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# Emotional Intelligence and Its Relationship to Academic Success and Leadership

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EMOTIONAL INTELLIGENCE AND ITS RELATIONSHIP TO ACADEMIC  
SUCCESS AND LEADERSHIP

A Thesis

Presented to the

Faculty of the Department of Psychology

Western Kentucky University

Bowling Green, Kentucky

In Partial Fulfillment of

the Requirements for the Degree

Master of Arts

By

Sarah Allison Long

August 2007



EMOTIONAL INTELLIGENCE AND ITS RELATIONSHIP TO ACADEMIC SUCCESS  
AND LEADERSHIP

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# EMOTIONAL INTELLIGENCE AND ITS RELATIONSHIP TO ACADEMIC SUCCESS AND LEADERSHIP

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Emotional intelligence is a relatively new construct within the field of psychology. Since its formal introduction in 1990 by Salovey and Mayer, emotional intelligence and its relationship to other constructs has been widely researched. Current research does not provide conclusive evidence of the relationship of emotional intelligence to academic performance, nor does it fully address its possible empirical relationship to leadership. This study addressed emotional intelligence, as measured by Bar-On's Emotional Quotient Inventory (EQ-i), and its predictive relationship to academic success as well as to involvement and leadership in campus organizations. An archival data set was used to longitudinally assess the relationship between students' academic progress and social activity with scores on the EQ-i. Due to student attrition over the 4 year time period, analysis was conducted on the full sample as well as two sub-samples of those who stayed and those who left the university. Results indicated that emotional intelligence was predictive of only one of the three measures used to assess academic success; ACT scores were a better predictor of all three measures of academic success. Results also indicated that emotional intelligence was not predictive of involvement and leadership in campus organizations. These results suggest that emotional intelligence is not a useful predictor of academic success or involvement and leadership in students in a college setting.

## Introduction

Emotional intelligence has emerged as a leading theory of how humans use emotions in their everyday lives. The term emotional intelligence has been used by those outside the academic domain as a generic expression synonymous with terms such as “people skills” or “soft skills” (Goldenberg, Matheson, & Mantler, 2006). The construct of emotional intelligence is more complicated than simply general human interaction. Researchers such as Salovey & Mayer (1990), Bar-On (1997), and others have spent great time and effort in furthering the understanding of emotional intelligence and its relationship to other facets of life.

During any social interaction, verbal and nonverbal cues are passed between individuals. Information about an individual’s thoughts, feelings, and emotions as well as his motives are communicated through these cues (Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006). Emotional intelligence is the capability of an individual to perceive, identify, and understand his/her own emotions and those of others. Emotional intelligence also involves the utilization of this perception of emotions to effectively accomplish effectively tasks in one’s life (Salovey & Mayer, 1990). Individuals who are emotionally intelligent, by current definitions, experience success in important areas of their lives such as work and in their relationships. Overall, emotionally intelligent individuals also seem to be healthier, happier, and more emotionally stable than those who are low in emotional intelligence (Schutte, Malouff, Simunek, McKenley, & Hollander, 2002).

Since Salovey and Mayer (1990) introduced the theory of emotional intelligence, many researchers have completed studies on the construct. Despite this research, the

theory is still relatively new and much is still to be discovered. A single model of emotional intelligence has yet to be agreed upon by the experts in this area. Mayer and Salovey (1990) developed a model that classifies emotional intelligence as an ability. Others such as Bar-On (1997) classify emotional intelligence as a trait. Still others classify emotional intelligence as a mix of trait and ability (e. g., Matthews, Zeidner, & Roberts, 2002).

Research addressing the influence of emotional intelligence on behavior is still in its early phases as well. The relationship of emotional intelligence to other constructs and behaviors is inconsistent in research, partially because there is not a single model or definition of the construct. Continued study of this elusive construct is necessary to increase our understanding of emotional intelligence and its possible positive or negative relationships to other important constructs.

The present study addresses the relationship between emotional intelligence and success in college and leadership. First, there is a review of the different models of emotional intelligence, the existing research on emotional intelligence, and the implications of emotional intelligence for academic success and leadership. Then I present an overview of the proposed study to address the relationship between emotional intelligence and academic success and leadership in college. Prior research has shown inconsistent research on the relationship between emotional intelligence and academic success and leadership. A possible reason behind the mixed results is the static nature of the previous studies. In this study, previously collected data on emotional intelligence will allow a longitudinal look at what effect emotional intelligence has on academic success and leadership over a student's college career.

### *The Evolution of Emotional Intelligence*

Throughout the early years of psychological research, emotion and intelligence were thought to be independent constructs and were studied as such. In the 1970's and 1980's, some researchers began to integrate the two and the foundations for the theory of emotional intelligence were laid. Individuals in the early 1970's began to study the relationship between cognitive functioning and its possible affective or emotional component. This study of cognition and affect focused on how emotions and thought influenced one another (Mayer, 2006). Gardner (1983) introduced the theory of multiple intelligences, which included an intrapersonal intelligence and an interpersonal intelligence. These intelligences involve an individual's ability to understand the emotions shown by oneself and others, and then to act accordingly. These two constructs are direct precursors of emotional intelligence (Hedlund & Sternberg, 2000). Gardner suggested that individuals have the ability to recognize and symbolize emotion. The term emotional intelligence was sporadically used in articles relating to the study of cognition and affect, but was not defined until 1990 (Mayer, 2006). In 1990, Salovey and Mayer authored the flagship article on emotional intelligence that initiated widespread interest in research on the topic. They compiled past research addressing the ability to perceive, understand, manage, and utilize emotions effectively and created their model of emotional intelligence. Many of the ideas behind emotional intelligence are rooted in Thorndike's 1920 theory of social intelligence. Salovey and Mayer (1990) proposed that emotional intelligence could possibly be a subset of this more established construct. Social intelligence is a broad construct conceptualized as a skill for understanding individuals and their interactions. Emotional intelligence is a more specific construct



targeted at the emotional component of one's social interactions with the world around him/her. Salovey and Mayer (1990) defined emotional intelligence as "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).

### *The Basis of Emotional Intelligence*

To understand emotional intelligence, one must first have a basic understanding of its two components, emotion and intelligence. Although general intelligence has been recognized as a construct for many years, there is no consensus on a precise definition of general intelligence. However, researchers tend to think of general intelligence as an overall set of mental abilities possessed by an individual (Salovey & Mayer, 1990). General intelligence describes the collection of skills that an individual uses to navigate his/her everyday life. A person that is seen as intelligent has abstract reasoning skills, visual/spatial skills, communication and verbal skills, as well as many others. Intelligent individuals can see the relationships among objects and use that knowledge accordingly.

Emotions can be even more difficult to define than intelligence. In essence, emotions are an organized response to some event(s) that includes some physiological, cognitive, and affective reaction. Emotions start as an internal response to some external stimuli with the possibility of an external manifestation of that response. For example, if persons feel that another individual is disappointed with them, they may become angry. An emotion such as anger can cause responses such as one's heart to beat faster, palms to sweat, and one to possibly do, say, or have thoughts uncontrollably (Mayer, Salovey, & Caruso, 2000). Emotions differ from moods in that they are short, intense reactions; moods are longer in duration and lower in intensity (Mayer, Salovey, Caruso, &

Sitarenios, 2001). For example, an individual usually is angry for only a short time, while an individual in a depressed mood could be sad and unhappy for days, weeks or even longer at a time. Everyone experiences emotions, and research has shown that they are consistent across cultures (Mayer, et al, 2001; Salovey & Mayer, 1990). One may assume that the closer one individual is to another, the better each would be at recognizing the other's emotions and understanding the reasons behind them; however, there is no research to support this supposition. Flury and Ickes (2006) found that individuals are just as likely to identify correctly emotions in strangers as they were to identify emotions in individuals with whom they were familiar. This finding suggests emotional intelligence to be an individual difference variable because individuals differed in their level of emotional intelligence regardless of familiarity of the target. There apparently is another explanation for how individuals perceive emotion. The question remains how intelligence and emotion are connected and how they interact with one another. Emotional intelligence attempts to bridge this gap.

### *Correlates of Emotional Intelligence*

Emotional intelligence as an individual construct has been questioned, but its proponents have attempted to show its independence as well as its connection to many other established constructs. Salovey and Mayer (1990) have questioned whether emotional intelligence is just another subset of general intelligence, as is verbal or mathematical intelligence. Using factor analysis, Davies, Stankov, and Roberts (1981) found measures of general intelligence and emotional intelligence to be independent. Emotional intelligence also has little to no correlation to the Wechsler Adult Intelligence Scale ( $r = .12$ ), the General Ability Measure for Adults ( $r = .08$ ), and the Raven's

Standard Progressive Matrices ( $r = .01$ ) (Bar-On, 2000). The magnitude of each correlation is low. Matthews, Zeidner, and Roberts (2002) found that those that with mental retardation and with very low intelligence also have very low emotional intelligence; primarily due to diminished general brain functioning in those individuals. In the brain, the centers for both intelligence and emotion processing occur in the frontal lobe, which suggests that some functional overlap is quite possible. However, this inconclusive evidence suggests there is still much to be learned about the relationship between general intelligence and emotional intelligence.

Emotional intelligence may also be related to global intelligence and personality. Emotional intelligence has been theorized to be an ability (Salovey & Mayer, 1990) as well as set of traits (Bar-On, 1997). Research has shown support for both models of emotional intelligence and some have suggested that both could be accurate theories (Chapman & Hayslip, 2005). Abilities are rooted in intelligence and traits in personality. Because emotional intelligence is conceptualized as both an ability and trait, a connection between general intelligence and personality is feasible. Correlations between overall measures of general intelligence and personality are frequently extremely low, but there are a few personality constructs that seem to have a cognitive component. Openness and ego resiliency are just two examples. Both of these constructs are considered to be personality based but have strong correlations with intelligence, and at face value they seem to have a cognitive component as well (Matthews, Zeidner, & Roberts, 2002). Openness relates to an individual's strong interest or willingness to engage in new and different experiences. An individual can have a preference for novel situations, but they must cognitively seek those situations to experience them (McCrae, 2000). Ego

resiliency relates to an individual's ability to recover quickly from some negative experience. Some individuals may be more likely to encounter negative experiences and feel emotionally depressed, but there is a cognitive component that influences how an individual deals with those emotional setbacks (Matthews, Zeidner, & Roberts, 2002).

