

**EMOTIONAL INTELLIGENCE AND COGNITIVE MORAL DEVELOPMENT
IN UNDERGRADUATE BUSINESS STUDENTS**

by

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Abstract

This study examines relationships between emotional intelligence (EI) and cognitive moral development (CMD) in undergraduate business students. The ability model of emotional intelligence was used in this study, which evaluated possible relationships between EI and CMD in a sample of 82 undergraduate business students. The sample population was approximately 700 students in a private university in the Midwest United States. A weak, positive relationship was found between overall emotional intelligence and moral development, but the strength of this relationship failed to reach statistical significance. However, one branch of EI, Understanding Emotions, did have a positive correlation with moral development at the .01 significance level. Results indicated a statistically significant relationship between level of education and cognitive moral reasoning at the .05 significance level. Women also showed significantly higher moral development levels than men; that relationship reached statistical significance at the .01 level. These results support previous empirical research findings. Conflicting with previous research results, accounting majors had significantly higher emotional intelligence scores than other business majors in this study, reaching statistical significance at the .01 level. This study provides empirical support for the relationships between cognitive moral development and emotional intelligence.

Dedication

This dissertation project is dedicated to my father, Dr. Roger McBride. I thank him and all of my family for their unconditional support. This long road was most certainly not walked by me alone. I will always be grateful to continue their legacy of faith, family, and education.

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CHAPTER 1. INTRODUCTION

Introduction to the Problem

Businesses gain strategic competitive advantage through their employees' ability to relate to others and to motivate them in achieving the organization's goals. Corporations also acknowledge the significance of hiring leaders who are able to evaluate and resolve moral dilemmas in the workplace (De George, 1999). Recent accounting and banking scandals have undermined the public's confidence in business leaders and accountants regarding their ability to remain ethical when faced with financial pressures. Weiss (2003) states that "good ethics mean good business" (p 19). However, complex decisions require the decision maker to consider multiple perspectives of parties with conflicting interests, and ethical dilemmas often result (Maroney & McDevitt, 2008). CEOs and other high-level corporate officers must weigh the effects of their decisions on themselves, the employees, the stockholders, and other stakeholders. Currently, the ability of top business executives to balance the better interests of several groups of stakeholders is being questioned, particularly since the recent massive public deceptions involving accounting frauds, earnings manipulations, and unethical compensation schemes.

Many effective leaders demonstrate the soft skills in managing people well. Their emotional intelligence is generally high (Mayer & Salovey, 1997; Salovey, Mayer, Caruso, & Lopes, 2001). One concern is that people occupying positions with a great deal of authority may have low ethical cognition (Abdolmohammadi, Gabhart, & Reeves, 1997). However, recent research has found evidence of a significant positive link between high EI and improved ethical decision-making (Smith, 2009; and Deshpande,

2009). The purpose of this study was to explore the interaction between Mayer and Salovey's (1997) emotional intelligence model and Kohlberg's (1981) & Rest's (1986) cognitive moral reasoning model, as moderated by gender, age, level of education, and college major. The findings provide empirical support for the relationship between the variables in these two theories.

Background of the Study

The skills involved in managing one's own emotions in order to better manage others is conceptualized as *emotional intelligence*, which was introduced into the psychological literature by Salovey and Mayer (1990). Goleman (1995) popularized emotional intelligence (EI) in the business literature as a broad range of competencies that could significantly enhance success in both life and work in general. While those claims have come under a great deal of criticism and scrutiny, empirical evidence supports the idea that high EI is linked to promotion to the highest levels of management. (Goleman, 1995; Dulewicz & Higgs, 2003; Goleman, Boyatzis, & McKee, 2002).

The accounting profession has specifically stated the need for professional accountants who can demonstrate strong emotional regulation abilities as well as a commitment to integrity and strong ethical values (AICPA, 2000a). The American Institute of Certified Public Accountants (AICPA) has called for enhanced EI knowledge, skills, and abilities in its members due to a belief that these abilities lead to better service to clients, lower attrition rates, lower recruiting and training costs, higher-quality communications, and other benefits (AICPA, 2000a). In *The CPA Vision Project*, the organization specifically identified integrity as a core value needed by future professional

accountants (AICPA, 2000a). Also, a commitment to ethical behavior is included *The AICPA Core Competency Framework for Entry in the Accounting Profession* (AICPA, 2000b). While these competencies are being called for in the accounting profession, it is reasonable to infer that similar skills are desirable in the business community in general.

Statement of the Problem

The reputation of business and accounting professionals regarding their general abilities to make ethical business decisions has come under scrutiny in the last decade. Specifically, the decisions regarding salary and bonus plans, the need for significant restatement of earnings, and even in adherence to professional codes of conduct have been questioned by the public. Currently, the AICPA has called for increased efforts to improve the integrity and ethical decision-making skills in professional licensed accountants. The U.S. Congress attempted to regulate ethics for all publicly traded companies with the passage of the Sarbanes-Oxley Act of 2002. University curriculums have stepped up required ethics courses in their business and MBA courses. However, general business and accounting students still score lower than their peers in ethical reasoning ability (Malone, 2006). Also, leadership skills such as team building, communication, and motivation skills are important in business, but accounting and general business students still demonstrate low levels of competency in these areas. Business organizations could benefit if employees were better prepared to build strong teams, to communicate effectively, and to resolve difficult ethical dilemmas with integrity and empathy. Similarly, organizations will likely fail to achieve the best possible outcome when these skills are poorly developed in employees. Many possible factors

may contribute to this problem, most of which are beyond the scope of this project. However, this study will contribute to the body of knowledge needed to address the situation by measuring the current levels of emotional regulation and the moral reasoning abilities of a group of undergraduate business students.

This study also collected demographic data to ascertain whether those variables resulted in differences in moral reasoning skills and in emotional regulation competencies in the sample.

Purpose of the Study

The purpose of the study was to determine whether emotional intelligence, as defined by Mayer and Salovey (1997), shows significant correlation with Kohlberg's (1981) levels of cognitive moral development and whether age, gender, education level, or college major influence the interaction. Causality was not determined, but the strength and direction of the relationships between the two concepts was quantitatively analyzed. The study also provides additional data in the conflicting previous research findings regarding age, gender, level of education, and college major in both emotional intelligence and cognitive moral development levels in undergraduate business students.

Rationale

The many highly publicized recent business failures and corporate scandals appear to have their roots in lapses of ethical judgments. Persons in high levels of responsibility in U.S. corporations and banks have been caught benefitting themselves, often taking exorbitant compensation and separation plans, and leaving a path of

destruction in their wake. These problems are often blamed on a lack of ethical cognition on the part of these business leaders and the boards of directors charged with oversight duties. Business schools are often accused of failing to teach the difference between doing what is right in the long run and doing what it takes to get ahead (Abdolmohammadi, Gabhart, & Reeves, 1997). They may be turning out well-trained fraudsters as a result. A concerning possibility is that people with a “do whatever it takes” attitude will rise to high-authority positions where they could commit massive frauds for personal benefit, without regard for the impact of their actions on other people.

Ethical reasoning has its roots in social justice, which is part of the mission of the Catholic university from which the sample was drawn. Improvement in social justice outcomes and therefore stronger accomplishment of the university’s mission may result from programs to improve students’ moral development levels. While the improvement of moral development was not a goal of this study, it does provide a baseline measurement of cognitive moral development level in a sample of current students.

High EI skills have been shown to be beneficial for effective leadership (Cherniss, 2010; Côté, Lopes, Salovey, & Miners, 2010; Mayer & Salovey, 1997, Salovey, Mayer, Caruso & Lopes, 2001). Cherniss (2010) suggests that EI is likely to be an important variable in certain kinds of situations, particularly those involving social interaction or significant levels of stress. EI has also been positively correlated with student academic performance such as GPA (Frederickson, & Furnham, 2005; Kracher, 2009; Petrides, Chamorro-Premuzic; Rode et al, 2007).

In resolving ethical dilemmas, the decision maker has a responsibility to consider the possible ramifications on affected stakeholders, but the ability of the decision maker

to accurately assess the needs of others within the perspective brought on by his/her own emotional state is complex. Recent empirical research has found significant, positive correlations between emotional intelligence and improved ethical decision-making in police officers (Smith, 2009) and in physicians and nurses in not-for-profit hospitals (Deshpande, 2009). This study provides a benchmark for future empirical research as to the importance of EI levels in differing contexts. Additional research is necessary, as very few studies on the relationship between the concepts have been done to date.

Research Questions and Hypotheses

This research project was conducted as a non-experimental, quantitative study to examine any relationship between EI and CMD in a sample of undergraduate business students.

The primary research question was

What is the strength and direction of the relationship between emotional intelligence level and cognitive moral development in undergraduate business students?

This research question was explored by quantitatively testing the following relational hypotheses to determine the strength and direction of any relationships between emotional intelligence and cognitive moral development. Causality is not predicted in this study. The following hypotheses were tested:

Relational Hypothesis 1: What is the strength and direction of the relationship between emotional intelligence (EI) and cognitive moral development (CMD) in undergraduate business students?

H₀1: There is no significant relationship between EI and CMD in the sample.

Relational Hypothesis 2: What is the strength and direction of the relationship between EI and the demographic variables of age, gender, education level, and college major in the sample?

H₀2: There is no relationship between EI and the demographic variables of age, gender, education level, and college major.

Relational Hypothesis 3: What is the strength and direction of the relationship between CMD and the demographic variables of age, gender, education level, and college major in the sample?

H₀3: There is no relationship between CMD and the demographic variables of age, gender, education level, and college major.

Nature of the Study

The study used a relational, quantitative research design to assess undergraduate business majors using valid and reliable scales that measure EI and CMD. The MSCEIT scale v. 2.0, an ability-based measure of emotional intelligence as defined by Mayer and Salovey (1997), was used to measure EI. The Defining Issues Test version 2 (DIT-2), derived from Kohlberg's (1981) and Rest's (1986) model, was used to assess participants' level of CMD. Quantitative statistics assessed the relationships between overall EI and overall CMD scores. Demographic factors of age, gender, college major, and level of education were analyzed for relationships to both EI and CMD as well. Descriptive statistics and the findings are presented in Chapter Four.

Significance of the Study

The results of this study will deepen the knowledge about the interaction of emotional intelligence and moral development levels in business students. Previous research indicated that accountants and general business students have lower levels of EI

than the general population (Bay & McKeage, 2006; Rozell, Pettijohn, & Parker, 2002). Malone (2006) confirmed that accounting students are not developing ethical and moral reasoning skills as well as their non-accounting major peers. Since accountants need to employ professional judgment in situations for which there is no correct technical solution per codified rules and regulations, accountants must use professional judgment and moral reasoning ability to resolve ethical dilemmas (Thorne, 2000). Research on moral reasoning indicates that individuals at lower levels of moral reasoning are generally more influenced by a fear of punishment through penalties than individuals at higher levels of moral reasoning (Graham, 1995; Patterson, 2001). Ashkanasy (1995) found that accountants' propensity for moral action is associated with their cognitive moral capacity; however, the cognitive process involved with regulating emotions has not been documented sufficiently in the business literature. Also, sanctions, legal actions, and personal loss are not always tied directly to routine ethical situations encountered in business. Empirical research on the interplay of moral development, ethical decision-making, and emotions is scarce in the literature. This study attempted to deepen the knowledge in these areas in undergraduate accounting and other business major students.

Definition of Terms

The definition of emotional intelligence is clearly stated by Salovey and Mayer (Salovey & Mayer, 1990; and Mayer, Salovey & Caruso, 2004) as a specific set of skills that overlap the areas of emotions and cognition. After being hotly debated since the early 1990s, the construct has been deemed to meet the definition of an intelligence,.

Daus and Ashkanasy (2005) supported this conceptualization and definition of EI as a true intelligence in that it should and, in their estimation, does

meet the standards set for something to be called an intelligence. These criteria are that a test of intelligence should have more or less correct answers,...it should correlate only modestly with other intelligences...; and that it should develop with age. (p 454)

Mayer, Salovey, and Caruso define EI as

the capacity to reason about emotions, and of emotions to enhance thinking. It includes the abilities to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth. (Mayer, Salovey, & Caruso, 2004, p 197)

From this definition, four branches emerge, as follows

Branch 1. The perception, appraisal, and expression of emotion

Branch 2. Emotional facilitation of thinking

Branch 3. Understanding and analyzing emotions; employing emotional knowledge

Branch 4. Reflective regulation of emotions to promote emotional and intellectual growth. (Mayer, Salovey, & Caruso, 2004, p 199)

In this model, EI is specifically viewed as an intelligence, a cognitive process that can be measured. Kohlberg's (1981) definition of moral development is also based in cognition, specifically defined as the degree to which individuals differentiate themselves from others and define their values and personal ethical principles. Kohlberg's (1981) three levels of moral development were

1. *pre-conventional* in which the moral acceptability of alternative actions is defined by the rewards and punishments attached to various outcome choices;
2. *conventional* in which moral acceptability of alternative actions is based upon the interpretation of the group norms; and

3. *postconventional* in which moral development is influenced by complex notions of universal fairness with a lesser degree of implications for oneself.

Rest (1986) extended this definition to include active sympathy, attachment to others and principled reasoning. According to the cognitive developmental perspective (Rest, 1986; Kohlberg, 1981), an individual's cognitive moral capacity becomes more sophisticated and complex as they develop. Children are strongly influenced by externally prescribed rewards and punishments; as they grow and develop, humans generally become more internally driven by their own concerns for universal fairness (Kohlberg, 1981).

For this study, cognitive moral development is defined under Kohlberg's (1981) and Rest's (1986) conceptualization; that is, the cognitive skills involved in an individual's ability to reason, using one's personal values and ethical principles, while taking into account active sympathy and attachment to others involved in the moral decision and outcome choices.

Assumptions and Limitations

Assumptions in the Study

1. Emotional intelligence and cognitive moral development levels can be accurately measured in college students with the selected survey instruments.
2. All participants will understand the questions asked on the two surveys administered.
3. All participants will truthfully answer the questions on the surveys.

Limitations of the Study

1. Participants in this study are undergraduate business students in one private, Catholic university located in the Midwest U.S. The results may not be generalizable to other populations.

2. Sample collection for this study is purposive; therefore, causality cannot be confirmed nor inferred.
3. The sample is not random; therefore, results may not generalize to other undergraduate business student populations.
4. Moral development is being measured with general ethical dilemmas that are not often encountered in business situations; as a result, the power of social influences on the moral decision-making process will not be measured. This may be an important factor in more realistic business decisions.
5. This study will measure the current levels of emotional intelligence and cognitive moral development in participating students. Their actual decisions and behaviors are not being measured, nor will they be followed over time to assess their future ethical choices and behaviors. Longitudinal studies focusing on specific participants' behaviors, moral dilemmas encountered, choices made, and perceived successes would be of interest in future studies.

The next chapter contains a brief overview of the existing literature on the development of EI theory and a summary of research findings regarding EI and the demographic variables in this study. Similarly, a review of CMD theory is presented, followed by a summary of previous findings on CMD and the demographic variables in this study. Chapter 3 presents the research methodology used including the sample design, a description of the survey instruments used, a summary of the data collection procedures used, validity and reliability of the instruments used, and ethical considerations. Chapter 4 describes the data collection procedures and analysis, presents the descriptive statistics of the data, and presents the hypothesis testing and findings. Chapter 5 summarizes the study and its findings, discusses assumptions and limitations of the study, and provides recommendations for further research.

Chapter 2 – Literature Review

This chapter will summarize the literature on emotional intelligence (EI) and cognitive moral development (CMD) models and the roles of gender, age, and college major on each of these two constructs. This chapter will conclude with the current research findings on the predictive value of EI and the predictors of CMD. First, the constructs used in the study will be defined.

In this study, emotional intelligence follows Mayer, Salovey, & Caruso's (2004) definition

The capacity to reason about emotions, and of emotions to enhance thinking. It includes the abilities to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth. (Mayer, Salovey, & Caruso, 2004, p 197).

Cognitive moral development will refer to Kohlberg's (1981) and Rest's (1986) conceptualization

CMD is the set of cognitive skills involved in an individual's ability to reason, using one's personal values and ethical principles, while taking into account active sympathy and attachment to others involved in the moral decision and outcome choices (Kohlberg, 1981; Rest, 1986).

Emotional intelligence - Background and Definition

Emotional Intelligence (EI) theory has gained significant interest in the business, education, and psychological settings over the last two decades. The emotional intelligence construct encompasses the overlapping areas of emotional regulation and cognitive intelligence, hence the term "emotional intelligence" (Mayer & Ciarrochi,

2001). Some researchers view emotional intelligence as a type of social intelligence not related to traditional intellectual intelligence (Gardner, 1993; Goleman, 1995). Others see emotional intelligence as a set of measurable abilities which can be learned and developed over time (Caruso, Mayer, & Salovey, 2002).

Daniel Goleman's (1995) book *Emotional Intelligence: Why It Can Matter More Than IQ* popularized the idea that social intelligence was a better predictor of successful life outcomes than traditional measures of cognitive intelligence. Goleman's popular success with this book brought the power of emotions front and center in the organizational leadership literature. Goleman wrote "at best, IQ contributes about 20% to the factors that determine life success, which leaves 80% to other forces," (Goleman, 1995, p 34). Goleman's view of emotional intelligence as a panacea cure for all that ails modern leadership has been harshly criticized. Claims of "mythological proportions" were being construed about the importance of emotional intelligence to life satisfaction, interpersonal outcomes, and workplace success, (Matthews, 2002, p 10). These broad claims have come under a great deal of scrutiny. Mayer & Ciarrochi (2001) reflect that Goleman linked EI with a long list of traits such as motivation, persistence, sociability, and self-awareness so closely so that the term EI essentially became part and parcel of character.

A great deal of empirical research has been accumulated since the middle 1990s to measure competencies related to emotions. Several definitions and scales of emotional competency skills have been developed. Mayer, Salovey & Caruso (2004) argue that sweeping claims in the popular media are frustrating to empirical researchers since vague and broad conceptualizations of emotional intelligence "often have little or nothing

specifically to do with emotion or intelligence and, consequently, fail to map onto the term *emotional intelligence*” (p 197). Several scales that use self-assessments actually measure something much broader than EI, such as general intelligence or personality (Bar-On, 1997; Schutte, Malouff, Hall, Haggerty, Cooper, Golden, & Dornheim, 1998). Caruso (2003), a seminal theorist in the study of emotional intelligence, calls for a distinct, agreed-upon definition of EI. He states that the various mixed models of EI and their related measurement tools have contributed to confusion in the field and proposes that the underlying theory or model of emotional intelligence should be clearly separated from the measurement tools. The trait approach (which measures personality and traits such as aggressiveness) and the competency approach (which measures acquired skills and competencies related to leadership) should also be defined clearly and separately from emotional intelligence. Caruso, who helped to develop the MSCEIT scale, recommends it as a valid tool to measure emotion as a specific intelligence. Cherniss, another expert in the field of EI, agrees that researchers should use the Mayer and Salovey definition of EI and hold it distinct from the related concept of emotional and social competence (Cherniss, 2010).

