

CAN I SUCCEED AS AN ADOLESCENT MOTHER? EXAMINING THE ROLE OF
EMOTIONAL INTELLIGENCE IN PREDICTING SELF-EFFICACY,
ACADEMIC ACHIEVEMENT, AND SCHOOL ATTENDANCE

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ABSTRACT

The purpose of this study was to explore the role of emotional intelligence in predicting parenting self-efficacy, academic self-efficacy, academic achievement, and school attendance among a sample of adolescent mothers. A battery of instruments was administered to a sample of 108 high school students who were enrolled in the Employment Leading to Education and Career Training (ELECT) Program. The students ranged from 16- to 21-years of age and were enrolled between the 10th and 12th grade. Emotional intelligence was assessed with the Bar-On Emotional Quotient: Short Version (EQ-i:S), and self-efficacy variables were measured with the Self-Efficacy for Learning Form-Abridged (SELF-A) and the Parenting Sense of Competence Scale (PSOC).

Moderate and significant correlations were found between emotional intelligence and both parenting and academic self-efficacy measures. Despite a positive relationship with academic self-efficacy, emotional intelligence was not found to correlate with student achievement or school attendance, with the exception of Social Studies achievement. The investigation of length of time parenting revealed no relations with parenting self-efficacy beliefs or school outcome variables such as grade point averages or attendance. Results also

indicated that the level of involvement from the child's father did not correlate with this sample of adolescent mothers' perception of parenting satisfaction. However, parenting satisfaction and school achievement were negatively correlated with their satisfaction with available social support networks.

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CHAPTER 1

INTRODUCTION

Statement of the Problem

Adolescent parenting is a political, social, and educational issue prevalent in the United States. The magnitude of the problem is evident in the number of adolescents who conceive and give birth every year. As a matter of fact, the United States was rated second among industrialized nations with the most births to adolescent females aged 10- to 19-years-old (CDC, 2009). In 2006, there was a total of 441,832 births to mothers between the ages of 10- to 19-years which accounted for over 10% of the United States' total births (Hamilton, Martin, & Ventura, 2007).

Research conducted over the span of several decades has shed light on the dire circumstances of having a child at an early age. At the forefront, adolescent mothers have been repeatedly shown to be at a higher risk of dropping out of school. The lowered level of educational attainment achieved by adolescent mothers, as compared to adolescents without children, tends to further complicate their current and future life events. The decision to parent at a young age has often been regarded as an unwise choice which will only lead to

hardships, underachievement, and poverty. The stereotypical image of adolescent mothers often consists of negative characteristics such as dependency on public assistance programs for sustenance or a lack of ability to gain stable employment with livable wages. In addition to unfavorable outcomes for adolescent mothers, babies born to young mothers are found to be at risk for cognitive, social, and physical impairments.

Currently, research in the field of adolescent mothers has focused on three general areas: 1) pregnancy prevention, 2) negative consequences of adolescent motherhood, and 3) evaluations of programs designed for adolescent mothers. Needless to say, prevention research is instrumental to resolving the issue of adolescent pregnancy and parenting, while program evaluation is essential to social service delivery. The contributions of knowledge in these two areas are valuable in helping adolescents delay childbirth and enhance their lives. In stark contrast, literature focusing on the dire circumstances of young parenthood is generally not practical or helpful. Past literature had the tendency to portray young mothers as directionless, helpless, and at the mercy of society. The identification of such demoralizing characteristics does not inform professionals or parents of

possible solutions nor does it benefit young mothers. Little is known about adolescent mothers who do decide to remain in school despite the daily challenges imposed on them.