Measures of emotional intelligence have shown consistent correlations to measures of personality. The correlation between personality and emotional intelligence is seen as a major criticism of the theory of emotional intelligence. High correlations between two constructs suggest the constructs are not independent from one another, or that one or more of the measurements of the constructs are problematic. Personality is usually explained in terms of the Five Factor Model. Openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism are the five independent traits that make up the Five Factor Model, also known as the big five. These five traits are widely accepted components of personality and are studied often (McCrae, 2000). Emotional intelligence has been shown to be strongly correlated with the big five personality constructs (Brackett & Mayer, 2003; Chapman & Hayslip, 2005). Most of the components or traits identified in any of the models of emotional intelligence can also be found in existing models of personality traits (McCrae, 2006). Dwanda and Hart (2000) found the correlation between measures of the big five and emotional intelligence to be  $r = .5$ , on average. Davies, et al. (1998) found a relationship between emotional intelligence and agreeableness, neuroticism, and extraversion. Schutte et al. (1998) also found a relationship between emotional intelligence and openness. Research has suggested that emotional intelligence may not be an independent construct. It may account for only small additional variance that personality or social intelligence does not

account for in domains such as academics and life success (Chapman & Hayslip, 2005; Van Der Zee, Thijs, & Schakel, 2002). Brackett and Mayer (2003) also found that all the big five constructs significantly contributed to the prediction of emotional intelligence ( $R = .75$ ).

The proponents of emotional intelligence are trying to find evidence for emotional intelligence as independent from personality. Lopes, Salovey, Cote, and Beers (2005) conducted a study that showed support for the uniqueness of emotional intelligence. By statistically controlling for the big five personality factors, they were still able to demonstrate that emotional intelligence had a positive relationship with leadership.

### *Models of Emotional Intelligence*

Two major models of emotional intelligence dominate the literature: Salovey and Mayer's (1990) model and Bar-On's (1997) model. Salovey and Mayer (1990) were the first major researchers in the field of emotional intelligence. Their model conceptualizes emotional intelligence as an ability that consists of four dimensions: the ability to perceive emotion in self and others, the ability to utilize emotions to facilitate thought, the ability to understand emotion in self and others, and the ability to manage emotion in self and others. There seems to be a succession of skills that develops with each of the four dimensions of the model. In order from the first to the fourth, the dimensions become more complex and involve more cognitive functioning (Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006). Emotional intelligence begins with the appraisal or perception of emotion, whether it is in oneself or another. This initial perception is the basis of the other processes. Emotion can be perceived, not only in any type of communication such as the traditional verbal and nonverbal communication, but also in

other mediums such as art and music. Once the correct emotion is perceived, the individual can then use that information to make decisions, solve problems, and make future plans. A full understanding of the emotions may not be necessary to know how to use them to one's benefit. Understanding the appropriate meaning behind the emotion requires a command of some language skills. One should be able to express understanding of emotions as well as understand the complex nature of how emotions can combine and progress to one another. Controlling or managing emotions appropriately can determine success or failure in many situations. Controlling emotions involves the ability to augment, increase, or reduce emotions in oneself and in others.

Bar-On (1997) was the next major researcher in the field of emotional intelligence. Bar-On's model of emotional intelligence is a trait-based theory, which differs slightly from the ability-based Salovey and Mayer model (Matthews, Zeidner, & Roberts, 2002). Bar-On defined emotional intelligence as "an array of non-cognitive capabilities, competencies, and skills that influence one's ability to succeed in coping with environmental demands and pressures" (p. 14). This definition suggests that emotional intelligence is a predictor of success in life; however, Bar-On focused on an individual's potential to succeed and not necessarily on actual success. Bar-On also stressed that emotional intelligence is a result of traits and skills possessed by an individual. For example, Bar-On might suggest that if individuals were in a highly stressful and demanding work or school environment, they would achieve greater success if they exhibited high levels of emotional intelligence, because they would be equipped with the appropriate emotional tools.

*Measurement of Emotional Intelligence*

Bar-On created the Emotional Quotient Inventory (EQ-i) to measure his conceptualization of emotional intelligence. The EQ-i is a self-report assessment to measure the fifteen components in his model of emotional intelligence. Five scales group these fifteen into interpersonal skills, intrapersonal skills, stress management, adaptability, and general mood. The interpersonal scale includes subscales of empathy, social responsibility, and interpersonal relationship. Those that score high on interpersonal skill are responsible, dependable, interact well with others and have good teamwork skills. The intrapersonal scale includes the subscales of self-regard, emotional self-awareness, assertiveness, independence, and self-actualization. Individuals with high scores on intrapersonal skill are independent and strong, in touch with their emotions, have a generally positive outlook on themselves and their lives, and are able to adequately express and convey to others their thought and emotions adequately. Reality testing, flexibility, and problem solving make up the adaptability scale. High scoring individuals are realistic, flexible, effective in solving unique problems, and very capable of dealing with dilemmas that occur in everyday life. The stress management scale consists of stress tolerance and impulse control. Being able to withstand high levels of stress without losing control is indicative of those that score high on stress management. They are rarely impulsive, generally calm, and do well under high levels of anxiety and pressure. Last, happiness and optimism make up the general mood scale. Individuals that are generally positive, cheerful, and enjoy life commonly score high on this scale (Bar-On, 2002).

As mentioned, emotional intelligence's conceptualization as either a trait or ability is the main difference between the models of Salovey and Mayer and Bar-On. This is partially because theoretically there is some question whether emotional intelligence is learned or is more of an innate trait. Research has yet to provide a conclusive answer, but it appears to be both. Young children do not exhibit high levels of emotional intelligence, but by the time they reach adolescence the construct is well developed (Elias, Kress, & Hunter, 2006). Across individuals, there is a range of variability on measures of emotional intelligence. Across different samples, emotional intelligence improves with age, suggesting that experience is a key factor in one's emotional intelligence level. Different experiences make individuals uniquely who they are; it is almost impossible to tease apart what is gained by experience and what is innate (Esmond-Kiger, Tucker, & Yost, 2006). Because of these and similar findings, many school systems have been pushing to integrate some type of emotional and social development programs into their curriculum (Elias, Kress, & Hunter, 2006). Two examples are The Seattle Social Development Program and The Responsive Classroom Program. Exactly what these programs accomplish and their effectiveness has not been properly assessed, but such programs are growing in popularity. Thus, the question of what real effect such programs have on academic success has not been answered.

#### *Academic Success and Emotional Intelligence*

Researchers have shown varied results for the relationship between emotional intelligence and academic success. Current tools used by universities used for admissions account for a large amount of variance in the prediction of college success,



but there is still a large portion of unaccounted for variance in college performance that is. Emotional intelligence may explain at least part of this variance in academic success.

First, it is important to address the different ways in which academic success can be measured. Grade point average (GPA) is the primary index used by academic institutions world wide to measure how well an individual is performing in school. Available research operationalizes academic success in terms of GPA alone (Barchard, 2003; Bontokoe, 1992; Myers & Pyles, 1992; Paszczyk, 1994; Rowan, 1978). Students receive grades from each course, which typically are averaged to obtain an overall GPA. The most common way to predict college success, especially as operationalized by college GPA, is to use high school GPA in conjunction with a standardized test, such as the ACT, as predictors (Paszczyk, 1994). The ACT was designed to predict an individual's performance in college level work. Hundreds of thousands of high school students across the country take the test every year. The ACT is a standardized test comprised of four main subject areas: English, Reading, Math, and Science Reasoning. Results are reported in a comprehensive score, four content area scores, and seven sub-scores. The test also includes an interest inventory to assist test takers in selecting possible career options (Morgan, 1992).

Many universities use GPA and ACT as standards for admissions. Bontekoe (1992) found a strong correlation ( $r = .69$ ) between high school GPA and college GPA, and Passons (1967) found that high school GPA was the best predictor of college success as compared to ACT. Myers and Pyles (1992) found a strong relationship between ACT scores and college success. ACT composite scores were highly correlated with students' first fall semester GPA ( $r = .53$ ). Longitudinal data collected by Rowan (1978) also

indicated a strong correlation ( $r = .51$ ) between ACT and college GPA after eight semesters. Together, these studies show a strong and consistent relationship between college GPA and ACT scores and support the predictive power of the ACT.

Both high school GPA and ACT have been shown to independently to be adequate predictors of college success, but together they can be even more effective. Myers and Pyles (1992) showed the ACT; GPA combination to be a significant predictor of college GPA ( $R = .57$ ). Paszczyk (1994) also reported that the two used together can be a significant predictor of college success. Even though these tools account for a large amount of variance in the prediction of college success, there is still a large portion of unaccounted for variance in college performance. Emotional intelligence may explain at least part of this variance in academic success.

Research has provided mixed support for the predictive relationship between emotional intelligence and academic success in college. Swart (1996) found significant differences in groups of academically successful and unsuccessful students in their scores on a self-report measure of emotional intelligence. Students were selected into the groups based on their GPA. Those students considered successful consistently scored higher in emotional intelligence. Schutte et al. (1998) found a significant correlation ( $r = .32$ ) between scores on a self-report measure of emotional intelligence and first year college GPA. Chapman and Hayslip (2005) and O'Connor and Little (2003) also found a significant correlation between emotional intelligence and college GPA,  $r = .32$  and  $r = .23$ , respectively. However, other researchers have found slight to no correlation between emotional intelligence and academic success (e.g., Barchard, 2003; Esmond-Kiger, Tucker, & Yost, 2006). These inconsistent findings could be a result of using different

measures of emotional intelligence. Some of these researchers used the EQ-i (O'Connor & Little, 2003; Swart, 1996); some used the MSCEIT (Barchard, 2003; O'Connor & Little, 2003); and still others used less well-known tests with unknown psychometric properties (Chapman & Hayslip, 2005; Esmond-Kiger, Tucker, & Yost, 2006; Rozzell, Petijohn, & Parker, 2002, Schutte et al., 1998). EQ-i is being used in the current study because of the support for its psychometric properties and its wide use and acceptance. EQ-i has shown a relationship to GPA in past research (O'Connor & Little, 2003; Swart, 1996), therefore it would also be expected to show a relationship in current research.

One last interesting finding is that there could be possible differences in emotional intelligence across majors. Rozell, Petijohn, and Parker (2002) as well as Esmond- Kiger et al. (2006) discovered that accounting majors had lower levels of emotional intelligence than non-accounting majors in the business school.

