consistently reported by the
authors Diener, et al., (1985) to be $r = .8$ or greater. c) For the RSES McCarthy and Hoge (1982) report a one year test-retest coefficient $r = .77$ (N = 1,852). d) BDI-II the authors’ Beck, Steer, and Brown (1997) report estimates of internal reliability (Cronbach’s Alpha) with outpatients (N = 500) as well as with a non-clinical population of college students (N = 120) of $r = .92$ and $r = .93$ respectively. And d) The developer of the I-E Scale Rotter (1966) reported reliability estimates which ranged from $r = .69$ to .73 using the Split-half Spearman-Brown and Kuder-Richardson formulas. Alfonso and Allison (1992) reported from their study of 106 university students a coefficient alpha of $r = .89$.

The estimates of internal reliability obtained in the study for the MSCEIT, SWLS, and RSES are equal to or higher than estimates reported in the literature. The estimates of internal reliability obtained in the study for the BDI-II and the I-E scale are less than estimates reported in the literature. However, the obtained $r = .86$ for the RSES appears adequate and the $r = .64$ obtained for the I-E scale is not much less than the $r = .69$ to .73 range reported by the author (Rotter, 1966). An evaluation of the obtained estimates of reliability and the reliability estimates reported in the literature suggests four of the five instruments used in the present study demonstrated adequate reliability. The I-E scale demonstrated a level of internal reliability ($r = .64$) less than what is generally considered adequate $r = .70$. Therefore, Instrumentation threat is a concern and should be considered however it does not appear to be a critical threat to the studies internal validity.


**Threats to External Validity**

An important threat to the external validity of many studies at the data interpretation stage is population validity, ecological validity, and temporal validity. Onwuegbuzie (2003) stated “When interpreting findings stemming from small and/or non-random samples, researchers should be very careful not to overgeneralize their conclusions” (p. 86). The study is as large or larger \( (N = 200) \) than many similar studies. The method of participant selection was convenience. However, a review of the EI literature suggests many similar studies make use of smaller convenient samples. I collected some limited demographic information from participants such as gender, age, and race. A comparison between the sample and population demographics suggest that within the limits of the above discussion the obtained sample of 200 participants appears to be representative of Central Florida Community College students. The obtained sample is probably representative of most community colleges in the state of Florida, and yet conceivably non-representative of some. Therefore, population validity, ecological validity and temporal validity while always a threat does not appear to pose any unusual threat to the studies external validity.

**Conclusions**

The aim of the present study is to investigate whether EI predicts variance in satisfaction with life among community college students beyond that explained by known predictors self-esteem, depression, and locus of control. The results of simple correlation and hierarchical multiple regression analysis suggests clearly
and convincingly that EI as measured with the MSCEIT does not demonstrate a correlation with or an increment in the prediction of SWL above known predictors.

The MSCEIT is a relatively new and popular proprietary instrument intended to measure EI as conceptualized from the Mayer and Salovey (1997) cognitive ability model. Clearly, the results of the study suggest EI as measured by the MSCEIT may not be a useful predictor of satisfaction with life among community college students. It is of particular interest to note that the EI construct can be roughly divided into two competing perspectives. First, the more broadly defined (inclusive) mixed model led primarily by D. Goleman and associates, this model makes somewhat grandiose claims as to the importance of EI. Second, the cognitive ability model led primarily by J. Mayer and P. Salovey and associates that defines EI as a special type of intelligence (set of cognitive abilities) and makes relatively conservative claims as to the importance of EI.