In the past, external variables (e.g., family support, program services) have been investigated to determine their contribution to adolescent motherhood and their academic success (Brophy-Herb & Honig, 1999; Gray & Ramsey, 1986; Linares, Leadbeater, Kato, & Jaffe, 1991; Schultz, 2001; Way & Leadbeater, 1999). However, a dearth of studies exists on examining variables considered positive and intrapersonal in nature. Emotional intelligence, a personal and innate construct, has been purported to correlate highly with a wide range of successful outcomes (Goleman, 1995), and research encompassing the emotional intelligence construct has yielded promising results. Individuals who score highly on emotional intelligence tend to display a sense of well-being and positive life adjustment. On a similar note, preliminary results on emotional intelligence reveal a positive relationship with academic achievement (Parker, Creque, et al., 2004; Parker, Summerfeldt, Hogan, & Majeski, 2004; Petrides, Frederickson, & Furnham, 2004; Schutte et al., 1998). However, to date, little to no research has been conducted to determine how the emotional intelligence of adolescent mothers can influence

their sense of self-efficacy, academic achievement, and school attendance. More specifically, to what extent does emotional intelligence play a part in predicting adolescent mothers' sense of parenting competence and grade point average (GPA)?

Purpose of the Study

The primary purpose of this study was to examine the predictive validity of emotional intelligence in relation to parenting self-efficacy, academic self-efficacy, academic achievement, and school attendance. The study focused on comparing levels of emotional intelligence, parenting self-efficacy, academic self-efficacy, academic achievement, and school attendance in a sample of adolescent mothers who were actively enrolled in high school. No prior research had been conducted exploring the relationship between emotional intelligence and outcome variables among adolescent mothers; therefore, the study was exploratory in nature.

Rationale

The underpinning rationale of the study was to determine the predictive validity of emotional intelligence in relation to parenting self-efficacy and academic self-efficacy. Although past research has demonstrated the positive

relationship between academic self-efficacy and school success, this study aimed to explore this relationship in a population of adolescent mothers. Greater levels of educational attainment often lead to greater opportunities for future success in life, with receiving a high school diploma as a gateway to those openings. As mentioned previously, adolescent mothers are presented with a host of challenges relating to parenting. Social service programs are available to meet the "surface" needs of adolescent mothers and their children by providing referral services and information. However, the need to identify and understand the intrapersonal variables which contribute to the academic success of adolescent mothers was warranted.

This study aimed to examine emotional intelligence as a predictor of academic success in a group of parenting adolescents who are attending secondary school. Outcomes of such a study can be used to generate further research exploring possible methods of fostering emotional competence through adolescent parenting programs. The current study was a step in the direction of informing practice with research-based evidence, particularly those adolescent parenting programs with mission statements distinctively centered on high school completion.

Research Questions

Research Question #1: Is there a relationship between emotional intelligence and self-efficacy (i.e., parenting self-efficacy and academic self-efficacy) in a sample of adolescent mothers?

Hypothesis #1: Scores for emotional intelligence were expected to correlate significantly with parenting self-efficacy and academic self-efficacy. More specifically, higher emotional intelligence scores were expected to be related to higher levels of parenting and academic self-efficacy.

Research Question #2: Is there a relationship between emotional intelligence and school outcomes in a sample of adolescent mothers?

Hypothesis #2: Scores for emotional intelligence were expected to correlate significantly with academic achievement and school attendance. More specifically, higher emotional intelligence scores were expected to be related to higher levels of academic achievement and school attendance.

Research Question #3: What is the relationship between the length of time parenting and parenting self-efficacy?

Hypothesis #3: Adolescent mothers who have been parenting longer were expected to score higher on a parenting self-efficacy measure when social support was statistically controlled.

Research Question #4: What is the relationship between the length of time parenting and academic self-efficacy and school outcomes?

Hypothesis #4: Adolescent mothers who have been parenting longer were expected to score higher on academic self-efficacy and school outcome measures when social support was statistically controlled.

Research Question #5: Is emotional intelligence mediated by self-efficacy variables and school attendance in predicting school achievement?