More research is needed to make sense of these inconclusive results. One limitation of previous research investigating the role of emotional intelligence in college success is the time frame in which these studies were conducted. Each of the previous studies was cross-sectional, completed in a relatively short time frame of one year or one semester, which is only a fraction of the total time spent in college. Many events and circumstances, personal or collective, can and do impact an individual over the course of the typical four-year college experience. How one navigates those events likely impacts success in college. Looking at a longer time frame in which students perform may yield stronger or completely different results.

General intelligence, or academic ability, may not be a sufficient by itself to result in academic success. It is likely that factors other than academic ability influence the

final measure of academic success, graduation from college. Students must be able to manage stress and some level of social interaction to successfully complete college. Studies indicated a weak or nonexistent correlation between emotional intelligence and general intelligence (Van Der Zee, Thijs, & Schakel, 2002). This result suggests that emotional intelligence may be another contributing factor to academic success. The prediction was made that emotional intelligence will show a stronger relationship to academic success over a longer time frame, especially in relation to graduation rates.

Schutte, Malouff, Simunek, Mckenley, and Hollander (2002) suggested that high emotional intelligence could affect all areas of life such as work, education, and relationships. An individual with a high level of emotional intelligence should have a strong, stable, and positive state of emotional well-being. Individuals who have a positive state of emotional well being are more open to new experiences, which research has shown to lead to more learning (Salovey & Grewal, 2005). Highly emotionally intelligent individuals should also be less susceptible to negative circumstances that may threaten their positive state of emotional well-being, leading to higher self-esteem.

Emotional intelligence may effect success in life past college (Schutte, Malouff, Simunek, Mckenley, & Hollander, 2002). Tapia and Marsh (2002) demonstrated that general IQ accounts for only about 20% of the factors that determine life success. Individuals may excel in an academic setting but lack appropriate social skills to function in a real world setting. These individuals surpass expectations in the structured environment college offers, but, when faced with the dynamics of the real world, they fail. In school, most problems are very well defined and have one specific solution, while in the real world problems are rarely well defined, are constantly changing, and usually

do not have just one answer (Hedlund & Sternberg, 2000; Van Der Zee, et al. 2002). Van Der Zee et al. (2002) suggested individuals with higher emotional intelligence are better able to solve these more real, complex, and dynamic problems. Their results supported the ability of emotional intelligence to predict academic and social success beyond that predicted by traditional measures of intelligence and personality. Successful leadership may be one area past college that may be effected by emotional intelligence.

### *Leadership and Emotional Intelligence*

Leadership is important in virtually every organizational setting and, as such, merits in-depth study. Leadership as a construct is not new, but every new study seems to suggest another new and improved definition of leadership. Most definitions of leadership suggest an individual who has influence over a group and who pushes this group to achieve a valued organizational objective (Northouse, 2007). Just as there are many definitions of leadership, there likewise are as many models of leadership. Leadership is interactional and social by its very nature because it requires relationships with other individuals. Relationships involve emotions. Therefore, leadership should have an emotional element to it. This, in turn, suggests that emotional intelligence has a place in leadership theory (Kobe, Reiter-Palmon, Rickers, 2001).

Bar-On's (1997) emotional intelligence theory relates to the trait approach to leadership. The trait approach focuses on characteristics of the individual such as personality. Trait theory suggests that those who have certain innate traits will emerge as leaders (Northouse, 2007). If one were to make a list of important qualities essential to an effective leader, one would find significant overlap between those traits and the 15 subscales of the EQ-i. Just a few examples would be: adaptability, stress tolerance,

problem solving, assertiveness, and emotional self-awareness (Brackett & Geher, 2006). As mentioned earlier, the EQ-i is strongly correlated with measures of the big five personality constructs (Dwanda & Hart, 2005). Studies have also indicated a strong relationship between the big five personality constructs and transformational leadership (Jordan, Ashton-James, & Ashkanasy, 2006; Judge & Bono, 2000). Therefore, it is plausible that there would be a relationship between emotional intelligence and leadership. Extraversion is an individual's sociability and general positive mood; conscientiousness is an individual's awareness and dedication to doing what is appropriate and right. Extraversion, followed by conscientiousness and openness, has the strongest relationship to leadership (Jordan, Ashton-James, & Ashkanasy, 2006; Northouse, 2007). These three constructs also share a strong connection to emotional intelligence (Jordan, Ashton-James, & Ashkanasy, 2006; Northouse, 2007).

An individual must become an accepted member of a group before a leadership role can be achieved. Crick (2002) asked the question would individuals with higher levels of emotional intelligence be more inclined to join or become involved with student organizations. High school students were given the youth version of the EQ-i, and results indicated that those considered organization joiners consistently had higher levels of emotional intelligence than those that were considered non-joiners, especially on EQ-i subscales interpersonal skills and adaptability. Also, interestingly those students that joined organizations and also acquired a leadership position within that group consistently had even higher levels of emotional intelligence, especially on EQ-i subscales interpersonal skills, stress management, and adaptability. Similar research by Rozell, Pettijohn, and Parker (2002) also discovered that higher levels of emotional

intelligence was linked with membership in Greek and sports organizations as well as other clubs and extra curricular activities on campus. Due to this research, a similar effect in the current sample of college students was predicted. Those that participate in on campus organizations should have higher levels of emotional intelligence than those who choose not to participate especially in regards to the subscales of interpersonal skills, stress management, and adaptability.

Northouse (2007) characterized transformational leadership as engagement and connection made between the leader and followers. This basic connection between a leader and followers has been described as the concept of empathy, which plays a vital role in the theories of emotional intelligence and transformational leadership (Barbuto & Burbach, 2006). Barbuto and Burbach (2006) studied the relationship between emotional intelligence and the transformational style of leadership. Their research demonstrated positive correlations between emotional intelligence and the components of transformational leadership. The transformational model of leadership consists of four major components: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Each of these components is based upon the ability of the leader to read followers needs in different situations and act in an appropriate manner to fulfill those needs (Jordan, Ashton-James, & Ashkanasy, 2006; Judge & Bono, 2000). Individuals that can evaluate situations and the people involved in them will be better leaders (Kobe et. al., 2001). This ability to perceive, understand, utilize, and manage emotions is the basis behind the Salovey and Mayer (1990) model of emotional intelligence.

As mentioned, empathy is a core principle in emotional intelligence. Those that are higher in emotional intelligence should have a greater capacity to feel empathy (Schutte, et al., 2001). Empathy is an important ability needed for effective leadership (Barbuto & Burbach, 2006). Empathy is the capacity of one individual to understand and identify with the emotions and feelings of another person (Schutte, et al., 2001). The ability for a leader to identify with followers and gain trust is essential. To put oneself in the shoes of another helps one to understand another's point of view, as well as their thoughts, feelings, and desires. If a leader can effectively make an empathetic connection with the followers, he/she can have influence and power over them. Research has supported the claim that empathy can predict leader emergence. Leader emergence occurs in a situation where an official leader is not appointed and one takes the initiative to become a leader on his/her own (Barbuto & Burbach, 2006).

Mood regulation is a component of emotional intelligence and Barbuto and Burbach (2006) indicate that mood regulation is also important to effective leadership. Those individuals that can effectively manage their own emotions can better cope with stressful situations and potentially emerge as leaders. Cooperation and social skills are also associated with effective leadership and emotional intelligence. Schutte et al.'s (2001) research suggested that those with higher emotional intelligence also scored higher on measures of cooperation and social skills and that these two are associated with effective leadership. These are activities and approaches individuals engage in to mutually benefit themselves and those around them.

Interestingly, the two approaches to emotional intelligence and leadership may have bridged a gap. Combining elements from both Salovey and Mayer's ability



approach and Bar-On's trait approach may give us a better overall picture of emotional intelligence. Emotionally intelligent leaders may be able to use their traits, such as extraversion and fluency, to influence interaction in the leadership process (Northouse, 2007). With current research on the relationship between emotional intelligence and leadership it is predicted that among college students leaders of campus organizations will have higher levels of emotional intelligence than those involved in campus organizations but not holding a leadership position and even higher than those not involved at all.

### The Present Study

The present study addressed the relationship of emotional intelligence to academic success and leadership in college. Previous studies have shown mixed results for the relationship between emotional intelligence and academic success (Barchard, 2003; Schutte et al., 1998). This relationship merits further research. A major limitation of the previous studies is that they were cross-sectional, completed within a short time frame. The present study is longitudinal across the four-year college career enabling a more realistic look at the effects of emotional intelligence. Previous studies have also demonstrated inconsistent conclusions about the relationship between emotional intelligence and leadership. Again, the longitudinal nature of the current study enabled a better evaluation of leadership and participation and their relationship to emotional intelligence.

In this study, archival data on emotional intelligence collected in a previous study were used (Largen, 2004). The original study investigated emotional intelligence and its relationship to life satisfaction and stress management. I collected data from student records of academic performance, involvement in campus organizations, and leadership in those campus organizations. Cumulative GPA, the ratio of hours attempted over hours completed, and total number of hours completed will measure academic success over a four-year period. Organizations recognized by the university are required to turn in a yearly roster that is kept by the Office of Student Activities. Participation and leadership was measured by accessing student activity records and recording how many organizations an individual was a member of and how many leadership positions that individual held within those organizations.

Past research suggests that emotional intelligence could be related to academic success. Current predictors do not account for all of the variance in academic success, therefore the potential relationship between emotional intelligence and academic success should be studied. Inconsistent results from previous research warrant another look at this relationship. It is hypothesized that there will be a relationship between emotional intelligence and academic success.

Hypothesis 1a: Total EQ-i scores at time one will be a moderate predictor at time two of college GPA.

Hypothesis 1b: The adaptability and stress management subscales (independently) at time one will be a moderate predictor at time two of GPA.

Hypothesis 2a: Total EQ-i scores at time one will be a better predictor of the total number of hours completed at time two than will ACT.

Hypothesis 2b: The intrapersonal skills, adaptability, and stress management subscales (independently) at time one will be a better predictor of the total number of hours completed at time two than will ACT.

Hypothesis 3a: Total EQ-i scores at time one will be a better predictor of the ratio of hours completed over hours attempted at time two than will ACT.

Hypothesis 3b: The adaptability and stress management subscales (independently) at time one will be a better predictor of the ratio of hours completed over hours attempted at time two than will ACT.