By comparison the grandiose claims as to the importance of EI made from the mixed model perspective makes the cognitive ability model of EI palatable. However, results of the present study (from the cognitive ability model) suggest EI as measured by the MSCEIT may not be a useful predictor of satisfaction with life among community college students. Results of the present study coupled with other studies such as O’Connor and Little (2003) that report EI measured from both mixed and ability models (EQ-i, & MSCEIT) is not a good predictor of college GPA. Newsome et al. (2000) reported results that suggest EI concept-
tualized from the mixed model of EI and measured by the EQ-i is not an important predictor of college GPA. Therefore, the cognitive ability model of EI may be more palatable to academic researchers and empirically inclined practitioners. However, results of the present study and the above mentioned studies suggests EI is not an important predictor of important higher education outcome variables such as satisfaction with life or college grade point average regardless of what EI model or type of measurement employed.

*Implications for Practice in Higher Education*

The curriculum is best conceptualized as a work in progress. Patrick Terenzini and Ernest Pascarella (1999) noted that “American colleges and universities have a long history of calls to reform the curriculum” (p. 33). However, the history of higher education is no different from history in general, what we call change is often little more than rekindling of the past. One such recurrent theme in higher education curriculum reform is holistic education, or at least greater attention to the affective component of education (Beck & Kosnik, 1995).

In the 1920s educators were interested in character education. In the 1950s humanistic psychology helped shift educator’s interest toward affective education. Socioemotional learning (SEL) evolved out of the Character and affective education movements. In the 1990s EI helped fuel interest in socio-emotional education. The importance of socioemotional learning (SEL) in higher education has not gone unnoticed. Pascarella and Terenzini (1991) noted “Important changes that occur during college are probably the cumulative result
of a set of varying, but interrelated and mutually supporting experiences sustained over an extended period of time” and “The individual changes as a whole, integrated person during college” (p. 21). American colleges to varying degrees have been and continue to be committed to holistic education.

Goleman’s publishing of Emotional Intelligence in 1995 had two important effects. First, he helped popularize the EI concept in part because a) traditional variables such as high school GPA, high school class rank, IQ scores, and ACT/SAT scores do not account for all of the variance in college success or other important outcomes. Second, publications such as *The Bell Curve* published by Herrnstein and Murray (1994) suggested general intelligence was relatively fixed and differentially distributed with respect to racial and socioeconomic lines. The appeal of EI is that it promises to level the playing field, EI is said to be as important or more important than IQ, and teachable, or at least it could be learned (Goleman, 1995).

Second, Goleman broadened the definition of EI to include a multitude of personality entities, thus providing the link between EI and education. Mayer and Cobb (2000) noted that according to Goleman’s conceptualization “Virtually any link between personality and good school outcomes could be attributed to EI” (p. 170).

In the final analysis ten years after Goleman’s (1995) publication of *Emotional Intelligence* much has been gained, such as EI conceptual development and instrumentation. However, the EI construct continues to suffer from a
lack of definitional clarity and measurement tools are not widely accepted. A review of the literature including the present study fails to suggest what the ability version of EI predicts. A limitation of the present study is the failure to measure EI with a mixed model instrument. However, even if Goleman is correct that groups of different variables predict important life outcomes, what usefulness does EI have over groups of other well known constructs? In order for EI to establish its validity it must demonstrate definitional clarity, accuracy, and reliability of measurement. In order for EI to establish its utility it must demonstrate it accounts for variance in important criteria beyond other important predictors. Results from the present study do not support claims of EI definitional clarity or accuracy of measurement. Results also suggest EI is not an important predictor (does not account for additional variance) of satisfaction with life among community college students.

The law of parsimony dictates that the simplest of two or more competing theories or explanations is preferable and that an explanation for unknown phenomena should first be attempted in terms of what is already known. Higher education has a rich literature as well as access to related literature such as personality research to inform both curriculum development and best practices in education. Mayer and Cobb (2000) argue “At present socioemotional programs are implemented with reasonable hopes that they will have beneficial effects, independent of empirical research concerning EI” (p. 179). The state of California experienced a similar situation in the early 1990s when well meaning educational
policy makers incorporated self-esteem programs into their elementary and secondary school curricula with little empirical justification. Several years later the California self-esteem movement in general was judged a failure.