Hypothesis #5: Emotional intelligence was expected to have a direct effect on academic achievement. It was expected to have a direct relationship with academic and parenting self-efficacy beliefs. These self-efficacious thoughts were expected to be directly, as in the case of academic self efficacy, or indirectly, as in the case of parenting self efficacy, linked to academic achievement. See Figure 1. Conceptual Model

CHAPTER 2

REVIEW OF THE LITERATURE

Teen Pregnancy and Parenting

Statistics

The issue of teen pregnancy and parenting has been a prevailing problem in the United States. According to the Centers for Disease Control and Prevention (2009), the United States has the second highest incidence of teen pregnancies among industrialized nations, only to be outnumbered by Russia. In 2005, after a 15-year steady decline, the number of births to adolescent mothers experienced its first increase. Between 1991 and 2004, there was a 33% reduction in birth rate for teens between the ages of 15- to 19-years (The National Campaign to Prevent Teen Pregnancy, May 2005); however, the numbers were still devastatingly high. Pennsylvania, the 11th ranked state with the highest percentage of teen births, had 30.5 teen births per 1,000 girls aged 15- to 19-years during 2004 (The National Campaign to Prevent Teen Pregnancy, November 2006). In 2006, after the downward trend reversed, the United States experienced 41.9 births per 1,000 females aged 15- to 19-years which is a three percent increase from earlier years (Hamilton et al., 2007). In quantitative terms, there were a total of 441,832 births to mothers between the ages of 10- to

19-years-old during 2006. In addition to young motherhood, approximately four out of five adolescent births were out of wedlock which equated to 372,825 births. Needless to say, despite the recent 15-year decline in teen pregnancy across the nation, adolescent mothers continue to exist as a group in need of attention.

Consequences of Adolescent Motherhood

A significant amount of research has been conducted on the issue of teen pregnancy and parenting. Available literature tends to cluster around three general areas: 1) prevention involving the examination of risk factors and environmental variables correlated with teen pregnancy (Brophy-Herb & Honig, 1999; Gray & Ramsey, 1986; Linares et al., 1991; Schultz, 2001; Way & Leadbeater, 1999), 2) the negative consequences of young parenthood (Caulfield & Thomson, 1999; Furstenberg, Brooks-Gunn, & Chase-Lansdale, 1989; Kirby, 2002; Letourneau, Stewart, & Barnfather, 2004; Trad, 1999), and 3) evaluations of programs developed for adolescent mothers (Bennett & Assefi, 2005; Clewell, Brooks-Gunn, & Benasich, 1989; Crean, Hightower, Allan, 2001; Harris & Franklin, 2003; Holman & Arcus, 1987; Sarri & Phillips, 2004). These types of intervention programs tend to focus on a social service delivery model where health

services, referral outsourcing, child development education, and social-emotional support are provided (Brophy-Herb & Honig, 1999). Although programs recognize the need to focus on aspects of social-emotional functioning, it has not been a major component of interventions developed for adolescent mothers.

Many stereotypes exist in the media regarding adolescent parents and their "destined" life course. For example, Campbell (1968) stated that "when a 16-year-old girl has a child . . . 90 percent of her life's script is written for her" (p. 242). This assumption led many adults and professionals to abandon pregnant youths and assign them as school failures (Schultz, 2001). Such views on adolescent parents can have negative psychological effects and result in a self-fulfilling prophecy where pregnant or parenting students will give up on academic success due to lowered expectations and possibly shame. Needless to say, diminishing a student's sense of worth and self-efficacy can have long-term detrimental effects such as poverty. In a longitudinal, ethnological study by Schultz (2001), the reality of adolescent females and their perception of motherhood were explored. Interestingly, she found that students' views of motherhood shifted as a result of their family circumstances. Females who were not pregnant or

parenting believed success can only be achieved if they avoided pregnancy, whereas parenting students felt their child was a major source of determination and motivation for completing high school. This finding is highly valuable in altering the negative views of adolescent mothers in the general population. It provides evidence that adolescent mothers do recognize the need to complete school and attain gainful employment. Furthermore, it should encourage surrounding adults to support and promote adolescent mothers' aspiration to succeed.