Mayer, Caruso, and Salovey’s (2000) emotional intelligence scale is based on a person's ability to interact well with others rather than academic knowledge or verbal mastery; under this model, EI has emerged as a distinct and key variable in determining well-being, emotional health, and interpersonal functioning in adulthood (Brackett, Warner, & Boscol, 2005; Cherniss, 2010; Ciarrochi & Scott, 2006; Day & Carroll, 2004; Kunnanatt, 2004; Schutte, Malouff, Simunek, McKenley & Hollander, 2002). The next

section will summarize two different models of emotional intelligence, both of which have been used extensively for empirical research.

Emotional Intelligence – Mixed Models

The construct called *emotional intelligence* has several definitions. Jaeger (2003) defines emotional intelligence very broadly as “an array of non-cognitive abilities, capabilities, and skills,” (Jaeger, 2003, p 615). Goleman (1995) included “zeal and persistence” (p 285) in his discussion of emotional quotient or EQ. This definition includes personality traits, emotional responses, and other characteristics such as optimism, extroversion, empathy, motivation, enthusiasm, self-awareness, and so on (see Bay & McKeage, 2006; Goleman, 1995; Petrides & Furnham, 2001; Prati et al., 2003; Rapisardo, 2002). Goleman’s (1995) scale and other self-report assessments, such as Bar-On’s EQ-I (Bar-On, 1997) and Schutte’s EI scale (Schutte et al., 1998) measure personality traits as well as emotional regulation and management competencies. Such scales are highly correlated with the Big Five personality factors (Bar-On, 1997; Brackett & Mayer, 2003) and are commonly known as the Mixed Models. This conceptualization is viewed by some researchers as being too broad and incorporating too many factors to be useful in measuring a narrower, more specific definition of emotional intelligence in empirical research.

Emotional Intelligence – Ability Model

A tighter conception of emotional intelligence, defined as a cognitively-based set of abilities, was developed by Mayer and Salovey (1997) and is referred to as the Ability

Model. From a theoretical perspective, the definition of emotional intelligence is very important. To be classified as an intelligence, the construct must demonstrate the characteristics of a psychometric intelligence. Intelligence is viewed as “the capacity to carry out abstract thought, as well as the general ability to learn and adapt to the environment (Mayer, Salovey, & Caruso, 2004, p 198). Mayer and Carrochi (2001) define EI as the cross-roads of emotions and intelligence. The following definition of emotional intelligence was put forth by Mayer and Salovey (1997)

Emotional intelligence – the capacity to reason about emotions, and of emotions to enhance thinking. It includes the ability to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth (Mayer, Salovey, & Caruso, 2004, p 197).

In this narrow definition, emotional intelligence is a higher order cognitive construct that enables an individual to better recognize, understand and use emotions (Bay & McKeage, 2006). The ability model of emotional intelligence, as defined by Mayer and Salovey (1997), has been cited as the recognized standard for scholarly discourse, (Caruso, 2003; Jordan, 2003). In 2005, Daus and Ashkanasy reviewed the empirical evidence supporting this definition of EI as an ability-based model which effectively discriminates from the Big Five personality factors; they state “the ability model of emotional intelligence behaves psychometrically just as an intelligence should; and it demonstrates solid convergent and discriminate validity to support its claims to be an intelligence” (Daus & Ashkanasy, 2005, p 454).

Indeed, a rapidly growing pool of empirical evidence indicates that emotional intelligence measured under the ability model is indeed a mental ability that can be reliably measured and is separate and distinct from personality factors (Brackett et al., 2005; Ciarrochi & Scott, 2006; Day & Carroll, 2004; Kunnanatt, 2004; Schutte et al., 2002). Mayer and Salovey's (1997) definition of EI includes measurable abilities related to emotional regulation, which are tested by tasks. The participant actually encounters, recognizes, labels, understands, and uses emotions during the survey, thereby demonstrating his or her abilities, rather than simply self reporting his or her perceived skill. The next section will describe the Four-branch Model of emotional intelligence, as put forth by Mayer, Salovey and Caruso (2004), which was used in this study.

The Four-Branch Model of Emotional Intelligence

Mayer and Salovey's (1997) ability-based model includes four related areas of emotional intelligence. These areas or branches include groups of abilities, from perception to management of emotions, that are arranged in a hierarchical order from the least to the most psychologically complex. The hierarchical branches represent the degree to which the ability is integrated within the rest of an individual's overall personality (Mayer, Salovey, & Caruso, 2004). Each branch includes a cognitive progression of skills from more basic to more advanced levels (Mayer, Salovey, & Caruso, 2004); therefore, these skills can be developed over time.

Briefly, the branches can be summarized as follows

- Branch 1. The ability to perceive and identify emotions,
- Branch 2. The ability to understand and use emotion to facilitate thought,
- Branch 3. The ability to understand complex emotions.

- Branch 4. The ability to manage or regulate emotions to promote emotional and intellectual growth.

The perception and use of emotion to facilitate thought (Branches 1 & 2) have their foundations in cognitive information processing of emotional thought.

Understanding and using emotions (Branches 3 & 4) include emotion management, which involves the rest of the individual's personality, goals, and plans of action for the future. The branches will be described in more detail next.

Branch 1, *Perceiving Emotions*, includes the perception of emotions and involves the capacity to recognize emotion in others' facial and nonverbal communication.

(Mayer, Salovey, & Caruso, 2004). The four key components of this ability are a) the ability to identify emotions in him/herself, b) the ability to identify emotions in others, c) the ability to accurately express emotions, and d) the ability to discern true emotional response from contrived emotional responses (Mayer & Salovey, 1997). The human ability to identify emotions develops over time through experience. The ability to recognize emotions in other people is developed from experience with language, behavior, color, works of art and designs (Yocum, 2006). Hughes and Dunn (2002) found that children as young as four years old were able to identify and provide a coherent reason for negative emotions shown on picture cards. Yocum (2006) writes that the ability to discern true emotions from contrived ones is a critical skill in the development of this first branch (Salovey & Mayer, 1990). Yocum writes

a person high in the ability to perceive emotions will excel in the ability to detect real emotions displays from counterfeit ones. An interesting point is that an individual who excels separating real from phony emotions is also most likely to be superior at emotionally manipulating individuals, for good or bad purposes. (p 53)

Branch 2 in the model is *Using Emotions*. This skill is also called the emotional facilitation of thinking and is internally focused. This branch involves amassing knowledge about the distinctive physiological signs of emotions (Mayer, Salovey, & Caruso, 2004). Using the understanding between emotions and thinking can be used to direct one's planning (Izard, 2001). Mayer and Salovey (1997, p 13) describe a "theatre of the mind" in which a person skilled in this area can adeptly play out potential outcomes from emotions and emotional responses and choose an appropriate course of action. Specific elements in this branch include a) emotions focus individual thought process by highlighting important information, b) emotions can be generated on cue to be utilized in the facilitation of decision making, c) emotions can change individual perspective and allow for the examining of alternative points of view, and d) different emotional states aid or detract from thought processing (Mayer & Salovey, 1997).

The third branch in Mayer & Salovey's model of EI is *Understanding Emotions*. This branch includes the capacity to analyze emotions and to realize their probable outcomes over time (Mayer, Salovey, & Caruso, 2004). The abilities in this branch include a) skill in recognizing and labeling emotions accurately, b) ability to understand and accurately interpret information and connections provided by emotions, c) skill in understanding multifaceted feelings such as joy and pain, and d) skill in understanding emotional transitions, such as feeling excited may lead to feelings of anger, and that complex emotions may be felt simultaneously (Mayer & Salovey, 1997).

The fourth and most advanced branch in the ability model is *Managing Emotions*, which includes the skills of recognizing and using the most appropriate emotional response, based on the situational context. Mayer, Salovey, and Caruso (2004) write that

this branch reflects that emotions “are managed in the context of the individual’s goals, self-knowledge, and social awareness” (p 199). Four core abilities are included in this branch, including a) openness to feelings, both positive and negative, b) ability to engage or detach based on the available information about emotional usefulness, c) ability to monitor emotions accurately in both self and others, and d) skill in controlling emotions in self and others by capitalizing on positive emotions and limiting negative emotions honestly and accurately (Mayer & Salovey, 1997). This branch is difficult to master; Mayer and Salovey (1997) describe this highest fourth branch as concerning

the conscious regulation of emotions to enhance emotional and intellectual growth. Emotional reactions must be tolerated-- even welcomed-- when they occur, somewhat independently of how pleasant or unpleasant they are. Only if a person attends to feelings can something be learned about them. (p 14)

Individuals with higher levels of EI are particularly good at establishing positive social relationships with others and in using the emotional information available around them (Mayer & Ciarrochi, 2001). Positive outcomes result. Inversely, low emotional competence has been linked to decreases in emotional well-being over time, at least in women (Ciarrochi & Scott, 2006). Other research supports the idea that women generally use emotional information to a greater extent than men. Certainly, high emotional competencies are important in positions of business leadership. After a short summary of EI findings in general, the following sections will review recent empirical evidence as to differences in EI as related to gender, age, and college major.

Research Findings - Four-Branch Model of Emotional Intelligence

Salovey and Mayer's (1997) construct of EI has been linked to several areas of life. High EI is a key variable in well-being, emotional health and interpersonal functioning (Day et al., 2004; Schutte et al., 2002) as well as quality of relationships (Brackett et al, 2005). Clarke (2010) found significant correlation between both EI and empathy in successful project management. Emotional intelligence levels have been shown to predict superior work performance (Aydin, Leblebici, Arslan, Kilic, & Oktem, 2005), customer satisfaction (Kernbach & Schutte, 2005), social behavior and functioning (Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006) and with the choice of a supportive partner (Amitay, & Montrain, 2007).

Specific to educational settings and students, emotional intelligence has been positively associated with better academic outcomes, such as GPA (Kracher, 2009; Petrides, et al., 2005; Rode et al., 2007). Adeoye and Emeke (2010) found a statistically significant positive effect on learning after students went through an eight-week emotional intelligence training program in Nigeria.

The failure to manage emotions has been found to reduce work performance in groups (Yang & Mossholder, 2004), and low emotional competence has been linked to lower levels of well-being over time (Ciarrochi & Scott, 2006). Lower levels of EI in men has been linked to more destructive lifestyle choices than men with higher levels of EI (Brackett et al., 2006). Gender and EI will be discussed more in the next section.

Gender Differences in Emotional Intelligence

Gender differences have been found on a number of factors related to emotions and communication. Women tend to be more empathetic than men (Mehrabian, Young,

& Sato, 1998); and women classify facial emotions and distinguish facial features better than men (Thayer & Johnsen, 2000). Brackett and colleagues (2006) posit that women are better able to read feelings from facial expressions and other nonverbal clues due to early child-parent interactions. This confirms earlier related research; Brody (1985) found that mothers speak more to daughters about feelings and even display a wider range of feelings to daughters than to sons. Even the areas of the brain used in emotional processing have been found to be more highly developed in women than in men (Gur, Gunning-Dixon, Bilker, & Gur, 2002).

A 2006 study by Brackett and colleagues found that emotional intelligence does impact everyday behavior and interpersonal relationships between the genders (Brackett et al., 2006). Males with lower EI reported lower quality peer relations and more likelihood of engaging in deviant behaviors, using illegal drugs, and drinking alcohol excessively, even after controlling for personality factors and verbal SAT scores. Women reported little correlation between EI and everyday life behaviors and relationships in that study.

These findings conflict with Ciarrochi & Scott's (2006) study, which found decreased emotional well-being over one year's time in women with lower levels of emotional competence. It should be noted that Brackett et al (2006) used the ability-based model of emotional intelligence (Mayer & Salovey, 1997), while Ciarrochi & Scott (2006) used self-report measures; and only weak correlations have been found between the two types of measures (Ciarrochi, Chan, Caputi, & Roberts, 2001).

Significant gender differences have been found under Mayer and Salovey's (1997) ability-based model of EI and the related scale. Women demonstrated higher

scores than men on several EI abilities (Ciarrochi et al., 2000; Mayer et al., 2000; Mayer & Geher, 1996; Petrides & Furnham, 2000). Women outperformed men in all areas of emotional intelligence in a group of young adults (mostly college students) assessed by Mayer, Caruso, & Salovey (1999) using the MEIS (an earlier version of the MSCEIT). Day and Carroll (2004) also found significant gender differences in undergraduate college students using the MSCEIT scale. Women scored significantly higher than men on all four branches of the model. This study will examine gender differences in the data collected in the study; the results will add to the knowledge base as to gender differences in emotional intelligence. Age and EI will be discussed next.

Age Differences in Emotional Intelligence

Mayer, Salovey and Caruso (2004) state that while emotional intelligence is a “relatively stable aptitude” (p 209), “emotional knowledge – the kind of information that emotional intelligence operates on – is relatively easy to acquire and teach” (p 209). Children certainly don’t demonstrate the same levels of emotional regulation and management that adults routinely use. Young children respond to a parent’s facial expressions and start to identify their own physiological and social surroundings at an early age (Mayer & Salovey, 1997). Older children learn to recognize and name their own feelings. Adults may eventually be able to understand that complex and even contradictory emotions can co-exist, be sensitive to false or manipulative emotional expression, and use emotional management to guide thinking and relationships with others (Mayer & Salovey, 1997). “Emotional knowledge begins in childhood and grows

throughout life, with increased understanding of these emotional meanings” (Mayer & Salovey, 1997, p 13).

Emotional intelligence is believed to continue to increase during adulthood (Caruso, Mayer, & Salovey, 2002). Significant increases occurred between adolescents and young adults in Mayer, Caruso, and Salovey’s (1999) report. Recent findings indicate that medical students in the United Kingdom experienced significant growth in EI during their years of medical school (Todres, Tsimtsiou, Stephenson, & Jones, 2010). Gohm & Clore’s (2002) study, however, found no increase in MSCEIT scores during the undergraduate college years. This study tested these prior findings by comparing EI scores of freshmen through senior college students.

Emotional Intelligence and Selected College Major

In business, emotional intelligence has been linked to leadership capabilities; “emotional intelligence is crucial to excel at the job or assume a leadership role,” (Smigla & Pastoria, 2000, p 60). Professional managers tie emotional skills to their own leadership success (Stefano & Wasylyshyn, 2005) and to transformational leadership (Brown & Moshavi, 2005). Despite the reported professional benefits of high EI in adult business people, business students have been found to possess only low average levels of emotional intelligence (Bay & McKeage, 2006). Accounting students have been found to possess even lower levels of EI than their business major classmates. A recent study of EI levels of business students found that accounting majors showed significantly lower levels of EI than their non-accounting peers, even though accounting students had significantly higher grade point averages (Esmond-Kiger, Tucker, & Yost, 2006). The

accounting profession and others have called for increased efforts to develop EI in business and accounting majors (Esmond-Kiger & Kirch, 2003). “Emotional intelligence should be included within the core skills taught in training and development programs” within university curriculums (Rozell et al., 2002, p 287).

Bay and McKeage (2006) suggest that emotional intelligence may be one of the variables influencing the link between ethical understanding and ethical behavior. However, accounting majors show slightly lower moral reasoning skills than their peers in other majors (Elm, Kennedy, & Lawton, 2001). Emotions affect judgment and decision making, and professionals in business and accounting must use judgment in making a variety of important ethical decisions as business leaders. The next section of the literature review will summarize the theories, history, and research findings regarding moral development.

Cognitive Moral Development

Brief Background of Moral Development Theory

Theories about moral development can be traced back to Immanuel Kant (1724-1804), who believed the only moral acts are those done out of duty, regardless of the circumstances or the consequences for oneself and others. The individual pursuit of one's own goals or acting out one's desires have no moral worth, in Kant's estimation. In fact, a truly moral act is one that actually goes against one's inclinations (Campbell & Christopher, 1996). While the Greeks concept of *eudaimonism* stated that one ought to behave in certain ways to actualize one's potential as a human being, Kant abhorred the principle of happiness, writing “the principle of one's own happiness is the most

objectionable of all” as the basis for moral laws (Kant, 1785/1959, p 442, in Campbell & Christopher, 1996). According to Kant, moral rules must be universal; a moral act should not depend on the person, context, or environment involved in the ethical dilemma. Moral actions result simply from carrying out duty, which does not distinguish between the individuals involved. Recent moral development theories based on the Kantian tradition still provide the basis for empirical research. These theories will be explored next.

Kohlberg’s Cognitive Development Theory

Lawrence Kohlberg (1981) developed a theory of moral development based on the formalist Kantian tradition. Expanding on Piaget’s work in moral development in children, Kohlberg’s theory addresses the types of moral rules that people use and their styles of moral reasoning, with the underlying assumption that justice and fairness are the basic building blocks of moral reasoning. Kohlberg posited that moral reasoning develops with age as well as cognitive development and also increases with experiential exposure to moral conflicts. Cognitive development is thought to progress through a series of sequential levels, from pre-operational through formal operations, not necessarily corresponding to chronological age. Many variables may affect moral development in a given child, including intelligence, previous experience, and the culture in which the child lives (Flavell, 1962). Cognitive development, or change, advances through an individual’s process of assimilation (integration into the current cognitive schema) and accommodation (updating the cognitive schema to include incongruent information and new experiences), per Flavell (1962). Kohlberg used a similar configuration, suggesting that cognitive disequilibrium results from the individual experiencing moral dilemmas in

which the information absorbed is incongruent with their current cognitive schema; the individual's successful integration results in accommodation or movement to the next level of the moral cognitive structure. In Kohlberg's model, an individual's interactions with their environment and exposure to new moral situations and opportunities can result in the possibility for moral development in a step-wise sequential manner. Only individuals with sufficient cognitive structure and the ability and will to assimilate and accommodate alternative moral solutions would advance to the next level. Kohlberg's theory of moral development does not necessarily predict moral behavior but rather focuses on the cognitive skills required for moral reasoning. However, Kohlberg did believe that moral reasoning would be stage consistent, and that an individual's moral behavior would be congruent with their cognitive level of moral reasoning.

Kohlberg's Levels of Moral Development

Kohlberg (1981) applied cognitive development theory to the moral development of adolescents in which he identified three levels of moral development, each level having two stages:

- Level 1. The *pre-conventional*, at which neither moral rules nor social conventions are explicitly understood. In Stage 1 of Level 1, moral judgments are based on physical consequences of behavior; that is, avoidance of punishment and deference to authority constitute good behavior. Stage 2 moves to a pragmatic or hedonistic orientation in which moral judgments are based on what satisfies one's own needs.
- Level 2. The *conventional*, focuses on conforming to the norms of one's group. In Stage 3, moral judgments are based on pleasing others and living up to socially acceptable norms; Stage 4 includes maintenance of the common social order and following fixed rules.
- Level 3. The *postconventional*, provides a focus on the inner self. The reasoner is able to adopt a perspective outside of the particular social order in which

the person was raised. Stage 5 is characterized by a “social-contract legalistic orientation” (Campbell & Christopher, 1996, p 8) in which there is an expressly utilitarian appeal to moral rules as socially agreed-upon standards, which are revisable only by general agreement of the society (Kohlberg, 1981). Kohlberg suggests Stage 6 as universal ethical principles, primarily justice, equal rights, and respect for individual dignity (Campbell & Christopher, 1996).