Social interactions have emotional and cognitive elements. For example, in relationships between undergraduates, individuals experience emotions such as anger or happiness in reaction to the actions taken by others. Students must think intelligently

regarding how to respond to the actions of college peers. Interpreting those actions and the emotions behind them may affect relationships positively or negatively for the individuals in the future. Likewise, effective interactive relationships between a leader and follower(s) may require emotional intelligence, although no research was found that measured this link directly (Northouse, 2007). Exploration of this relationship is the second focus of this study. Specifically, it is hypothesized that those high in emotional intelligence will be more likely to be in campus organizations and have attained leadership positions in those organizations.

Hypothesis 4a: Total EQ-i scores at time one will be a better predictor of involvement in campus organizations at time two than will ACT.

Hypothesis 4b: The adaptability, interpersonal skills and stress management subscales (independently) at time one will be a better predictor of involvement in campus organizations at time two than will ACT.

Many people are involved in organizations, but only a few actually hold leadership positions in organizations. Past research (Crick, 2002) suggests that those with even higher levels of emotional intelligence should emerge as leaders in organizations.

Hypothesis 5a: Total EQ-i scores at time one will be a better predictor of leadership in campus organizations at time two than will ACT.

Hypothesis 5b: The interpersonal skills, adaptability, and general mood subscales (independently) at time one will be a better predictor of leadership in campus organizations at time two than will ACT.

One final question of interest is the predictive power of the combination of emotional intelligence and ACT. Both may have predictive power alone, however they may have even more predictive power together.

Hypothesis 6: Total EQ-i scores and ACT combined at time one will be a better predictor at time two of GPA, the ratio of hours attempted over hours completed, hours completed, campus involvement, and leadership than will either alone.

## Method

### *Participants*

Participants from the original study (Largen, 2004) were one hundred students in an introductory Psychology class (30 males and 70 females) at a southeastern university. Eighty-three percent of the participants were Caucasian, 11% were African American, 2% were Asian, 1% were Native American, and 3% classified themselves as other. Average age of the participants was 18.61 years ( $SD = 3.28$ ). In the original study, three participants were excluded due to inconsistencies in their scores on the Bar-On Emotional Quotient Inventory. As part of the original study, participants were asked to sign a consent form that allowed their test scores and academic records to be used in later research. Of the 97 original participants, 12 did not give consent. Thus, the current research utilized emotional intelligence scores and demographic information from 85 original participants. It should also be noted that at the time in which the current study was conducted, 39 of the 85 participants were no longer enrolled in the university. It is unknown whether these students dropped out of college or transferred to another school. The time these individuals remained in school and for which data can be assess ranged from 1 semester to 3.5 years. Analyses were conducted on the full sample of 85 participants as well as the sub-samples of those individuals who either were currently enrolled or graduated from the university and those individuals who left the university before the current study was conducted.

### *Instruments*

Largen (2004) used the Bar-On Emotional Quotient Inventory (EQ-i) measure of emotional intelligence. When Bar-On created the EQ-i it, was the first commercially

available instrument to measure an individual's level of emotional intelligence. The EQ-i is one of the most widely utilized and studied measures of emotional intelligence, and has been translated into over 30 languages (Brackett & Geher, 2006). The EQ-i is a self-report measure on which individuals rate themselves on five scales of emotional intelligence: interpersonal skills, intrapersonal skills, stress management, adaptability, and general mood. Four additional scales are included to ensure the integrity of test scores. These scales are an inconsistency index, a positive impression scale, a negative impression scale, and an omission rate index. The inconsistency index detects a random or contradictory response set. Omission rate indices the number of incomplete items. The positive and negative impressions scales are designed to detect an individual that is attempting to project an exaggerated impression of themselves (Bar-On, 2002).

Individuals are asked to respond to items such as "It is easy for me to make friends" and "I have impulses that are hard to control." The instrument consists of 133 items and uses a 5-point Likert-type response scale as follows: 1-Very seldom or not true of me; 2-Seldom true of me; 3-Sometimes true of me; 4-Often true of me; and 5-Very often true of me or true of me (Cox, 2004). Raw scores on the EQ-i are calculated and are converted into standardized scores with a mean of 100 and standard deviation of 15 (Bar-On, 2002). On average, the test takes 35 minutes to complete; anyone age sixteen or older with at least a sixth grade reading level can take the test (Guion, 2004). The EQ-i has demonstrated high internal consistencies with alpha's ranging from .69 to .86 across the 15 subscales (Cox, 2004). The EQ-i has also demonstrated convergent validity (correlations of .58 to .69) with other measures of emotional intelligence. Bar-On's EQ-i

will be used for this study as it was the instrument completed by participants in the previous study (Largen, 2004).

Academic performance was addressed by student's scores on the ACT, their GPA, the total hours completed, and the ratio of hours attempted over hours completed. The use of ACT and GPA are obvious because their predictive relationship with college performance has been supported in numerous studies. Credit hours completed was used because it is related to being on track to graduate. The more hours an individual completes, typically the closer they are to graduating. However, it can be difficult to forecast accurately when the individual will graduate. Individuals can change their majors which could increase the number hours they need to graduate, or other personal concerns could arise that could delay graduation. The ratio of hours attempted over hours completed was used to represent an individual's persistence in attaining their degree.

Organizational involvement was measured by assessing whether the individual was a member of an on-campus organization. Sports teams, academic organizations, social organizations, and any other university-sanctioned group for which the university tracks membership was considered a campus organization in this study. Leadership was measured by assessing whether the individual held any leadership position in any campus organization of which they were a member. This information was recorded to indicate if the individual was a member of an organization and the number of organizations of which they were a member. Leadership was recorded in the same manner.

### *Procedure*

In the original study, the researchers explained the fundamental nature and goals of the study to participants. Informed consent forms were read, understood, and signed



by all individuals who voluntarily agreed to participate. The informed consent included the use of the participant's data in the future. Individuals completed the Emotional Quotient Inventory (EQ-i) as well as five other instruments. For the current study, only results of the EQ-i were used. Demographic information including college GPA, age, race, and gender was collected in the original research and was used in the current research.

For the current study, the participants' scholastic records were assessed to determine overall GPA, credit hours completed, the ratio of credit hours attempted over hours completed, and ACT scores. Being on track to graduate was assessed by the number of hours completed by the individual. Records of student activities were also assessed. Rosters of student groups were checked to determine whether each participant was a member of a group and if he/she held any leadership position in the organization.

## Results

The means, standard deviations, and bivariate correlations for the independent and dependent variables for the full sample may be found in the Appendix A. The means, standard deviations, and bivariate correlations for the independent and dependent variables for the sub-sample of individuals who were currently enrolled or who graduated from the university may be found in the Appendix B. The means, standard deviations, and bivariate correlations for the independent and dependent variables for the sub-sample of individuals not currently enrolled or graduated from the university may be found in the Appendix C. Correlations are reported for all EQ-i subscales even though no predictions were specifically made about them.

### *Hypothesis 1a*

Hypothesis 1a stated that total EQ-i scores at time one would be a moderate predictor of college GPA at time two. A correlation analysis was conducted to address this hypothesis. No significant correlation was demonstrated between EQ-i total score and GPA in the full sample or the two subsets. Therefore, Hypothesis 1a is not supported by these findings.

### *Hypothesis 1b*

Hypothesis 1b stated that the adaptability and stress management subscales of the EQ-i independently at time one would be a moderate predictor of college GPA at time two. Correlations between the selected EQ-i subscales and GPA indicated no significant relationship in either the full sample or the sub-sample of those that were currently enrolled or graduated. However, in the sub-sample of those who had left the university,

stress management was significantly correlated with GPA ( $r = -.34, p < .05$ ). Hypothesis 1b is only partially supported by the sub-sample of those who left the university.

#### *Hypothesis 2a*

Hypothesis 2a stated that total EQ-i score at time one would be a better predictor at time two of total hours completed than would ACT. Analysis demonstrated a non-significant correlation between total EQ-i score and total hours completed in the full sample and both sub-samples. Had significant correlations been present, a William's t test would have been conducted to determine whether EQ-i or ACT was the better predictor. Due to the insignificance of the relationship between EQ-i and total number of hours completed, no further analysis was needed. ACT was found to have a significant correlation to GPA in both the full sample ( $r = .37, p < .01$ ), as well as the sample of those that were currently enrolled or graduated ( $r = .47, p < .01$ ). No significant relationship was demonstrated in the sample of those that had left the university. These results fail to support Hypothesis 2a.

#### *Hypothesis 2b*

Hypothesis 2b stated that the intrapersonal skills and adaptability subscales independently at time one would be a better predictor of the number of hours completed at time two than would ACT. Non-significant correlations were found between the total number of credit hours completed and the intrapersonal skills and adaptability subscales in the full sample and both sub-samples. As reported in Hypothesis 2a, ACT demonstrated a significant relationship to total number of credit hours completed. Hypothesis 2b was not supported.

### *Hypothesis 3a*

Hypothesis 3a stated that total EQ-i score at time one would be a better predictor of the ratio of hours attempted over hours completed at time two than would ACT.

Correlation analysis indicated a significant negative relationship between total EQ-i score and the ratio of hours completed in the full sample ( $r = -.26, p < .05$ ), and the sub-sample of those who had left the university ( $r = -.35, p < .05$ ). A non-significant relationship was found for the sub-sample of those individuals that were currently enrolled or graduated.

ACT demonstrated a significant relationship with the ratio of hours completed in both the full sample ( $r = .33, p < .01$ ) and the sub-sample of those who were currently enrolled or graduated ( $r = .50, p < .01$ ). In both cases, ACT is the better predictor as the relevant correlation for EQ-i is in the opposite direction of that hypothesized. However, ACT did not show a significant relationship to the ratio of hours attempted over hours completed in the sub-sample of those who had left the university. These results fail to support Hypothesis 3a.

