Relationships between a social-emotional learning program and emotional intelligence in middle school students

By

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This study examined the relationships between a social-emotional learning program and the 5 dimensions of emotional intelligence and whether the relationships were moderated by gender. The problem addressed in the study was the lack of research focused on the development of emotional intelligence at the middle school level.

The participants included 28 middle school students from a southeastern state who engaged in a 36 hour social-emotional learning program facilitated by a public university. The BarOn EQ-i:YV was administered pre and post. Demographic data including age, gender, race, and school type were also gathered. Data were analyzed using a one-way repeated measure MANOVA in which gender served as an attribute variable. The independent variables for this study included the attribute variable of gender and the treatment variable (IMPACT program). The dependent variables were the 5 dimensions of the EQ-i:YV (intrapersonal, interpersonal, stress management, adaptability, and general mood).

The MANOVA found no interaction between the treatment and gender, but it did show a significant main effect for the treatment. Separate univariate tests showed
significant relationships between the treatment and four of the five dimensions of emotional intelligence: interpersonal, stress management, adaptability, and general mood. Specifically, the findings revealed that the IMPACT program significantly increased participants’ emotional intelligence in these four areas. The MANOVA also showed a significant effect for gender. The univariate tests showed one significant gender difference relating to the interpersonal dimension; females scored significantly higher than did males on both the pre- and post-tests with a moderate effect size. While not significantly different, females also scored higher than did males in three other dimensions (intrapersonal, stress management, and general mood) on both the pre- and post-tests.

As there is hardly any research that focuses on both the effectiveness of social-emotional learning programs with middle school students and the role of gender, further related research is recommended. Additionally, further research should examine the effectiveness of condensed versus traditional one year delivery models for social-emotional learning programs.
DEDICATION

This research is dedicated to my husband David who recognized and valued my potential and who always encourages me to dream big; to our three children: Lauren, Phillip, and Allison whose willing sacrifices made it possible for me to pursue this dream; and to my extended family in Washington, North Carolina, and Florida. This work is also in loving memory of three exceptional influences in my life: my father, Pat E. Bayless, who died before this was even an idea and M. Jane Reasor and Joseph A. Portera whose unwavering faith and support provided me the courage to accept challenge, manage monumental tasks, and continue my own personal growth through learning and experiences.

An undertaking of this magnitude could never have been successful without the support of my outstanding colleagues and friends at the Center for Creative Learning at Mississippi University for Women, especially Suzanne Bean and Patti Davis who offered encouragement throughout the years to complete this work.

My role models in education continue to be outstanding teachers. To those of you who have influenced my life as teachers, mentors, and friends, I am grateful for your choice to serve and inspire others through the sharing of knowledge: Lois Kappler, Katy Hendry, George Betts, Casey Buck, and Ron Frank. And finally, to my committee members, for your support and the opportunities for learning and growth you provided me during this process.
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CHAPTER I
INTRODUCTION

Emotional and social acuity strengthen interpersonal relationship skills, leading individuals who possess high levels of both to increased personal and interpersonal effectiveness (Bar-On, 1997, 2006b; Covey, 1989, 2004; Gardner; 1983; Goleman, 1995). The idea that emotional intelligence is flexible, variable, and able to be learned and developed elevated the field to great popularity with the general public in the mid 1990s. Consequently, leading theorists in the field formalized different models of emotional intelligence (Bar-On, 2006b; Goleman, 1995; Mayer & Salovey, 1997). While distinctly unique, the major models of emotional intelligence all suggest that emotional intelligence can be defined as a set of skills or abilities relating to the recognition of emotions in self and in others, the regulation of emotions, and the adaptation of emotion to specific events or experiences. Emotional intelligence enhances intellectual and personal growth by allowing an individual to adapt to change, effectively approach challenge, appropriately handle conflict, and maintain emotional and psychological health.

The potential relationship between emotional intelligence and achievement, leadership, and business propelled the concept of emotional intelligence to new international interest, demonstrating its practical applications to the classroom and the workplace. Emotional intelligence has been linked to increased academic achievement in
middle and high school (Aremu, Tella, & Tella, 2006; Durlak & Weissberg, 2007; Parker, et al., 2004), lower levels of student aggression (Cobb & Mayer, 2000; Durlak & Weissberg, 2007), and lower levels of engagement in risky behaviors such as alcohol consumption and smoking (Cobb & Mayer, 2000; Mayer, Caruso, Salovey, Formica, & Woolery, 2000). The relationship between higher levels of emotional intelligence as youth and lowered engagement in negative behaviors as adults was also validated (Mayer et al., 2000). Similarly, studies showed emotional intelligence to be a predictor of success in the workplace including one’s ability to function as a member of a team, workplace satisfaction, autonomy, commitment, and overall effectiveness (Cherniss, Goleman, Emmerling, Cowan, & Adler, 1998; Frye, Bennet, & Caldwell, 2006; Petrides & Furnham, 2006; Sala, 2006). Consistent with the aforementioned studies, emotional intelligence has been correlated with enhanced leadership skills such as self-awareness, self-management, interpersonal skills, and job performance (Bradberry & Su, 2006; Cavallo & Brienza, 2006; Center for Creative Leadership, 2003; George, 2000; Stone, Parker, & Wood, 2005).

This idea that increasing emotional intelligence may leverage increased achievement, workplace effectiveness, and leadership potential introduced the theory to greater popularity. It created a change in the perception of emotional intelligence from a soft theory focused on feelings to one with practical applications for a wider audience, including business and educational leaders. This shift led to the need to develop social-emotional learning programs to facilitate the development of emotional intelligence in both youth and adults. Emotional intelligence can be viewed as developing expertise in the management and regulation of emotions through acquiring and honing the skills
necessary to demonstrate that expertise. Experts in the field of emotional intelligence concur that it consists of a set of observable and measurable skills, abilities, and attitudes that can be learned and developed (Bar-On, 1997, 2006b; Durlak & Weissberg, 2007; Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Goleman, 1995; Weisinger, 1998). While a limited body of research on the effectiveness of social-emotional learning programs exists at this time, the results of these studies are consistent with the assertion that emotional intelligence can be increased through such programs (Battistich, Shaps, & Wilson, 2004; Cherniss, Extein, Goleman & Weissberg, 2006; Durlak & Weissberg, 2007; Durlak et al., 2011; Freedman, 2003; Greenberg, Kusche, Cook, & Quamma, 1995; Kam, Greenberg, & Kusche, 2004).

**Statement of the Problem**

The problem to be addressed in this study is the lack of research focused on the development of emotional intelligence at the middle school level. Only one study could be located (Freedman, 2003) that examined effects of social-emotional learning programs on middle school students. While this study yielded highly significant increases in emotional intelligence, a single study is not adequate to enable school leaders to make an informed decision about including such programs in their middle schools. Additionally, Freedman’s study did not address differences moderated by gender, and it used a traditional one-year classroom delivery method. Social-emotional learning programs are important because they have the potential to impact some of the most serious educational issues facing middle school students and their administrators including low academic achievement (Aremu et al., 2006; Durlak & Weissberg, 2007; Parker et al., 2004), student aggression (Cobb & Mayer, 2000; Durlak & Weissberg, 2007), and engagement in risky
behaviors (Cobb & Mayer, 2000; Mayer et al., 2000). Additional skills (e.g., self-awareness, autonomy, self-management, interpersonal skills, and effectiveness) are positively correlated with emotional intelligence (Bradberry & Su, 2006; Cavallo & Brienza, 2006; Cherniss et al., 1998; Frye et al., 2006; George, 2000; Petrides & Furnham, 2006; Sala, 2006; Stone et al., 2005). These skills are recognized as important in the workplace, and arguably as important to success in school.

Adolescents face daunting statistics when it comes to emotional and mental wellness. Rushton, Forcier, and Schectman (2002) examined the results of the National Longitudinal Study of Adolescent Health and found that many mental health disorders including depression, anxiety disorders, and impulse control disorders first present themselves during adolescence. In fact, according to the same researchers, between half and three-fourths of adolescents with anxiety and impulse control disorders first exhibit symptoms during adolescence. Depression emerged as the most predominant mental health issue facing adolescents, with over one-fourth affected. Adolescents who engage in risky behaviors such as aggression, smoking, alcohol consumption, and unsafe sexual practices are at the highest risk of committing suicide (Shaffer et al., 1996). The National Center for Children in Poverty (Isakson, Davidson, Higgins, & Cooper, 2011) recognized the relationship between emotional intelligence, general mood, and mental health and urged states to provide and support programs that develop social-emotional intelligence in children.

In a field as young as that of emotional intelligence, with less than 30 years of theory, practice, and research supporting it, an inordinate amount of work must be accomplished to assess the impact of social-emotional learning programs and the
implications of those programs for school leaders. Psychologists recognize the capacity of emotional intelligence to affect human development, its role as one of many forms of human intelligence, and the need for further research and study in the field (Cherniss et al., 2006; Emmerling & Goleman, 2007; Goleman, 1995). The need for additional research is clearly articulated by Emmerling and Goleman (2007) who stated, “the swiftness with which the concept of emotional intelligence has caught on perhaps inevitably created a gap between what we know and what we need to know.” (p. 2) Another leading researcher, Bar-On (2006a), offered four goals for moving the field forward: (a) continue to study the impact of emotional intelligence; (b) develop more social-emotional learning programs; (c) recruit emotionally intelligent individuals to educate people; and (d) utilize emotional intelligence assessment instruments that are scientifically developed, normed, and validated.

Research shows that emotional intelligence is predictive of various aspects of human performance (e.g., psychological health, social interaction, performance at school, performance in the workplace, and self-actualization). Studies examined the role of emotional intelligence in adults (Bradberry & Su, 2006; Cavallo & Brienza, 2006; Petrides & Furnham, 2006), but limited information is available for youth, in particular, middle school students. Research that examined the relationship between social-emotional learning programs and emotional intelligence exists for young children (Battistich et al., 2004; Greenberg et al., 1995; Kam et al., 2004; Solomon, Battistich, & Watson, 1993). Additional empirical studies, however, are needed at the middle school level—a stage of great change and emotional turmoil. Furthermore, few studies examined these relationships with regard to gender. Unfortunately, no studies examined the effects
of a non-traditional delivery schedule which would allow programming to be offered in after school programs, summer programs, and community-based initiatives in addition to the regular school setting.

**Purpose and Objectives of the Study**

The purpose of this study was to determine if relationships exist between a social-emotional learning program and emotional intelligence in middle school students. Existing studies focused on relationships between emotional intelligence and other indicators in adults or on relationships between social-emotional learning programs and elementary school children (Battistich et al., 2004; Greenberg et al., 1995; Kam et al., 2004; Solomon et al., 1993). Only one study could be found that examined the relationships between social-emotional learning programs and middle school students (Freedman, 2003). This topic was worthy of investigation because middle school students benefit as much or more from such programs as younger students (Battistich et al., 2004), and school decision makers require empirical evidence of the effectiveness of social-emotional learning programs with middle school students before implementation of such programs. In this study, 36 hours of social and emotional learning activities were implemented with seventh and eighth grade participants. The three objectives of the study were:

- to describe the participants in the program, including the following demographic indicators: age, gender, race, and school type.
- to describe the IMPACT Leadership and Personal Development program and delivery model; and
• to examine the measures of emotional intelligence of participants taken immediately before and after exposure to the IMPACT program to determine if relationships exist between the social-emotional learning program and Bar-On’s (1997, 2006b) dimensions of emotional intelligence (interpersonal skills, intrapersonal skills, stress-management skills, adaptability skills, and general mood).

**Research Questions**

The research questions proposed by this study explored the relationships between a social-emotional learning program and emotional intelligence. The lack of research on the effectiveness of social-emotional learning programs with middle school students supported the need for the study and the following two questions it examined.

- What are the relationships between a social-emotional learning program and the following dimensions of emotional intelligence: interpersonal skills, intrapersonal skills, stress-management skills, adaptability skills, and general mood?
- Are there any differences related to gender?

**Theoretical Framework**

The theoretical framework of this study is the Bar-On Model of Emotional-Social Intelligence developed by South African psychologist Bar-On (1997, 2006b). This model emphasizes the importance of intrapersonal skills (emotional self-awareness, assertiveness, self-regard, self-actualization, and independence) and interpersonal skills (empathy, social responsibility, and interpersonal relationships) as well as stress
management (stress tolerance and impulse controls), adaptability (reality-testing, flexibility, and problem-solving), and general mood (optimism and happiness). These five dimensions of emotional intelligence link closely with the six levels of the IMPACT program that was used as the curriculum in this study. The Bar-On model was selected because it asserts that emotional intelligence can be learned and developed, and it includes an assessment instrument developed specifically for youth.