The future of the EI construct will take one of two paths. First, with continuing research the EI construct may gain credibility with increasing definitional clarity and improved measurement tools. Spector and Johnson (2006) may be correct that “There will eventually be a shakeout in terms of which components and definitions become established in research and which are set aside” (p. 340). With greater definitional clarity and better measurement tools we may discover EI has incremental validity over existing constructs demonstrating EI is something unique” (p. 338). In time we may understand what EI predicts and at what levels.

Another possibility is that the EI construct along with its often inflated claims such as “EI is equal to if not more valuable than IQ as an indicator of one’s professional and life success” (Goleman, 1995 p. 34) will be debunked. The exaggerated claims some EI proponents have made to the importance of EI (e.g., job performance & leadership) has helped generate considerable research. However, despite the popularity of the construct and volume of research EI remains in an early stage of construct development. The jury is still out on EI, researchers may someday find EI has some measure of usefulness, or researchers may find it is not an educationally meaningful significant construct. However, until such time educational policy makers should recall the California self-esteem
movement, and choose to be informed by higher education and personality research rather than good intentions or mass media science journalism.
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Appendix A

Instruments
DIRECTIONS: Below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number in the line preceding that item. Please be open and honest in your responding.

1 = Strongly Disagree
2 = Disagree
3 = Slightly Disagree
4 = Neither Agree or Disagree
5 = Slightly Agree
6 = Agree
7 = Strongly Agree

______1. In most ways my life is close to my ideal.
______2. The conditions of my life are excellent.
______3. I am satisfied with my life.
______4. So far I have gotten the important things I want in life.
______5. If I could live my life over, I would change almost nothing.
DIRECTIONS: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle SA. If you agree with the statement, circle A. If you disagree, circle D. If you strongly disagree, circle SD.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. On the whole, I am satisfied with myself.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>2. At times I think I am no good at all.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>3. I feel that I have a number of good qualities.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>4. I am able to do things as well as most other people.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>5. I feel I do not have much to be proud of.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>6. I certainly feel useless at times.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>7. I feel that I'm a person of worth, at least on an equal plane with others.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>8. I wish I could have more respect for myself.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>9. All in all, I am inclined to feel that I am a failure.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>10. I take a positive attitude toward myself.</td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
</tbody>
</table>
DIRECTIONS: Please choose one statement from each pair of statements that best describes how you feel or you agree with most.

1) a. Children get into trouble because their parents punish them too much.
   1) b. The trouble with most children nowadays is that their parents are too easy on them.

2) a. Many of the unhappy things in people’s lives are partly due to bad luck.
   2) b. People’s misfortunes result from the mistakes they make.

3) a. One of the major reasons why we have wars is because people don’t take enough interest in politics.
   3) b. There will always be wars, no matter how hard people try to prevent them.

4) a. In the long run people get the respect they deserve in this world.
   4) b. Unfortunately, an individual’s worth often passes unrecognized no matter how hard he/she tries.

5) a. The idea that teachers are unfair to students is nonsense.
   5) b. Most students don’t realize the extent to which their grades are influenced by accidental happenings.

6) a. Without the right breaks, one cannot be an effective leader.
   6) b. Capable people who fail to become leaders have not taken advantage of their opportunities.

7) a. No matter how hard you try, some people just don’t like you.
   7) b. People who can’t get others to like them don’t understand how to get along with others.

8) a. Heredity plays the major role in determining one’s personality.
   8) b. It is one’s experiences in life which determine what they like.

9) a. I have often found that what is going to happen will happen.
   9) b. Trusting fate has never turned out as well for me as making a decision to take a definite course of action.
10) a. In the case of the well prepared student there is rarely, if ever, such a thing as an unfair test.
10) b. Many times exam questions tend to be so unrelated to course work that studying is really useless.

11) a. Becoming a success is a matter of hard work; luck has little or nothing to do with it.
11) b. Getting a good job depends mainly on being in the right place at the right time.