Kohlberg found that most adolescents and adults enter Level Two, the conventional level; they appear to understand concretely how society’s rules apply to themselves and others, but many adults do not understand the relations between two or more differing perspectives at the same time. Kohlberg found that many adults do not develop the cognitive skills necessary to form abstract hypotheses, and they frequently fail to consider all possible alternatives and consequences. It appears that abstract thinking, a cognitive skill associated with Piaget’s stage of formal operations, is necessary to reach Kohlberg’s postconventional stage of moral development; however, this is not often achieved. Kohlberg’s highest moral stage entails a sense of justice in which individuals must separate themselves from their desires and interests to order to properly assess them from the point of view of any other person involved in the situation (Kohlberg, Boyd, & Levine, 1990). Puka (1990) comments that Stage 6, the highest stage of moral development according to Kohlberg, is interesting and desired, but is not borne out through empirical studies. Even Stage 5 is only found to some degree in well-educated adults in Western society (Campbell & Christopher, 1996).

Neo-Kohlbergian Model of Moral Development

Kohlberg’s research, while compelling, has met with criticism, and some findings challenge his theory (Walker & Pitts, 1998; Gilligan, 1993; Pizarro & Bloom, 2003).

Critics of this model state that Kohlberg's moral domain is construed too narrowly so that it misses the full spectrum of possibility of moral development. For instance, all of the dilemmas in Kohlberg's scale revolve around questions of rights and legal justice; there are no moral questions about how the actor relates to his or her feelings about the situation, or choosing to follow one's goals rather than choosing to care for others, or following one's own thinking rather than going along with the crowd, or whether the person is being honest with one's values about a difficult or painful issue versus adopting a policy of self-deception (Campbell & Christopher, 1996).

The question still remains as to what underlying factors contribute fundamentally to a person's moral judgment development (Derryberry, Wilson, Snyder, Norman, & Barger, 2005). Damon and Colby (1987), Gilligan (1993), Pizarro and Bloom (2003), Thoma (2000) and Walker and Pitts (1998) concurred that moral reasoning based on a cognitive perspective alone is necessary but not sufficient for prediction of moral behavior. Kohlberg's (1981) theory has been criticized due to the absence of emotional regulation in that model (Aronfree, 1976; Dienstbier, 1984; Doris, 2002; Eisenberg, 1987, 2000; Gilligan, 1982; Pizarro & Bloom, 2003). Damon and Colby (1987) and O'Fallon and Butterfield (2005) suggested that the impact of social influences should be expanded in understanding moral reasoning and moral behavior. Damon and Colby's perspective is that moral development progresses from a child simply reacting to the environment in order to meet one's own needs to the eventual internalization of moral principles, where the focus is on maintaining cordial relationships with others. Eisenberg (1987) and Gilligan (1993) also emphasized the role of social relationships in mature moral reasoning. Further, Blasi (1980, 1999) suggested that a full understanding of moral

development should include factors such as identity, self-regulation, self-awareness, and motivation as well as cognition in a comprehensive model of moral development.

Campbell and Christopher (1996) criticize the narrowness of Kohlberg's moral domain by concluding that the moral development domain might be "bigger, messier, and more complicated than most investigators have wanted to think" (p 20).

Contextual Factors and Moral Reasoning

It has been argued that context of the moral dilemma significantly influences the adoption of a care or a justice orientation in both men and women. It has been found that women are more likely to use a care-orientation when confronted with real-life ethical dilemmas (Peter & Gallup, 1994) and are more likely to use a justice-based approach when they confront workplace ethical scenarios (Hopkins & Bilimoria, 2004).

Organizational/professional expectations have also been found to be important in resolving ethical dilemmas (Jones, Massey, & Thorne, 2003); many organizations have adopted justice-based codes of conduct with social and professional expectations for conformity. In business, and particularly accounting and auditing, formal codes of conduct have not resulted in a clear framework for guiding everyday ethical dilemmas; these professionals face significant time pressures in analyzing the potential effects of recording and reporting financial transactions (Sweeney & Pierce, 2004). Sweeney, Arnold and Pierce (2010) found that the culture of the CPA firm, particularly the pressure to engage in inappropriate actions, had a significant effect on auditors' ethical decision-making. Thorne (2000) found that accountant's apply only pre-conventional levels of reasoning when faced with realistic ethical dilemmas in the accounting field and are

highly influenced by social factors, which may adversely affect their ability to exercise professional judgment. Earlier research also found that accountants' ethical decision-making processes were strongly influenced by interpersonal expectations as well as conformity to organizational and professional expectations (Jones & Hildebeirel, 1995).

MBA students with lower levels of moral reasoning (as assessed by the Defining Issues Test) were more likely to be influenced by the possible personal sanctions under the Sarbanes-Oxley Act when making judgmental decisions regarding the amount to record for an asset impairment loss (Maroney & McDevitt, 2008). The MBAs with higher levels of moral reasoning were less concerned about the result on themselves and showed more empathy for the other stakeholders who would be affected by the decision. In other words, those showing post-conventional moral development (Kohlberg, 1981) were more concerned with the effects of their decision on others than with personal rewards or punishments. This finding is important in analyzing the effects of the fines and penalties in legislation such as the Sarbanes-Oxley Act on financial managers and CEOs. Similarly, in a tax situation, Kaplan et al (1997) found that taxpayers with higher levels of moral reasoning reported lower tax evasion levels than those with lower moral reasoning skills. Massey (2002) and Thorne (2000) both found that auditors' ethical development levels correlated directly and positively with their ethical judgments. Falk et al (1999) also found that audit students with higher levels of moral reasoning were more likely to properly use independent judgment in audit situations with clients than their peers with lower levels of moral reasoning. These findings indicate that the level of moral reasoning will affect decision-making in business but that contextual factors likely have a significant moderating effect. The next sections

will review recent research on moral development delineated by gender, age, and college major.

Gender and Moral Development

Carol Gilligan's (1993) landmark book, originally published in 1982, criticized and expanded Kohlberg's (1981) masculine view of ethics as justice, or right vs. wrong thinking. Although Gilligan was a student of Kohlberg's in the Kantian tradition, she recognized that his theory did not seem to fully capture certain gender-specific concepts in moral development theory. The role of empathy, relationships, experience, and contextual factors may have been minimized in Kohlberg's model (Gilligan, 1993). Gilligan's central moral principle is a primarily feminine ethic of care, which goes beyond Kohlberg's rights, justice, and fairness, to include emotions and reason in deciding the most appropriate actions based on the circumstances in that particular case. Gilligan felt that Kohlberg's model was inherently gender biased since his research participants were all male. She explains that women do not have lower levels of moral development than men, but they do have different ways of thinking about morals and ethics, different values, and therefore, reach different conclusions than men. Gilligan proposed that women tend to focus on connectedness and relationships. Women generally learn to see themselves connected with people and responsible for their relationships and collective well-being (Benhabib, 1987; Eisler, 1987; Tannen, 1990). Men tend to see the world from a more independent action driven perspective (Maier, 1999) in which more respect is shown for hierarchy, status, individual competition, and personal advancement. Callahan (1990) maintained that women and men make moral judgments based on the

different socialization experiences of each gender group. Women have generally experienced communal socialization based on relationships, and men are generally socialized as individual agents. Callahan argues that these experiences lead to different moral reasoning processes, and therefore, the lower moral reasoning scores of women based on Kohlberg's model.

The empirical research to date provides inconclusive results. Borkowski and Ugras (1998) reviewed 56 studies on the ethical attitudes of undergraduate business students during 1985-1994 and found that women seemed to demonstrate more ethical attitudes than men. Of the 47 empirical studies covering gender and ethical attitudes, no conflicting findings were reported, and 29 studies reported that females exhibited more ethical attitudes/behavior than males. Jaffee and Hyde (2000) performed a meta-analysis of 113 empirical studies and found no significant gender differences in either the care-orientation or the justice-orientation studies. More recent studies resulted in similar findings. Lan, Gowin, McMahon, Rieger, and King (2008) found no statistically significant differences in levels of moral reasoning or personal value types attributed to gender; no significant gender difference was found in the moral reasoning skills in a group of 15 – 17 year olds (Al-Rumaidhi, 2008).

These mixed findings suggest that women and men may differ in moral reasoning and also that the reasoning processes may be different based on situational context, socialization, or gender roles, rather than exclusively on biological differences. Elm et al (2001) used sex role orientation, rather than biological gender alone, as an independent variable in moral reasoning level. They found no significant relationship in the sex role orientation (masculinity vs. femininity), but they did find that women demonstrated

higher levels of moral reasoning than men did. In their study, both women and men used a justice framework for their moral reasoning, thus weakening support for Gilligan's (1993) concerns for bias in Kohlberg's (1981) model of moral judgment (as measured by Rest's DIT). In summary, women tend to score either slightly higher or the same as men in most moral reasoning studies. Further research is recommended.

Age and Moral Development

Moral development would be impossible without advances in cognitive and intellectual structures (Derryberry et al., 2005). Both Flavell (1962) and Kohlberg (1981) state that individuals exhibit increasingly ethical attitudes and use more sophisticated moral reasoning as they mature and assimilate new information into their existing cognitive/moral schemas. To some extent, these advances correspond to age. Narvaez (1993) and Rest (1986) found that both gifted youth and college students use postconventional moral judgment schemas to a greater extent than others as a result of factors such as continued education and advancing cognitive and intellectual abilities. Using age as a factor, Borkowski and Ugras' (1998) meta-analysis of 35 studies involving over 16,000 students indicated that 13 studies concluded that older students respond more ethically than younger students, and just two studies came to the opposite conclusion. However, 19 studies found no significant relationship between age and moral reasoning at all. Graduate students who had both more years of college education and more work experience than undergraduate students demonstrated higher levels of moral reasoning than undergraduate students (Elm, et al., 2001). Several factors related to continued education past high school may impact further moral development. Individual

experiences in college and academic major (Pascarella & Terenzini, 1991) as well as friendship networks established in college (Derryberry & Thoma 2000) appear to affect moral development. This study will examine age and level of college education as factors that may influence both moral reasoning level and emotional competencies.

College Major and Moral Development

Higher levels of education have been shown to result in higher levels of moral reasoning development (Rest, et al., 1999). The particular major course of study may also have an impact on ethical development during the college years. Borkowski and Ugras' (1998) meta-analysis of studies involving the ethical attitudes of undergraduate majors showed mixed results. In the 30 studies included, no relationship was found between college major and ethics; the studies indicated that the ethical attitudes of both business and non-business majors had changed over time, but that the students' ethical attitude levels did not differ significantly when compared to each other. Elm, et al., (2001) found that business students showed lower moral reasoning levels than students in other fields, although the level did not reach statistical significance. However, business students showed a lower tolerance for unethical business practices than their non-business counterparts (Knotts, Lopez, & Mesak, 2000). Enyon, Hill, and Stevens (1997) found that younger, female, and liberal accountants scored higher on the measures of moral reasoning than older, male, and conservative participants. Further research is recommended to focus on major-specific distinctions and the reasons for any such distinctions that may impact students' moral judgment processes.

Predictors of Moral Reasoning Ability

Researchers are still determining the factors underlying a person's moral development (Derrybery, et al., 2005). O'Fallon and Butterfield (2005) strongly recommended the investigation of various influences on ethical behavior. Some predictors of moral reasoning have been put forth, such as the impact of social influences (Sweeney, Arnold, & Pierce, 2009; Damon & Colby, 1987), the role of values and social relationships (Gilligan, 1993; Eisenberg, 1987), and self-regulation, self-awareness, and motivation (Blasi, 1980, 1999). Several researchers posit that emotions and emotional regulation may play a prominent role in moral development theory (Campbell & Christopher, 1996; Doris, 2002; Eisenberg, 1987, 2000; Gilligan, 1993; Pizarro & Bloom, 2003). O'Fallon and Butterfield (2005) performed a meta-analysis of the empirical ethical decision making literature. They found that in the 174 articles published in top business journals from 1996 to 2003, several independent variables were used in the studies (individual factors, moral intensity, and organizational factors), but none of the studies focused on emotional intelligence as a possible predictor variable for moral development.

It is also possible that leaders with high EI levels are more likely to have positive social interactions with others and, possibly, more empathy and respect for the moral principles and rules which affect others. Little research exists as to the possible relationship between EI and CMD levels. This study will attempt to explore the correlation between these constructs. The next chapter will explain the methodology and data collection procedures used in this study.

CHAPTER 3. METHODOLOGY

Research Design

The study was a quantitative, non-experimental, relational research design to study emotional intelligence and moral development among a group of college students. Per Creswell (2005), correlation research is used to investigate the relationship between variables, with no manipulation of the independent variables. This design allowed the researcher to assess the strength and magnitude of relationships between EI and CMD, along with the demographic variables of age, gender, educational level, and college major. EI was measured by the MSCEIT scale, and CMD was measured by the Defining Issues Test version 2 (DIT-2).

Sample and Setting

Participants were solicited from freshman through senior students enrolled in particular business courses at a medium-size private Catholic university located in the Midwest of the United States. This purposive sample provided a cross-section of business students. The College of Business from which the sample was drawn had approximately 715 undergraduate students enrolled in accounting, business, communications, computer and information sciences, economics and finance, and managerial studies. The participant pool maximized participation across a range of ages and business majors while minimizing duplication of students asked to participate. The researcher gained consent from the professors teaching these sections and attended one class meeting to explain the study and data collection process. Informed consent forms were distributed. Since potential bias and fear of negative ramification on student grades was an issue, several steps were taken to minimize this potential threat. Students were told that participation

was optional, would not affect their course grade in any way, and that the results will be kept confidential. Willing participants turned in completed consent forms and created a unique identifying code to ensure confidentiality.

Data collection for this study began after IRB approval was obtained from both Capella University and the university from which the sample was obtained. The study required the use of two web-based surveys, the DIT-2 and the MSCEIT. Participants were e-mailed links to the appropriate websites for each survey. Both surveys were done at the participants' convenience within a two week period. E-mail reminders were sent periodically to improve participation rates.

Survey data was accumulated online as participants completed the instruments, and the relevant scoring centers collected and scored the data. Both centers transmitted the scored data to the research assistant electronically; the research assistant linked the data from the two surveys using an identifier code and then removed names and any other identifying information in order to protect the confidentiality of each participant.

The target sample size for the research study was based on calculation tables at <http://www.surveysystem.com/sscalc.htm>. With a confidence level of 95%, a confidence interval of 10, and the target population of the students at the College of Business of 715, the target sample size was 85. Usable data for statistical testing resulted from 82 participants. Due to a sample size that was slightly smaller than anticipated, the power of the statistical tests may have been weakened somewhat. A significance level of .05 was used to test the hypothesis, and the desired power of the statistical tests was .80 or higher, reducing the maximum acceptable chance of Type II errors to 20% or less.

Instrumentation

Two pre-existing surveys were used to conduct this research. Both used online administration, which provide similar results to the previous paper-and-pencil version of each survey, according to the User Guides accompanying each survey (Mayer, Salovey, & Caruso, 2002; and Bebeau & Thoma, 2003).

The first survey used was the Mayer, Salovey, and Caruso Emotional Intelligence Test or MSCEIT V2.0, which is a third generation ability test for emotional intelligence. The MSCEIT was developed from the intelligence-testing models and tailored specifically to measure emotional intelligence abilities distinct from other personality components and general intelligence (Mayer, Salovey, & Caruso, 2002). The MSCEIT, V2.0 is based on the notion “that EI involves problem solving with and about emotions,” (Mayer, Salovey, Caruso, & Sitarenios, 2003, p 97). This model of the EI assumes that “emotional knowledge is embedded within a general evolved social context of communication and interaction” (Mayer, Salovey, Caruso, & Sitarenios, 2003, p 98). The instrument differs from self-reporting measures of EI in that it has the participant actually perceive, identify, and think with emotions, rather than just relate how they believe they perceive and understand emotions. The scale measures the four branches of EI through two tasks for each of the four branches, as follows

- Branch 1 is measured by identifying emotions on faces, landscapes, and designs.
- Branch 2 is measured by comparing emotions to other stimuli and identifying emotions that would best facilitate a type of thinking.
- Branch 3 is measured by testing how emotions changes in intensity and how emotional states change
- Branch 4 is measured by asking participants to identify the emotions that are involved in complex affective states. (Mayer, Salovey, & Caruso, 2004).

The MSCEIT is a reliable and valid ability-based scale that is appropriate for both genders age 17 and older; it has a readability level of grade 8, per the Dale-Chall formula. The MSCEIT requires B-level qualifications by the American Psychological Association; this researcher was supported by Dr. Mary Waterstreet, who has completed the appropriate tests and measurements qualifications. The User's Manual recommends Consensus scoring (rather than Expert scoring) for most studies; this option was selected. Consensus scoring is based on a 5,000 respondent normative base. The survey contains 141 forced-choice items and takes 30 – 45 minutes to complete. It is administered and scored by Multi-Health Systems, Inc.

The second survey used in the study was the Defining Issues Test v.2 or DIT-2. This survey is a self-report measure of CMD and is administered by the Center for the Study of Ethical Development, located in the University of Minnesota, Minneapolis, MN. This questionnaire was developed by Rest (1986) based on Kohlberg's theory (1981) to assess the activation of moral schemas already developed and present in the participant. Bebeau and Thoma (2003) note in the guide for the DIT-2 that this instrument reports on moral judgment based on a measure of cognitive moral development. The DIT-2 survey emphasizes cognition, personal construction, and postconventional moral thinking by presenting five moral dilemmas for which participants rate and rank rationales in terms of the perceived moral importance on a Likert-type scale. The test is designed to measure what a person thinks should be done in a certain situation, following Kohlberg's definition of moral judgment (Rest, 1986). It is noted however that, according to Rest's model, moral judgment is only one part of a multidimensional process, which eventually results in an individual's behavior or actions.

The original DIT instrument was updated in 1999 (the DIT-2) to improve validity, improve analysis with the new N2 score, update the dilemmas and decrease testing time (Rest, Narvaez, Thoma, & Bebeau, 1999). The original DIT and updated DIT-2 have been used in over 400 research studies involving thousands of professionals in nursing, medicine, law, veterinary medicine, and business (Bebeau, 2002) and is “an exceptionally well-validated and reliable measure,”(Bebeau, 2002, p 283). The instrument is appropriate, valid, and reliable for measuring postconventional moral thinking in undergraduate college students (Rest et al., 1999. Bebeau, 2002). Current researchers state that the DIT-2 is an appropriate tool to measure moral thinking in both men and women so gender bias is not considered to be a problem in this study (Thoma, Narvaez, Rest, & Derryberry, 1999).