**Definition of Terms**

**Adaptability:** the ability to adapt to new situations; includes three related abilities: (a) reality testing, the ability to validate one’s emotions; (b) flexibility, the ability to adjust one’s emotions, thoughts, and behavior to changing situations and conditions; and (c) problem solving, the ability to identify and define problems as well as to generate and implement potentially effective solutions (Bar-On & Parker, 2000b)

**Cognitive Intelligence:** the speed and efficiency with which the brain processes information, learns, evaluates, produces; generally tied to analytical and creative thought processes and identified by an intelligence quotient

**Emotional Intelligence:** an array of emotional, personal, and interpersonal abilities that influence one’s overall ability to cope with environmental demands and pressures; specifically to be able to recognize and express emotions, possess positive self-regard, actualize potential capacities and lead fairly happy lives, understand the way others feel, make and maintain mutually satisfying and responsible interpersonal relationships, solve problems, and manage stress (Bar-On & Parker, 2000b)

**General Intelligence:** comprised of both cognitive intelligence and emotional intelligence (Bar-On & Parker, 2000b)
General Mood: a motivational variable that facilitates other components of emotional intelligence; includes two related constructs: (a) optimism, the ability to look on the brighter side of life and to maintain a positive attitude even in the face of adversity; and (b) happiness, the ability to feel satisfied with one’s life, to enjoy oneself and others, and to have fun (Bar-On & Parker, 2000b)

IMPACT Leadership and Personal Development Model: a framework for a social-emotional learning program that is designed to increase emotional intelligence through the systematic development of individual understanding and relationship skills (Brown, 2006)

Interpersonal Skills: the ability to interact effectively with others; consists of three related abilities: (a) empathy, the ability to be aware of, to understand, and to appreciate the feelings of others; (b) social responsibility, the ability to demonstrate oneself as a cooperative, contributing, and constructive member of one’s social group; and (c) interpersonal relationship, the ability to establish and maintain mutually satisfying relationships that are characterized by emotional closeness (Bar-On & Parker, 2000b)

Intrapersonal Skills: the ability to interact effectively with others; consists of three related abilities: (a) empathy, the ability to be aware of, to understand, and to appreciate the feelings of others; (b) social responsibility, the ability to demonstrate oneself as a cooperative, contributing, and constructive member of one’s social group; and (c) interpersonal relationship, the ability to establish and maintain mutually satisfying relationships that are characterized by emotional closeness (Bar-On & Parker, 2000b)

Middle School: for the purpose of this study, students in Grades 7 and 8
Social-Emotional Learning Programs: organized programs specifically designed to increase understanding, knowledge, and skills in the areas of self-awareness, interpersonal effectiveness, stress management, emotion management, adaptability, teamwork, and autonomy.

Social Intelligence: understanding, developing, and maintaining relationships; consists of two related constructs: (a) social awareness, the ability to empathize, listen, and understand another’s thoughts and feelings and understanding socialization; and (b) social facility, the ability to sense the feelings of another, to interact nonverbally, to effectively present self, and to show and act upon concern for others (Goleman, 2006).

Stress Management Skills: the ability to effectively manage stressful situations; consists of two related constructs: (a) stress tolerance, the ability to withstand adverse events and stressful situations without falling apart by actively and positively coping with stress; and (b) impulse control, the ability to resist or delay an impulse and to control one’s emotions (Bar-On & Parker, 2000b).
CHAPTER II
REVIEW OF RELATED LITERATURE

This chapter begins with a brief definition of emotional intelligence and an in-depth discussion of three major models of emotional intelligence. An examination of the importance of emotional intelligence in life, its relationship to gender, and evidence of developing emotional intelligence through social-emotional learning programs follows.

What Is Emotional Intelligence?

Emotional intelligence is a type of intelligence (Gardner, 1983; Sternberg, 1988; Wechsler, 1958). It is based on the idea that emotion is a whole-body reaction to a situation or a stimulus, the belief that emotions can be regulated, and that the ability to regulate emotions increases through the lifespan (Gross, 1998; Gross & Thompson, 2007; John & Gross, 2004; Mauss, Bunge, & Gross, 2007; Opitz, Gross, & Urry, 2012).

Intelligence

Sternberg, Grigorenko, and Ferrari (2004) argued that intelligence may be described as developing expertise. In their study, Intelligence as Developing Expertise, the researchers defined expertise “as the ongoing process of the acquisition and consolidation of a set of skills needed for a high level of mastery in one or more domains of life performance” (p. 1). Cognitive intelligence or Intelligence Quotient (IQ) dominated both research and theory in the twentieth century. Within the field of cognitive
intelligence, however, early theorists validated the important role of emotion and the value of social skills. Wechsler (1940), who developed one of the most widely used IQ tests in the world, recognized the interplay of emotion and cognition and even went as far as to include emotion and socialization questions on his intelligence instrument. Wechsler was the first major cognitive psychologist to conclude that current theories of intelligence were too narrow and to assert that IQ is influenced by non-intellective factors, such as personality, affective traits, and social interaction. His definition of intelligence reflects a broader view, “Intelligence is the aggregate or global capacity of the individual to act purposefully, to think rationally and to deal effectively with his environment” (Wechsler, 1958, p. 7). Later, psychologist Howard Gardner (1983) delineated an alternative construct of intelligence, the Multiple Intelligence Theory, that included multiple dimensions of intelligence overlooked by traditional IQ instruments but that contribute to personal effectiveness and success in life in equally important ways as IQ. Intrapersonal and interpersonal were two of Gardner’s dimensions of intelligence that are also key elements of emotional intelligence.

Early theories of cognition and learning that included practical, relational, and emotional components were Gardner’s Theory of Multiple Intelligence (1983) and Sternberg’s Theory of Triarchic Intelligence (1988). Gardner’s theory posited the interplay of seven primary intelligences grouped into four primary categories: (a) cognitive/analytical processes (the verbal/linguistic and mathematical/logical intelligences); (b) creative thought processes (the visual/spatial and musical/rhythmic intelligences); (c) physical aptitude (the bodily/kinesthetic intelligence); and (d) human understanding (the intrapersonal and interpersonal intelligences). Gardner contended that
the intrapersonal and interpersonal intelligences were as important to success in life as traditionally conceptualized intelligence. Sternberg’s (1988) theory also recognized the diversity of human potential and emphasized three primary areas of cognition: (a) analytical abilities; (b) practical abilities; and (c) creative abilities. The theories of both Gardner (1983) and Sternberg (1988) acknowledged the complexity of the human intellect and advocated identifying and targeting areas of strength and weakness for successful learning. Both theorists conceptualized intelligence as more than a wholly cognitive function, instead requiring a combination of analytical thought, creativity, socialization, and reflection. Theories such as these formally recognized the importance of emotion and socialization and laid the groundwork for emerging theories of emotional intelligence.

**Emotion and Emotion Regulation**

The field of emotional intelligence officially dates only to the early 1990s. The importance of emotions and their potential impact on success and personal effectiveness, however, has been recognized for decades. As early as the 1970s, researchers studied the role of emotion, socialization, and personality in cognitive development. Emotion can be defined as a whole-body reaction to a situation or stimulus that leads to changes in physiology and/or expression (Gross, 1998; Gross & Thompson, 2007; John & Gross, 2004; Mauss et al., 2007; Opitz et al., 2012). The body’s ability to regulate emotion has been studied most significantly by Gross who developed the five families of emotion regulation (Gross, 1998; Gross & Thompson, 2007; John & Gross, 2004; Mauss et al., 2007; Opitz et al., 2012). These are points at which an individual may choose his/her response to an emotion and may extend the experience of a positive emotion or reduce
the impact of a negative emotion. The five points at which Gross (1998) asserts emotion may be regulated are: (a) situation selection (choosing better situations); (b) situation modification (changing the situation that created the response); (c) attentional deployment (shifting one’s attention elsewhere); (d) cognitive change (changing the way one views the situation causing the emotion); and (e) response modulation (controlling one’s behavior).

**Emotional Intelligence Defined**

A variety of definitions of emotional intelligence exist in the literature (Bar-On, 1997, 2006b; Goleman, 1995; Mayer & Salovey, 1997). Each definition differs somewhat from one another as they were conceptualized by different theorists who studied emotional intelligence. In general, however, emotional intelligence can be globally described as a set of abilities and behaviors which an individual uses to understand and manage his/her own feelings and emotions as well as to understand and manage the feelings and emotions of others. Most definitions clearly delineate these as separate abilities, closely aligned with Gardner’s intrapersonal and interpersonal intelligences and bearing equal importance. The field of psychology widely recognizes the importance of emotional health in the individual. This may be described in terms of intrapersonal skills: how well an individual understands and accepts self, manages stress, recovers from disappointment, adapts to change, and generates positive mood or affect.

Bar-On (1997, 2006b) summarized the major elements considered to be the foundation of emotional intelligence theory:

From Darwin to present, most descriptions, definitions and conceptualizations of emotional-social intelligence have included one or more of the following key
components: (a) the ability to recognize, understand and express emotions and feelings; (b) the ability to understand how others feel and relate with them; (c) the ability to manage and control emotions; (d) the ability to manage change, adapt and solve problems of a personal and interpersonal nature; and (e) the ability to generate positive affect and be self-motivated. (p. 3)

While individual theorists differ somewhat in the way in which they define emotional intelligence, the definitions are consistent with one another and are founded on the same major theories of psychology, cognition, and sociology. The following section discusses the three most widely recognized models of emotional intelligence.

Models of Emotional Intelligence

Three major models and theories of emotional intelligence emerged over the past two decades (Bar-On, 1997, 2006b; Goleman, 1995; Mayer & Salovey, 1997). While each model conceptualizes emotional intelligence in a unique way, there is some overlap between the major models. There is also a level of consensus in the field regarding the definition of, and application for, emotional intelligence. Models of emotional intelligence are generally classified as either ability models (focused on emotions and their interactions with thought) or mixed models (viewed as a dynamic combination of emotions, thought, and traits and characteristics). The following discussion presents the three most widely accepted models of emotional intelligence.

Mayer and Salovey Model

Salovey and Mayer (1990) originated the term emotional intelligence. They prescribe to a view of emotional intelligence that is clearly measurable, observable, and
associable with individual behavior. Salovey and Mayer (1990) originally outlined three mental processes that pertain to emotion: (a) appraising and expressing emotions in the self and others; (b) regulating emotion in the self and others; and (c) using emotions in adaptive ways. Later, Mayer and Salovey (1997, 2000) clarified their definition of emotional intelligence:

> Emotional intelligence involves the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth. (p. 5)

This four branch ability-specific definition of emotional intelligence provided the foundation for the majority of the work of Salovey and Mayer as well as many other researchers and theorists in the field. These are described as measurable mental abilities separate from personality attributes and distinguish the Mayer and Salovey Model as the single ability model of emotional intelligence. The four branches and their related abilities (Salovey, Mayer, & Caruso, 2002) are outlined in Table 1.
Table 1

*Mayer and Salovey Model of Emotional Intelligence*

<table>
<thead>
<tr>
<th>Domain</th>
<th>Related Abilities</th>
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<tr>
<td>Emotional Perception and Expression</td>
<td>• Ability to identify emotion in one’s physical and psychological states</td>
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<td></td>
<td>• Ability to identify emotion in other people</td>
</tr>
<tr>
<td></td>
<td>• Ability to express emotions accurately and to express needs related to them</td>
</tr>
<tr>
<td></td>
<td>• Ability to discriminate between accurate/honest and inaccurate/dishonest feelings</td>
</tr>
<tr>
<td>Emotional Facilitation of Thought</td>
<td>• Ability to redirect and prioritize thinking on the basis of associated feelings</td>
</tr>
<tr>
<td>(Using Emotional Intelligence)</td>
<td>• Ability to generate emotions to facilitate judgment and memory</td>
</tr>
<tr>
<td></td>
<td>• Ability to capitalize on mood changes to appreciate multiple points of view</td>
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<tr>
<td></td>
<td>• Ability to use emotional states to facilitate problem-solving and creativity</td>
</tr>
</tbody>
</table>
Table 1 (Continued)

<table>
<thead>
<tr>
<th>Emotional Understanding</th>
<th>Ability to understand relationships among various emotions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ability to perceive the causes and consequences of emotions</td>
</tr>
<tr>
<td></td>
<td>Ability to understand complex feelings, emotional blends, and contradictory states</td>
</tr>
<tr>
<td></td>
<td>Ability to understand transitions among emotions</td>
</tr>
<tr>
<td>Emotional Management</td>
<td>Ability to be open to feelings, both pleasant and unpleasant</td>
</tr>
<tr>
<td></td>
<td>Ability to monitor and reflect on emotions</td>
</tr>
<tr>
<td></td>
<td>Ability to engage, prolong, or detach from an emotional state</td>
</tr>
<tr>
<td></td>
<td>Ability to manage emotions in oneself</td>
</tr>
<tr>
<td></td>
<td>Ability to manage emotions in others</td>
</tr>
</tbody>
</table>