### *Hypothesis 3b*

Hypothesis 3b stated that the adaptability and stress management subscales independently at time one would be a better predictor of the ratio of hours completed over hours attempted at time two than would ACT. In the full sample, significant negative correlations were demonstrated between the ratio of hours attempted and hours completed and the adaptability subscale ( $r = -.28, p < .01$ ) as well as the stress management subscale ( $r = -.24, p < .05$ ). Unexpectedly, the interpersonal skills subscale also demonstrated a significant negative correlation with the ratio in the full sample ( $r = -.26, p < .05$ ). No significant correlations were found in the sub-sample of those

individuals who were currently enrolled or graduated. However, in the sub-sample of those that had left the university, a significant negative correlation was exhibited between the EQ-i adaptability subscale ( $r = -.40, p < .05$ ), the stress management subscale ( $r = -.46, p < .01$ ), and the interpersonal skills subscale ( $r = -.42, p < .01$ ). As indicated under Hypothesis 3a, ACT demonstrated a significant positive relationship to the ratio of hours attempted over hours completed in both the full sample as well as the sub-sample of those that were currently enrolled or graduated, but not for those who had left the university. These results fail to support Hypothesis 3b.

#### *Hypothesis 4a*

Hypothesis 4a stated that total EQ-i score at time one would be a better predictor of involvement in campus organizations at time two than would ACT. In the full sample and its sub-samples, no significant correlation was found between either total EQ-i score and campus involvement or ACT and campus involvement. This lack of significant findings fails to support for Hypothesis 4a.

#### *Hypothesis 4b*

Hypothesis 4b stated that the adaptability, interpersonal skills, and stress management subscales independently at time one would be better predictors of involvement in campus organizations at time two than would ACT. No significant correlations were found between any of the EQ-i subscales and involvement or between ACT and involvement in any of the samples. Thus, no support is shown for Hypothesis 4b.

### *Hypothesis 5a*

Hypothesis 5a stated that total EQ-i score at time one would be a better predictor of leadership in campus organizations at time two than would ACT. Analyses revealed a non-significant correlation between total EQ-i score and campus leadership in the full sample and its subsets. However, ACT demonstrated a significant relationship to leadership in the full sample ( $r = .30, p < .01$ ) and in the sub-sample of those who were currently enrolled or graduated ( $r = .31, p < .05$ ), but not for those who had left the university. There were no leaders in the group of individuals who were no longer enrolled. No support for Hypothesis 5a was found.

### *Hypothesis 5b*

Hypothesis 5b stated that the interpersonal skills, adaptability, and general mood subscales independently at time one would be a better predictor of leadership in campus organizations at time two than would ACT. No significant correlations were demonstrated between any of the EQ-i subscales and campus leadership in any of the samples. As previously stated under Hypothesis 5a, ACT was significantly correlated with campus leadership in both the full sample and the sub-sample of those who were currently enrolled or graduated. Hypothesis 5b is not supported by the results.

### *Hypothesis 6*

Hypothesis 6 stated that total EQ-i scores and ACT combined at time one would be a better predictor at time two of college GPA, completed credit hours, the ratio of hours attempted over hours completed, campus involvement, and leadership than would either alone. As noted, total EQ-i score was significantly correlated with only the ratio of hours attempted over hours completed. For the full sample and its sub-samples, EQ-i and

ACT were used together in a stepwise regression analysis as predictors of the criterion measures used in the current study. These results can be seen in Table 1 for the full sample, Table 2 for the sub-sample of those who were currently enrolled or graduated, and Table 3 for the sub-sample of those who had left the university. The inclusion of EQ-i scores with ACT demonstrated no incremental validity for the prediction of college GPA in any sample; the inclusion of EQ-i scores with ACT demonstrated no incremental validity for the prediction for the number of hours completed in any sample. The inclusion of EQ-i scores with ACT demonstrated incremental validity for the prediction of the ratio of hours attempted over hours completed in the full sample ( $\beta = .39, p < .05$ ;  $\Delta R^2 = .04, F(1,84) = 7.23, p < .05$ ). In the sub-sample of those who had left the university ACT was not originally predictive of the ratio of hours attempted over hours completed, but adding EQ-i to the model did result in significance ( $\beta = .35, p < .05$ ;  $\Delta R^2 = .11, F(1,38) = 4.30, p < .01$ ). Inclusion of EQ-i scores with ACT did not increase predictive accuracy of involvement in campus organizations in any sample, and the inclusion of EQ-i scores with ACT did not increase the predictive accuracy of leadership in campus organizations in any sample. These results show only partial support for Hypothesis 6.

Table 1

*Regression Analysis Summary for Variables Contributing to the Prediction of Criterion Measures for the Full Sample of Participants (N = 85)*

Variable	$R^2$	$\Delta R^2$	$F(1,84)$
GPA			
ACT	.16		15.38***
EQ-i	.16	.00	.06
Credit Hours Completed			
ACT	.13		12.83**
EQ-i	.14	.00	.17
Ratio of Hours			
ACT	.11		9.80**
EQ-i	.15	.04	4.28*
# of Groups Involved In			
ACT	.02		1.81
EQ-i	.03	.01	.54
# of Leadership Positions			
ACT	.09		7.89**
EQ-i	.12	.03	2.15

*Note.* GPA = Cumulative Grade Point Average, EQ-i – Emotional Quotient Inventory

\*\*\* = Correlation is significant at the 0.00 level (2-tailed)

\*\* = Correlation is significant at the 0.05 level (2-tailed)

\* = Correlation is significant at the 0.01 level (2-tailed)



Table 2

*Regression Analysis Summary for Variables Contributing to the Prediction of Criterion Measures for the Sub-Sample of Individuals who Stayed at the University (N = 46)*

Variable	$R^2$	$\Delta R^2$	$F(1, 45)$
GPA			
ACT	.34		22.62***
EQ-i	.34	.00	.27
Credit Hours Completed			
ACT	.22		12.51**
EQ-i	.24	.02	.93
Ratio of Hours			
ACT	.25		14.79***
EQ-i	.27	.02	.08
# of Groups Involved In			
ACT	.02		.80
EQ-i	.02	.00	.02
# of Leadership Positions			
ACT	.10		4.71*
EQ-i	.13	.03	1.58

*Note.* GPA = Cumulative Grade Point Average, EQ-i – Emotional Quotient Inventory

\*\*\* = Correlation is significant at the 0.00 level (2-tailed)

\*\* = Correlation is significant at the 0.01 level (2-tailed)

\* = Correlation is significant at the 0.05 level (2-tailed)

Table 3

*Regression Analysis Summary for Variables Contributing to the Prediction of Criterion Measures for the Sub-Sample of Individuals who Left the University (N = 39)*

Variable	$R^2$	$\Delta R^2$	$F(1,38)$
GPA			
ACT	.02		.81
EQ-i	.04	.02	.77
Credit Hours Completed			
ACT	.00		.00
EQ-i	.00	.01	.01
Ratio of Hours			
ACT	.02		.71
EQ-i	.12	.11	4.30**
# of Groups Involved In			
ACT	.00		.03
EQ-i	.02	.02	.58
# of Leadership Positions			
ACT	.00		.00
EQ-i	.00	.00	.00

*Note.* GPA = Cumulative Grade Point Average, EQ-i – Emotional Quotient Inventory

\*\*\* = Correlation is significant at the 0.00 level (2-tailed)

\*\* = Correlation is significant at the 0.01 level (2-tailed)

\* = Correlation is significant at the 0.05 level (2-tailed)

### *Post Hoc Analysis*

Independent sample t-tests were conducted to address potential group differences between those individuals that are currently enrolled or graduated and those that transferred or dropped out of the university in the current study. Due multiple comparisons, a Bonferroni correction revealed that p values should be less than .0038 to reveal significance. Results revealed that significant differences were found with regard to cumulative GPA, hours attempted, and hours completed. No significant differences

were found in relation to total EQ-i score or any of its subscales. Descriptive statistics and the results of the t-tests may be found in Appendix D.

## Discussion

The purpose of this study was to examine the relationship of emotional intelligence to academic success and student involvement and leadership in a college setting. The Bar-On Emotional Quotient Inventory was used to assess emotional intelligence. Data collected in a previous study, along with student academic and activity records were used to assess this relationship.

Overall, no real support was shown for the hypotheses laid forth in the current study. No relationship was demonstrated between total EQ-i score and cumulative GPA or total number of credit hours completed. Only in the sub-sample of individuals who had left the university did the stress management subscale demonstrates a significant negative relationship to cumulative GPA. A significant negative relationship was demonstrated between EQ-i and the ratio of hours attempted over hours completed in the sub-sample of those who were currently enrolled or graduated. However, across all measures of academic success, ACT displayed a significant and stronger relationship than did EQ-i. Overall, ACT demonstrated good predictive power for the measures of academic success used in the current research. As for campus involvement and leadership, EQ-i and its subscales showed no correlation. Unexpectedly, ACT was found to have a significant relationship to leadership in the full sample as well as the sub-sample of those that were currently enrolled or graduated. Across all of the criterion measures in this research, only in the case of the ratio of hours attempted over hours completed did adding EQ-i to ACT add any predictive power. In the post hoc analysis, differences were discovered between those who were currently enrolled or graduated and those that were not, but only for the academic measures.

The following sections discuss the findings and implications of each hypothesis. Limitations and advantages of this research as well as future directions conclude the discussion section.

*Hypothesis 1a: EQ-i as a Predictor of GPA*

Hypothesis 1a stated that the EQ-i at time one would be a moderate predictor at time two of college GPA. No significant relationship was found between total EQ-i scores and GPA in any of the samples, thus failing to support Hypothesis 1a.

Previous research has shown mixed results for the predictive relationship between emotional intelligence and college GPA. Swart (1996) found significant differences in emotional intelligence, as measured by the EQ-i, of academically successful and unsuccessful students as operationalized by GPA. EQ-i scores and GPA were also correlated in research done by O'Connor and Little (2003). Schutte et al. (1998) found a significant correlation between GPA and emotional intelligence. In contrast, the research of Barchard (2003) and Esmond-Kiger, Tucker, and Yost (2006) found no relationship between college GPA and emotional intelligence. In the present research, a moderate relationship between college GPA and EQ-i score was predicted, but was not found. These results contribute to the evidence that there is no predictive relationship between measures of emotional intelligence and GPA. A direct relationship between emotional intelligence and college GPA did not exist in this sample. However, future research should investigate possible variables that could be moderating or mediating this relationship, which could be the cause of the inconsistent results in the research literature. However, in the current study, there was no relationship between emotional intelligence and academic success.