The web-based DIT-2 was scored by the Center for the Study of Ethical Development, which publishes the instrument (Rest et al, 1999). The 5-story assessment took from 30 - 45 minutes to complete.

Data Collection

Each participant created a unique 5-digit code that the research assistant used to link the results of the two surveys completed by each participant. The research assistant collected the signed informed consent forms and e-mailed the required information to access the MSCEIT web site and the DIT-2 web site for online completion of the surveys. As participants completed the MSCEIT, MHS, Inc. collected the data and informed the researcher. The DIT-2 was housed in Survey Monkey, in which reports could be generated that showed who had completed the DIT-2 survey.

After data collection was complete, the research assistant distributed \$20 compensation to each participant who completed both surveys. The confidentiality of the participants, and those in the sample population who declined to participate, was maintained at all times.

Data Analysis

This quantitative study focused on the relationships between emotional intelligence and moral reasoning ability. Both surveys were administered online, and the publishers of the instruments accumulated and scored the raw data and transmitted them to the research assistant electronically. This process eliminated potential human data entry error. SPSSv. 17 was used to run the statistical tests.

Validity and Reliability

The MSCEIT V2.0 has been found to be a reliable and valid measure of emotional intelligence as a cognitive ability, under the narrow definition put forth by Mayer, Salovey, and Caruso. The 141-item scale measures the four specific tasks related to the four-branch model of EI (Mayer, Salovey, & Caruso, 2004). The MSCEIT provides an overall measure of EI, two area scores, and four subscale scores for the four branches of EI.

Correct answers to the scales have been determined by both experts and by general consensus. The intercorrelations for these two scoring systems were all positive (Table 2, p 101 - 102 in Mayer, Salovey, Caruso, & Sitarenios, 2003). Twenty-one emotions experts from the International Society for Research on Emotions (ISRE)

participated in selecting the best answers to the survey items. The inter-rater reliability of the expert group was high - kappa (110) = .84. The consensus answers have a test-retest reliability of $r(60) = .86$. Consensus scoring was selected for this study.

Overall, the MSCEIT v. 2 has an overall internal consistency reliability ranging from $r = .90$ to $.96$ (Mayer, Salovey, & Caruso, 2004), with the branch score reliabilities ranging from 0.76 (facilitating branch) to 0.98 (understanding and perceiving branches) (Mayer, Salovey, & Caruso, 2004; Palmer, Gignac, Manocha, & Stough, 2004). The validity of this instrument is also strong. Confirmatory factor analyses have supplied evidence of a unitary, overall emotional intelligence factor (Mayer, Salovey & Caruso, 2004; Palmer et al., 2004). Four-factor solutions which represent each of the four branches in the Mayer & Salovey model presented an excellent fit to the data (Day & Caroll, 2004; Mayer, Salovey & Caruso, 2004; Palmer et al., 2004). The MSCEIT has proven reliability and unique predictive validity to measure emotional intelligence. Face and content validity are sound. Factor analysis indicates the test measures what it intends to measure, emotional intelligence and the related branches, under the four branch model. Previous research suggests strong construct validity and unique predictive value for workplace, school, family, and other social behavior environments (Mayer, Salovey, & Caruso, 2002). The MHS website provides further information as to the strong statistics for the MSCEIT's reliability, face and content validity, factor structure, discriminate validity, and concurrent validity. See www.mhs.com for these statistics.

The second survey used in this study, the Defining Issues Test v. 2, or DIT-2, is a measure of moral judgment, based on Kohlberg's (1981) theory of moral development. The online survey presents five hypothetical dilemmas followed by 12 issues, for which

the respondent must rate and rank in order of importance. The responses are analyzed as activating three schemas; the scores represent the degree to which the respondent uses the Personal Interest (preconventional), Maintaining Norms (conventional), or Postconventional Schemas, which correspond to Kohlberg's (1981) stages of moral development. The survey measures the degree to which each respondent activates each schema. The Guide for the DIT-2 states "the DIT is a measure of the development of concepts of social justice," (Bebeau & Thoma, 2003, p 30). The DIT-2 is appropriate for people 9th grade and older of both genders and has a reading level requirement of age 12-13 years.

The DIT-2 scoring provides an overall moral judgment development score, the N2 score. The score ranges from 0 to 100 and corresponds with Kohlberg's stages of moral development. Results are normed against a large sample (10,870 usable responses), all of whom indicate that English was their primary language.

Validity and reliability are strong in the DIT-2 survey. Differentiation between age and education groups has been suggested by previous studies; up to 50% of the variance of DIT scores is attributable to level of education. Attendance at college has been shown to correlate with significant gains in DIT-2 scores. The DIT-2 is also significantly related to cognitive capacity measures of moral comprehension, and scores increase with moral education interventions. The DIT score has been "significantly linked to many 'prosocial' behaviors and to desired professional decision making" (Bebeau & Thoma, 2003, p 30).

Factor analysis from a sample of 44,000 respondents indicate that the DIT has validity for the three moral schemas. The N2 score measures the proportion of items

selected that appeal to postconventional moral frameworks for making decisions. The N2 score outperforms the previous P score on six criteria for construct validity. Cronbach's alpha for reliability is in the upper .70s to low .80s. The coefficient should be close to 1. Test-retest reliability is adequate, per the DIT-2 Guide (Bebeau & Thoma, 2003,).

Ethical Considerations

Participants were recruited voluntarily and offered informed consent forms. They were told they could withdraw from the study at any time without adverse consequence. Privacy and confidentiality for participants was a high priority in this study, and a research assistant served as the direct contact with participants. The research assistant corresponded with the participants as necessary, removed identifying data, collected the signed informed consent forms, and distributed the \$20 compensation to each qualified participant. Participant data was kept confidential, and participants were identified by numerical codes rather than names.

Information concerning privacy was communicated to subjects through an Informed Consent Form, which was approved by the two IRBs who approved the study (Capella University and the university from which the sample was drawn). Since the surveys were both administered online, no paper copies were obtained. The raw data provided by the scoring centers was secured with password protected. Data was kept in locked offices of the researcher and assistant on the researcher's college campus. Backup copies of electronic data were secured and password protected as well. Raw data will be responsibly disposed of by Dec. 31, 2014. No individual results or interpretation of

survey results were offered to participants as the researcher is not certified to provide such services.

CHAPTER 4: DATA COLLECTION AND ANALYSIS

Introduction

The primary purpose of this study was to examine the potential relationship between emotional intelligence levels and moral development levels. This chapter includes a brief summary of the data collection process and the demographic background of the sample population. The analysis section provides the descriptive statistics related to the emotional intelligence overall and branch scores, the moral reasoning score, and the demographic data. The three research questions are addressed through the use of statistical tests, including the Pearson Correlation r and R^2 tests.

Data Collection Methods

The sample population was a purposive sample drawn from students volunteering from several sections of introductory and mid-level accounting courses at a private Catholic university located in the Midwest U.S. The researcher and her assistant visited 11 classrooms of potential participants, with permission from each course instructor. The researcher distributed an invitation to participate and informed consent forms and explained the study and the criteria for participation. The researcher answered questions and left the room. The research assistant then explained how participants were to create their unique 5-digit identifier code, which was used in place of names to link the two surveys. She also collected the signed Informed Consent forms. It was important to

ensure confidentiality of participants in order to reduce negative ramifications that could result from the researcher identifying the participants. The participant pool knows the researcher as an accounting professor at the college and could serve as their professor or academic advisor at some point. In the case of the researcher soliciting participants from her own courses, the Director of the college's Doctorate of Business Administration (DBA) program explained the survey, rather than the researcher, in order to improve confidentiality and reduce any concern on the part of potential participants.

The research assistant collected 123 signed informed consent forms and sent survey links via e-mail to each participant. The link to complete the MSCEIT v 2.0 was provided by the publisher of the test, Multi-Health Systems (MHS), Inc., located in Toronto, Canada. The DIT-2 survey link was provided by the Center for the Study of Ethical Development, located in Minneapolis, MN and was administered through Survey Monkey.

The research assistant tracked participants' completion of the two surveys. MHS, the publisher of the MSCEIT test, sent an automatically generated e-mail to the research assistant each time a participant completed the online MSCEIT test. The DIT-2 survey was administered through Survey Monkey, so the research assistant simply logged onto the researcher's Survey Monkey professional account to access the report of who had completed the DIT-2 survey. Data collection was open for a two week window. After one week, 54 participants had completed both surveys. The research assistant sent e-mail reminders to any participant who had not yet completed both surveys after one week and again after two weeks. By the end of the second week, 87 participants had completed both surveys. One hundred twenty-three qualifying people had signed Informed Consent

forms, and 87 people actually completed both required surveys, resulting in a 71% response rate.

The data collection plan included an offer of \$20 per participant who completed both surveys within the two-week data collection period. The research assistant administered the claims to compensation. Eighty-three participants picked up their compensation; four individuals did not.

The raw data from the online MSCEIT survey was collected by MHS, Inc as each participant completed the instrument. It is important to note that the raw data was not manually entered into the Excel spreadsheet, but instead was automatically converted into spreadsheet form by MHS, Inc as each survey was completed. Similarly, the DIT-2 survey data was electronically gathered by Survey Monkey. The Center for the Study of Ethical Development, located at the University of Minnesota, downloaded the raw data, scored it, and sent the scored data to the researcher in SPSS format. No manual entry of data was required for either survey. Names were removed, and the final scored data was merged into one SPSS file, using only the unique 5-digit code as the linking identifier.

Most demographic data was collected through the surveys. College major was the only demographic data not included on the instruments, so the first digit of the self-generated five-digit identifying code was used to indicate the selected major in college. Table 1 lists the numerical code used to designate college major by each participant. The remaining four digits in the code were selected by the participant and carried no meaning other than serving as the unique identification of each participant. The research assistant reviewed the codes to ensure no duplication.

Table 1. *Identification code used to designate college major*

First digit of code	Major	N	%
1	Accounting	47	57.3 %
2	Economics	1	1.2
3	Finance	6	7.3
4	General Business	12	14.6
5	International Business	3	3.7
6	Management	6	7.3
7	Marketing	7	8.6
	Totals	82	100.0% (rounded)

Data Analysis

This research was conducted as a quantitative, non-experimental, relational study to examine the magnitude and direction of relationships between cognitive moral development (CMD) and emotional intelligence (EI). CMD was measured with the DIT-2 survey; EI was measured with the MSCEIT v. 2.0 survey. SPSS v. 17.0 was used to analyze the collected data.

The DIT-2 survey was administered online; participant answers were collected via SurveyMonkey and sent electronically to the University of Minnesota for computerized scoring. The Guide for DIT-2 describes the reliability and consistency checks in the automated computer scoring program. For example, the program scans for random responding and missing data. It also looks for respondents who choose items for style rather than meaning; these are deemed *meaningless* (M). If the participant's M-score exceeded a certain value, the participant was purged from further analysis. Similarly, an adjustment was made for the *utilizer* score (U), which measures the degree to which the participant applied justice concepts in choosing a moral decision. The automated scoring

program statistically determined the participant as unreliable if too many data elements were missing (Bebeau & Thoma, 2003). In this study, three cases were identified as unreliable through this process and were deleted from further analysis. Scored data was returned to the researcher in an SPSS file. The N2 score was used as the primary measure of cognitive moral reasoning. A complete list of the column headings of raw data received from the Center is presented in Appendix A.

Similarly, the MSCEIT responses are automatically scored by MHS, Inc., the independent scoring organization for the instrument. Responses are subjected to checks for missing data. Too much missing information invalidates the protocol. No cases were purged by MHS in this sample. All data were examined for completeness and accuracy. No other errors were found.

The Excel spreadsheet of raw data collected by MHS provided a large number of variables, only some of which were used in the analysis for this study. Data was provided for each of the 141 questions that were answered by participants and scored based on general consensus scoring. Also, a summary score was provided for overall emotional intelligence and each of the four branch areas of emotional intelligence (perceiving emotions, using emotions, understanding emotions, and managing emotions). A complete list of the column headings of raw data received from MHS is presented in Appendix B. The MSCEIT Legend is presented in Appendix C.

Visual examination of the data revealed small errors, such as a missing age, which was corrected. The data was examined for normality. Boxplots and histograms yielded two outliers, which were not erroneous. In both cases, the survey scores were low, suggesting that the participants hurried through the surveys. These two cases were

deemed by the researcher to be unreliable and likely to skew the correlations, so they were also purged. The usable cases for further analysis numbered 82.

The following section will describe the primary research variables, the descriptive statistics done on the demographic data, the hypothesis testing, and the conclusions reached.

Demographics and Descriptive Statistics

The demographics of the sample population generally represent the target population, with the exception being that a higher proportion of accounting majors is included in this study. This was intentional in order to discern any relationships among the variables between accounting majors and other business majors. The primary demographic variables that correspond with the research questions were: gender, age, education level (freshman through senior), and college major reported.

Of the 82 usable cases, 42 (51.2 %) were female and 40 (48.8%) were male. All participants were age 18 – 25, mostly in the 18 – 21 year range (84.4%). Since the representation of older students was minimal, groupings were created, as follows a) age 18 – 19 (n = 35, or 42.7%), b) age 20 – 21 (n= 34, or 41.5%), and c) age 22 – 25 (n= 13, or 15.9%). Demographic information regarding the sample’s age range is shown in Table 2.

Table 2. *Age range of participants*

Age	N	%
18	15	18.3%
19	20	24.4
20	18	22.0
21	16	19.5

22	7	8.5
23	3	3.7
24	1	1.2
25	<u>2</u>	<u>2.4</u>
	82	100.0%

In the sample, the four levels of undergraduate education were fairly evenly represented. Freshman made up the largest group. Demographic information regarding the sample's education level is shown in Table 3.

Table 3. *Education level of participants*

Education Level	N	%
Freshman	25	30.5
Sophomore	19	23.2
Junior	18	22.0
Senior	<u>20</u>	<u>24.3</u>
Total	82	100.0%

The college major categories in the sample were as follows: Accounting (n=47, or 57.3%); the six other business majors collectively made up 42.7% of the sample, each major comprising a small number of participants. The population selected for recruitment purposefully focused on classes that would include a high percentage of accounting majors, since one of the aims of the study was to compare accounting majors with other business majors. This objective was achieved. Therefore, meaningful comparisons can be made between the group of accounting majors (57.3%) and the group of other business

majors (42.7%). Demographic information regarding the sample's selected college major is shown in Table 1.

MSCEIT V 2.0 and DIT-2 Results

The two primary research variables in this study were emotional intelligence and cognitive moral development. A brief overview of each variable along with the relevant sample data is presented next.

In this study, the overall Standard Score Total for Emotional Intelligence score (SS_TOT) was used for the overall emotional intelligence test score when completing the statistical analysis. Per the User's Manual, this score measures the overall emotional intelligence level and it "compares an individual's performance on the MSCEIT to those in the normative sample," (Mayer, Salovey & Caruso, 2004, p 18). In addition, the branch scores for Perceiving Emotions (SS_B1), Using Emotions (SS_B2), Understanding Emotions (SS_B3) and Managing Emotions (SS_B4) were used to statistically analyze the relationships of these areas to the three levels of moral reasoning development (preconventional, conventional, and postconventional). No statistical analysis was done on the Empirical Percentile Overall Emotional Intelligence score (Perc_TOT), the 141 individual questions, or the eight task scores that were provided by MHS.

The MSCEIT V2.0 scores are reported as normal standard scores with a Mean = 100, and a Standard Deviation = 15. An overall EI score of 100 indicates an average

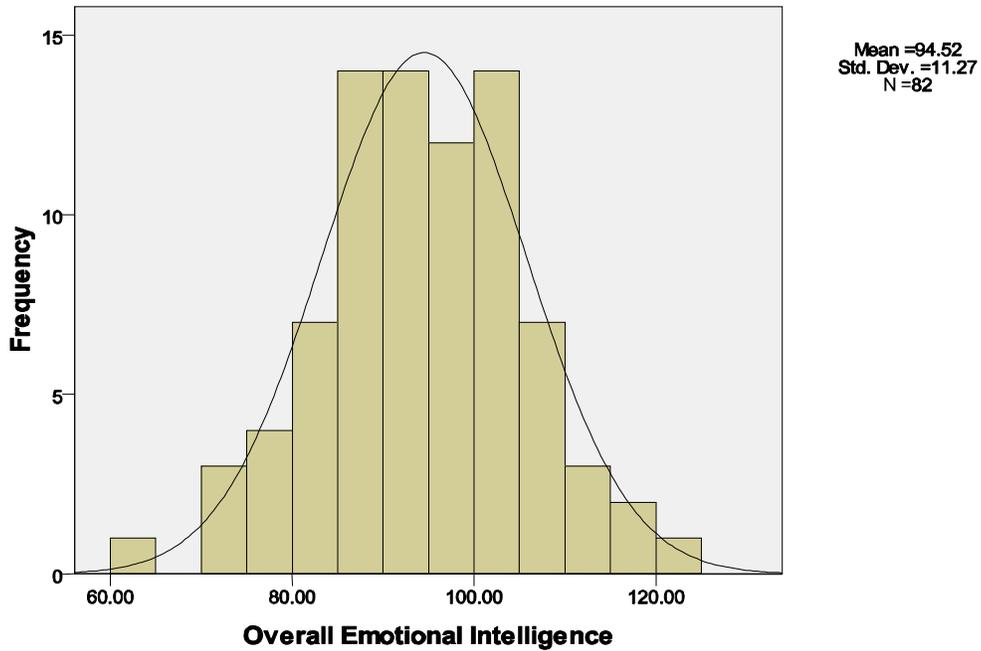
level of emotional intelligence. A score of 115 is about one standard deviation above the mean, or at the 84th percentile. A score of 85 indicates an EI level of about one standard deviation below the mean, or at the 16th percentile (Mayer, Salovey, & Caruso, 2002). The MSCEIT V2.0 Interpretive Guide (Mayer, Salovey, & Caruso, 2002) notes the qualitative interpretation of the scores as shown in Table 4. Sample occurrences and percentages at each level are also presented in Table 4.

Table 4. *Sample EI Test Scores according to MSCEIT Interpretive Guide levels*

MSCEIT standard EI Score	Level	N	%
69 or less	Consider development	1	1.2
70 – 89	Consider improvement	28	34.2
90 – 99	Low average score	26	31.7
100 – 109	High average score	21	25.6
110 – 119	Competent	5	6.1
120 – 129	Strength	1	1.2
130 +	Significant strength	<u>0</u>	<u>NA</u>
	Total	82	100.0%

The overall EI scores in the sample have a normal distribution, displayed in the histogram in Figure 1.