Goleman Model

Arguably the most widely known theorist in the field of emotional intelligence is Goleman whose 1995 book *Emotional Intelligence* raised the global consciousness regarding the importance of emotions and their relationship to success in life. Building upon the work of Gardner’s (1983) Multiple Intelligence Theory and Sternberg’s (1988) conceptualization of intelligence, Goleman (1995) developed a slightly broader model
than Mayer and Salovey that is commonly referred to as a mixed-model because it includes emotional competencies, skills, and characteristics that are not solely based on ability. Goleman (1995) defined emotional intelligence as a set of characteristics beyond test scores and intelligence that can lead to success in life, including “being able to motivate oneself and persist in the face of frustrations; to control impulse and delay gratification; to regulate one’s moods and keep distress from swamping the ability to think; to empathize and to hope” (p.34). Goleman defined emotional intelligence using the original five domains proposed by Salovey and Mayer (1990): knowing one’s emotions, managing emotions, motivating oneself, recognizing emotions in others, and handling relationships. In a later book, Primal Leadership, (2002) Goleman refined his definition to include four broad domains supported by specific competencies/characteristics as outlined in Table 2.
Table 2

*Goleman Model of Emotional Intelligence*

<table>
<thead>
<tr>
<th>Domain</th>
<th>Related Abilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Awareness</td>
<td>• Emotional Self-Awareness</td>
</tr>
<tr>
<td></td>
<td>• Accurate Self-Assessment</td>
</tr>
<tr>
<td></td>
<td>• Self Confidence</td>
</tr>
<tr>
<td>Self-Management</td>
<td>• Emotional Self-Control</td>
</tr>
<tr>
<td></td>
<td>• Transparency (Trustworthiness)</td>
</tr>
<tr>
<td></td>
<td>• Adaptability</td>
</tr>
<tr>
<td></td>
<td>• Achievement Orientation</td>
</tr>
<tr>
<td></td>
<td>• Initiative</td>
</tr>
<tr>
<td></td>
<td>• Optimism</td>
</tr>
<tr>
<td>Social Awareness</td>
<td>• Empathy</td>
</tr>
<tr>
<td></td>
<td>• Organizational Awareness</td>
</tr>
<tr>
<td></td>
<td>• Service Orientation</td>
</tr>
<tr>
<td>Relationship</td>
<td>• Inspirational Leadership</td>
</tr>
<tr>
<td>Management</td>
<td>• Influence</td>
</tr>
<tr>
<td></td>
<td>• Developing Others</td>
</tr>
<tr>
<td></td>
<td>• Change Catalyst</td>
</tr>
<tr>
<td></td>
<td>• Conflict Management</td>
</tr>
<tr>
<td></td>
<td>• Building Bonds</td>
</tr>
<tr>
<td></td>
<td>• Teamwork and Collaboration</td>
</tr>
</tbody>
</table>
Bar-On Model

The third major model of emotional intelligence is the Bar-On Model of Emotional-Social Intelligence developed by South African psychologist Bar-On (1997, 2006b). In his model, Bar-On acknowledged the influence of pioneers in the fields of social intelligence including Thorndike and Doll, cognitive intelligence such as Wechsler, and Darwin’s view of the interrelatedness of emotion, survival, and adaptation. Undertaken in the late 1980s, Bar-On’s work with emotional intelligence actually precedes that of Mayer and Salovey (1997). His contributions to the understanding of emotion and its role in personal effectiveness began long before the construct of emotional intelligence was popularized. Bar-On’s model operationalizes key theories of emotional and social intelligence and defines it as “a cross-section of interrelated emotional and social competencies, skills and facilitators that determine how effectively we understand and express ourselves, understand others and relate with them, and cope with daily demands” (p. 3). His model emphasizes the importance of intrapersonal skills (emotional self-awareness, assertiveness, self-regard, self-actualization, and independence) and interpersonal skills (empathy, social responsibility, and interpersonal relationships) as well as stress management (stress tolerance and impulse controls), adaptability (reality-testing, flexibility, and problem-solving) and general mood (optimism and happiness). These five dimensions represent the underpinnings of total emotional intelligence. Bar-On (1997) described his concept of emotionally intelligent people:

Emotionally intelligent people are people who are able to recognize and express their emotions, who possess positive self-regard, and are able to actualize their
potential capacities and lead fairly happy lives. They are able to understand the way others feel and are capable of making and maintaining mutually satisfying and responsible interpersonal relationships, without becoming dependent on others. These people are generally optimistic, flexible, realistic, and successful in solving problems and coping with stress, without losing control. (pp. 155-156)

Bar-On viewed general intelligence as comprised of two primary parts: cognitive intelligence and emotional intelligence, each with their own respective system of measurement. Cognitive intelligence is viewed as static while emotional intelligence is variable and can fluctuate and develop over time. As with Goleman (1995), Bar-On (1997) perceived emotional intelligence as a significant potential contributor to success in life and to personal effectiveness when combined with other causative factors such as cognitive intelligence, socio-economic status, education, opportunity, and luck. The five primary domains and the related abilities of Bar-On’s Social-Emotional Intelligence Model are presented in Table 3.
Table 3

_Bar-On Model of Social-Emotional Intelligence_

<table>
<thead>
<tr>
<th>Domain</th>
<th>Related Abilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intrapersonal Skills</strong></td>
<td>Consistently develops and exhibits:</td>
</tr>
<tr>
<td></td>
<td>• Emotional Self-Awareness</td>
</tr>
<tr>
<td></td>
<td>• Assertiveness</td>
</tr>
<tr>
<td></td>
<td>• Self-Regard</td>
</tr>
<tr>
<td></td>
<td>• Self-Actualization</td>
</tr>
<tr>
<td></td>
<td>• Independence</td>
</tr>
<tr>
<td><strong>Interpersonal Skills</strong></td>
<td>• Develops and maintains positive, healthy interpersonal relationships</td>
</tr>
<tr>
<td></td>
<td>• Demonstrates social responsibility</td>
</tr>
<tr>
<td></td>
<td>• Experiences and expresses empathy</td>
</tr>
<tr>
<td><strong>Adaptability</strong></td>
<td>• Problem-Solving</td>
</tr>
<tr>
<td></td>
<td>• Reality Testing</td>
</tr>
<tr>
<td></td>
<td>• Flexibility</td>
</tr>
<tr>
<td><strong>Stress-Management</strong></td>
<td>• Stress Tolerance</td>
</tr>
<tr>
<td></td>
<td>• Impulse Control</td>
</tr>
<tr>
<td><strong>General Mood</strong></td>
<td>• Happiness</td>
</tr>
<tr>
<td></td>
<td>• Optimism</td>
</tr>
</tbody>
</table>
The Importance of Emotional Intelligence

Bar-On (2007) maintained that emotional intelligence is “highly associated with being motivated to do one’s best and to realize one’s potential” (p. 2). Likewise, Emmerling and Goleman (2007) suggested a connection between emotional intelligence and personal effectiveness, stating, “All theories within the emotional intelligence paradigm seek to understand how individuals perceive, understand, utilize and manage emotions in an effort to predict and foster personal effectiveness” (p. 12). Cherniss (2000) argued that a substantial body of information exists indicating that “a person’s ability to perceive, identify, and manage emotion provides the basis for the kinds of social and emotional competencies that are important for success in almost any job” (p. 10), and he predicted that the interpersonal and intrapersonal skills identified within the construct of emotional intelligence would garner more importance in the workplace. Van Rooy and Viswesveran (2004) conducted a meta-analysis of studies using a variety of measures to assess relationships between emotional intelligence and effectiveness and concluded that emotional intelligence instruments validly predict success in both work and academic settings. Goleman (1995, 2006) suggested that while IQ may be a stronger predictor of which career path an individual will embark on initially, emotional intelligence may be a better predictor of significant achievement within a chosen career path.

Proponents of emotional intelligence theory argue that it contributes to personal and interpersonal effectiveness and ultimately to greater success in life. There is not a body of empirical evidence to either substantiate or disprove these claims. There is substantive data, however, linking increased levels of emotional intelligence to enhanced
performance or skill in specific domains. Beginning with academic achievement in school and continuing through workplace effectiveness and leadership, the following discussion validates the importance of developing emotional intelligence.

**Emotional Intelligence and Academic Achievement**

Multiple studies demonstrated the link between emotional intelligence and academic achievement. For example, Aremu et al. (2006) examined the relationship between emotional intelligence and academic achievement among a sample of 500 randomly selected high school students from 10 secondary schools. Using the Student Emotional Intelligence and Parental Involvement Rating Scale, the researchers gathered information regarding emotional intelligence which they tabulated against academic achievement records from high school, specifically standardized test scores in English and mathematics. While they found both parental involvement and emotional intelligence to have significant impacts on student academic achievement, emotional intelligence had the greater effect. Following multiple regression analyses, the researchers concluded that emotional intelligence was a good index from which to predict academic achievement.

Another study conducted by Parker et al. (2004) found that emotional intelligence was highly predictive of academic success. Participants in the study (n=667) ranged in age from 14-17 years. The researchers administered the BarOn Emotional Quotient Inventory: Youth Version (EQ-i:YV) and compared the results to academic records. These results showed that Bar-On’s emotional intelligence inventory could be used to effectively discriminate between academically achieving and non-achieving students.
Emotional Intelligence and Workplace Performance

Frye, Bennett, and Caldwell (2006) examined the relationship between emotional intelligence and team interpersonal process effectiveness, focusing on two primary team skills: team task orientation and team maintenance function. Participants (n=130) representing 33 teams completed the BarOn Emotional Quotient Inventory (EQ-i) and a survey of team interpersonal process effectiveness. The researchers conducted regression analyses of team averaged emotional intelligence using all five indicators of the EQ-i and team averages of task orientation and maintenance. A significant predictive relationship between interpersonal emotional intelligence and team interpersonal process effectiveness was found (p<.05). This finding was consistent with Jordan and Troth (2004), who stated, “the emotional intelligence of individual team members…enhance[s] or hinder[s] the development of effective team interpersonal processes” (p. 211).

Petrides and Furnham (2006) studied 167 employees and found that increased levels of emotional intelligence were significantly related to lower levels of stress in the workplace and higher levels of autonomy, job satisfaction, and commitment. They concluded that high emotional intelligence led to the perception of control in the workplace; as employees were able to effectively manage their own emotions and the emotions of others in the workplace, they perceived greater levels of influence and autonomy which led to increased job satisfaction and reduced levels of job-related stress.

The workplace ramifications of emotional intelligence development may be even more far-reaching. In 1998, the Consortium for Research on Emotional Intelligence in Organizations (Cherniss et al.) published a report that calculated the estimated economic impact of a national implementation of emotional intelligence training programs at $5.6
to $16.8 billion. The authors of the report outlined specific guidelines for developing emotional intelligence in organizations in four phases: (a) Preparation Phase (assess organization’s needs, assess personal strengths and limitations, provide feedback with care, maximize learner choice, encourage participation, link learning goals to personal values, adjust expectations, gauge readiness); (b) Training Phase (foster positive relationship between trainer and learners, maximize self-direction, set clear goals, break goals into manageable steps, maximize opportunity for practice, provide frequent feedback on practice, rely on experimental methods, enhance insight, prevent relapse); (c) Transfer and Maintenance Phase (encourage use of skills on the job, provide an organizational culture that supports learning, remove situational constraints); and (d) Evaluation Phase (evaluate and improve performance). The authors asserted that this framework provides the optimal process for personal and interpersonal development within organizations.

**Emotional Intelligence and Leadership**

Emotional intelligence directly influences academic achievement, the ability to function as productive members of teams, and workplace effectiveness. The dimensions of emotional intelligence are closely linked to leadership skills. Understanding self (intrapersonal), working and communicating effectively with others (interpersonal), balancing multiple tasks and handling difficult situations (stress management), responding to change and solving problems (adaptability), and creating a positive environment (general mood) are widely accepted as important leadership qualities (Bennis, 1989; Bolman & Deal, 2003; Covey, 2004; Kouzes & Posner, 2002; Lee & King, 2001). The following discussion focuses on two authors in the field of leadership
development and substantiates the relationship between important leadership qualities and emotional intelligence and the ability to develop these over the lifespan.

Bennis (1989) found confirmation in interviewing prominent leaders that leaders are made, not born, and that the leadership development process is influenced most by self rather than external means. The leaders interviewed substantiated that leaders continue to grow and develop throughout life. From his study of high performing leaders, Bennis recommended broadening one’s experience, learning key ideas and skills, identifying and utilizing mentors, and learning from adversity. These recommendations fit within the five dimensions of emotional intelligence. According to Bennis (1989), one can learn and improve critical competencies that tend to predict the differences between outstanding leaders and average leaders.