*Hypothesis 1b: Adaptability and Stress Management as Predictors of GPA*

Hypothesis 1b stated that the adaptability and stress management subscales of the EQ-i independently at time one would be moderate predictors of college GPA at time two. The subscales of adaptability and stress management did not show a significant relationship to college GPA in the full sample or the sub-sample of individuals who were currently enrolled or graduated. In the sub-sample of individuals who had left the university the stress management subscale demonstrated a significant negative relationship with GPA. Hypothesis 1b is partially supported by these results.

Even though the overall EQ-i score did not predict GPA, this did not necessarily preclude a relationship between GPA and one or more of the EQ-i subscales. The adaptability and stress management subscales were chosen because of the behavioral characteristics of individuals who score high on these particular scales. Those that score high on adaptability are realistic, flexible, and effective in solving unique problems. Those that score high in stress management are able to effectively deal with high levels of stress and control impulses (Bar-On, 2002). Qualities such as these were anticipated to be characteristic of individuals who do well in school (i.e., achieve a good GPA). These predictions were only partially supported. The negative relationship between stress management and GPA in the sample of individuals who had left the university and not for the other two samples was not anticipated. The results indicate that those who left the university had lower stress management skills. Stress is common in the college setting. Unexpectedly, this negative relationship suggests that those with higher stress management skills were more likely to leave school and have a lower GPA.

*Hypothesis 2a: EQ-i Scores as a Better Predictor of Hours Completed than ACT*

Hypothesis 2a stated that total EQ-i score at time one would be a better predictor of the number of hours completed at time two than would ACT. The current study found that total EQ-i scores did not have a significant relationship with the total number of hours completed in the full sample or in the sub-samples; ACT was related to total number of hours completed in the full sample and the sub-sample of individuals who were currently enrolled or graduated. These results failed to support Hypothesis 2a.

Hours completed is an alternative method of measuring academic performance. It was assumed that the more credit hours an individual has completed, the closer he/she is to graduation. ACT was expected to be related to hours completed, as it has demonstrated a strong relationship with academic success (i.e., GPA) (Myers & Pyles, 1992; Paszczyk, 1994). However, there could be other factors, possibly emotional intelligence, that effect an individual staying in school, completing courses, and progressing toward graduation. In this study, the expected relationship between EQ-i and hours completed was not found. Other factors are likely involved in determining this measure of academic success, but the current research indicates that it is not emotional intelligence as measured by EQ-i.

*Hypothesis 2b: Intrapersonal Skills and Adaptability as Better Predictors of Hours Completed*

Hypothesis 2b stated that the intrapersonal skills and adaptability subscales of the EQ-i independently at time one would be a better predictor of the total number of hours completed at time two than would ACT. The present research does not support Hypothesis 2b, as the subscales interpersonal skills and adaptability showed no

significant relationship to the total number of hours completed in any sample; ACT was a significant predictor for the full sample and the sub-sample of those who were currently enrolled or graduated.

These subscales were identified as likely predictors of hours completed for the same reasons they were chosen as potential predictors of GPA. Those that score high on adaptability are realistic, flexible, and effective in solving unique problems. Those that score high in stress management are able to effectively deal with high levels of stress and control impulses (Bar-On, 2002). It was expected that individuals who excel in academic endeavors would exhibit these qualities. According to the current research findings, this is not the case. Factors other than emotional intelligence as measured by EQ-i are accounting for differences in measures of academic success such as the number of credit hours completed.

*Hypothesis 3a: EQ-i as a Better Predictor of the Ratio of Hours Attempted Over Hours Completed than ACT*

Hypothesis 3a stated that total EQ-i score at time one would be a better predictor at time two of the ratio of hours completed over hours attempted than would ACT. Total EQ-i score was found to have a significant negative relationship to the ratio of hours attempted over hours completed in the full sample and the sub-sample of those who had left the university. ACT showed a stronger positive relationship to this ratio in both cases. These results do not support Hypothesis 3a.

The ratio of hours attempted over hours completed is another measure of academic success. This ratio represents the idea that an individual who has a better ratio of hours attempted to hours completed is more successful in progressing toward degree



completion. A positive predictive relationship between the ratio of hours attempted over hours completed and EQ-i was expected, but a negative one was found. It is probable that this ratio is multiply determined, impacted positively and negatively by many different factors. A single factor would not be expected to account for all the variance in any measure of academic performance (or anything else for that matter). In this research, emotional intelligence, as measured by the EQ-i, demonstrated some predictive ability for the ratio of hours attempted over hours completed, even though in the opposite direction from that predicted. ACT exhibited a stronger relationship with the ratio of hours attempted over hours completed, but EQ-i's predictive power should not be dismissed, and the negative relationship should be researched further. One possible explanation could be that some individuals with higher emotional intelligence may focus more on the social aspects of college rather than on academic endeavors. If this were true, one would expect a negative relationship with measures of academic success. This relationship was found for a few measures in current research. Larger samples may uncover a stronger relationship of this nature.

*Hypothesis 3b: Adaptability and Stress Management as Better Predictors of the Ratio of Hours Attempted Over Hours Completed than ACT*

Hypothesis 3b stated that the adaptability and stress management subscales independently at time one would be a better predictor at time two of the ratio of hours completed over hours attempted than would ACT. Analysis of the full sample as well as the sample of individuals who had left the university showed a negative relationship between the subscales and this ratio. As predicted the adaptability and stress management subscales demonstrated a significant relationship, but the interpersonal skills

subscale also show a significant relationship. Unexpectedly, all three of these relationships were negative. As reported in Hypothesis 3a, ACT was the better predictor of the ratio of hours attempted over hours completed. Thus, no support was found for Hypothesis 3b.

As mentioned under Hypothesis 3a, individuals with higher emotional intelligence may focus more on the social aspects of college life rather than academic aspects. Even if this is true, general mental ability as measured by ACT better predicts the criterion of academic performance. The ACT was designed for this very purpose, and these results support its further use.

*Hypothesis 4a: EQ-i as a Better Predictor of Involvement on Campus than ACT*

Hypothesis 4a stated that total EQ-i scores at time one would be a better predictor of involvement in campus organizations at time two than would ACT scores. This study found that neither ACT nor total EQ-i score were significantly related to campus involvement. Hypothesis 4a was not supported by these findings.

Based on previous research, a positive predictive relationship was expected between EQ-i score and campus involvement. Crick (2002) found that individuals who claimed membership in organized groups in high school showed higher EQ-i scores than those who were not involved in organizations. A similar study by Rozell, Pettijohn, and Parker (2002) found those involved in Greek and sports organizations in college exhibited higher scores on a measure of emotional intelligence. The results of the current study were inconsistent with the previous findings. It is not clear why the current results differ from previous findings. One explanation is that the current sample was small relative to the total number of students enrolled, (i.e., 85 out of 18,000+) and may have

been too small to capture a representative sample of students involved on campus. This relationship should be investigated by intentionally sampling larger and equivalent numbers of those involved and not involved in campus organizations.

*Hypothesis 4b: Adaptability, Interpersonal Skills, and Stress Management as Better Predictors of Involvement on Campus than ACT*

Hypothesis 4b stated that the adaptability, interpersonal skills, and stress management subscales independently at time one would be better predictors of involvement in campus organizations at time two than would ACT. Neither ACT nor any of the EQ-i subscales demonstrated a significant relationship with involvement in campus activities. Thus, no support was found for Hypothesis 4b.

Previous research by Crick (2002) and Rozell, Pettijohn, and Parker (2002) suggested a positive relationship between emotional intelligence and involvement. Accordingly, a positive relationship was predicted between EQ-i score in this sample and involvement on campus. It was expected that if the overall EQ-i score predicted involvement, then so should some, if not all of the subscales. Those high on adaptability are flexible, and better at problem solving and reality testing. High stress management scorers indicate a high stress tolerance and an ability to control impulses effectively. High scorers on interpersonal skills exhibit qualities such as empathy, social responsibility, and interpersonal skill. All of these qualities would be expected of individuals who are outgoing and join groups. However, the current findings were not consistent with previous research regarding the relationship of participation and to overall EQ-i score. Thus, it is not surprising that the relationships for subscales likewise were not as expected in this research.

*Hypothesis 5a: EQ-i as a Better Predictor of Leadership on Campus than ACT*

Hypothesis 5a stated that total EQ-i scores at time one would be a better predictor of leadership in campus organizations at time two than would ACT scores. The results of this study indicated that ACT was a significant predictor of leadership in campus organizations in the full sample as well as the sub-sample of those who were currently enrolled or graduated. Total EQ-i score was not a significant predictor of leadership in any of the three samples. These results failed to support Hypothesis 5a.

Crick (2002) found that those high school students that were leaders in organizations had higher emotional intelligence scores than joiners and non-joiners. Based these findings, it was hypothesized that analogous results would be found in our college sample. Current research did not follow previous findings. In the current study, EQ-i score did not predict leadership in campus organizations, but ACT did. While this finding was not anticipated, research consistently indicates that intelligence is related to effective leadership (Northouse, 2007). Thus, there is a relationship between leadership and general mental ability or intelligence, the construct purported to be measured by ACT. This relationship should be investigated further.

*Hypothesis 5b: Interpersonal Skills, Adaptability, and General Mood as Better Predictors of Leadership on Campus than ACT*

Hypothesis 5b stated that the interpersonal skills, adaptability, and general mood subscales independently at time one would be a better predictor at time two of leadership in campus organizations than would ACT score. The current research demonstrated that none of the EQ-i's subscales were significantly related to leadership in organizations in any of the three samples. However, ACT was significantly related to leadership in the

full sample as well as the sub-sample of those individuals who were currently enrolled or graduated.

A positive relationship was predicted between at least these three subscales and leadership based on previous research demonstrating a relationship between EQ-i score and leadership in high school students (Crick, 2002). These three subscales were chosen due to their theoretical and empirical relationship with individuals who hold leadership positions. Those that score high on interpersonal skills exhibit qualities such as empathy, social responsibility, and interpersonal skill. High scorers on adaptability display qualities such as flexibility, effective problem solving, and effective reality testing. Those that score high on general mood are generally positive, cheerful, and enjoy life. None of the EQ-i subscales were predictive of leadership, but ACT was. The present research suggests that general mental ability is better than EQ-i to forecast the campus leadership for an individual.