Figure 1. *Histogram of Overall Emotional Intelligence Scores in the Sample*



The participants in this study had a mean SS_TOT score of 94.5, which is in the low average level of EI, per the MSCEIT Users Manual. In the sample 67.1% of participants scored below 100, which is the mean of the normative sample, per the MSCEIT Users Manual. Table 5 shows the descriptive statistics associated with the SS_TOT scores.

Table 5. *Descriptive Statistics for overall EI test scores (SS_TOT)*

Descriptive Statistic	Result
-----------------------	--------

Valid	82
Missing	0
Mean	94.5
Median	93.8
Standard Deviation	11.3
Range	58.4
Minimum	64.5
Maximum	122.9

The other primary research variable in the study was cognitive moral development level. CMD is reported as the participant's N2-score, which ranges from 0 to 100. The N2 score is a combination of rating and ranking patterns that reflect two components. The first component is how often a participant chose post-conventional items, ranking it as most important for all five dilemmas. The second component involves a rating to indicate the extent to which a respondent discriminated low item groups (pre-conventional or personal interest schemas) from more advanced cognitive choices (Rest, Narvaez, Thoma, & Bebeau, 1999). A great deal of research has shown this survey instrument to be very robust, yielding greater precision in calculating an individual's moral reasoning than previous scoring methodologies such as the previous P-score (Rest et al., 1999). The recommended cut-off values for N2 to indicate moral reasoning developmental stages are: pre-conventional/personal interest schema (0-27), conventional/maintaining norms schema (28-41), and post-conventional (>42) (Bebeau & Thoma, 2003). This sample had a normal distribution with a mean N2 score of 25.5 as shown in Figure 2.

Figure 2. *Histogram of Moral Development Scores*

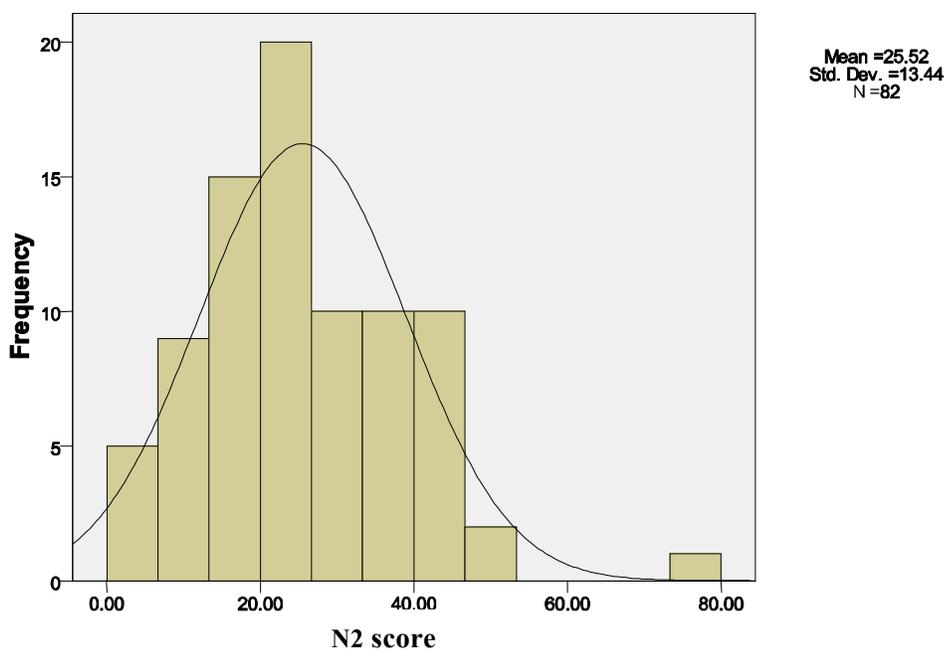


Table 6 displays the overall cognitive moral development (CMD) descriptive statistics for the sample.

Table 6. *Descriptive statistics for overall CMD scores (N2)*

Descriptive Statistic	Result
Valid	82
Missing	0
Mean	25.5
Median	23.0

Standard Deviation	13.4
Range	70.5
Minimum	3.2
Maximum	73.7

The overall sample (N=82) showed a mean age of 20.0 years, mean EI score of 94.5, and mean CMD score of 25.5. Table 7 displays the results of the MSCEIT V2.0 and the DIT-2 for each demographic category in the sample. This table denotes the mean overall MSCEIT score and the mean overall DIT-2 score for each category.

Table 7. *Overall EI (SS_TOT) Score and Overall CMD (N2) Score (N = 82)*

	Overall EI (SS_TOT)	Overall CMD (N2)
Gender		
Male	93.4	21.4
Female	95.7	29.4
Age		
18 – 19	93.4	22.1
20 – 21	97.1	29.2
22 – 25	91.0	24.8
Education level		
Freshman	95.6	22.2
Sophomore	90.3	23.2
Junior	96.9	28.9
Senior	95.1	28.9
College Major		
Accounting	97.8	27.7
Other business majors	90.1	22.6

Demographic Statistics for Overall Emotional Intelligence Scores

The women in this sample demonstrated a higher overall mean EI score (SS_TOT) (95.7) than the men in the sample (93.3) by approximately 2.4 points. This difference suggests the women in the sample showed a slightly greater capacity for

appropriately identifying and using emotions in thought when faced with forced-choice questions using these skills. These findings support previous empirical research as to gender differences in EI levels (Mayer, Salovey, and Caruso (2004). The 20-21 age group had the highest EI score (SS_TOT = 97.1), while the 22-25 age group had the lowest overall EI score (SS_TOT = 91.0) Mayer, Salovey, & Caruso (2003) reported that EI scores increase with age and that those younger than 25 years generally have significantly lower scores than older adults. Mean EI scores varied somewhat by level of education as well. The junior level students showed the highest mean EI score (SS_TOT = 96.9), and the sophomore group showed the lowest (SS_TOT = 90.3). EI generally increases with level of education, so the mixed findings in this sample may be attributable to small sample sizes. The accounting majors had the highest mean EI score (SS_TOT = 97.8) compared to the group of six other business majors combined (SS_TOT = 90.1). This result conflicts with previous research that found accounting students to have lower EI scores than other business majors. Table 8 shows the overall mean EI score for each of the groups described here.

Table 8 *Demographics with Mean Overall EI Scores (SS_TOT)*

Variable	SS_TOT score	SD	N	%
Gender				
Male	93.3	12.3	40	48.8
Female	95.7	10.2	42	51.2
Age				
18 – 19	93.4	9.9	35	42.7
20 – 21	97.1	12.3	34	41.5
22 – 25	91.0	13.4	13	15.8
Education level				
Freshman	95.6	11.1	25	30.5
Sophomore	90.3	13.5	19	23.2
Junior	96.9	8.1	18	22.0

Senior	95.1	11.5	20	24.4
College Major				
Accounting	97.8	9.3	47	57.3
Other business majors ^a	90.1	12.2	35	42.7

^a Other business majors includes Economics (1 participant), Finance (6), General Business (12), International business (3), Management (6), and Marketing (7).

Looking more deeply into the emotional intelligence scores, the four branch area scores for participants in the study are compared to the average statistics provided by MHS; statistical similarities emerge. In this sample, Branch 1 (Perceiving Emotions) has a higher mean score than Branch 2 (Using Emotions). This is expected since one must be able to perceive the emotions in order to use them in decision-making. The sample's mean scores for Branch 3 (Understanding Emotions) and Branch 4 (Managing Emotions) are lower than the Branch 1 and 2 scores, as expected, since the branches are arranged in a hierarchical order (the higher branches require more advanced emotional regulation than the lower branches). However, in this sample, the Branch 3 (Understanding Emotions) mean score is lower than the Branch 4 (Managing Emotions) mean score, which does not follow expectations nor the normative sample results. One must understand emotions first in order to manage them. The discrepancy may be due to small sample size. Table 9 highlights these findings.

Table 9 *Descriptive Statistics for the Four Branch Areas of the MSCEIT (N=82)*

Statistic	SS_B1 Perceiving Emotions	SS_B2 Using Emotions	SS_B3 Understanding Emotions	SS_B4 Managing Emotions
Mean	101.0	95.8	91.4	94.6
Median	99.6	95.1	91.0	96.2

Mode	68.12 ^a	67.3 ^a	60.7 ^a	63.2 ^a
Standard Deviation	13.8	14.2	10.6	10.2
Range	64.16	62.6	49.9	48.7
Minimum	68.1	67.3	60.7	63.2
Maximum	132.3	129.9	110.6	111.9

^a Multiple modes exist. The smallest value is shown.

Demographic Statistics for Cognitive Moral Development Scores

Table 10 displays the mean, median, standard deviations, and variances for CMD (N2 Score) for the sample, segmented into the three stages of cognitive moral development, per Rest's et al (1999) recommended cutoff values for each stage.

Table 10 *Sample Mean DIT N2-Scores by Moral Reasoning Stages/Schemas* (N = 82)

CMD Stage	Cutoff Values	Sample Mean	SD	N	%
Preconventional/Personal Interest	0 – 27	17.2	7.0	52	63.4
Conventional/Maintaining Norms	28 – 41	34.1	4.2	17	20.7
Postconventional	42 or greater	47.4	8.2	13	15.9

Of the 82 participants, 15.9 % (n = 13) scored within the postconventional reasoning stage, while 20.7% (n = 17) scored within the conventional/maintaining norms stage. The majority of the sample, or 63.4% (n = 54), scored within the lower preconventional/personal interest stage. The highest N2 score was 73.7 and the lowest N2 score was 3.14.

Table 11 displays the mean overall CMD scores by gender, age, education level, and college major.

Table 11. *Demographics with mean overall CMD Scores (N2)* (N=82)

Variable	N2 Score	SD	N	%
Gender				
Male	21.4	12.1	40	48.8
Female	29.4	13.6	42	51.2
Age				
18 – 19	22.1	12.0	35	42.7
20 – 21	29.2	14.9	34	41.5
22 – 25	24.8	12.5	13	15.9
Education level				
Freshman	22.2	11.5	25	30.5
Sophomore	23.2	12.8	19	23.2
Junior	28.9	14.5	18	22.0
Senior	28.9	14.7	20	24.4
College Major				
Accounting	27.7	14.7	47	57.3
Other business majors ^a	22.6	11.1	35	42.7

^a Other business majors includes Economics (1 participant), Finance (6), General Business (12), International business (3), Management (6), and Marketing (7).

The results show that women in the sample had a higher CMD score (N2 = 29.4) relative to the men (male N2 = 21.4) by 8 points. This difference suggests the women in the sample showed a greater capacity for moral reasoning when faced with forced-choice ethical dilemmas. This finding supports earlier research that found significant gender differences on this measure (Bebeau & Thoma, 2003). In this sample, the 18-19 year age group had the lowest CMD Score (N2 = 22.1) while the 20-21 year age group had the highest CMD (N2 = 29.2). Previous research indicates that moral development scores increase with age. This sample includes a very narrow age bracket and small sample sizes, so results are not conclusive.

In this sample, the participants with the highest level of education, (n = 20 seniors) had higher CMD scores (M=28.9) than those with less college education (M = 22.2 for the 25 freshmen). This finding also supports earlier research that moral development increases with educational level. The accounting major group had higher CMD scores (M = 27.7) than their business (non-accounting) peers (M=22.6).

Rest, Narvaez, Thoma, & Bebeau (1994) reported that the average college age adult would have a P-score (correlated with the N2-Score) in the 40s. Other studies have found N2 scores for college age adults in the low to mid 30s ((Bebeau & Thoma, 2003). As a group, the sample scored lower than expected, with very few mean scores even reaching the conventional/maintaining norms level. Most N2 scores were in the pre-convention/ personal interest level. This may be due to small sample sizes, thoughtless or rushed completion of the survey, or other reasons. Since the sample included a larger proportion of young college students, comparison to high school norms may be more appropriate. Indeed, this sample's mean N2 score of 25.5 more closely matches the normative sample's high school score of 28.7 (Bebeau & Thoma, 2003).

Research Question Findings

In this section, each research question is restated, followed by the presentation of statistical data derived and a discussion of the findings. The hypotheses were tested using specific statistical tools in the SPSS v. 17 program.

Hypothesis 1

Relational Hypothesis 1: What is the strength and direction of the relationship between emotional intelligence (EI) and cognitive moral development (CMD) in undergraduate business students?

H₀1: There is no significant relationship between EI and CMD in the sample.

First, normality of the data was observed through histograms and box plots. These are displayed in Figures 1 and 2 and in Appendix D. Both the Kolmogorov-Smirnov test and the Shapiro-Wilk test for normality indicated normal distributions of data in the sample, using a 95% confidence interval. Significance was greater than .05 for all but one group of data. The N2 Scores for women resulted in a significance level of .046 in the Kolmogorov-Smirnov test, and .038 in the Shapiro-Wilk test, which indicate a slightly skewed distribution. However, these tests of normality indicate no significant deviations from normal data distribution.

To test for homogeneity of variances, Levene's test was run on both overall emotional intelligence (SS_TOT) and cognitive moral development level (N2). The Levene's test was non-significant ($p > .05$); therefore, the differences between the variances is zero. The variances in the groups appear to be equal.

Correlation testing of H₀1

Per Cooper and Schindler (2006), the parametric assumptions of bivariate linear correlation include continuous, linearly related variables, symmetric relationship, equal variance, normal distribution, and at least interval measurement. These criteria were met in this sample, so Pearson's r correlation coefficient is an appropriate statistical test to examine relationships between moral development level (N2) and emotional intelligence (SS_TOT). The test indicates the extent to which these variables are linearly related when the direction of causality cannot be predicted. According to Howell (2008), the outcome of the Pearson correlation coefficient (r value) can range from -1.00 to +1.00, and the

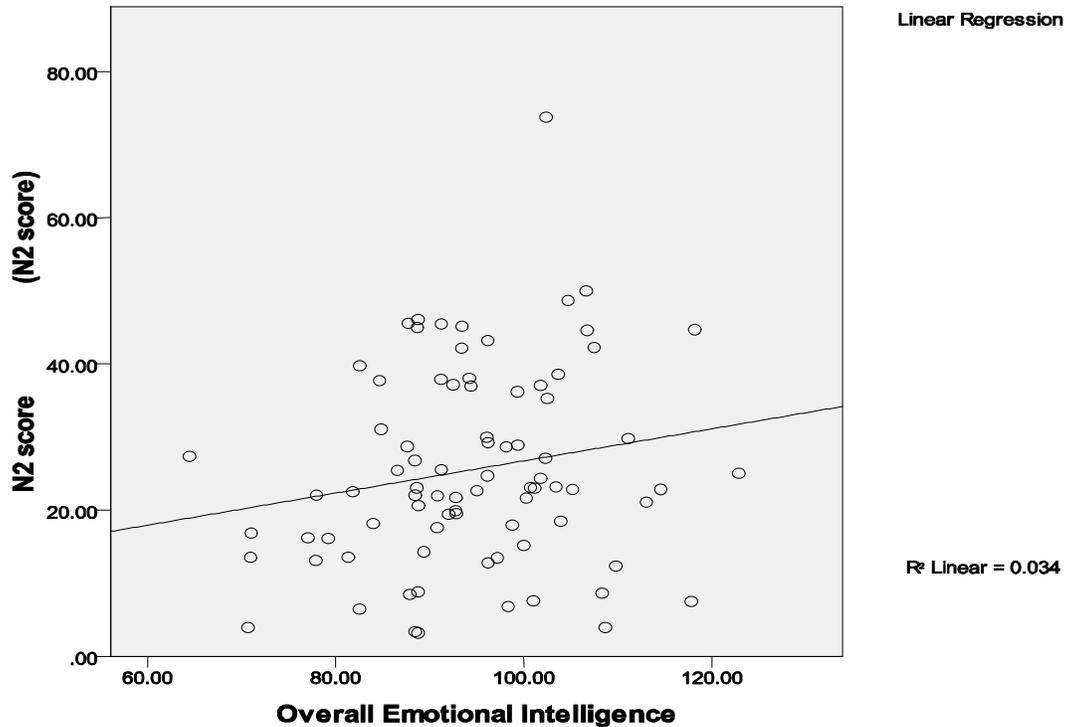
closer it is to either of those limits, the stronger is the relationship between the two variables. The sign of the correlation coefficient simply indicates the direction, positive or negative, of the relationship. A coefficient of 0 implies that there is no linear relationship between the variables being measured.

Pearson correlation 2-tailed tests were done in SPSS V. 17 to analyze the Total Emotional Intelligence Score, the four branch areas of emotional intelligence, the overall moral development score, and the three levels of moral reasoning.

The results indicate a weak positive correlation between overall moral reasoning and overall emotional intelligence of $r = .184$. However, the strength of the relationship failed to reach a significant level ($p = .098$).

Figure 3 displays the data points with a linear regression line plotted by SPSS v. 17.

Figure 3. *Simple Regression Line of EI and CMD data points*



The coefficient of determination, R^2 is a measure of the amount of variability in one variable that is explained by the other (Field, 2005). In this data set, $R^2 = .033856$, which means that only 3.4% of the variation in cognitive moral reasoning (N2) scores can be accounted for by EI (SS_TOT). The remaining 96.5% is attributable to random chance or other variables. These findings also indicate a weak positive relationship between overall emotional intelligence and moral reasoning scores.

For further analysis, Pearson correlation tests were done to view the nature of the relationship between each of the four branch areas on overall cognitive moral development level (N2). Table 12 displays the results of those Pearson correlation tests and the corresponding r values.

Table 12. *Correlation Coefficients for CMD (N2 SCORE) and Each of the Four Branch Scores of Emotional Intelligence (N = 82)*

EI Branch	<i>r</i> value for N2	Sig.
Branch 1 - Perceiving Emotions	.038	.733
Branch 2 – Using Emotions	-.035	.754
Branch 3 – Understanding Emotions	.380**	.000
Branch 4 – Managing Emotions	.161	.149

** Correlation is significant at the .01 level (2-tailed)

* Correlation is significant at the .05 level (2-tailed)

The nature of the relationship between three of the four branch area scores of EI (SS_B1, SS_B2, and SS_B4) and the cognitive moral reasoning level (N2 score) indicate no significant correlation. A weak but significant positive relationship appears between Branch 3 (Understanding Emotions, SS_B3) and cognitive moral reasoning (N2 Score) at the .01 level of statistical significance. This indicates partial support for H₀₁.

A similar analysis was done with Total Emotional Intelligence scores (SS_TOT) and the three levels of cognitive moral reasoning (N2 Score). Table 13 displays the results.