Likewise, Covey (1989) maintained that habits of effectiveness can be employed to develop leadership capacity. He further explored the idea of leadership development in his 2004 book, The 8th Habit, concluding that leadership development is the process of seeing, doing, and becoming. He also recognized leadership development as the simple combination of knowledge, attitude, and skill. Covey (2004) suggested that leadership can be learned based on choice; people must exercise their freedom of choice to learn the knowledge, skills, and character traits associated with leadership. Covey (2004) acknowledged the importance of developing emotional intelligence to strengthen leadership skills.

Recognizing the relationship between leadership and emotional intelligence, several researchers undertook studies to provide more information about the nature of
that relationship. The following section outlines several studies that substantiate the link between emotional intelligence and leadership.

In 2003, the Center for Creative Leadership published a report on the relationship between leadership skills and emotional intelligence. The sample for this study included 302 managers attending a leadership development program at the Center in 2000. Each participant completed the Benchmarks® assessment, a 360 degree, multi-rater feedback tool and the BarOn EQ-i, a self-report measurement of emotional intelligence for adults. The study found that higher levels of emotional intelligence are positively correlated with leadership performance in ten of the sixteen areas measured by Benchmarks®: (a) participative management; (b) putting people at ease; (c) self-awareness; (d) balance between personal life and work; (e) straightforwardness and composure; (f) building and mending relationships; (g) doing whatever it takes; (h) decisiveness; (i) confronting problem employees; and (j) change management.

Similarly, the Johnson and Johnson Study (Cavallo & Brienza, 2006) identified leadership competencies that characterize high performing managers versus average performing managers. A total of 358 randomly selected managers participated in the study. Gender was equitably balanced (55% male, 45% female) with regional distribution across the Johnson & Johnson Consumer & Personal Care Groups (40% North America; 25% Europe; 20% Asia, Africa, Middle East; and 15% Latin America). All participants communicated fluently in English and had been in a managerial position with the company for a minimum of two years. The researchers measured competencies related to leadership and emotional intelligence. Surveys were completed by multiple raters per participant (at least one supervisor and four additional raters). Participants were coded by
gender (male or female), potential (average or high), and performance (under or high).

An independent sample T-test was used to compare the mean ratings for the groups. Analysis of the data substantiated a strong relationship between high performing leaders and emotional competence with significantly higher ratings for the top-tier performers in all four EI dimensions measures: self-awareness, self-management, social-awareness, and social skills by both supervisors and subordinates. According to the authors, “the social, emotional and relational competency set commonly referred to as Emotional Intelligence, is a distinguishing factor in leadership performance” (pp. 3-4). Similarly, high potential leaders were rated significantly higher in three of the four areas: self-awareness, self-management, and social skills than did their average potential colleagues. Fewer significant differences emerged with regard to gender. While women did score higher ratings than men in many of the cluster competencies, the only dimension showing a significant difference was Self-Awareness as reported by peers (not supervisors or subordinates).

Likewise, Bradberry and Su (2006) examined the effect of emotional intelligence on leader job performance among employees from three separate organizations (n=212). The emotional intelligence of participants was evaluated using both ability and performance assessments, and job performance was measured using a nine-item scale. The study found a significant effect of emotional intelligence on the job performance of leaders (p<.001). The researchers concluded, “emotional intelligence is important because it provides an excellent framework to look at how people understand and manage emotions” and underscored the relationship between emotional intelligence and
leadership saying, “leaders who use emotional intelligence to build solid relationships are likely to perform well in their jobs” (p. 65).

While the previous three studies examined the relationship between emotional intelligence and leadership in the corporate setting, the Ontario Principals’ Council Leadership Study (Stone et al., 2005) examined the relationship between emotional intelligence and school leader effectiveness among 464 school administrators. Participants completed the online version of the BarOn EQ-i, a 125-item self-report measure of emotional intelligence. Participants’ supervisors completed a 21-item leadership ability questionnaire. Using percentile ratings on the leadership effectiveness questionnaire, the researchers grouped individuals into two groups: above average (80th percentile or higher) and below average (20th percentile or lower). They then compared the results of the EQ-i by group. The above average leader group was found to have significantly higher emotional intelligence than that of the below average leader group (p<.05).

Emotional intelligence positively influences academic performance, interpersonal and teamwork skills, workplace effectiveness, and leadership ability making it an important consideration for school leaders. The following discussion examines the relationship between emotional intelligence and gender.

**Emotional Intelligence and Gender**

Research on the relationship between emotional intelligence and gender is very limited. Few studies linked gender and emotional intelligence, and those that did focused on the likelihood of one gender typically scoring higher on a particular instrument (Bar-On & Parker, 2000b; Mayer, Caruso, & Salovey, 1999; Mayer & Geher, 1996) rather
than on differences in its development between the sexes. Generally speaking, the research regarding gender is inconclusive and has focused primarily on adults. Some research has found that females have a higher emotional intelligence than males (Stys & Brown, 2004), while the majority of studies show no significant difference (Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006; Brown & Schutte, 2006; Depape, Hakim-Larson, Voelker, Page, & Jackson, 2006). The few studies that examined the role of gender and emotional intelligence in children and adolescents found a trend toward females scoring higher than males on different measures of emotional intelligence (Bar-On & Parker, 2000b; Charbonneau & Nicol, 2002; Katyal & Awasthi, 2005).

Katyal and Awasthi (2005) studied 150 adolescents in Chandigarh, India to determine if there were differences in emotional intelligence based on gender. The Codaty Emotional Intelligence Test was administered to participants (75 boys and 75 girls), and a t-test was used to examine gender differences. The Codaty Emotional Intelligence Test measures emotional intelligence within three levels: low, good, and superior. Fewer girls scored in the low category than boys (20% versus 26.66% respectively). More girls placed in the good category than boys (64% versus 61.33%). Similarly, a larger number of girls were found to have superior emotional intelligence than boys (16% versus 12%). While girls consistently scored higher than boys, the differences were not found to be statistically significant.

Charbonneau and Nicol (2002) conducted a study that examined the relationship between emotional intelligence and leadership. While exploring differences based on gender was not the primary focus of the study, the researchers did find that females scored significantly higher than males in three areas (perspective taking, empathic
concern, and personal distress). In other areas, females scored higher than males, but not to a significant level.

Bar-On and Parker (2000b) found some significant differences among the five dimensions of emotional intelligence with regard to gender in single administration situations with children and youth 7-18 years old. Females scored significantly higher than males in the intrapersonal dimension ($F[1,9164] = 19.78, p < .001, \text{Eta}^2 = .003$) and in the interpersonal dimension ($F[1, 9164] = 48.49, p < .001, \text{Eta}^2 = .003$). In the adaptability dimension, however, males were found to score significantly higher than females ($F[1, 9164] = 4.36, p = .04, \text{Eta}^2 = .01$). Effect sizes were small. No significant differences were found in the stress management and general mood scales.

Researchers recognized the importance of further study of the relationship between emotional intelligence and gender in order to better understand its development and to develop interventions such as social-emotional learning programs that have a greater likelihood of success (Sanchez-Nunez, Fernández-Berrocal, Montanes, & Latorre, 2008). It is important to note that none of the studies conducted regarding the relationship between gender and emotional intelligence involved an intervention with a social-emotional learning program and pre- and post- assessments to look at how gender might moderate the development of emotional intelligence over time. The following discussion provides an overview of the effectiveness of social-emotional learning programs and the evidence of success in increasing emotional intelligence through such programs.

**Developing Emotional Intelligence through Social-Emotional Learning Programs**

Emotional intelligence is a variable ability that can be learned and developed (Bar-On, 1997, 2006b; Cherniss et al., 2006; Goleman, 1995; Weisinger, 1998).
Regarding his particular 15 emotional and social competencies, Bar-On (2006b) asserted that they “(a) increase almost continuously from childhood to the end of the fourth decade of life… and (b) they can also be significantly increased within a matter of a few weeks as a result of training” (p.10). According to psychologist Weisinger (1998), emotional intelligence can be nurtured, developed, and augmented – it isn’t a trait that you either have or don’t have. You increase your emotional intelligence by learning and practicing the skills and capabilities that make up emotional intelligence. These include self-awareness, emotional management, and self-motivation. (pp. 1-2)

Limited research or empirical evidence exists on the effects of social-emotional learning programs for school-aged children (Cherniss et al, 2006; Durlak & Weissberg, 2007; Freedman, 2003). Most such programs focus on an elementary curriculum and offer few, if any, resources for middle school students. Goleman (2006) recommended several areas for focused development of emotional literacy in students. These included emotional self-awareness (understanding and recognizing one’s emotions and feelings); managing emotions (ability to tolerate negative emotions such as stress, loneliness, anxiety, and frustration and to appropriately handle anger); harnessing emotions productively (ability to focus, achieve, and control impulses); empathy/reading emotions (interpreting and sympathizing with the feelings and emotions of others and to accurately see other perspectives); and handling relationships (ability to develop and understand relationships including communication skills, pro-social skills, and conflict resolution).

When discussing the relationship between academic achievement and emotional literacy, Goleman (1995) asserted, “emotional literacy enhances schools’ ability to teach” (p.
284). Other theorists in the emerging field of emotional intelligence advocated the use of social and emotional learning programs with children. The existing empirical evidence of the efficacy of such programs is discussed in the following paragraphs.

**K-12 Social-Emotional Learning Programs**

Durlak et al. (2011) conducted a meta-analysis of 213 school-based social and emotional learning programs that served 270,034 students in grades K-12. The researchers found that when compared to control groups, students who had experienced a social-emotional learning intervention demonstrated higher academic performance, fewer discipline problems, lower levels of distress, higher levels of socio-emotional skills and attitudes, and increased positive social behaviors.

Moving from in-school programs to out-of-school programs, the Collaborative for Academic, Social, and Emotional Learning (Durlak & Weissberg, 2007) conducted a meta-analysis of 73 after school programs designed to enhance personal and social skills such as self-control, self-esteem, self-efficacy, leadership, conflict resolution, decision-making, and problem-solving. Only programs with control groups were selected for the study. The researchers hypothesized that programs using all four of the evidence-based approaches (sequential, active, focused, and explicit) would show greater improvement that those that did not. Outcomes in the following three areas were examined: feelings and attitudes, indicators of behavioral adjustment, and school performance. The meta-analysis of programs revealed that “after-school programs succeeded in improving youths’ feelings of self-confidence and self-esteem, school bonding (positive feelings and attitudes toward school), positive social behaviors, school grades and achievement test
scores” (p. 5). Negative behaviors such as drug use, aggression, and conduct problems also decreased.

Social-Emotional Learning Programs for Elementary School Children

The Providing Alternative THinking Strategies (PATHS) curriculum is a social-emotional learning program developed by Kusche and Greenberg (1994) at the Prevention Research Center at Pennsylvania State University. Designed for implementation with elementary-aged children, PATHS includes six volumes of lessons to facilitate the development of self-control, emotional awareness, and interpersonal problem-solving skills. A study with randomized control groups (n=286) measured the effects of the PATHS curriculum (Greenberg et al., 1995) over one year. Significant increases in emotional intelligence occurred in the following areas: understanding feelings vocabulary for both positive and negative emotions ($F[1, 282] = 25, p < .001$, and $F[1, 282] = 89.5, p < .001$, respectively); ability to change feelings ($F[1, 280] = 5.4, p < .05$); and reasoning regarding how feelings change ($F[1, 235] = 6.9, p < .01$); and the understanding and recognition of emotions ($F[1, 282] = 24.3, p < .001$). Teachers involved in the studies also reported significant improvement in the children’s social behavior including self-control, emotional understanding, ability to tolerate frustration, and use of effective conflict-resolution strategies.

Sustained changes resulted from the use of the PATHS Curriculum in this study as evidenced by decreased internalizing symptoms (sadness, anxiety, and withdrawal), decreased externalizing symptoms (aggressive and disruptive behavior), decreased symptoms of sadness and depression, and decreased report of conduct problems measured one year after the intervention. In addition to improvements in pro-social
behaviors and general mood, the study showed improvements in the academic/cognitive achievement of children who followed the PATHS Curriculum in the following areas: (a) ability to plan ahead to solve complex tasks; (b) cognitive flexibility and low impulsivity with non-verbal tasks; and (c) improved reading achievement.

A subsequent study with the PATHS Curriculum focused on its effects on the social-emotional adjustment of children in special education (Kam et al., 2004). Participants were students with a variety of diagnosed disabilities (n = 133) who were in age-mixed classrooms, first through third grades (average age 8 years 8 months). The PATHS Curriculum was delivered over one year by trained facilitators. The effectiveness of the intervention was examined in two ways: reduction of levels of problem behavior and increases in levels of social-emotional intelligence. The researchers found a significant reduction in externalizing behaviors \( (T = 2.029, p < .05; \text{Cohen’s } d = .18) \) and in internalizing behaviors \( (T = 2.479, p < .05; \text{Cohen’s } d = .22) \). The findings also included a significant reduction in depression among the intervention group \( (T = 3.134, p < .05; \text{Cohen’s } d = .49) \). Finally, the size of the feeling vocabulary increased significantly \( (T = 2.832, p < .05; \text{Cohen’s } d = .54) \). Effect sizes were small to moderate.