*Hypothesis 6: The Combination of EQ-i Scores and ACT as a Better Predictor of Academic success, Involvement, and Leadership than either Alone*

Hypothesis 6 stated that total EQ-i score and ACT combined at time one would be a better predictor at time two of GPA, hours completed, the ratio of hours attempted over hours completed, campus involvement, and leadership than would either alone. The only relationship for which the inclusion of EQ-i scores to ACT increased prediction was the ratio of hours attempted over hours completed. This relationship was present in the full sample and the sub-sample of those who had left the university. Thus, Hypothesis 6 was only partially supported.

Because a positive predictive relationship was expected between EQ-i and GPA, hours completed, the ratio of hours attempted over hours completed, campus involvement, and leadership, it was expected that adding EQ-i to ACT would increase predictive power. This research only partially supported these expectations; only the prediction of the ratio of hours attempted over hours completed was increased when EQ-i was added to ACT as predictors.

### *Post Hoc Analysis*

Assessing group differences between those individuals that stayed or left the university in the current study revealed differences only in measures of academic success. Overall, those that were currently enrolled or graduated from the university had higher cumulative GPAs, more hours attempted, and more hours completed than those individuals who had left the university. An individual must achieve some level of academic success to remain in school. It may be assumed that many of the individuals who left the university would have not been able to meet those requirements. However, there may be exceptions of individuals who may have done well in school and merely transferred. On average, the individuals who did not stay at the university performed more poorly academically than those who stayed. No significant differences were discovered between their EQ-i total or subscale scores. No significant differences were detected between stayers and leavers in leadership and involvement. It could be assumed that the longer an individual is on campus, the more opportunities that individual has to become involved and lead. However, this was not the case.

### *Implications*

The results of this study suggest that there is no substantial relationship between emotional intelligence and academic success or involvement and leadership on a college campus. With regard to academic success, only one measure (i.e., ratio of hours attempted over hours completed) was related to emotional intelligence as measured by the EQ-i. However, this criterion was better predicted by general mental ability as measured by ACT. The current research suggests that using EQ-i to predict academic performance may not be useful.

Despite the expectation in Hypothesis 1a and 1b that EQ-i would demonstrate a positive relationship with GPA, previous inconsistent empirical results make it understandable that neither total EQ-i scores nor any subscales demonstrated a relationship to GPA. The current study is consistent with the other findings that emotional intelligence does not have a predictive relationship to academic success as measured by GPA (Barchard, 2003; Esmond-Kiger, Tucker, & Yost, 2006), but directly contradicts other research done with the EQ-i (O'Connor & Little, 2003; Swart, 1996). ACT has been shown to be a strong, significant predictor of GPA (Myers & Pyles, 1992; Rowan, 1978), and in this study it was a better predictor than emotional intelligence. Because different measures of emotional intelligence have been used to assess this relationship, it is possible that slightly, if not greatly, different constructs have been evaluated in different studies and that these different constructs may have different relationships with academic success. In the sample of those who left the university, stress management showed a negative relationship to GPA. Of those that left the university, higher stress management skills were associated with lower GPA.

Hypotheses 2a, 2b, 3a, and 3b hypothesized that measures of academic success other than ACT may be influenced by variables other than cognitive ability. ACT was expected to have a predictive relationship to number of credit hours completed and the ratio of hours attempted over hours completed, and it did. However, it was also expected that EQ-i scores would as well. Credit hours completed and the ratio of hours attempted over hours completed were selected as measures of academic success other than GPA to be evaluated as they were hypothesized to be affected by factors other than general mental ability. In Hypotheses 2a and 2b, total EQ-i score and its subscales did not show a significant relationship with the number of credit hours completed. This suggests that emotional intelligence, as measured by EQ-i, is not related to an individual successfully completing coursework. Total EQ-i score, the adaptability subscale, the stress management subscale, and the interpersonal skills subscale had a significant negative relationship with the ratio of hours attempted over hours completed as assessed in Hypotheses 3a and 3b, but not with any of the other measures of academic success. It should also be noted that this relationship was demonstrated by the full sample and the sample of those who left the organization, but not those that stayed. This indicates that those with higher EQ-i had a lower ratio of hours attempted over hours completed. One explanation for this finding is that it is possible that this criterion has more of a social element to it than the other criterion measures and, accordingly, that was more strongly affected by emotional intelligence. Surprisingly, for Hypothesis 3b, the interpersonal skills subscale demonstrated some predictive power. Those that score high on interpersonal skills are responsible, dependable, and have good teamwork skills. Although interpersonal skill was not originally included in the hypothesis, qualities such



as these may have some negative consequences in a college setting. It could be suggested that those with high interpersonal skills may put more time and effort into their social relationships and activities rather than their academic endeavors. These individuals may be doing poorly because they have chosen to focus on their social life rather than doing well in school. Even though several of the subscales demonstrated some predictive power, ACT was still a better predictor of this measure of academic success.

Crick (2002) and Rozell, Pettijohn, and Parker (2002) demonstrated support for the relationship between emotional intelligence and involvement and leadership. Based on this research, a positive relationship was predicted between total EQ-i scores, its subscales and involvement and leadership. It is not evident why the results of the current study are inconsistent with past research. It is possible that there is no real relationship between these variables, or that the present sample was too small and unrepresentative to assess the relationship.

In Hypotheses 4a and 4b, no relationship was found for total EQ-i score, its subscales, and involvement on campus. Again, this may be either because no real relationship exists or because sampling issues are to blame. Other implications would be hard to draw from these results. In testing Hypotheses 5a and 5b, unexpectedly ACT was found to predict leadership, even though total EQ-i scores did not predict leadership. This finding suggests that general mental ability is a stronger factor than emotional intelligence in determining leadership. It is disappointing that none of the EQ-i subscales predicted leadership. Additional research should further examine this relationship.

Consistent with the pattern of results from the other hypothesis in this research, Hypothesis 6, which predicted that adding EQ-i score to ACT would increase the

prediction of the measures of academic success and involvement and leadership, was only partially supported. This combination only added to the prediction of the ratio of hours attempted over hours completed, and only in the full sample and the sub-sample of those who had left the university. There was no relationship between EQ-i score and its subscales and most of the dependent variables. In retrospect, it might have been anticipated that adding EQ-i scores to the strong predictive power of the ACT would account in no gain. In the present study, no variance was accounted for beyond what ACT already predicted. Accordingly, it may not be worth the investment of time and money to include EQ-i as a predictor of college performance. It was interesting that the ratio of hours attempted over hours completed is the exception to these implications. However, the relationship was in a negative direction. This ratio could be more affected by social and emotional concerns than the other measures of academic success. This could also be an anomaly in the current sample. This research should be replicated to examine this phenomenon further.

### *Limitations*

There are several limitations to this research. An obvious limitation and concern is the instrument used to measure emotional intelligence. Bar-On's EQ-i is a self-report measure. Social desirability and response bias can be concerns on these types of instruments. This problem occurs when individuals answer self-report measures inaccurately to portray themselves in a better light. Even though there are no right answers in an assessment of this nature, individuals may believe that one response set is more socially acceptable than another. It is impossible to assess how often this occurs and to what level it did in this study, but it is important to note the possibility.

Furthermore, there is some debate regarding the underlying construct(s) measured by various measures of emotional intelligence (Chapman & Hayslip, 2005). Because there are so many different measures of emotional intelligence, and many do not have strong convergent validities, they could be measuring different constructs. This research only used one measure of emotional intelligence; results may have been different if another measure had been used.

Sampling issues are another limitation in this study. Only a small percentage of the sample are involved in organizations ( $n = 21$ ) and an even smaller percentage of individuals are leaders in those organizations ( $n = 6$ ). Although the rate of participation in campus organizations is representative of the university wide participation rate in these organizations, the low base rate for participation, especially for leadership, makes it difficult to detect a relationship between EQ-i and participation. It is possible that the results of the current study would be different had equal numbers of leaders, joiners, and non-joiners been captured in the sample.

Another major issue is that 39 of the 85 participants were not currently attending the university. It is not known whether these individuals were enrolled elsewhere. Only the data from records at the current university were available.

Working while in college could be a factor that was unaccounted for in this study. Many students at the university in this study work 20 hours or more a week. They spend their extra time and effort in those responsibilities. In essence, they have joined a non-university organization and may be holding leadership positions there. Percentages of undergraduate students holding jobs are likely to be very different across universities.

Public universities such as the one include in the present study would be expected to have higher rates of students working while attending school than private universities.

Generalizability is also a possible limitation to this study. Results from this research may not generalize to other settings. Universities differ greatly from one another. The high percentage of individuals who work at this university could be one reason why not as many individuals are involved in campus organizations. Location of the university in the study could be another. These concerns could be addressed by replicating the study other universities in another geographical location.

Furthermore, honor societies were not included in the groups studied. They were excluded because entry into those organizations is not open to everyone. Admission to these societies is highly correlated with GPA.

One final limitation is potential error in student activity records. Student organizations maintain their own membership records, thus there is a possibility that records are not entirely accurate.

### *Strengths*

Even though there are some clear limitations to the current research, there are some aspects that contribute beyond the previous research. Most obviously is the longitudinal design of the study. Previous research has only addressed the relationship of emotional intelligence to selected constructs cross-sectionally. Longitudinal research can provide a more accurate representation of the actual effects of emotional intelligence.

Another benefit of this study is that other measures of academic success are used in addition to GPA. Previous research has relied on the operationalization of academic success as GPA. This research assesses academic success through GPA as well as other

measures. Using these other measures should give a more holistic view of academic performance than GPA alone.

### *Directions for Future Research*

The current research surfaced many future research opportunities. The small sample in the current may not be representative of the student population; there were only a small number of leaders and those involved in organizations in the sample. A study with a larger more representative sample should be conducted. Researchers could administer the EQ-i to members of campus organizations and their leaders, as well as to individuals not involved in organizations. A larger sample might also yield different results regarding academic success. Eighty-five individuals in an introductory psychology class may not accurately represent the wide ranged of academic ability throughout the university.

The impact of working full- or part-time on academic performance is unknown. Further research could be done with emotional intelligence as it relates to work behaviors, and involvement and leadership in the workplace. It may also be interesting to study the emotional intelligence levels of individuals who work and go to school, and how this relates to academic success.

Further research could be conducted with other measures of emotional intelligence. The study could be replicated using a more objective measure such as the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT), which was developed by Mayer, Salovey, and Caruso (2000), or any of the other measures of emotional intelligence. These researchers address emotional intelligence as an ability, unlike Bar-On. The MSCEIT and the EQ-i are only a moderately correlated with one another ( $r =$

.20), which suggests that they measure different constructs (Mayer, 2006). Accordingly, results of a replication of this study may be very different if different measures of emotional intelligence were used.