Table 13 *Correlation Coefficients for EI and Each Level of Moral Development (N = 82)*

CMD Level	<i>r</i> value for N2 score	Sig.
Preconventional	.064	.652
Conventional	-.211	.416

Postconventional .137 .654

** Correlation is significant at the .01 level (2-tailed)

* Correlation is significant at the .05 level (2-tailed)

The test indicates no significant relationship between EI level and the three levels of moral development. The test indicated a weak positive relationship between EI and both the lowest (preconventional) and highest (postconventional) levels of CMD. Neither reached statistical significance. The test indicated a slightly stronger, but negative, relationship between EI and the middle (conventional) level of CMD, which also did not reach a significant level.

Since the dataset was small (N=82), and one element did not quite reach normality (Female N2 scores), the Kendall's tau non-parametric test was also used to examine the relationship between overall EI scores (SS_TOT) and CMD levels (N2) in the sample. The correlation coefficient was .129, but did not reach levels of statistical significance (.087). This test confirms the Pearson *r* result of a weak positive correlation between EI and CMD levels in the sample.

Conclusion for H₀₁

The statistical tests described above for H₀₁ regarding the nature of the relationship between emotional intelligence and cognitive moral reasoning indicate that there is no significant relationship between overall emotional intelligence and moral reasoning levels in undergraduate business students. However, Understanding Emotions, Branch 3 in Mayer & Salovey's (1997) model, was positively related to CMD at the .01 statistical significance level. Branch 4, Managing Emotions, which is related to and often grouped with Branch 3, also indicated a positive relationship with CMD, but the strength

of that relationship failed to reach statistical significance. The null hypothesis H_{01} is partially supported and therefore cannot be rejected.

Hypothesis 2

Relational Hypothesis 2: What is the strength and direction of the relationship between EI and the demographic variables of age, gender, education level, and college major in the sample?

H_{02} : There is no relationship between EI and the demographic variables of age, gender, education level, and college major.

The Pearson r test was used at a significance level of $p < .05$ to determine the strength and direction of the relationship between the interval measures of age and education level with emotional intelligence. A correlation value of 1 indicates a perfectly linear positive relationship. The point-biserial correlation coefficient (r_{pb}) was used for the variables which have a discrete dichotomy: gender (female = 1; male = 2) and college major (accounting = 1; other business major = 2). The point-biserial correlation coefficient can be obtained from the Pearson Correlation test. Since the sign of the correlation (positive or negative) depends entirely on the coding system used, the r value must be squared. The resulting R^2 indicates the percent of the variability in emotional intelligence accounted for by each of the discrete variables. The result of the analysis is shown in Table 14. The data indicated the following relationships with emotional intelligence: age has a weak, positive correlation ($r = .014, p = .900$); and education level has a weak, positive correlation ($r = .069, p = .539$). Neither of these results reached statistical significance.

The R^2 value for the discrete variables of gender and college major showed the following results: gender ($R^2 = .011$) indicates that gender accounts for 1.1% of the variability in emotional intelligence level. This is not statistically significant.

The test results for college major ($R^2 = .116$) indicate that college major accounts for 11.6% of the variability in emotional intelligence scores. Accounting majors were found to have higher levels of emotional intelligence than other business majors. The result for college major did reach statistical significance at the .01 level. This indicates support for the college major portion of Hypothesis 2.

Table 14 *Correlation between Demographic Variables and Overall EI* (N = 82)

Variable	Coefficient	<i>r</i> Value	Sig.	R^2	Sig.
Age and EI Score	Pearson <i>r</i>	.014	.900	--	.05
Education and EI Score	Pearson <i>r</i>	.035	.755	--	.05
Gender and EI Score	Pearson <i>r</i>	-.106	.341	.011	.05
Major and EI Score	Pearson <i>r</i>	-.340**	.002	.116	.01

** correlation is significant at the 0.01 level (2-tailed).

Conclusion for H₀2

This analysis indicated partial support for H₀2. However, the results were not statistically sufficient at the $p < .05$ level necessary to reject the null.

Hypothesis 3

Relational Hypothesis 3: What is the strength and direction of the relationship between CMD and the demographic variables of age, gender, education level, and college major in the sample?

H₀₃: There is no relationship between CMD and the demographic variables of age, gender, education level, and college major.

The Pearson r was used at a significance level of $p < .05$ to determine the strength and direction of the relationship between the interval measures of age and education level with cognitive moral development level (N2). A correlation value of 1 indicates a perfectly linear positive relationship. The point-biserial correlation coefficient (r_{pb}) was used for the variables which have a discrete dichotomy: gender (female = 1; male = 2) and college major (Acct = 1; other business = 2). The point-biserial correlation coefficient can be obtained from the Pearson Correlation test. Since the sign of the correlation (positive or negative) depends entirely on the coding system used, the r value must be squared. The resulting R^2 indicates the percent of the variability in cognitive moral development level accounted for by each of the discrete variables. The result of the analysis is shown in Table 15. The data indicated the following relationships with moral development: age has a weak, positive correlation ($r = .087, p = .436$). This result did not reach statistical significance. Education level had a statistically significant positive correlation at the 0.05 level ($r = .221, p = .047$). Cognitive moral reasoning levels were higher in upper level undergraduate students than in their lower level classmates.

The R^2 value for the discrete variables of gender and college major showed the following results: gender ($R^2 = .089$), which indicates that gender accounts for 8.9% of the variability in moral development level. This finding is statistically significant at the 0.01 level. Women were found to have higher moral reasoning scores (nearly 8 points higher) than men in the study.

The test results for college major ($R^2 = .035$) indicate that college major accounts for 3.5% of the variability in cognitive moral development scores. Accounting majors were found to have slightly higher levels of CMD than other business majors, but the results did not reach statistical significance.

These results provide partial support for the impact of gender and education level on cognitive moral development. Age and college major did not have a statistically significant impact on CMD levels.

Table 15 *Correlation between Demographic Variables and CMD (N2 Score)* (N = 82)

Variable	Coefficient	<i>r</i>	Sig.	R^2	Sig.
Age	Pearson <i>r</i>	.087	.436	--	.05
Education	Pearson <i>r</i>	.221*	.047	--	.05
Gender	Pearson <i>r</i>	-.299**	.006	.089	.01
Major	Pearson <i>r</i>	-.188	.091	.035	.05

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

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

Conclusion for H₀₃

Overall, the results were not statistically sufficient at the $p < .05$ level necessary to reject the null for Hypothesis 3. Specifically, gender and education level did appear to have a statistically significant impact on CMD, while age and college major did not. Partial support was indicated for H₀₃ at the .05 significance level.

Summary

This chapter presented descriptive statistics and hypothesis testing for the primary research question and three related relational hypothesis. The data were collected from 82 undergraduate business students and included measurements of emotional intelligence and cognitive moral development levels. Demographic data were also collected and analyzed.

The results indicated weak positive correlations between the primary variables of EI and CMD, although the strength of the overall relationship failed to reach statistical significance. In order to reduce Type II errors to 20% or lower, an alpha value of .05 was used to test the hypothesis. The statistical tests done may have had lower power than desired since actual sample size (82) was slightly smaller than desired sample size (85). Emotional intelligence was significantly higher in accounting majors ($R^2 = .116, p = .01$). Higher levels of moral development were found to be associated with women ($R^2 = .089, p = .01$) and level of education ($r = .221, p = .05$)

CHAPTER 5: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The study utilized a quantitative research design to address three hypotheses, which focused on the correlation between emotional intelligence and cognitive moral development, and the effect of age, gender, education level, and college major on each. The sample included college freshman through senior students majoring in accounting and in other business majors, who each completed two surveys to measure their EI and CMD levels. The findings for each hypothesis are detailed in the conclusion section of

this chapter, and the recommendations section offers suggestions for possible future research studies.

Summary of the study

The purpose of the study was to examine any relationship between emotional intelligence and cognitive moral development in undergraduate business students. Previous research notes that high emotional intelligence leads to better management practices and better quality of life. The relationship between emotional intelligence and cognitive moral development has scant coverage in the literature. This study also sought to investigate whether gender, age, educational level, and college business major had any relationship to emotional intelligence and moral development levels in the sample. Specifically, the study examined the correlation between emotional intelligence (measured by the MSCEIT) and cognitive moral development (measured by the DIT2). The results for the hypotheses were presented in Chapter 4. In the next section, summary results of the research are presented. Also, each finding is discussed in the context of previous empirical research.

Summary of Findings and Conclusions

The results of the study supported the null hypothesis (H_0) that there is no statistically significant relationship between overall EI and overall CMD in the sample. This study found a positive, but weak, correlation between overall EI and overall CMD that failed to reach statistical significance. One branch of EI, Understanding Emotions,

did have a positive relationship with CMD that reached statistical significance at the .01 level.

The relationship between these concepts has very little empirical research to date. High EI has been shown to be related to effective leadership (Mayer & Salovey, 1997, Salovey, Mayer, Caruso & Lopes, 2001). Other researchers have posited that those in high-authority positions in business may also have low ethical cognition (Abdolmohammadi, et al., 1997). Bay & McKeage (2006) posit the EI may be one of the variables influencing the link between ethical understanding and ethical behavior. The result of this study found relatively low levels of both EI and CMD in the sample. Both EI and CMD are complex abilities that appear to be influenced by several contextual factors. Null Hypotheses 2 and 3 examined the relationship of four demographic factors to EI and CMD. These are discussed in context of the literature below.

Emotional Intelligence and Demographic Factors

H₀2: There is no relationship between emotional intelligence and the demographic variables of age, gender, education level, and college major.

This hypothesis was partially supported at the .05 level. Previous research indicates that older students, females, and general business majors have higher levels of EI than younger students, males, and accounting majors. The results of the study indicated that females and accounting students had higher levels of EI than males and business (non-accounting) students. The effect of age and education level was inconclusive.

EI and age.

The results of the study indicated no significant relationship between age and EI. While Mayer, Salovey, and Caruso (2003), report that EI scores increase with age, the narrow age range in the sample (18 – 25) may not be wide enough for measurable growth. Gohm & Clore (2002) also found no increase in MSCEIT scores during the limited college years. Emotional intelligence is believed to continue to increase during adulthood (Caruso, Mayer, & Salovey, 2002) with significant increases occurring after age 25 (Mayer, Salovey, & Caruso, 2004). Further research on adults over age 25 is recommended.

EI and gender.

The results of the study indicated a gender difference in EI (females had slightly higher EI than males). Women have demonstrated higher EI scores than men in several studies (Ciarrochi et al, 2000; Mayer et al, 2000; Mayer & Geher, 1996; Petrides & Furnham, 2000). Day and Carroll (2004) also found significant gender differences in undergraduate college students using the MSCEIT scale, and women outperformed men in all areas of emotional intelligence in a group of young adults (mostly college students) assessed by Mayer, Caruso, and Salovey (1999). The results of this study confirm previous findings as to the effect of gender on EI, specifically those of college age.

EI and education level.

The results of the study indicated inconclusive results on level of education. Previous research suggests that EI increases with educational experiences. The inconclusive result in this study is attributed to the small range of education levels in the sample (freshman through senior in college) and to the small sample size (N=82).

EI and college major.

The results of the study indicated a significant difference in EI based on college major. In this study, accounting students had higher levels of EI than their business major peers, at a statistically significant level ($p = .01$). This conflicts with previous empirical research which found accounting students to have lower EI level than other business majors (Esmond-Kiger, et al., 2006; Malone, 2006). Previous research found that business students overall possessed only low average levels of emotional intelligence (Bay & McKeage, 2006). This study confirmed that result. In this study, both accounting majors and other business majors had low average levels of EI.

Cognitive Moral Reasoning and Demographic Factors

The third null hypothesis addressed in the study concerned the cognitive moral development level and demographic variables.

H₀₃: There is no relationship between CMD and the demographic variables of age, gender, education level, and college major.

This hypothesis was partially supported at the .05 significance level. Previous research indicated that older students, females, and general business students have higher levels of CMD than younger students, males, and accounting majors. The results of the study indicated significantly higher levels of CMD in females ($p = .01$) and those with more educational experience ($p = .05$). College major and age did not show significant correlations with CMD.

CMD and age.

The results of the study indicated that CMD levels varied with age but no significant association was found. Previous research has found increasing moral

development levels with continued education and increasing age, but other studies have been inconclusive. The small age range in this sample is probable cause for the inconclusive result.

CMD and gender.

The results of the study indicated that gender has a statistically significant relationship to moral development. Previous research has shown mixed results on a gender effect on CMD, although females more often demonstrated higher levels of moral reasoning than men did (Elm, et al., 2001; Borkowski & Ugras, 1998). In this study, females had higher moral development levels than men, at a statistically significant level ($p = .01$).

CMD and education.

The results of the study indicated that level of education has a significant relationship to moral development. This finding confirms previous research that achieving a higher level of education can result in increased levels of moral development (Elm, et al., 2001; Rest., 1986; Kohlberg, 1981; and Rest, Thoma & Edwards, 1997). The result of this study also indicates that higher levels of education resulted in higher levels of CMD, at a statistically significant level ($p = .05$).

CMD and college major.

The results of the study indicated that college major has a weak relationship to moral development. In this study, accounting majors had slightly higher CMD levels than other business majors, although the difference was not statistically significant. College major generally has shown no significant relationship to moral development in most previous research (Borkowski and Ugras, 1998). However, accounting majors had

slightly lower moral reasoning skills than students in other programs (Elm, et al.,2001). The results of this study oppose that finding.

Conclusion for hypothesis testing

The results of the study shed some light on the question of the relationship between emotional intelligence and moral development in undergraduate business students. While the relationship did not reach levels of statistical significance, a weak positive relationship was shown between the primary variables. Blasi (1980, 1999) suggested that a full understanding of moral development should include factors such as identity, self-regulation, self-awareness, and motivation as well as cognition in a comprehensive model of moral development. Emotional awareness and regulation may well be one of the important factors that influences moral development, and specifically, moral behavior and decisions.

Several researchers have suggested that the role of social relationships in mature moral reasoning should be studied further (Eisenberg, 1987; Gilligan, 1993; Damon & Colby, 1987) Specific to the accounting field, Thorne (2000) found that accountants were highly influenced by social factors when making judgment decisions; they appeared to use only the pre-conventional levels of reasoning when faced with ethical accounting dilemmas, even though their cognitive capacity predicted the use of higher moral schemas. This study did find that accounting students had more developed moral schemas than other business students, but the impact of interpersonal expectations and conformity to organization and professional expectations was not a measured variable. This type of study is suggested for future research.

Limitations

The findings in this study should be interpreted with caution due to several limitations. One limitation of this study was its scope. Small sample size, the purposive method of sampling, and the geographic area from which the sample was drawn may make the results not generalizable. A larger sample size drawn from other geographic areas would provide greater statistical data. A second limitation in the study is possible motivation. Participants were offered \$20 to complete both surveys. This may have caused participants to rush through the questions just to obtain the compensation with less thoughtful completion of responses. A third limitation is that the moral dilemmas on the survey may not reflect ethical dilemmas encountered in business situations; as a result, the power of social influences on the moral decision making process were not measured. This may be an important factor in individual's behavior in making more realistic business decisions. Finally, the study measured current levels of moral development and emotional intelligence. The use of emotions in making real business decisions over time was not measured.

Recommendations for Future Research

This dissertation focused on the relationship between emotional intelligence and cognitive moral development in undergraduate business students. The following recommendations are made for further research:

1. To obtain greater statistical strength, the study could be replicated with a larger sample. Also participants from a public university or a university in a different geographic location may provide different results. Both emotional

intelligence and moral development are thought to increase over time, so the relationship between these concepts may be stronger in adults older than age 25. Future research on older adults is suggested. The results would increase the ability to generalize the findings.

2. Since both emotional intelligence and moral development levels have been tied to “pro-social” behaviors in previous research, the incorporation of instruments designed to measure actual behaviors in the workplace would provide meaningful information.
3. It is recommended that future research examine the influence of social factors such as organizational and professional expectations on moral decision-making. Specifically focusing on accounting/auditing professionals making decisions that require judgment, along with their EI and moral development scores, is recommended for future studies.
4. Longitudinal studies of business professionals over time is recommended. Both emotional intelligence and moral development are thought to develop over time, so future studies that follow a group of people during their business careers would provide meaningful information.

Conclusion

Emotional intelligence is a mental ability to reason about emotions and to therefore make better decisions, including perhaps, ethical decisions. Longitudinal studies to measure the changes in these concepts over time may uncover interesting trends, since EI and CMD have both been shown to develop with education and age. Future research might shed light on how postconventional thinkers with high emotional intelligence fare in the workplace. Similarly, pre-conventional thinkers with low levels of emotional intelligence may possess other characteristics that enable them to have successful careers and satisfying personal lives as well. Emotional intelligence appears to relate to differences in occupational groups, the level of teamwork involved, the quality of relationships, and amount of problem behavior. Moral development is tied to concepts of social justice and creating equitable societies. Any future research that sheds light on

the interaction of these two concepts could assist in the development of skills that lead to stronger and smoother relationships between people, organizations, communities, and countries.