Battistich et al. (2004) examined the lasting effects of an elementary school intervention on participants when they moved on to middle school. The Child Development Program (CDP) is a school-wide intervention program that focuses on social, ethical, and intellectual development at the elementary school level. Researchers followed up with 1,246 middle school students who participated in the CDP while in elementary school to measure the residual effects of the program. Of the variables examined, four were statistically significant: positive teacher-student relations \( (F[1, \)
1878] = 4.65, p < .04); liking for school (F[1, 1880] = 4.22, p < .04); sense of efficacy (F[1, 1875] = 7.02, p < .01); and involvement in positive youth activities (F[1, 1858] = 3.29, p < .07). They found that 40% of the middle school outcomes examined favored students who participated in the CDP over those who did not. Positive outcomes manifested in middle school included higher academic performance, fewer discipline problems, and better social relationships.

Social-Emotional Learning Programs with Middle School Students

The non-profit organization Six Seconds published a curriculum for increasing emotional intelligence called Self-Science (Stone & Dillehunt, 1978). Based on the two foundational concepts of self-understanding and relationship-development, the Self-Science program seeks to produce four primary outcomes in students: (a) recognize, understand, communicate, and manage feelings; (b) recognize and redirect patterns of behavior; (c) set goals and move toward them; and (d) increase respectful communication, thinking, and behaviors. A study involving the Self-Science program (Freedman, 2003) utilized the youth version emotional intelligence instrument developed by Bar-On, the EQ-i:YV. This research targeted 7th grade students exposed to the Self-Science curriculum (n=26). The assessment was administered both pre- and post-intervention. The intervention consisted of a full school year’s programming of Self-Science, led by one trained facilitator. An analysis of test data indicated significant increases in two of the five dimensions of emotional intelligence: adaptability (z = 3.23, p < .001) defined as adaptability to change and social problem solving and intrapersonal skills (z = 2.63, p < .009) defined as self-awareness and self-expression. In his own assessment of this study, Bar-On (2006b) stated, “These significant changes suggest that
this and similar educational programs can make a difference and that the Bar-On model can accurately monitor and measure these changes.” (p. 18)

While the researcher did not provide specific information about the total number of hours of Self-Science provided as the intervention, the program was implemented for an entire school year and included daily records to be completed by the teacher. From this, it may be assumed that the intervention was daily for an entire academic year.

**Summary**

Many different definitions exist, but emotional intelligence can globally be defined as a set of skills and abilities used to manage one’s emotions and the emotions of others. Likewise, as definitions differ, so do the models developed to explain the construct of emotional intelligence. For the purpose of this study, the Bar-On Emotional and Social Intelligence Model was the model selected as the underlying consideration in the development of the social-emotional learning program and the measurement of the five primary dimensions of emotional intelligence. The Bar-On model was selected because it purports that emotional intelligence can be learned and developed and it includes an assessment instrument developed specifically for youth.

Emotional intelligence plays as important a role in life success as does cognitive intelligence and certainly plays an even larger role in forming and maintaining healthy relationships and positive self-esteem. In addition to higher academic achievement, emotional intelligence has also been closely linked to leadership aptitude and skill, primarily because it focuses on intrapersonal and interpersonal development, both key components of successful leadership. Findings regarding the relationship between emotional intelligence and gender are limited and have been inconclusive. Finally,
emotional intelligence has been established as fluid and able to be developed and increased over the lifespan. Several social-emotional learning programs have been developed for use with children and have shown varying degrees of success with increasing emotional intelligence.

This study adds to the current field in three ways: first, it provides empirical evidence regarding the effectiveness of a social-emotional learning program with middle school students. Second, this study reports on the differences found in the development of emotional intelligence between genders. Finally, this study measures the effectiveness of a social-emotional learning program that was delivered over four days rather than the previous studies involving elementary school children (Greenberg et al., 1995; Kam et al, 2004) and middle school students (Freedman, 2003) that implement programs over an entire school year. Shorter programs would provide more cost-effective options for schools and would minimize scheduling problems. In addition, it would open opportunities for community agencies to offer social-emotional learning programs in the summer, during school holidays, or utilizing a multiple-weekend approach.
CHAPTER III

METHODOLOGY

This chapter describes the methods and procedures used to determine the relationships between a social-emotional learning program and emotional intelligence in middle school students. This study focused on students in Grades 7 and 8 who were involved in Ultimate Teen Challenge (UTC), a four-day program of social-emotional learning. The quasi-experiment used a one-group pretest-posttest design.

**Population and Sample**

The population for this study included middle school students (ages 12-14) from a primarily rural region of a southeastern state. Middle school students in this region of the state reflect a variety of educational settings including city and county public school systems, private schools, and home schools. Convenience sampling was used to recruit volunteers for the program from the local area. University staff met with principals and counselors at area middle schools to explain the purpose of the program and to encourage widespread recruitment at each school. There was no fee to participate and no selection criteria. By the deadline, 31 students had registered for the program, and 28 of those actually attended.
Participants

Participants in this study (n=28) included middle school students ranging in age from 12-14 years and residing in a primarily rural region in a southeastern state. The male to female gender ratio was nearly equal (16 females, 12 males). Nine different schools were represented in the participant group including private schools, public schools and home schools. Twenty-two of the participants identified their race as White, and six identified themselves as Black. Participants volunteered to engage in a social and emotional learning curriculum through the UTC program hosted by a local university. Parental permission to participate was obtained in writing by the university, including permission for data collection.

Instrumentation

The 28 participants were given a pre-assessment at the beginning of the program in order to establish a baseline emotional intelligence score and to gather other data relevant to the study. Prior to pre-assessment, each student was assigned a testing code to maintain confidentiality. No individual names were used on any pre- or post-assessment. The pre-assessment was given at the opening session of the program. The following assessment was used for this study: the BarOn EQ-i:YV.

The BarOn Emotional Quotient Inventory: Youth Version (EQ-i:YV)

The EQ-i:YV is a self-report instrument designed to measure emotional intelligence in children and youth aged 7-18 years and is based on the BarOn EQ-i, a measure of emotional intelligence for adults. The EQ-i:YV consists of 60 items that are distributed across five scales. Each item is a statement to which respondents agree or
disagree based on how often it is true of them. Participants were asked to rate their response on a scale of 1-4: very seldom true of me (scored 1), seldom true of me (scored 2), often true of me (scored 3), and very often true of me (scored 4). The inventory can be administered in 25-30 minutes and is a pencil and paper format with a fourth grade reading level. The EQ-i:YV measures the following five dimensions of emotional intelligence:

- Intraperonal: self-awareness, assertiveness, self-regard, and self-actualization (e.g. “It is hard to talk about my deep feelings.”)
- Interpersonal: empathy, interpersonal relationships, and social responsibility (e.g. “I care what happens to other people.”)
- Adaptability: problem solving, reality testing, and flexibility (e.g. “I can come up with many ways of answering a hard question when I want to.”)
- Stress Management: stress tolerance and impulse control (e.g. “When I get angry, I act without thinking.”)
- General Mood: happiness and optimism (e.g. “I do not have bad days.”)

The five dimensions of Bar-On’s model measured by the EQ-i:YV are presented in Table 4.
Table 4

*Bar-On’s Emotional Intelligence Dimensions Measured by EQ-i:YV*

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</tr>
</thead>
<tbody>
<tr>
<td><strong>Intrapersonal</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ability to recognize and understand one’s feelings</td>
<td>Ability to express feelings, beliefs, and thoughts</td>
<td>Ability to accurately appraise oneself</td>
<td>Ability to realize one’s potential capacities</td>
<td>Ability to be self-directed and self-controlled in one’s thinking and actions and to be free of emotional dependency</td>
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</tr>
<tr>
<td><strong>Dimension</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ability to be aware of, to understand, and to appreciate the feelings of others</td>
<td>Ability to demonstrate oneself as a cooperative, contributing, and constructive member of one’s social group</td>
<td>Ability to establish and maintain mutually satisfying relationships that are characterized by emotional closeness</td>
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<tr>
<td><strong>Adaptability</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Ability to validate one’s emotions</td>
<td>Ability to adjust one’s emotions, thoughts, and behavior to changing situations and conditions</td>
<td>Ability to identify and define problems as well as to generate and implement potentially effective solutions</td>
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<tr>
<td><strong>Dimension</strong></td>
<td></td>
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<td></td>
<td></td>
<td>Ability to withstand adverse events and stressful situations without falling apart by actively and positively coping with stress</td>
<td>Ability to resist or delay an impulse and to control one’s emotions</td>
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</tr>
<tr>
<td><strong>Stress</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>Ability to look on the brighter side of life and to maintain a positive attitude even in the face of adversity</td>
<td>Ability to feel satisfied with one’s life, to enjoy oneself and others, and to have fun</td>
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<td></td>
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</tr>
<tr>
<td><strong>Management</strong></td>
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</tr>
<tr>
<td><strong>Dimension</strong></td>
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<tr>
<td><strong>General Mood</strong></td>
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<td></td>
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</tr>
<tr>
<td><strong>Dimension</strong></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Happiness</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
According to the technical manual (Bar-On & Parker, 2000b), the EQ-i:YV offers adequate reliability with an overall average internal consistency coefficient of .76. There were small differences noted between age bands, the most significant of which was in the intrapersonal dimension. In this dimension, internal reliability coefficients for 10-12 year olds were lower than for 13-15 year olds but still in an acceptable range, especially considering that the majority of participants in this study (78.8%) were in the 13-15 year old category. Cronbach’s alpha was used to determine the internal reliability of the instrument. Table 5 provides internal reliability coefficients for the two age bands covered by this study’s participants (Bar-On & Parker, 2000b).
Table 5

*Cronbach Alpha Coefficients for BarOn EQ-i:YV*

<table>
<thead>
<tr>
<th>Gender</th>
<th>10-12 Years</th>
<th>13-15 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Females</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intrapersonal</td>
<td>.74</td>
<td>.82</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>.84</td>
<td>.81</td>
</tr>
<tr>
<td>Adaptability</td>
<td>.84</td>
<td>.87</td>
</tr>
<tr>
<td>Stress Management</td>
<td>.85</td>
<td>.87</td>
</tr>
<tr>
<td>General Mood</td>
<td>.89</td>
<td>.88</td>
</tr>
<tr>
<td>Males</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intrapersonal</td>
<td>.72</td>
<td>.81</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>.83</td>
<td>.83</td>
</tr>
<tr>
<td>Adaptability</td>
<td>.85</td>
<td>.87</td>
</tr>
<tr>
<td>Stress Management</td>
<td>.85</td>
<td>.87</td>
</tr>
<tr>
<td>General Mood</td>
<td>.88</td>
<td>.87</td>
</tr>
</tbody>
</table>

(Bar-On & Parker, 2000b)

**Ultimate Teen Challenge Program Overview**

The UTC program was hosted by a local university and encompassed four days of leadership and personal development utilizing a social-emotional learning program (IMPACT). Funded by a federal grant, UTC targeted middle school youth in the north region of the state and provided programming at no cost to participants. The program was residential, and participants were housed at a science and nature retreat center. College
leaders were selected to serve as counselors and to supervise participants overnight. Counselors also engaged in all of the classroom activities alongside participants.

**Facilitators**

There were three facilitators, each of whom completed IMPACT training. The program facilitators were certified educators who worked together to develop and/or modify activities for the 36 hour program. To ensure continuity of the program and fidelity with implementation of the program, the facilitators co-instructed the entire 36 hours of classroom time.