Finally, research should be done to develop a more concrete model of emotional intelligence and its components. Determining what emotional intelligence is and if it really is a construct independent of other established constructs such as social intelligence is vital to this line of research.

### *Conclusions*

The present research attempted to assess the relationship between emotional intelligence and academic success, involvement, and leadership. Universities, such as the one involved in this study, have problems with student attrition and are looking for better ways to predict academic performance and persistence. Strong campus organizations can help attract quality students as well as achieve national acclaim in specialized areas.

This study found only a minimal relationship between EQ-i scores and academic performance. This finding suggests that using the EQ-i for selection or admission would be ill advised. This study also indicated no support for the relationship between EQ-i and involvement and leadership, despite past supporting research (Crick, 2002; Rozell, Pettijohn, & Parker, 2002).

A fundamental problem of clearly defining the construct of emotional intelligence could be driving the inconsistent results regarding emotional intelligence and its relationship to various criteria. Researchers should strive to produce one integrated theoretical model of emotional intelligence and its components. Once an integrated theoretical model is developed, a more accurate measure of emotional intelligence can be

developed and used to test the relationship between emotional intelligence and other well-established constructs.

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## Appendix A

## Appendix A

*Means, Standard Deviations, and Bivariate Correlations for the Independent and Dependent Variables for Total Sample (N = 85)*

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Cumulative GPA	2.72	.87												
2. ACT Scores	20.54	3.64	.40**											
3. Credit Hours Attempted	76.67	39.29	.39**	.28**										
4. Credit Hours Completed	70.61	41.71	.53**	.37**	.97**									
5. Ratio of Hours	.88	.21	.84**	.33**	.36**	.54**								
6. # of Groups Involved In	.36	.72	.09	.15	.32**	.29**	.09							
7. # of Leadership Positions	.16	.71	.16	.30**	.27*	.28**	.12	.51**						
8. Total EQ-i Score	96.39	14.08	-.08	-.15	.03	-.01	-.26*	.06	.11					
9. Intrapersonal Skills	97.72	15.54	-.02	-.14	.02	-.02	-.20	.07	.07	.92**				
10. Interpersonal Skills	100.61	12.82	-.13	-.17	-.12	-.14	-.26*	.11	.15	.61**	.49**			
11. Adaptability	93.51	13.88	-.13	-.08	-.01	-.05	-.28**	-.04	.02	.84**	.69**	.32**		
12. Stress Management	98.14	14.82	.06	-.15	.03	-.01	-.24*	-.07	.10	.69**	.45**	.33**	.68**	
13. General Mood	99.05	15.32	.02	.02	.16	-.13	-.10	.15	.15	.79**	.75**	.53**	.53**	.40**

Note. GPA = Cumulative Grade Point Average, EQ-i – Emotional Quotient Inventory, Variables 9-13 are EQ-i subscales

\*\* = Correlation is significant at the 0.01 level (2-tailed)

\* = Correlation is significant at the 0.05 level (2-tailed)



## Appendix B

## Appendix B

*Means, Standard Deviations, and Bivariate Correlations for the Independent and Dependent Variables for those that Stayed (N = 46)*

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Cumulative GPA	3.02	.61												
2. ACT Scores	21.41	3.89	.58**											
3. Credit Hours Attempted	107.87	14.00	.52**	.25										
4. Credit Hours Completed	102.50	22.36	.69**	.47**	.88**									
5. Ratio of Hours	.94	.13	.66**	.50**	.59**	.89**								
6. # of Groups Involved In	.52	.86	.04	.13	.23	.13	.02							
7. # of Leadership Positions	.30	.94	.15	.31*	.32*	.25**	.11	.54**						
8. Total EQ-i Score	96.91	12.29	.03	-.07	-.14	-.16	-.15	.01	.16					
9. Intrapersonal Skills	98.13	13.34	.05	-.08	-.20	-.23	-.22	.04	.11	.86**				
10. Interpersonal Skills	98.89	12.96	.16	.05	.04	.06	.06	.26	.25	.56**	.34*			
11. Adaptability	94.28	12.88	.04	-.14	-.17	-.20	-.19	-.15	.01	.86**	.66**	.28		
12. Stress Management	98.09	15.46	.06	.00	-.02	-.01	-.02	-.11	.13	.68**	.34*	.27	.66**	
13. General Mood	101.41	11.95	-.01	-.00	-.14	-.13	-.13	.11	.21	.72**	.58**	.65**	.47**	.31*

*Note.* GPA = Cumulative Grade Point Average, EQ-i – Emotional Quotient Inventory, Variables 9-13 are EQ-i subscales

\*\* = Correlation is significant at the 0.01 level (2-tailed)

\* = Correlation is significant at the 0.05 level (2-tailed)

## Appendix C

## Appendix C

*Means, Standard Deviations, and Bivariate Correlations for the Independent and Dependent Variables for those that Left (N = 39)*

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Cumulative GPA	2.37	1.00												
2. ACT Scores	19.51	3.04	.15											
3. Credit Hours Attempted	39.89	24.76	-.00	.02										
4. Credit Hours Completed	33.00	23.90	.27	.01	.93**									
5. Ratio of Hours	.81	.26	.89**	.14	.09	.40*								
6. # of Groups Involved In	.18	.45	-.04	-.03	.35**	.31	.02							
7. # of Leadership Positions	-	-	-	-	-	-	-	-						
8. Total EQ-i Score	95.77	16.09	-.18	-.29	.06	-.02	-.35*	.13	-					
9. Intrapersonal Skills	97.23	17.97	-.03	-.23	.08	.03	-.22	.13	-	.96**				
10. Interpersonal Skills	102.64	12.52	-.27	-.43**	-.01	-.11	-.42**	-.08	-	.70**	.67**			
11. Adaptability	92.59	15.08	-.29	-.07	.09	-.16	-.40*	.13	-	.84**	.72**	.39*		
12. Stress Management	98.21	14.24	-.34*	-.26	.15	.00	-.46**	.02	-	.73**	.58**	.42**	.70**	
13. General Mood	96.26	18.30	-.06	-.30	.11	.05	-.17	.14	-	.85**	.86**	.52**	.58**	.51**

*Note.* GPA = Cumulative Grade Point Average, EQ-i – Emotional Quotient Inventory, Variables 9-13 are EQ-i subscales

\*\* = Correlation is significant at the 0.01 level (2-tailed)

\* = Correlation is significant at the 0.05 level (2-tailed)

## Appendix D

## Appendix D

*Group Statistics for Differences in Individuals Who Stayed in or Left the University*

	Stayed/Left	N	Mean	Std. Deviation	Std. Error Mean
Cumulative GPA	Left School	39	2.37	1.01	.16
	Stayed in School	46	3.02	.61	.09
ACT scores	Left School	39	19.51	3.04	.49
	Stayed in School	46	21.41	3.90	.57
Hours Attempted	Left School	39	39.89	24.76	3.96
	Stayed in School	46	107.87	14.00	2.06
Hours Completed	Left School	39	33.00	23.90	3.83
	Stayed in School	46	102.49	22.36	3.30
Ratio of Hours	Left School	39	.81	.26	.04
	Stayed in School	46	.94	.13	.02
# of Groups Involved in	Left School	39	.18	.45	.07
	Stayed in School	46	.52	.86	.13
# of Leadership Positions	Left School	39	.00	.00	.00
	Stayed in School	46	.30	.94	.14
Total EQ-i score	Left School	39	95.77	16.09	2.58
	Stayed in School	46	96.91	12.29	1.81
Intrapersonal Skills	Left School	39	97.23	17.97	2.88
	Stayed in School	46	98.13	13.34	1.97
Interpersonal Skills	Left School	39	102.64	12.52	2.01
	Stayed in School	46	98.89	12.96	1.91
Adaptability	Left School	39	92.59	15.08	2.42
	Stayed in School	46	94.28	12.88	1.90
Stress Management	Left School	39	98.21	14.24	2.28
	Stayed in School	46	98.09	15.46	2.28
General Mood	Left School	39	96.26	18.30	2.93
	Stayed in School	46	101.41	11.95	1.76

*Independent Samples t-test for Those Who were Currently Enrolled or Graduated and Those who were not*

		Sum of Squares	df	Mean Square	F	Sig.
Cumulative GPA	Between Groups	8.82	1	8.82	13.23	.000
	Within Groups	55.33	83	.667		
	Total	64.14	84			
ACT scores	Between Groups	76.21	1	76.21	6.11	.015
	Within Groups	1034.90	83	12.47		
	Total	1111.11	84			
Hours Attempted	Between Groups	97550.41	1	97550.41	252.12	.000
	Within Groups	32114.45	83	386.92		
	Total	129664.85	84			
Hours Completed	Between Groups	101914.80	1	101914.80	191.34	.000
	Within Groups	44209.75	83	532.65		
	Total	146124.55	84			
Ratio of Hours	Between Groups	.34	1	.34	8.19	.005
	Within Groups	3.43	83	.04		
	Total	3.77	84			
# of Groups Involved In	Between Groups	2.47	1	2.47	4.98	.028
	Within Groups	41.22	83	.50		
	Total	43.69	84			
# of Leadership Positions	Between Groups	1.955	1	1.96	4.08	.047
	Within Groups	39.74	83	.48		
	Total	41.69	84			
Total EQ-i score	Between Groups	27.61	1	27.61	.14	.711
	Within Groups	16634.58	83	200.42		
	Total	16662.19	84			
Intrapersonal Skills	Between Groups	17.08	1	17.08	.07	.792
	Within Groups	20274.14	83	244.27		
	Total	20291.22	84			
Interpersonal Skills	Between Groups	296.76	1	296.76	1.82	.181
	Within Groups	13511.43	83	162.79		
	Total	13808.19	84			
Adaptability	Between Groups	60.49	1	60.49	.31	.578
	Within Groups	16112.76	83	194.13		
	Total	16173.25	84			
Stress Management	Between Groups	.30	1	.30	.00	.971
	Within Groups	18460.01	83	222.41		
	Total	18460.31	84			
General Mood	Between Groups	561.22	1	561.22	2.43	.123
	Within Groups	19152.59	83	230.75		
	Total	19713.81	84			