REFERENCES

- Abdolmohammadi, M.J., Gabhart, D. R.L, & Reeves, M.F. (1997). Ethical cognition of business students individually and in groups. *Journal of Business Ethics, 16*, 1717-1725.
- Adeoye, H., & Emeke, E.. (2010). Emotional intelligence and self-efficacy as determinants of academic achievement in English language among students in Oyo State Senior Secondary Schools. *Ife Psychologia, 18(1)*, 206-220.
- Al-Rumaidhi, K. (2008). Moral Reasoning Among Kuwaiti Adolscents. *Social Behavior and Personality, 36(1)*, 115-122.
- Allredge, S. Derryberry, W. P., Crowson, M., & Iran-Nejad, A. (2000). Rethinking the origin of morality and moral development. *The Journal of Mind and Behavior, 21*, 105-128.
- Amitay, O.R., & Mongrain, M. (2007). From emotional intelligence to intelligent choice of partner. *Journal of Social Psychology, 147(4)*, 325-343.
- American Institute of Certified Public Accountants (AICPA). (2000a). CPA Vision Project.
- American Institute of Certified Public Accountants (AICPA), (2000b). Core Competencies framework.
- Aquino, K. & Reed, A. (2002). The self-importance of moral identity. *Journal of Personality and Social Psychology, 83*, 1423-1440.
- Aronfree, J. (1976). Moral development from the standpoint of a general psychological theory. In T. Lickonia (Ed.), *Moral development and behavior: Theory, research, and social issues* (pp. 54-69). New York: Holt, Rinehart, and Winston.
- Ashkanasy, N., Windsor, C. & Trevino, L. (2006). Bad apples in bad barrels revisited: cognitive moral development, just world beliefs, rewards, and ethical decision-making. *Business Ethics Quarterly, 16(4)*. 449-473.
- Association of Certified Fraud Examiners, Inc. (ACFE) (2008). *2008 Report to the Nation on Occupational Fraud & Abuse*.
- Audi, R. (1994). *Moral Knowledge and Ethical Character*. New York: Oxford University Press.
- Aydin, M.D., Leblebici, D.N., Arslan, M., Kilic, M., & Oktem, M.K. (2005). The impact of IQ and EQ on pre-eminent achievement in organizations: implications for the

- hiring decisions of HRM specialists. *International Journal of Human Resource Management*, 16(5), 701-719.
- Bar-On, R. (1997). *Bar-On Emotional Quotient Inventory (EQ-I): Technical Manual*. Toronto Canada: Multi-Health Systems.
- Barbuto, J.E. Jr.& Burbach, M.E. (2006). The emotional intelligence of transformational leaders: a field study of elected officials. *The Journal of Social Psychology* 146(1), 51-64.
- Barnett, T. (2001). Dimensions of moral intensity and ethical decision-making: an empirical study. *Journal of applied social psychology*, 31(5), 1038-1057.
- Bay, D. & McKeage, K. (2006). Emotional intelligence in undergraduate accounting students: preliminary assessment. *Accounting Education: an International Journal*, 15(4), 439-454.
- Bebeau, M.J. (1994). Influencing the moral dimensions of dental practice. In J.R. Rest & D. Narvaez (Eds.), *Moral development in the professions: Psychology and applied ethics* (pp. 121-146). Hillsdale, NJ: Lawrence Erlbaum.
- Bebeau, M. J. (2002). The defining issues test and the four complement model: contributions to professional education. *Journal of Moral Education*, 31(3), 271-295.
- Bebeau, M. & Thoma, S. (2003). *Guide for DIT-2: A Guide for using the Defining Issues Test, Version 2 (DIT-2) and the Scoring Service of the CENTER for the study of ETHICAL DEVELOPMENT*. Minneapolis, MN: University of Minnesota.
- Benhabib, S. (1987) the generalized other and the concrete other: the Kohlberg-Gilligan controversy and feminist theory. In S. Benhabib, & D. Cornell (Eds.) *Feminism as critique* (pp. 7-95). Minneapolis, MN: University of Minnesota Press.
- Blasi, A. (1980). Bridging moral cognition and moral action: a critical review of the literature. *Psychological Bulletin*, 88, 123-167.
- Blasi, A. (1999). Emotions and moral motivation. *Journal for the Theory of Social Behavior*, 29, 1 – 19.
- Borkowski, S. C. & Yusuf, J.U. (1998). Business Students and Ethics: A meta-analysis. *Journal of Business Ethics*, 17, 1117-1127.
- Boone, R. T. & DiGiuseppe, R. (2002, July). *Emotional intelligence and success in professional graduate programs in psychology*. Paper presented at the

- International Society for Research on Emotions, Cuenca. Spain. As referenced in Mayer, Caruso, & Salovey (2004).
- Brackett, M. & Mayer, J. D. (2003). Convergent, discriminant, and incremental validity of competing measures of emotional intelligence. *Personality and Social Psychology Bulletin*, 29, 1147-1158.
- Brackett, M., Warner, R., & Bosco, J. (2005). Emotional intelligence and relationship quality among couples. *Personal Relationships*, 12(2), 197-212.
- Brackett, M., Rivers, S., Shiffman, S., Lerner, N., & Salovey, P. (2006). Relating emotional abilities to social functioning: a comparison of self-report and performance measures of emotional intelligence. *Journal of Personality and Social Psychology*, 91(4), 780-795.
- Brody, L.R. (1985). Gender differences in emotional development: a review of theories and research. *Journal of Personality*, 53, 102-149.
- Brown, F. W. & Moshavi, D. (2005). Transformational leadership and emotional intelligence: a potential pathway for an increased understanding of interpersonal influence. *Journal of Organizational Behavior* 26(7), 867-871.
- Burks, B., Sellani, R. (2008). Ethics, Religiosity, and Moral Development of Business Students. *Journal of Leadership, Accountability and Ethics*, (Fall, 2008), 49-70.
- Carmeli, A. (2003). The relationship between emotional intelligence and work attitudes, behavior and outcomes: an examination among senior managers. *Journal of Managerial Psychology*, 18(8), 788-813.
- Callahan, S. (1990). Is gender germane? *Health Progress*, 21-24.
- Campbell, R.L. (2005). Moral Development Theory: A critique of its Kantian presuppositions. *Developmental Review*, 16, 1-47.
- Campbell, R.L. & Christopher, J.C. (1996). Moral development theory: A critique of its Kantian presuppositions. *Developmental Review*, 16, 1-47.
- Caruso, D., Mayer, J., & Salovey, P. (2002). Relation of an Ability Measure of Emotional Intelligence to Personality. *Journal of Personality Assessment*, 79(2), 306-320.
- Caruso, D. (2003). Defining the inkblot called Emotional Intelligence. *Issues and Recent Developments in Emotional Intelligence*, 1(2).

- Ciarrochi, J., Chan, A. & Caputi, P. (2000). A critical evaluation of the emotional intelligence construct. *Personality and Individual Differences*, 28, 539-561.
- Cherniss, C. (2010). Emotional intelligence: toward clarification of a concept. *Industrial and Organizational Psychology*, 3, 110-126.
- Ciarrochi, J., Chan, A., Caputi, P. & Roberts, R. (2001). Measuring emotional intelligence. In: Ciarrochi, J., Forgas, J. & Mayer, J. (Eds.), *Emotional Intelligence in Everyday Life: a Scientific Inquiry*. New York: Psychology Press.
- Ciarrochi, J. & Scott, G. (2006). The link between emotional competence and well-being: a longitudinal study. *British Journal of Guidance and Counseling*, 34(2), 231-243.
- Clarke, N.. (2010). Emotional Intelligence and Its Relationship to Transformational Leadership and Key Project Manager Competences. *Project Management Journal*, 41(2), 5-20.
- Cohen, J., Pant, L. & Sharp, D. (2001). An examination of differences in ethical decision-making between Canadian business students and accounting professionals. *Journal of Business Ethics*, 30(4), 319-336.
- Cote, S., Lopes, P.N & Salovey, P. (2003). Emotional intelligence and vision formulation and articulation. As cited in Mayer, Salovey, & Caruso, 2004.
- Côté, S., Lopes, P., Salovey, P., & Miners, C.. (2010). Emotional intelligence and leadership emergence in small groups. *Leadership Quarterly*, 21(3), 496.
- Crow, S.M., Fok, L.Y., Hartman, S.J., & Payne, D.M (1991). Gender and values: what is the impact on decision-making? *Sex roles*, 25(3-4), 255-268.
- Damon, W. & Colby, A. (1987). Social influence and moral change, in: W.M. Kurtines & J.L. Gewirtz (Eds). *Moral development through social interaction*. New York: John Wiley & Sons, 3-19.
- Daus, C. & Ashkanasy, N. (2005). The case for the ability-based model of emotional intelligence in organizational behavior. *Journal of organizational behavior*, 26(4), 453-466.
- Day, A.L. & Carroll, S.A. (2004). Using an ability-based measure of the emotional intelligence to predict individual performance, group performance, and group citizenship behaviours, *Personality and Individual Differences*, 36(6), 1443-1458.

- Derryberry, W.P., Wilson, T., Snyder, H., Norman, T., & Barger, B. (2005). Moral judgment developmental differences between gifted youth and college students. *The Journal of Secondary Gifted Education, 17(1)*, 6 – 19.
- Derryberry, W. P., & Thoma, S.J. (2000). The friendship effect: It's role in the development of moral thinking in students. *About Campus, 5(2)*, 13-18.
- Deshpande, S.. (2009). A Study of Ethical Decision Making by Physicians and Nurses in Hospitals. *Journal of Business Ethics, 90(3)*, 387-397
- Diehl, M., Coyle, N., & Labouvie-Vief, G. (1996). Age and sex differences in strategies of coping and defense across the life span. *Psychology and Aging, 11*, 127-139.
- Dienstbier, R. A. (1984). The roles of emotions in moral socialization. In C.E. Izard & rR.B. Zajonc (Eds.), *Emotions, cognition, and behavior* (pp. 424-514). New York: Cambridge University Press.
- Doris, J.M. (2002). *Lack of Character: Personality and moral behavior*. New York: Cambridge University Press.
- Dulewicz, V. & Higgs, M. (2003). Leadership at the Top: The need for emotional intelligence in organizations. *International Journal of Organizational Analysis, 11(3)*, 193-210.
- Dunkelberg, J. & Jessup, D.R. (2001). So then why did you do it? *Journal of Business Ethics, 29(1/2)*, 51-63.
- Eisenberg, N. (1987). Self-attributions, social interaction, and moral development. In W. M. Kurtines, & J.L Gewirtz (Eds.), *Moral development through social interaction* (pp.22-40). New York: John Wiley & Sons.
- Eisenberg, N. (2000). Emotion regulation and moral development. *Annual Review of Psychology, 51*, 665-697.
- Eisler, R. (1987). *The chalice and the blade*. San Francisco: Harper – Collins.
- Elm, D. R., Kennedy, E.J., Lawton, L. (2001). Determinants of moral reasoning: sex role orientation, gender, and academic factors. *Business and Society, 40(3)*, 241-265.
- Emmerling, R.J., Shanwal, V., & Mandal, M. (Eds.). (2008) *Emotional Intelligence: Theoretical and Cultural Perspectives*. New York: Nova Science Publishers, Inc.

- Enyon, G., Hill, N., Stevens, K. (1997). Factors that influence the moral reasoning abilities of accountants: implications for universities and the profession. *Journal of Business Ethics*, 16(12/13), 1297-1309.
- Esmond-Kiger, C. & Kirch, D.P. (2003). Implementing the business activity model for teaching intermediate accounting: a recipe for success. *Management Accounting Quarterly*, 4(4), 53-62.
- Esmond-Kiger, C., Tucker, M.L., & Yost, C.A. (2006). Emotional Intelligence: from the classroom to the workplace. *Management Accounting Quarterly*, 7(2), 35-41.
- Feather, N. (2003). *Values and Culture*. In W.J.L.R. Malapass (Ed.) *Psychology and Culture*. Boston: Allyn & Bacon, 183-189.
- Flavell, J. (1962) *The Developmental Psychology of Jean Piaget*. Princeton, NJ: D Van Nostrand Company, Inc.
- Foo, M.D. et al. (2004). Emotional intelligence and negotiation: the tension between creating and claiming the value. *International Journal of Conflict Management*, 15(4), 411-429.
- Forte, A. (2005). Locus of control and the moral reasoning of managers. *Journal of Business Ethics*, 58, 65-77.
- Freudenthaler, H. Neubauer, A. & Haller, U. (2008). Emotional intelligence: Instruction effects and sex differences in emotional management abilities. *Journal of Individual Differences*, 29(2), 105-115.
- Garrod, A., Beal, C., Jaeger, W. Thomas, J., Davis, J., leiser, N., & Hodzic, A. (2003). Culture, Ethnic Conflict and Moral Orientation in Bosnian Children. *Journal of Moral Education*, 32(2), 131-150.
- Gardner, H. (1993). *Multiple Intelligences: The Theory in Practice*. New York: Basic Books.
- Gilligan, C. (1982, 1993). *In a Different Voice*. Cambridge, MA: Harvard University Press.
- Girsez, G. G. (1974). *Beyond the New Morality*. Notre Dame, IN: University of Notre Dame Press.
- Gilligan, C. (1993). *In a different voice*. New York: Harvard University Press.
- Goleman, D. (1995). *Emotional Intelligence: Why it can matter more than IQ*. New York: Bantam Books.

- Goleman, D., Boyatzis, R.E., & McKee, A. (2002). *The new leadership*. London: Brown.
- Gur, R., Gunning-Dixon, F., Bilker, W.B., & Gur, R.E. (2002) Sex differences in temporo-limbic and frontal brain volumes of healthy adults. *Cerebral Cortex*, 12, 998-1003.
- Haidt, J. (2001). The emotional dog *and its rational tail: A social intuitionist approach to moral judgment*. *Psychological Review*, 108, 814-834.
- Haidt, J. (2003). The emotional dog does learn new tricks: A reply to Pizarro and Bloom (2003). *Psychological Review*, 110, 197-198.
- Hasnas, J. (1998). The normative theories of business ethic's: a guide for the perplexed. *Business Ethics Quarterly* (8).
- Hellriegel, D. & Slocum, J. (2007). *Organizational Behavior* (11th ed.). Mason, OH: Thomson South-Western.
- Hopkins, M. & Bilimoria, D. (2004). Care and Justice Orientations in Workplace Ethical Dilemmas of Women Business Owners. *Group & Organization Management*, 29(4), 495-517.
- Hughes, C. & Dunn, J. (2002). "When I say a naughty word". A longitudinal study of young children's accounts of anger and sadness in themselves and close others. *British Journal of Developmental Psychology*, 20(4), 515-536.
- Izard, C.E. (2001). Emotional intelligence or adaptive emotions? *Emotion*, 1, 249-257.
- Jaffee, S. & Hyde, J.S. (2000). Gender differences in moral orientation: A meta-analysis. *Psychological Bulletin*, 126(5), 703-726.
- Jones, A.D. (2007). Corporate officer wrongdoing and the fiduciary duties of corporate officers under Delaware law. *American Business Law Journal*, 44(3), 475-520.
- Jones, J., Massey, D. & Thorne, L. (2003). Auditor's ethical reasoning: insights from past research and implications for the future. *Journal of Accounting Literature*, 22, 45-103.
- Jones, S. K. & Hildebeitel, K.M. (1995). Organizational influence in the model of the moral decision process of accountants. *Journal of Business Ethics*, 14(6), 417-431.
- Jones, T.M. (1991). Ethical decision making by individuals in organizations: An issue-contingent model. *Academy of Management Review*, 16, 366-395.

- Jordan, P.J. (2003). The case for emotional intelligence in organizational research. *Academy of Management Review*, 27(2), 267-298.
- Knotts, T., Lopez, T., & Mesak, H. (2000). Ethical Judgments of College Students. *Journal of Educaiton for Business*, 75(3), 158-164.
- Kracher, C.. Academic and non-academic factors associated with retention of undergraduate college students. Ph.D. dissertation, Lynn University, United States -- Florida. Retrieved July 2, 2010, from Dissertations & Theses: Full Text.
- Krebs, D. L& Denton, K. (1997). The forms and functions of real-life moral decision-making. *Journal of Moral Education*, 26, 131-146.
- Kernbach, S. & Schuttte, N.S. (2005). The impact of service provider emotional intelligence on customer satisfaction. *Journal of Services Marketing*, 19(7), 438-333.
- Kohlberg, L. (1981). *Essays on Moral Development: The philosophy of moral development*. New York: Harper & Row.
- Kohlberg, L., Boyd, D. R., & Levine, C. (1990) The return of Stage 6: Its principle and moral point of view. In T Wren (Ed.), *The moral domain: Essays in the ongoing discussion between philosophy and the social sciences*, 151-181. Cambridge, MA: MIT Press.
- Kunnanatt, J.T. (2004) *Emotional intelligence: the new science of interpersonal effectiveness*. Human Resource Development Quarterly, 15(4), 489-495.
- Labouvie-Vief, G., Chiodo, L.M., Goguen, L.A., Diehl, M. & Orwoll, L. (1995). Representations of self across the life span. *Psychology and Aging*, 10, 404-415.
- Labouvie-Vief, G., DeVoe, M., & Bulka, D. (1989). Speaking about feelings: Conceptions of emotions across the life span. *Psychology and Aging*, 4, 425-437.
- Labouvie-Vief, G. & Diehl, M. (2000). Cognitive complexity and cognitive-affective integration: related or separate domains of adult development. *Psychology and Aging*, 15, 490-504.
- Lampe, J. & Finn, D.(1992). A model of auditors ethical decision process. *Auditing: A Journal of Practice and Theory*.
- Lan, G., Gowing, M., McMahon, S., Rieger, F., & King, N. (2008). A study of the relationship between personal values and moral reasoning of undergraduate business students. *Journal of Business Ethics*, 78, 121-139.

- Lan, G., Gowing, M., McMahon, S., Rieger, F., & King, N. (2008). A study of the relationship between personal values and moral reasoning of undergraduate business students. *Journal of Business Ethics, 78*(1/2), 121-139.
- Leitsch (2006). Using dimensions of moral intensity to predict ethical decision-making in accounting. *Accounting Education, 15*(2), 135-149.
- Livingstone, G., Derryberry, W.P., King, A., & Vendetti, M. (2006). *Moral Development Consistency? Investigating Differences and Relationships Among Academic Majors. Ethics & Behavior, 16*(3), 265-287.
- Lopes, P., Salovey, P., Cote, S., Beers, M., (2005). Emotion Regulation Abilities and the Quality of Social Interaction. *Emotion, 5*(1), 113-118.
- Mahoney, M.L. (2006). The Prediction of Moral Reasoning: The Role of Empathy and Emotional Regulation. Dissertation published Dec., 2006, Loma Linda University. UMI Number 3224140.
- Maier, M. (1999). On the gendered substructure of organization: dimensions and dilemmas of corporate masculinity. In G.A. Powell (Ed.) *Handbook of gender and work* (pp. 69-94). Thousand Oaks, CA: Sage.
- Malone, F. (2006). The ethical attitudes of accounting students. *The Journal of American Academy of Business, 8*(1), 142-146.
- Maroney, J.J. & McDevitt, R. E. (2008). The effects of moral reasoning on financial reporting decisions in a post-Sarbanes-Oxley environment. *Behavioral Research in Accounting, 20*(2), 89-110.
- Marta, J., Singhapakdi, A., & Kraft, K. (2008). Personal characteristics underlying ethical decisions in marketing situations: a survey of small business managers. *Journal of Small Business Management, 46*(4), 589-606.
- Matthews, G. (2002). *Emotional intelligence: science and myth*. Cambridge, MA: The MIT Press.
- May, D. R. & Pauli, K.P. (2002). The role of moral intensity in ethical decision-making. *Business and Society, 41*, 84-117.
- Mayer, J.D. & Mitchell, D. C. (1998). Intelligence as a subsystem of personality: From Spearman's g to contemporary models of hot processing. In W. Tomic & J. Kingma (Eds.), *Advances in cognition and educational practice* (Vol. 5, pp. 43-75). Greenwich, CT: JAI.