**Social-Emotional Learning Program**

**Program Framework**

The framework used for the social-emotional learning program was the IMPACT Leadership and Personal Development Model (Brown, 2006). IMPACT is a social-emotional learning program divided into two primary domains: personal growth and working with others. The first domain focuses on three key areas to enhance personal growth: individual development, mapping the future, and prioritizing time and energy. The second domain builds upon the development of self and an increased understanding and valuing of individual differences to enhance the ability to work effectively with others. The areas of focus in the second domain include accepting and affirming self and others, commitment, and teamwork. Figure 1 shows the six levels of IMPACT divided into the two domains of personal growth (intrapersonal skills) and working with others (interpersonal skills).
Table 6 represents the linkages between the theoretical framework of the study (Bar-On’s model and instrument) and the six levels of IMPACT used as the treatment in the study.
Table 6

*Linkages between the Six Levels of IMPACT Model and Bar-On’s Five Dimensions*

<table>
<thead>
<tr>
<th>IMPACT Level</th>
<th>EQ-i:YV Dimension</th>
<th>Abilities Measured within Each Dimension of BarOn EQ-i:YV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Development</td>
<td>Intrapersonal</td>
<td>Ability to recognize and understand one’s feelings</td>
</tr>
<tr>
<td></td>
<td>Dimension</td>
<td>Ability to express feelings, beliefs, and thoughts</td>
</tr>
<tr>
<td>Accept and Affirm Self and Others</td>
<td></td>
<td>Ability to accurately appraise oneself</td>
</tr>
<tr>
<td>Commitment &amp; Communication</td>
<td></td>
<td>Ability to realize one’s potential capacities</td>
</tr>
<tr>
<td></td>
<td>Interpersonal</td>
<td>Ability to be self-directed and self-controlled in one’s thinking and actions and to be free of emotional dependency</td>
</tr>
<tr>
<td></td>
<td>Dimension</td>
<td>Ability to be aware of, to understand, and to appreciate the feelings of others</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ability to demonstrate oneself as a cooperative, contributing, and constructive member of one’s social group</td>
</tr>
<tr>
<td>Teamwork</td>
<td></td>
<td>Ability to establish and maintain mutually satisfying relationships that are characterized by emotional closeness</td>
</tr>
<tr>
<td>Adaptability</td>
<td></td>
<td>Ability to validate one’s emotions</td>
</tr>
<tr>
<td>Adaptability</td>
<td>Dimension</td>
<td>Ability to adjust one’s emotions, thoughts, and behavior to changing situations and conditions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ability to identify and define problems as well as to generate and implement potentially effective solutions</td>
</tr>
<tr>
<td>Map the Future</td>
<td>Stress</td>
<td>Ability to withstand adverse events and stressful situations without falling apart by actively and positively coping with stress</td>
</tr>
<tr>
<td></td>
<td>Management</td>
<td>Ability to resist or delay an impulse and to control one’s emotions</td>
</tr>
<tr>
<td></td>
<td>Dimension</td>
<td>Ability to look on the brighter side of life and to maintain a positive attitude even in the face of adversity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ability to feel satisfied with one’s life, to enjoy oneself and others, and to have fun</td>
</tr>
<tr>
<td>Prioritize Time &amp; Energy</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>General Mood</td>
<td></td>
</tr>
<tr>
<td>All Levels</td>
<td>Dimension</td>
<td></td>
</tr>
</tbody>
</table>
Description of Program

A full 36-hour program was developed using the IMPACT model, including activities in each of the six levels of the model. Many of the activities were created specifically for the program while others were modified and adapted either to fit the readiness levels and needs of the middle school participants, to accommodate the required time frame, or to better support the development of emotional intelligence. The program was delivered organized around the six levels of the IMPACT model in sequential order, completing activities and developing an awareness of one level before moving on to the next. The program goals communicated to participants included increasing self-understanding, planning, dreaming, and hoping, valuing and celebrating differences, enhancing communication skills, working effectively in teams, renewing self through positive interaction, laughter, and reflection.

Essential to the program was the creation of a safe environment in which participants might explore self, examine strengths and areas for improvement, be open with their emotions, and engage in honest conversations about the challenges they face. In order to facilitate this process, a social contract was established and agreed upon by all participants that addressed how they wanted to be treated, how they would treat others, and how they would handle conflict or difficult situations if they arose. Additionally, the following ground rules were discussed and agreed upon: (a) know there are no wrong answers, (b) be honest, (c) be yourself, (d) encourage others to be themselves, (e) get to know each other, (f) appreciate differences, (g) take risks, and (h) have fun.
**Individual development.** As the foundation of the model, Individual development is arguably the most important and certainly the most time-intensive of the six levels since self-understanding, development, and esteem are lifelong processes. Individual development addresses understanding oneself as well as fostering self-awareness, self-esteem, and personal growth and improvement. This stage emphasized self-understanding, self-assessment, personal growth, discovering and developing passions, defining beliefs and values, taking care of self, establishing an accurate and positive self-concept and self-esteem, safe risk-taking, and increasing courage. The Individual development activities included both individual and group interactions.

**Map the future.** Once the individual develops to the point of understanding self, values, strengths, and areas for growth, planning for the future becomes essential to realizing one’s goals and dreams for the person they wish to become and the life they hope to lead. The Map the future part of the program focused on deciding where one wanted to be at various points in the future, for example, ten years from now, and then charting the appropriate course to realize that vision. Key skills in this area included planning, goal-setting, approaching the future by design, articulating a clear vision, developing a personal mission statement, distinguishing between long- and short-term thinking, and planning for obstacles and setbacks.

**Prioritize time and energy.** Once a personal mission statement has been identified, as well as short- and long-term goals, Prioritize time and energy effectively promotes the achievement of those goals and the fulfillment of one’s personal mission. Prioritizing is a specific higher-order thinking skill that can be practiced and increased
over time. Middle school students, in particular, establish and reinforce priorities that are peer-centered and may not be in alignment with their true goals and dreams for the future. The primary areas of focus for this facet of the program included making appropriate and defensible choices, maintaining healthy relationships, emphasizing family, making time for personal renewal, choosing battles wisely, understanding the difference between efficiency and effectiveness, balancing responsibilities and interests, and stress and time management.

Accept and affirm self and others. Once participants have a strong foundation in intrapersonal skills including self-understanding and self-management, they are enabled to naturally work more effectively with others. One of the most important skills in interacting with people is to recognize and celebrate diversity of talents, abilities, thoughts, and opinions. Accept and affirm self and others taught students to move beyond a mindset of simply tolerance into a posture of accepting and honoring differences. This stage focused on recognizing, valuing, and appreciating strengths and differences, using positive self-talk, actively affirming others, maintaining an open mind, actively including others, supporting others, and demonstrating unconditional positive regard.

Commitment and communication. If participants are to effectively prioritize their time and energy, then they must learn how to limit their commitments to projects that will help them realize their mission. The Commitment part of this phase of the program emphasized motivation, understanding the importance of commitment to self/others/projects, making effective commitments, demonstrating commitment to others, and learning to say “no.” Working effectively with others also requires strong
communication skills. For the Communication phase, the program provided opportunities for participants to explore the general ideas of verbal and non-verbal communication, appropriately recognize and respond to emotion, develop good listening skills, examine the role of body language and tone of voice, practice empathic listening, and understand the nuances of communicating in times of conflict or heightened emotion.

Teamwork. The cornerstone of working with others effectively is Teamwork. As contributing members of society who develop and maintain healthy relationships, middle school students must be able to work effectively as members of teams. Areas of focus for the Teamwork level of the program included exploring the concept of synergy, assessing one’s “T-Factor” (teamwork quotient), practicing effective team behaviors (in particular, alternating roles of leader, follower, and collaborator), learning to build successful and contributing groups, sharing celebrations, and sharing recognition. Multiple grouping and teaming arrangements were used with participants in order to expose them to many different group dynamics and personality combinations.

Data Analysis

The data for this study were archived from 2006 and included results from the BarOn EQ-i:YV as well as demographic information. Permission to conduct this data analysis was approved by the Mississippi State University Institutional Review Board (IRB) for the Protections of Human Subjects in Research (see Appendix A). The independent variables for this study included the attribute variable of gender and the treatment variable (IMPACT program). The dependent variables are the outcomes on the five dimensions of the EQ-i:YV (Intrapersonal, Interpersonal, Adaptability, Stress
Management, and General Mood). All data were analyzed using a one-way repeated measure Multivariate Analysis of Variance (MANOVA) in which gender served as an attribute variable. The repeated measures research design reduces error variance and requires fewer subjects than a non-repeated measures design making it a design that is both powerful and efficient (Weinfurt, 1995). According to Fraenkel and Wallen (2009), the MANOVA provides a powerful test for examining differences among means and can incorporate two or more dependent variables in the same analysis to reduce the possibility of Type I error created by using several univariate analyses.
CHAPTER IV
RESULTS

Introduction

The purpose of this study was to determine if relationships exist between a social-emotional learning program and emotional intelligence in middle school students as measured by the BarOn EQ-i:YV (Bar-On & Parker, 2000a). Another purpose of the study was to examine whether the effect of the program was moderated by gender.

The study analyzed data that were collected in the 2006 UTC social-emotional learning program hosted by a local university. The program served 28 middle school students ranging in age from 12-14 years and residing in a primarily rural region in a southeastern state. The BarOn EQ-i:YV was administered to the participants at the beginning of the program. Trained facilitators interacted with middle school students to deliver the 36 hour program, and the same instrument was administered at the conclusion. The researcher examined the measures of emotional intelligence of participants taken immediately before and after exposure to the IMPACT program to determine if relationships existed between the IMPACT social-emotional learning program and major dimensions of emotional intelligence (interpersonal skills, intrapersonal skills, stress-management skills, adaptability skills, and general mood) and if any differences were moderated by gender.
Demographic Data

Demographic data were collected to describe the participants in the study and included the following demographic indicators: age, gender, ethnicity, and school type. Participants were all in the age range of 12 to 14 years, clustering heavily around 13 years (53.6%). The female to male gender ratio was nearly equal (16 females, 12 males). Nine different schools were represented in the participant group including private schools, public schools, and home school. Twenty-two of the participants identified their race as White, and six identified themselves as Black. Table 7 outlines each indicator by number and percentage.
Table 7

*Study Participant Demographic Information*

<table>
<thead>
<tr>
<th>Demographic Indicator</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 years old</td>
<td>5</td>
<td>21.4%</td>
</tr>
<tr>
<td>13 years old</td>
<td>15</td>
<td>53.6%</td>
</tr>
<tr>
<td>14 years old</td>
<td>7</td>
<td>25%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>16</td>
<td>57.1%</td>
</tr>
<tr>
<td>Male</td>
<td>12</td>
<td>42.9%</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>6</td>
<td>21.4%</td>
</tr>
<tr>
<td>White</td>
<td>22</td>
<td>78.6%</td>
</tr>
<tr>
<td>School Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>6</td>
<td>21.4%</td>
</tr>
<tr>
<td>Public</td>
<td>21</td>
<td>75%</td>
</tr>
<tr>
<td>Home School</td>
<td>1</td>
<td>3.6%</td>
</tr>
</tbody>
</table>

**Statistical Analyses**

The data for this study were archived from 2006 and included results from the BarOn EQ-i:YV in addition to demographic information. To determine what relationships existed between a social-emotional learning program, emotional intelligence, and gender, the researcher used a one-way repeated measure MANOVA in which gender served as an attribute variable. The MANOVA allowed the researcher to
simultaneously examine the effects of five dependent variables and to test the significance of group differences.

The independent variables for this study included the attribute variable of gender and the treatment variable (IMPACT program). The dependent variables were the outcomes on the five dimensions of the EQ-i:YV (intrapersonal, interpersonal, stress management, adaptability, and general mood).

In order to use a single MANOVA, all of the dependent variables must show some level of correlation (Mertler & Vannatta, 2005). Consequently, a Pearson correlation was first used to determine the relationships among the dependent variables for both the pre- and post-tests. The results showed an acceptable correlation between the dependent variables, so a single MANOVA was used. Pre- and post-test Pearson correlations are displayed in Tables 8 and 9.