12) a. The average citizen can have an influence in government decisions.
12) b. This world is run by the few people in power, and there is not much the little guy can do about it.

13) a. When I make plans, I am almost certain that I can make them work.
13) b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14) a. There are certain people who are just no good.
14) b. There is some good in everybody.

15) a. In my case getting what I want has little or nothing to do with luck.
15) b. Many times we might as well decide what to do by flipping a coin.

16) a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
16) b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.

17) a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
17) b. By taking an active part in political and social affairs the people can control world events.

18) a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
18) b. There really is no such thing as "luck."

19) a. One should always be willing to admit mistakes.
19) b. It is usually best to cover up one's mistakes.
20) a. It is hard to know whether or not a person really likes you.
   20) b. How many friends you have depends upon how nice a person you are.

21) a. In the long run the bad things that happen to us are balanced by the good ones.
   21) b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22) a. With enough efforts we can wipe out political corruption.
   22) b. It is difficult for people to have much control over the things politicians do in office.

23) a. Sometimes I can’t understand how teachers arrive at the grades they give.
   23) b. There is a direct connection between how hard I study and the grades I get.

24) a. A good leader expects people to decide for themselves what they should do.
   24) b. A good leader makes it clear to everybody what their jobs are.

25) a. Many times I feel that I have little influence over the things that happen to me.
   25) b. It is impossible for me to believe that chance or luck plays an important role in my life.

26) a. People are lonely because they don't try to be friendly.
   26) b. There's not much use in trying too hard to please, if they like you, they like you.

27) a. There is too much emphasis on athletics in high school.
   27) b. Team sports are an excellent way to build character.

28) a. What happens to me is my own doing.
   28) b. Sometimes I feel that I don't have enough control over the direction my life is taking.

29) a. Most of the time I can't understand why politicians behave the way they do.
   29) b. In the long run people are responsible for bad government on a national as well as on local level.
Appendix B

Institutional Review Board
CITI Course in The Protection of Human Research Subjects

Saturday, September 17, 2005

CITI Course Completion Record
for kevin murphy

To whom it may concern:


Learner Institution: University of South Florida
Learner Group: Social / Behavioral Investigators and Key Personnel
Learner Group Description:
Contact Information:
  Department: higher education
  Role in human subjects research: Research Assistant
  Mailing Address:
    6141 EastDell Lane
    Inverness
    FL
    34452
    citrus
  Email: kmurphy1@mindspring.com
  Office Phone: na
  Home Phone: 352-726-8428

The Required Modules for Social / Behavioral Investigators and Key Personnel are:

<table>
<thead>
<tr>
<th>Module</th>
<th>Date</th>
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</thead>
<tbody>
<tr>
<td>Refresher Course 101 Introduction</td>
<td>09/17/05</td>
</tr>
<tr>
<td>SBR 101 REFRESHER MODULE 1. History and Ethics</td>
<td>09/17/05</td>
</tr>
<tr>
<td>SBR 101 REFRESHER MODULE 2. Regulatory Overview</td>
<td>09/17/05</td>
</tr>
<tr>
<td>SBR 101 REFRESHER MODULE 3. Fundamental Issues.</td>
<td>09/17/05</td>
</tr>
<tr>
<td>SBR 101 REFRESHER MODULE 4. Vulnerable Subjects</td>
<td>09/17/05</td>
</tr>
<tr>
<td>SBR 101 REFRESHER MODULE 5. Additional Topics</td>
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</tr>
</tbody>
</table>

How to Complete The CITI Refresher Course and Receive the Completion Report 09/17/05

Additional optional modules completed: Date completed

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI participating institution. Falsified information and unauthorized use of the CITI course site is unethical, and may be considered scientific misconduct by your institution.