- Mayer, J. D. & Salovey, P. (1997). What is Emotional Intelligence? In P. Salovey & D.J. Sluyter (Eds.). *Emotional Development and Emotional Intelligence*. New York: Basic Books.
- Mayer, J.D., & Geher, G. (1996). Emotional intelligence and the identification of emotion. *Intelligence*, 22, 89-113.
- Mayer, J.D., Caruso, D., & Salovey, P. (2000). Emotional intelligence meets traditional standards for an intelligence. *Intelligence*, 27, 267-298.
- Mayer, J.D., Salovey, P., & Caruso, D. (2008). Emotional intelligence: New ability or eclectic traits? *American Psychologist*, 63(6), 503-517.
- Mayer, J.D., Salovey, P., & Caruso, D., Sitarenios, G. (2001). Emotional intelligence as a standard intelligence. *Emotion*, 1(3), 232-242.
- Mayer, J.D. & Ciarrochi, J. (2001). Clarifying Concepts related to emotional intelligences: a proposed glossary. In C. Ciarrochi, J.P. Forgas, & J.D. Mayer (Eds.), *Emotional intelligence in everyday life: a scientific inquiry* (pp.261-267). Philadelphia, PA: Psychology Press.
- Mayer, J.D., Salovey, P., Caruso, D., & Sitarenios, G. (2003). Measuring Emotional Intelligence with the MSCEIT V2.0. Brief Report. *Emotion*, 3(1), 97-105.
- Mayer, J.D., Salovey, P., & Caruso, D. (2004). Emotional intelligence: theory, findings, and implications. *Psychological Inquiry*, 15(3), 197-215.
- Mayer, J.D., Salovey, P., & Caruso, D. (2004a). A further consideration of the issues of emotional intelligence. *Psychological Inquiry*, 15(3), 249-255.
- Mayer, J., Salovey, P., & Caruso, D. (2002) *Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT): Users Manual*. North Tonawanda, NY: Multi-Health Systems, Inc.
- Mehrabian, A., Young, A., & Sato, S. (1988). Emotional empathy and associated individual differences. *Current Psychology Research and Reviews*, 7, 221-240.
- Morton, K.R., Worthley, J.S., Testerman, J.K., & Mahoney, M.L., (2006). Defining features of moral sensitivity and moral motivation: pathways to moral reasoning in medical students. *Journal of Moral Education*, 35(3), 387-406.
- Narvaez, D. (1993). High achieving students and moral judgment. *Journal for the Study of the Gifted*, 16, 268-279.

- Nucci, L. (2002). Goethe's Faust revisited: Lessons from DIT research. *Journal of Moral Education, 31*, 315-324.
- O'Fallon, M.J. & Butterfield, K.D. (2005). A review of the empirical ethical decision-making literature: 1996-2003. *Journal of Business Ethics, 59*, 375-413.
- Palmer, B.R., Gigna, G., Manocha, R. & Stough, C. (2004). A psychometric evaluation of the Mayer-Salovey-Caruso emotional intelligence test version 2.0.
- Pascarella, E. T. & Terenzini, P.T. (1991). Moral development. In E.T. Pascarella & P.T. Terenzini (Eds.), *How college affects students* (pp. 335-368). San Francisco: Jossey-Bass.
- Peter, E. & Gallup, R. (1994). The ethic of care: a comparison of nursing and medical students. *Image, 26*, 47-51.
- Petrides, K. V. & Furnham, A. (2000). On the dimensional structure of emotional intelligence. *Personality and Individual Differences, 29*, 313-320.
- Petrides, K.V. & Furnham, A. (2001). Trait emotional intelligence: Psychometric investigation with reference to established trait taxonomies. *European Journal of Personality, 15*, 425-448.
- Petrides, K.V., Chamorro-Premuzic, T., Frederickson, N., & Furnham, A.. (2005). Explaining individual differences in scholastic behaviour and achievement. *British Journal of Educational Psychology, 2(75)*, 239-255.
- Pizarro, D. & Bloom, P. (2003). The intelligence of the moral intuitions: A comment on Haidt (2001). *Psychological Review, 110(1)*, 193-196.
- Prati, L.M. et al (2003) Emotional intelligence, leadership effectiveness, and his team outcomes. *The International Journal of Organizational Analysis, 11(1)*, 21-40.
- Puka, B. (1990). The majesty and mystery of Kohlberg's Stage 6. In T Wren (Ed.), *The moral domain: Essays in the ongoing discussion between philosophy and the social sciences*, 182-223. Cambridge, MA: MIT Press.
- Rapidsardo, B.A. (2002). The impact of emotional intelligence on work team cohesiveness and performance. *The International Journal of Organizational Analysis, 10(4)*, 363-379.
- Rest, J. (1986). *Moral development: Advances in research and theory*. New York: Praeger.

- Rest, J., Narvaez, D., Thoma, S., Bebeau, M. (1999). DIT2: Devising and testing a revised instrument of moral judgment. *Journal of educational psychology, 91(4)*, 644-659.
- Rest, J., Narvaez, D., Bebeau, M., & Thoma, S. (1999). *Postconventional thinking: A neo-Kohlbergian approach*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Reynolds, S. (2008). Moral Attentiveness: Who pays attention to the moral aspects of life? *Journal of Applied Psychology, 93(5)*, 1027-1041.
- Rockeach, M. (1966-1967). Attitude Change and Behavioral Change. *Public Opinion Quarterly, 30(4)*, 529-550.
- Rode, J., Mooney, C., Arthaud-Day, M., Near, J., Baldwin, T., Rubin, R., et al. (2007). Emotional intelligence and individual performance: evidence of direct and moderated effects. *Journal of Organizational Behavior, 28(4)*, 399-421.
- Rokeach, M. (1971). Long-range experimental modification of values, attitudes, and behavior. *American Psychologist, 26(5)*, 453-459.
- Rozell, E., Pettijohn, C., Parker, R.S. (2002). An empirical evaluation of emotional intelligence: the impact on management development. *Journal of Management Development, 21(3/4)*, 272-289.
- Rubin, R., Munz, D., Bommer, W., (2005). Leading from Within: The Effects of Emotion Recognition and Personality on Transformational Leadership Behavior. *Academy of Management Journal, 48(5)*, 845-858.
- Sala, F. (2001). It's lonely at the top: Executives' emotional intelligence self (mis) perceptions. Retrieved July 2, 2010 from co
- Salovey, P. & Mayer, J.D. (1990). Emotional intelligence. *Imagination, cognition, and Personality, 9*, 185-211.
- Schutte, N.S., Malouff, J.M., Hall, L.E., Haggerty, D.J., Cooper, J.T., Golden, C.J. & Dornheim, L. (1998). Development and validation of a measure of emotional intelligence. *Personality and Individual Differences, 25*, 167-177.
- Schutte, N. S., J. M Malouff, C. Bobik, T.D. Coston, C. Greeson, C. Jedlicka, E. Rhodes, and G. Wendorf (2001). Emotional intelligence and interpersonal relations. *The Journal of Social Psychology, 14(4)*, 523-536.

- Schutte, N.S., Malouff, J., Simunek, M., McKenley, J., Hollander, S., (2002). Characteristic emotional intelligence and emotional well-being, *Cognition and Emotion*, 16(6), 769-785.
- Senate Report: 2002, "The Role of the Board of Directors in Enron's Collapse" Report prepared by the Permanent Subcommittee on Investigations of the Committee on Government Affairs, U.S. Senate report.
- Singhapakdi, A., Vitell, S., Rao, C., & Kirtz, D. (1999). Ethics Gap: Comparing Marketers with Consumers on Important Determinants of Ethical Decision-Making. *Journal of Business Ethics*, 21(4), 317-328.
- Smigla, J.E. & Pastoria, G. (2000). Emotional intelligence: some have it, others can learn. *The CPA Journal*, 70(6), 60-66.
- Smith, M. (2009). Police perceptions of integrity: The relationship between emotional intelligence and moral development among police officers. Ph.D. dissertation, Capella University, United States -- Minnesota. Retrieved July 2, 2010, from Dissertations & Theses @ Capella University.(Publication No. AAT 3380475.
- Staubus, G. (2005). Ethics failures in corporate financial reporting. *Journal of Business Ethics*, 57(1), 5-15.
- Stefano, S.F. & Wasylshyn, K.M. (2005). Integrity, courage, empathy (ICE): three leadership essentials. *Human Resource Planning*, 28(4), 5-7.
- Svyantek, D.J. & Rahim, M.A. (2002). Links between emotional intelligence and behavior in organizations: findings from empirical studies. *The International journal of Organizational Analysis*, 10(4), 299-301.
- Sweeney, B. & Pierce, B. (2004). Management control in audit firms: a qualitative investigation. *Accounting, Auditing and Accountability Journal*, 17, 779-812.
- Sweeney, B., Arnold, D., & Pierce, B.. (2010). The Impact of Perceived Ethical Culture of the Firm and Demographic Variables on Auditors' Ethical Evaluation and Intention to Act Decisions. *Journal of Business Ethics*, 93(4), 531-551. Retrieved July 3, 2010, from ABI/INFORM Global. (Document ID: 2022195911).
- Tannen, D. (1990). *You just don't understand: women and men in conversation*. New York: Ballantine.
- Thayer, J. & Johnson, B. (2000). Sex differences in judgment of facial affect: a multivariate analysis of recognition errors. *Scandinavian Journal of Psychology*, 41, 243-246.

- Thoma, S. J. (2000). Models of moral development. *The Journal of Mind and Behavior*, 21, 129-136.
- Thoma, S., Narvaez, D., Rest, J., & Derryberry, P., (1999). Does Moral Judgment Development Reduce to Political Attitudes or Verbal Ability? Evidence Using the Defining Issues Test. *Educational Psychology Review*, 11(4), 325-341.
- Thorne, L. (2000). The development of two measures to assess accountants' prescriptive and deliberate moral reasoning. *Behavioral Research in Accounting* (12), 139 – 167.
- Todres, M., Tsimtsiou, Z., Stephenson, A., & Jones, R.. (2010). The emotional intelligence of medical students: An exploratory cross-sectional study. *Medical Teacher*, 32(1), e42. Retrieved July 2, 2010, from ProQuest Education Journals. (Document ID: 1958637111).
- Trinidad, D. R. & Johnson, C.A. (2001). The association between emotional intelligence and early adolescent tobacco and alcohol use. *Personality and Individual Differences*, 32, 95-105.
- Trinidad, D. R., Unger, J., Chou, C., & Johnson, C.A. (2005). Emotional Intelligence and Acculturation to the United States: Interactions on the Perceived Social Consequences of Smoking in Early Adolescents. *Substance Use & Misuse*, 40(11), 1697-1706.
- Tucker, M.L, et al, (2000). Training tomorrow's leaders: enhancing the emotional intelligence of business graduates. *Journal for Education in Business*, 75(6), 331-337.
- Vakola, M., Tsasis, I., & Nikolaou, I. (2004). The role of emotional intelligence and personality variables on attitudes toward organizational change. *Journal of Managerial Psychology*, 19(1/2), 88 – 110.
- Walker, L. & Pitts, R. (1998). Naturalistic conceptions of moral maturity. *Developmental Psychology*, 34(3), 403-419.
- Weiss, J.W. (2003). *Business Ethics: A stakeholder and issues management approach*. Mason, OH: Thomson Learning.
- Yang, J. and Mossholder, K. W., (2004). Decoupling task and relationship conflict: the role of intragroup emotional processing. *Journal of Organizational Behavior* 25(5), 589-605.

Yocum, R. (2006). *The moderating effects of narcissism on the relationship between emotional intelligence and leadership effectiveness, moral reasoning and managerial trust*. A dissertation. Seattle Pacific University.

APPENDIX A:

DEFINING ISSUES TEST 2

Column headings for responses as reported by The Center for the Study of Ethical Development, Minneapolis, MN.

Columns:

0 – 7 Lithocode

8 – 12 Participant ID

13 Action Choice for Famine Story (1-7)

14-25 Ratings on 12 items of Famine story (1=great, 2=much, 3=some, 4=little, 5=no).

26-27 Most important items from 12 Famine item (item number)

28-29 2nd most important

30-31 3rd most important

32-33 4th most important

34 Action choice for Reporter story

25-46 Ratings on 12 items of Reporter

47-54 Ranks for Reporter

55 Action choice for School Board story

56-67 Ratings on 12 items

68-75 Ranks

76 Decision on Cancer story

77-88 Ratings for 12 items of Cancer story

89-96 Rankings for Cancer story

97 Decision on Demonstration story

98-109 Ratings

110-117	Rankings
118-119	Age
120	Sex (1=male, 2=female)
121-122	Education (1-13)
123	Political Liberalism/Conservatism (1-5)
124	Citizen of U.S.? (1=yes, 2=no)
125	English your first language (1=yes, 2=no)

APPENDIX B:

MAYER, SALOVEY, CARUSO EMOTIONAL INTELLIGENCE TEST
SPREADSHEET REPORT RAW DATA COLUMN HEADINGS

First Name

Last Name

Gender

Age

Ethnicity

Occupational Code

Columns A1-H9 contain scored item responses

Columns I1-I141 contain actual item responses

Columns ES – FG contain the raw scores for each of the eight task areas and the totals

Perceiving Emotions

A = Faces Task

E = Pictures Task

Using Emotions

B = Facilitation Task

F = Sensations Task

Understanding Emotions

C = Changes Task

G = Blends Task

Managing Emotions

D = Emotion Management Task

H = Social Management Task

Raw Score Total

Columns FH – FV contain raw scores that were adjusted for age, gender, and/or ethnicity

Columns FW – GD contain empirical percentile scores for the eight task areas

Columns GE – GH contain empirical percentile scores for the four branch areas

Columns GX – HB contain the following raw data scores:

Standard Score Emotional Experience Area

Standard Score Emotional Reasoning Area

Standard Score Total for Overall Emotional Intelligence

Standard Score Positive-Negative Bias Score

Stand Score Scatter Score

Assessment number

Assessment date

Assessment time

APPENDIX C:

MSCEIT LEGEND

ITEM RESPONSES

I1 – I141 = Actual Item Responses

If an individual item response is not provided the field is left blank.

A1-H9 = Scored Item Responses

TASK SCORES

<Perceiving Emotions>

A = Faces Task

E = Pictures Task

<Using Emotions>

B = Facilitation Task

F = Sensations Task

<Understanding Emotions>

C = Changes Task

G = Blends Task

<Managing Emotions>

D = Emotion Management Task

H = Social Management Task

BRANCH SCORES

_B1 = Perceiving Emotions

_B2 = Using Emotions

_B3 = Understanding Emotions

_B4 = Managing Emotions

AREA SCORES

EXP = Emotional Experiencing area

REA = Emotional Reasoning area

OVERALL EMOTIONAL INTELLIGENCE

TOT = Overall Emotional Intelligence

RawScore_X = Raw Score with no adjustments.

If the raw score cannot be computed a blank field is displayed.

AdjScore_X = Raw scores adjusted for Age Gender and/or Ethnicity (Depends on ScoreID chosen).

If no adjustment are selected a blank field is displayed.

Perc_X = Empirical Percentiles

SS_X = Standard Scores

If the standard score cannot be computed a blank field is displayed.

SS_PosNeg = Positive-Negative Bias Score

SS_Scat = Scatter Score

NORM OPTIONS (ScoreID)

General Type with No Correction = 1

General Type with Age = 2

General Type with Gender = 3

General Type with Ethnicity = 4

General Type with Age and Gender = 5

General Type with Age and Ethnicity = 6

General Type with Gender and Ethnicity = 7

General Type with Age Gender and Ethnicity = 8

Expert Type with No Correction = 9

Expert Type with Age = 10

Expert Type with Gender = 11

Expert Type with Ethnicity = 12

Expert Type with Age and Gender = 13

Expert Type with Age and Ethnicity = 14

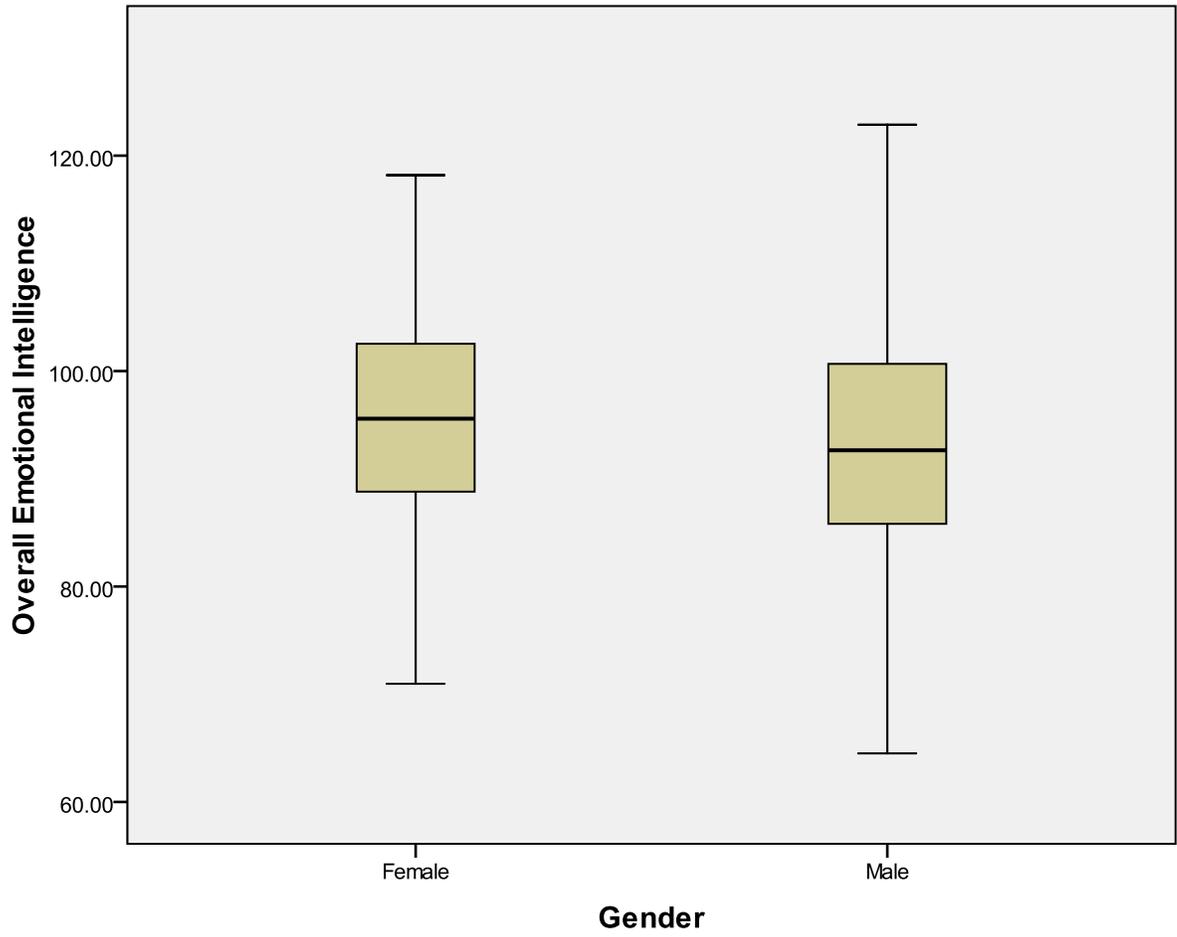
Expert Type with Gender and Ethnicity = 15

Expert Type with Age Gender and Ethnicity = 16

If demographic information (e.g. Gender/Age/Ethnicity) are not provided then a blank field is displayed.

APPENDIX D:

Box plot of emotional intelligence by gender



Box plot of moral development by gender