Table 8

*Pre-Test Pearson Correlations among the Five Dimensions of Emotional Intelligence

\(N=28\)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intrapersonal</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>2. Interpersonal</td>
<td>.26</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>3. Stress Management</td>
<td>.46*</td>
<td>.43*</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4. Adaptability</td>
<td>.19</td>
<td>.63**</td>
<td>.47*</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>5. General Mood</td>
<td>.53**</td>
<td>.65**</td>
<td>.30</td>
<td>.54**</td>
<td>—</td>
</tr>
</tbody>
</table>

*\(p<.05\)

**\(p<.01\)
Table 9

*Post-Test Pearson Correlations among the Five Dimensions of Emotional Intelligence*

\((N=28)\)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intrapersonal</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Interpersonal</td>
<td>.41*</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Stress Management</td>
<td>.37</td>
<td>.49**</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Adaptability</td>
<td>.27</td>
<td>.28</td>
<td>.34</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>5. General Mood</td>
<td>.44*</td>
<td>.42*</td>
<td>.40*</td>
<td>.68**</td>
<td>---</td>
</tr>
</tbody>
</table>

\*\(p<.05\)

\**\(p<.01\)

Participants were asked to rate their response to each of the 60 items based on how often the statement was true for them. This yielded a score of 1 (very seldom true of me) to 4 (very often true of me). The attribute variable of gender was coded as 0 (female) or 1 (male). Descriptive statistics, including number, mean, and standard deviation for each of the five dimensions of the EQ-i:YV (pre and post) are displayed in Table 10 which also includes the normative sample means for this age band (Bar-On & Parker, 2000b).
Table 10

*Group Means and Standard Deviations for the Five Dimensions of Emotional Intelligence*

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Gender</th>
<th>Normative Sample Mean</th>
<th>Pre-Test</th>
<th>Post-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>N</td>
<td>M</td>
</tr>
<tr>
<td>Intrapersonal</td>
<td>Female</td>
<td>14.59</td>
<td>16</td>
<td>16.31</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>15.08</td>
<td>12</td>
<td>14.42</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>28</td>
<td>15.50</td>
<td>3.97</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>Female</td>
<td>39.41</td>
<td>16</td>
<td>42.06</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>39.29</td>
<td>12</td>
<td>36.92</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>28</td>
<td>39.86</td>
<td>5.42</td>
</tr>
<tr>
<td>Stress Management</td>
<td>Female</td>
<td>33.46</td>
<td>16</td>
<td>35.94</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>34.27</td>
<td>12</td>
<td>34.25</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>28</td>
<td>35.21</td>
<td>6.85</td>
</tr>
<tr>
<td>Adaptability</td>
<td>Female</td>
<td>28.39</td>
<td>16</td>
<td>30.56</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>28.88</td>
<td>12</td>
<td>30.75</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>28</td>
<td>30.64</td>
<td>5.61</td>
</tr>
<tr>
<td>General Mood</td>
<td>Female</td>
<td>45.85</td>
<td>16</td>
<td>50.63</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>46.64</td>
<td>12</td>
<td>46.42</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>28</td>
<td>48.82</td>
<td>5.36</td>
</tr>
</tbody>
</table>
MANOVA Results

The researcher determined the appropriate test by examining the results of Box’s Test of Equality of Covariance Matrices to determine the homogeneity of variances for the groups. The test showed that there were no significant differences among the five dimensions of emotional intelligence (Box’s M = 130.780, \( p = .058 \)). Consequently, Wilks’ lambda was used to test for significance because the basic assumption of homogeneity was not violated. The MANOVA results are presented in Table 11.

Table 11

*Effects of Treatment and Gender on Emotional Intelligence (Wilks’ lambda)*

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
<th>Df</th>
<th>F</th>
<th>( \eta^2 )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>.35</td>
<td>5.0</td>
<td>8.09</td>
<td>.46</td>
<td>.00*</td>
</tr>
<tr>
<td>Gender</td>
<td>.54</td>
<td>5.0</td>
<td>3.78</td>
<td>.65</td>
<td>.01*</td>
</tr>
<tr>
<td>Treatment x Gender</td>
<td>.91</td>
<td>5.0</td>
<td>.41</td>
<td>.09</td>
<td>.83</td>
</tr>
</tbody>
</table>

\( p = .05, * \text{significant at the .05 level} \)

The MANOVA, using the five dimensions of emotional intelligence as dependent variables, gender (i.e., male versus female) and the treatment (i.e., before the treatment versus after the treatment) as independent variables found no interaction between the treatment and gender (Wilks’ lambda = .914, \( F[5, 22] = .414, p = .834 \), multivariate \( \eta^2 = .086 \)).
Results of Analysis for Research Question One

What are the relationships between a social-emotional learning program and the following dimensions of emotional intelligence: interpersonal skills, intrapersonal skills, stress-management skills, adaptability skills, and general mood?

While the MANOVA did not show interaction between the treatment and gender, it did show a significant main effect for the treatment (Wilks’ lambda = .352, $F [5, 22] = 8.085, p \leq .001$, multivariate $\eta^2 = .462$). To better understand the significance of the treatment, separate univariate tests were further performed to examine the relationships between the treatment and the five dependent variables. These tests showed significant relationships between the treatment and four of the five dimensions of emotional intelligence, including interpersonal ($F [1,26] = 28.89, p \leq .001$, partial $\eta^2 = .526$), stress management ($F [1, 26] = 12.25, p = .002$, partial $\eta^2 = .320$), adaptability ($F [1, 26] = 5.31, p = .029$, partial $\eta^2 = .170$), and general mood ($F [1, 26] = 13.23, p = .001$, partial $\eta^2 = .337$). The effect sizes were moderate to strong, ranging from .170 to .526. Mean and standard deviation data are presented with univariate test data in Table 12.
Table 12

Univariate Tests for Treatment Effects, Means, and Standard Deviations

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Df</th>
<th>F</th>
<th>p</th>
<th>$\eta^2$</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pre</td>
<td>Pre</td>
<td>Post</td>
<td>Post</td>
</tr>
<tr>
<td>Intrapersonal</td>
<td>1</td>
<td>.649</td>
<td>.428</td>
<td>.024</td>
<td>15.50</td>
<td>3.97</td>
<td>16.14</td>
<td>4.64</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>1</td>
<td>28.887</td>
<td>.000**</td>
<td>.526</td>
<td>39.86</td>
<td>5.41</td>
<td>43.79</td>
<td>4.12</td>
</tr>
<tr>
<td>Stress Mgt.</td>
<td>1</td>
<td>12.253</td>
<td>.002**</td>
<td>.320</td>
<td>35.21</td>
<td>6.85</td>
<td>39.18</td>
<td>6.97</td>
</tr>
<tr>
<td>Adaptability</td>
<td>1</td>
<td>5.312</td>
<td>.029*</td>
<td>.170</td>
<td>30.64</td>
<td>5.61</td>
<td>32.71</td>
<td>5.18</td>
</tr>
<tr>
<td>General Mood</td>
<td>1</td>
<td>13.225</td>
<td>.001**</td>
<td>.337</td>
<td>48.82</td>
<td>5.36</td>
<td>51.21</td>
<td>4.51</td>
</tr>
</tbody>
</table>

*p < .05
**p < .01

Figures 2-5 provide a visual representation of the trajectory of pre- to post-test means for each of the four dimensions that showed significant increases.
Figure 2. Means for Treatment Effect – Interpersonal Dimension

Figure 3. Means for Treatment Effect – Stress Management Dimension
The analyses for research question one indicated that the IMPACT program was successful in significantly increasing emotional intelligence of middle school participants in four of the five dimensions: interpersonal, stress management, adaptability, and general mood. The effect sizes were moderate to strong, ranging from .170 to .526.
Results of Analysis for Research Question Two

Are there any differences related to gender?

The MANOVA did show a significant effect for gender (Wilks’ lambda = .538, $F_{[5, 22]} = 3.777, p = .013$). Univariate tests were performed to determine whether the difference(s) occurred. The univariate tests showed one significant difference related to gender in terms of the interpersonal dimension ($F_{[1, 26]} = 8.317, p = .008$, partial $\eta^2 = .242$). In this dimension, females scored significantly higher than did the males on both the pre-test (females: $M = 42.06$, SD = 3.36; males: $M = 36.92$, SD = 6.33) and post-test (females: $M = 45.25$, SD = 2.11; males: $M = 41.83$, SD = 5.32). Estimated marginal means of the interpersonal dimension by gender are displayed in Figure 6.

![Estimated Marginal Means of the Interpersonal Dimension by Gender](image)

*Figure 6.* Estimated Marginal Means of the Interpersonal Dimension by Gender
An examination of the means for each of the dimensions of emotional intelligence showed a similar trend. While not significantly different, females scored higher than the males in three other dimensions on the pre-test, namely intrapersonal (females: $M = 16.31$, $SD = 3.61$; males: $M = 14.42$, $SD = 4.32$), stress management (females: $M = 35.94$, $SD = 5.70$; males: $M = 34.25$, $SD = 8.31$), and general mood (females: $M = 50.63$, $SD = 4.32$; males: $M = 49.83$, $SD = 4.88$). The same pattern emerged in the post-test with females scoring higher than males in the same additional three dimensions: intrapersonal (females: $M = 16.94$, $SD = 4.16$; males: $M = 15.08$, $SD = 5.21$), stress management (females: $M = 40.38$, $SD = 4.94$; males: $M = 37.58$, $SD = 9.0$), and general mood (females: $M = 52.25$, $SD = 4.06$; males: $M = 49.83$, $SD = 4.88$). Mean and standard deviation data are presented with univariate test data in Table 13.

**Table 13**

*Univariate Tests for Gender Effect, Means, and Standard Deviations*

<table>
<thead>
<tr>
<th>Dimension</th>
<th>df</th>
<th>F</th>
<th>$p$</th>
<th>$\eta^2$</th>
<th>Females</th>
<th>Males</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>Intra</td>
<td>1</td>
<td>1.720</td>
<td>.201</td>
<td>.062</td>
<td>16.3</td>
<td>3.6</td>
</tr>
<tr>
<td>Inter</td>
<td>1</td>
<td>8.317</td>
<td>.008</td>
<td>.242</td>
<td>42.1</td>
<td>3.4</td>
</tr>
<tr>
<td>Stress Mgt</td>
<td>1</td>
<td>.866</td>
<td>.361</td>
<td>.032</td>
<td>35.9</td>
<td>5.7</td>
</tr>
<tr>
<td>Adapt</td>
<td>1</td>
<td>.174</td>
<td>.680</td>
<td>.007</td>
<td>30.6</td>
<td>4.2</td>
</tr>
<tr>
<td>Gen Mood</td>
<td>1</td>
<td>3.952</td>
<td>.057</td>
<td>.132</td>
<td>50.6</td>
<td>4.3</td>
</tr>
</tbody>
</table>

$p < .05$
The analyses for research question one indicated that gender does make a difference in developing emotional intelligence in the interpersonal dimension where females score significantly higher than males.

Summary

 Archived data from 28 middle school participants in a summer program included pre- and post-assessments of the BarOn EQ-i:YV and demographic information. A repeated-measures MANOVA was used to determine relationships between the social-emotional learning program, the five dimensions of emotional intelligence (intrapersonal, interpersonal, stress management, adaptability, and general mood), and gender. The MANOVA, using the five dimensions of emotional intelligence as dependent variables and gender treatment as independent variables, found no interaction between the treatment and gender. Significant main effects, however, were found for the treatment and for gender. To better understand the significance of the treatment, separate univariate tests were further performed to examine the relationships between the treatment and the five dependent variables. These tests showed significant relationships between the treatment and four of the five dimensions of emotional intelligence (interpersonal, stress management, adaptability, and general mood). The effect sizes were moderate to strong, ranging from .170 to .526. Likewise, univariate tests were performed to determine where the differences related to gender occurred. The tests showed one significant difference related to gender. In the interpersonal dimension, gender made a significant difference, favoring females over males.
CHAPTER V
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This study examined the relationships between a social-emotional learning program and the five dimensions of emotional intelligence as defined by Bar-On (2006b). It further examined whether the relationships were moderated by gender. Emotional intelligence is linked to higher levels of academic achievement (Aremu et al., 2006; Durlak & Weissberg, 2007; Parker et al., 2004), lower levels of student aggression (Cobb & Mayer, 2000; Durlak & Weissberg, 2007), and decreased engagement in risky behaviors (Cobb & Mayer, 2000; Mayer et al., 2000). Although issues facing middle school students and their administrators vary from community to community, academic achievement and student behavior are two of the most important outcome variables.

The problem addressed in the study was the lack of research focused on the development of emotional intelligence at the middle school level. The Bar-On Model of Emotional-Social Intelligence (Bar-On, 1997, 2006b) was selected as the theoretical framework for the study because it aligns well with the program used in the study, it asserts that emotional intelligence can be learned and developed, and it includes an assessment instrument developed specifically for youth. There were two primary questions guiding this research. The first examined the effect of the treatment on each dimension and asked,
What are the relationships between a social-emotional learning program and the following dimensions of emotional intelligence: interpersonal skills, intrapersonal skills, stress-management skills, adaptability skills, and general mood?

The second question investigated what, if any, differences were noted based on gender.

Major lines of research informing the study included: (a) defining emotional intelligence; (b) three major models of emotional intelligence; (c) the importance of emotional intelligence in life; (d) the relationship between emotional intelligence and gender; and (e) the development of emotional intelligence through social-emotional learning programs.

This study analyzed data from 28 middle school students from a southeastern state who engaged in a 36 hour program facilitated by a public university in 2006. The BarOn EQ-i:YV was administered pre and post. Over four days, trained staff facilitated the IMPACT social-emotional learning program emphasizing its six levels (individual development, map the future, prioritize time and energy, accept and affirm self and others, commitment and communication, and teamwork). Demographic data included age, gender, race, and school type.

**Discussion of Findings and Conclusions**

Data were analyzed using a one-way repeated measure MANOVA in which gender served as an attribute variable. The independent variables for this study included the attribute variable of gender and the treatment variable (IMPACT program). The dependent variables were the five dimensions of the EQ-i:YV (intrapersonal, interpersonal, stress management, adaptability, and general mood).
Research Question One

What are the relationships between a social-emotional learning program and the following key indicators of emotional intelligence: interpersonal skills, intrapersonal skills, stress-management skills, adaptability skills, and general mood?