Paul Braunschweiger Ph.D.
Professor, University of Miami
Director Office of Research Education
CITI Course Coordinator
To whom it may concern:

On 11/17/2004, kevin murphy (username=ktmurphy; Employee Number=) completed all CITI Program requirements for the Basic CITI Course in The Protection of Human Research Subjects.

Learner Institution: University of South Florida
Learner Group: Social / Behavioral Investigators and Key Personnel
Learner Group Description:

Contact Information:
Department: higher education
Role in human subjects research: Research Assistant
Mailing Address:
   6141 EastDell Lane
   Inverness
   FL
   34452
   citrus
Email: kmurphy1@mindspring.com
Office Phone: na
Home Phone: 352-726-8428

The Required Modules for Social / Behavioral Investigators and Key Personnel are:

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<tr>
<td>Introduction</td>
<td>11/17/04</td>
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<tr>
<td>History and Ethical Principles - SBR</td>
<td>11/17/04</td>
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<tr>
<td>Defining Research with Human Subjects - SBR</td>
<td>11/17/04</td>
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<tr>
<td>The Regulations and The Social and Behavioral Sciences - SBR</td>
<td>11/17/04</td>
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<tr>
<td>Assessing Risk in Social and Behavioral Sciences - SBR</td>
<td>11/17/04</td>
</tr>
<tr>
<td>Informed Consent - SBR</td>
<td>11/17/04</td>
</tr>
</tbody>
</table>

Privacy and Confidentiality - SBR 11/17/04
Research with Prisoners - SBR 11/17/04
Research with Children - SBR 11/17/04
Research in Public Elementary and Secondary Schools - SBR 11/17/04
International Research - SBR 11/17/04
Internet Research - SBR 11/17/04
University of South Florida 11/17/04

Additional optional modules completed:

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI participating institution. Falsified information and unauthorized use of the CITI course site is unethical, and may be considered scientific misconduct by your institution.

Paul Braunschweiger Ph.D.
Professor, University of Miami
Director Office of Research Education
CITI Course Coordinator
Appendix C

Letter of Voluntary Research Participation
Dear Students,

You are invited to take part in a research study designed to investigate the relationship between emotional intelligence and satisfaction with life after accounting for other variables (self-esteem, locus of control, and depression). There are two qualifications for participation in the study: First, you must be a CFCC student enrolled in a course section chosen to take part in the study. Second, you must voluntarily choose to take part in the study. Your participation in the study will consist of completing five brief assessment instruments. Although, you may take as much time as you wish to complete the instruments; most students will require between 60-75 minutes.

Participation in the present study is both voluntary and anonymous. Please do not write any information such as name, social security number, address etc. that could identify you personally on any of the assessment instruments.

To complete the instruments you will need a #2 pencil which I will provide for you. Please read the instructions that precede each instrument. If you have any questions or concerns regarding your participation in the study, please contact the principal investigator Mr. Kevin Murphy at the CFCC student lounge or by phone at 352-726-8428 or E-mail at kmurphy10@mindspin.com.

If you have no concerns regarding your participation in the study and wish to voluntarily participate in the research, please complete each of the instruments in the order in which the instruments are presented. Begin by reading the instruments instructions and completing the first instrument followed by each of the other instruments. Once you have completed all instruments please return all instruments to me.

Thank you very much for your participation.

Kevin T. Murphy

[Signature]
Principal Investigator
About the Author

Kevin T. Murphy is a native of Queens County New York, where he completed twelve years of public school education before entering the Florida Community College system and beginning a career in law enforcement. In 1976, he earned the Associate of Arts (A.A) from Central Florida Community College (CFCC), and in 1979, the Bachelor of Science (B.S.) in both Psychology and Criminology from Florida State University (FSU). In 1992 Kevin completed the Master of Science (M.S.) in mental health counseling at Stetson University. After 25 years of service Kevin retired from law enforcement in 2001. He is now a licensed mental health therapist and adjunct psychology instructor at CFCC.