The MANOVA found no interaction between the treatment and gender, but it did show a significant main effect for the treatment. Separate univariate tests showed significant relationships between the treatment and four of the five dimensions of emotional intelligence: interpersonal, stress management, adaptability, and general mood. Specifically, the findings revealed that the IMPACT program significantly increased participants’ emotional intelligence in four of five areas. The increase in adaptability fits with the only prior study that involved middle school students and measured Bar-On’s five dimensions of emotional intelligence (Freedman, 2003) in which adaptability was also significantly increased. Interestingly, the only other dimension significantly increased in Freedman’s study was the intrapersonal dimension which was the only dimension not significantly increased in the present study. One possible explanation for this incongruence is the four-day delivery model in the present study which may not provide extended opportunities for the self-exploration required to make significant gains in the intrapersonal dimension. The overall environment of the program could also be a factor since it was camp-like and encouraged social interaction over solitude. Another possible explanation may be differences in the curriculum delivered in the two programs or in the skill levels and/or training of the facilitators. Some of the same factors may explain why the present study found significant increases in the interpersonal, stress
management, and general mood dimensions while Freedman’s study did not. The use of a different social-emotional learning program is the most likely explanation.

Research Question Two

Are there any differences related to gender?

The MANOVA did show a significant effect for gender, so univariate tests were subsequently performed to determine whether the difference(s) occurred. The univariate tests showed one significant gender difference relating to the interpersonal dimension. In this dimension, females scored significantly higher than did males on both the pre- and post-tests with a moderate effect size (partial $\eta^2 = .242$). An examination of the means for each of the dimensions of emotional intelligence showed a similar trend. While not significantly different, females also scored higher than did males in three other dimensions (intrapersonal, stress management, and general mood) on both the pre- and post-tests.

The trend toward higher female scores on self-reported measures of emotional intelligence is consistent with prior studies (Bar-On & Parker, 2000b; Charbonneau & Nicol, 2002; Katyal & Awasthi, 2005). The finding that females scored significantly higher than males on the interpersonal scale aligns with the finding by Bar-On and Parker (2000b) that females (as compared with males) score higher than males in the interpersonal dimension. In addition to the interpersonal dimension, Bar-On and Parker (2000b) found that females also scored significantly higher than males on the intrapersonal scale. The present study does not corroborate that finding.

Prior studies that were focused on social-emotional learning programs did not examine gender differences. The only studies that examined the relationship between
gender and emotional intelligence in middle school students did not include a social-emotional learning program or a repeated-measure design. Instead, they studied the likelihood of one gender scoring higher than another on a single administration of an emotional intelligence inventory. As no studies which focused on whether gender moderates relationships between social-emotional learning programs and emotional intelligence in middle school students could be located, it can be argued that the present study has taken one important step forward in this area.

**Implications of the Study**

This study extended the body of research in the field of emotional intelligence in the following three important ways: (a) the effectiveness of a social-emotional learning program in developing emotional intelligence at the middle school level; (b) the degree to which that development was moderated by gender; and (c) the effectiveness of a four-day program as a nontraditional delivery method.

First, the findings indicate that the social-emotional learning program used in the present study significantly increased emotional intelligence in four of the five domains: interpersonal, stress management, adaptability, and general mood. Only one prior study has been conducted that examined the effects of a social-emotional learning program on Bar-On’s five dimensions of emotional intelligence in middle school students (Freedman, 2003), and that study used a different social-emotional learning program. The findings of this study are consistent with the results of the prior study in that individual dimensions of emotional intelligence can be increased by the exposure to a social-emotional learning program. While Freedman’s study found significant increases in two of the domains,
intrapersonal and adaptability, the present study found significant increases in four of the five domains: interpersonal, stress management, adaptability, and general mood.

Generally speaking, these findings align with the existing body research of research on the development of emotional intelligence. Greenberg et al. (1995) similarly found significant increases in major indicators of emotional intelligence in children at elementary school level. Although the researchers did not use the exact same program, indicators/dimensions of emotional intelligence, or instrument to measure emotional intelligence, both studies found that emotional intelligence could be increased through social-emotional learning programs. Kam et al. (2004) examined the effects of a social-emotional learning program on children in special education and also found a significant increase in an indicator of emotional intelligence (feelings vocabulary) in addition to significant decreases in negative social-emotional indicators.

In their meta-analysis of 213 school-based social-emotional learning programs, Durlak et al. (2011) also found higher levels of emotional intelligence, namely higher levels of socio-emotional skills and attitudes and increased positive social behaviors. Durlak and Weissberg (2007) also conducted a meta-analysis of 73 after school programs designed to enhance certain elements of emotional intelligence and found improvements in self-confidence, self-esteem, school bonding, and positive social behaviors as well as decreases in negative behaviors.

Second, there was one dimension that was significantly related to gender – interpersonal – in which females scored significantly higher on both the pre- and post-tests than did males. The research in this area is very limited, and most of what is available is focused on adult participants. The majority of these studies found no
significant differences between males and females (Brackett et al., 2006; Brown & Schutte, 2006; Depape et al., 2006). One prior study on adults (Stys & Brown, 2004) found that females have a higher emotional intelligence than males which is consistent with the present study.

Only three studies could be located that examined the relationship between gender and emotional intelligence in middle school students. These studies all examined the likelihood of one gender scoring higher on measures of emotional intelligence than another and found a trend that females typically score higher than their male counterparts (Bar-On & Parker, 2000b; Charbonneau & Nicol, 2002; Katyal & Awasthi, 2005). These findings are also consistent with the present study that found one relationship (interpersonal) to be moderated by gender in that females scored higher than males on both the pre- and post-assessment.

Only one study (Bar-On & Parker, 2000b) assessed gender differences on the EQ-i:YV, the instrument used in the current study. They found that females scored significantly higher than males in two dimensions: intrapersonal and interpersonal. The current study confirms this evidence of females scoring higher in the interpersonal dimension but did not find a significant difference between the genders in the intrapersonal dimension. Bar-On and Parker also found that males score significantly higher in the adaptability dimension, but this study does not corroborate that finding.

It is important to note that none of the aforementioned studies involved an intervention with pre- and post-assessments to look at how gender might moderate the development of emotional intelligence over time. In that way, the present study is the first
to provide evidence of a significant gender effect with regard to developing emotional intelligence in middle school students through a social-emotional learning program.

Finally, this study provided evidence of the effectiveness of a social-emotional learning program that is delivered over a condensed period of time rather than the traditional model of incorporating it over an entire school year. The length of the program may not be significant with regard to four of the five dimensions of emotional intelligence (interpersonal, stress management, adaptability, and general mood), as this study utilized a condensed delivery model (four days) and significantly increased those four dimensions. It appears from the available empirical evidence that the length of the intervention in terms of time may be most closely related to the development of the intrapersonal dimension. Prior studies conducted over a full year did yield significant gains in indicators that would be classified as intrapersonal skills (Freedman, 2003; Greenberg et al., 1995; Kam et al., 2004).

This study provided evidence of the success of a social-emotional learning program in developing emotional intelligence and also contributed to the limited body of knowledge regarding the relationship between emotional intelligence and gender. These are both important findings for policy makers and school leaders. The final contribution to existing research is the finding that condensed programs can effectively increase emotional intelligence in middle school students. The success of the condensed delivery method has very practical implications for school administrators and other groups interested in increasing emotional intelligence in students. In middle school, scheduling additional electives while still delivering the required coursework can prove daunting. This study showed that emotional intelligence can be developed outside of the traditional
middle school class period that covers a semester or entire year. Instead, programs can be delivered in venues such as after school programs, summer school, or even outside of the school district through camps or other programs offered by community and educational agencies. The condensed delivery approach may also provide financial savings requiring less overhead to operate programs.

**Limitations of the Data**

While this study yielded significant results in the development of emotional intelligence of participants, it does pose some limitations. An existing data set was analyzed that included a relatively sample (n = 28). This sample size, however, was in alignment with the only other study of its kind (Freedman, 2003) which included 26 middle school students. The demographic data from the sample in the present study was not very different from the population of the area and included a fairly balanced representation of gender (57.1% female, 42.9% male). Additionally, the two primary ethnicities (Black and White), making up 98% of the population in the area, were also included, although not represented in an optimum balance. The number of participants who attended school in the city (n = 14) was the same as the number who attended more rural county schools (n = 14). This is consistent with data for the population (60% city, 40% county). The final limitation was that no control group was used, however, this also aligns with Freedman’s study (2003) in which there was no control group.

**Recommendations for Further Study**

There is an emerging consensus among researchers in the field of emotional intelligence that additional research is both necessary and important (Bar-On, 2006a;
Cherniss et al., 2006; Emmerling & Goleman, 2007; Goleman, 1995). As there is hardly any research that focuses on both the effectiveness of social-emotional learning programs with middle school students (Freedman, 2003) and the role of gender (Bar-On & Parker, 2000b; Charbonneau & Nicol, 2002; Katyal & Awasthi, 2005), additional research is particularly needed in this front. Understanding whether the effect of the program was moderated by gender would assist curriculum developers in creating social-emotional learning programs that pose a greater likelihood of success. While not significant, the present study showed that males had larger gain scores than females in several dimensions but that females scored higher on self-reported measures of emotional intelligence. Future studies may consider examining these trends as well as exploring the effect of the gender of the facilitator(s) on the development of emotional intelligence. Future research should address the following: (a) compare two or more social-emotional learning programs with similar samples to measure differences; (b) examine differences among programs of varying lengths and intensities; and (c) further examine the relationship between gender and emotional intelligence. These are gaps in the literature that still exist based on the small number of studies that examine these issues (Bar-On & Parker, 2000b; Charbonneau & Nicol, 2002; Freedman, 2003; Katyal & Awasthi, 2005).

Further research should also include larger sample sizes, control groups, and research designs that utilize qualitative or mixed-methods. These would strengthen the research design (Fraenkel & Wallen, 2009) and may provide results that could be generalized beyond the community where the present study was conducted with fewer limitations. Future research should be considered that incorporates different formats for measuring the dimensions of emotional intelligence (i.e., parent surveys, teacher
observation forms, or artifacts) since the present study only utilized the single measure of self-report. Incorporating multiple measures into a single study would provide evidence that may be more compelling to school administrators and policy makers. Qualitative data could help researchers better understand why the changes occurred in participants. Based on the success of this study in increasing four of the five dimensions of emotional intelligence by condensing 36 hours of programming into a four-day model, additional studies are recommended that explore non-traditional delivery methods (i.e., not spread over an entire school year) to ease scheduling and financial constraints of middle schools. Conducting similar studies with samples from a larger population representing a broader geographic region would make findings more generalizable.

**Recommendations for Practice**

This study aligned with prior findings that showed that emotional intelligence can be developed and increased through targeted programming. The present study found that a 36 hour program yielded significant gains in four of the five domains of emotional intelligence (interpersonal, stress management, adaptability, and general mood). These domains are linked to educational issues that frequently plague middle schools including poor academic achievement, discipline problems (i.e., bullying, aggression), and student engagement in risky behavior. Helping students develop higher levels of emotional intelligence can reduce these problems. Middle school administrators should carefully consider the findings of this study and include a social-emotional learning program at their schools.

Schools are not solely academic enterprises. Educators must provide growth opportunities for the whole child. Implementing social-emotional learning programs can
help schools prepare middle school students for greater success in the workplace and in life. Educational policy makers should consider requiring social-emotional learning programs in middle schools with high rates of violence and student aggression, significant numbers of students engaged risky behaviors, and low academic performance (i.e., schools with an academic probationary designation).
REFERENCES


APPENDIX A

NOTIFICATION OF APPROVAL TO CONDUCT RESEARCH
November 12, 2009

Katherine Brown
P.O. Box 223
Columbus, MS 39703

RE: IRB Study #09-273: Relationship Between a Social-Emotional Learning Program and Emotional Intelligence in Adolescents

Dear Ms. Brown:

The above referenced project was reviewed and approved via administrative review on 11/12/2009 in accordance with 45 CFR 46.101(b)(4). Continuing review is not necessary for this project. However, any modification to the project must be reviewed and approved by the IRB prior to implementation. Any failure to adhere to the approved protocol could result in suspension or termination of your project. The IRB reserves the right, at anytime during the project period, to observe you and the additional researchers on this project.

Please note that the MSU IRB is in the process of seeking accreditation for our human subjects protection program. As a result of these efforts, you will likely notice many changes in the IRB’s policies and procedures in the coming months. These changes will be posted online at http://www orc.msstate.edu/human/aaHRPP.php.

Please refer to your IRB number (#09-273) when contacting our office regarding this application.

Thank you for your cooperation and good luck to you in conducting this research project. If you have questions or concerns, please contact me at cwilliams@research.msstate.edu or call 662-325-5220.

Sincerely,

Christine Williams
IRB Administrator

cc: Jianzhong Xu (Advisor)