Although Schultz's (2001) findings are hopeful, the negative ramifications of young motherhood have been clearly documented (Caulfield & Thomson, 1999; Linares et al., 1991; Sommer et al., 2000) and cannot be ignored. Generally, the dominant view on teen pregnancy and parenting is that it is a costly situation for both the individuals and society. In addition to creating societal problems, adolescent mothers encounter personal, social, and economic disadvantages. Teen pregnancy and parenting have been blamed for perpetuating a cycle of poverty. A large component of the cyclical system can be attributed to the low educational attainment of adolescent mothers. A general indicator of success among adolescent mothers is the completion of high school. It is assumed that the high school diploma or its equivalency opens many doors to

positive opportunities. Greater levels of educational attainment tend to be associated with independence from public assistance programs and higher salaries, thus breaking the cyclical nature of poverty for this population. Despite the general recognition of academic achievement as a young parent's pathway to success, parenting at an early age often interferes with the adolescent's ability to complete school (Caulfield & Thomson, 1999). Subsequently, adolescent mothers are at risk of dropping out, depending on public assistance programs, and experiencing difficulty in gaining stable employment with livable wages. A significant portion (25%) of adolescents stated pregnancy as their primary reason for dropping out of school. More despairingly, slightly less than half of those adolescents return to complete their education. Linares et al. (1991) found students who became pregnant during high school and remained in school (i.e., continuous attenders) are less delayed in grade level and have fewer repeat pregnancies than students who dropped out of school before conceiving, dropped out of school after conceiving, and even those who returned to school after birth. Overall, there is no doubt that educational attainment correlates with an individual's earning potential, and therefore placing adolescent mothers who drop out of high school at a greater disadvantage.

Furthermore, adolescent mothers who graduated from high school were found to be more competent on measures of intelligence and achievement as compared to their counterparts who dropped out (Gray & Ramsey, 1986). Therefore, adolescent parenting programs generally focus on providing academic and social support to young mothers as a means for high school completion. It is often assumed that having a child is the critical factor in an adolescent mother's decision not to complete high school. However, in their qualitative study, Gray and Ramsey (1986) found adolescent parenting not to be the sole determinant of school completion. External variables, such as familial and school support, strongly contributed to the adolescent mothers' academic success. An important component not clearly examined were personal variables which contributed to the adolescent mothers' decision to remain in school and complete their education.

Children of Adolescent Mothers

In addition to the negative outcomes for adolescent parents themselves, babies born to young mothers are often at risk for cognitive, social, and physical impairments (Brophy-Herb & Honig, 1999; Stone, Bendell, & Field, 1988). Research has shown that adolescent mothers tend to have lower amounts of

prenatal care, more incidents of premature labor, and more occurrences of having babies with low birth weights than older women (Menken, 1980). In a longitudinal study, Sommer et al. (2000) found that children who were born to adolescent mothers were at greater risks for developmental delays. Cognitive development, emotional functioning, and adaptive behaviors were examined at age three years, and results revealed that less than 30% of healthy infants developed typically under these three outcome measurements. In particular, many children exhibited delays in both cognitive and adaptive functioning which suggest that both hereditary and external variables influence the developmental trajectories of children born to adolescent mothers.

Despite the adversities described, some data have suggested that the age of childbearing and mother's level of education do not directly and accurately predict the distressed conditions once presumed to affect all young mothers and their children. Instead, home environmental variables appear to be primary predictors of academic success. For example, a longitudinal study of low-income adolescent mothers found that the home environment was a main contributor for differences in their children's level of academic motivation (Luster, Lekskul, & Oh, 2004). In this study, mothers and children were assessed

on a number of predictor variables over the course of seven years such as early sensorimotor skills, academic achievement, home condition, parenting style, mother's educational level, and mother's involvement with school-related activities. Children in this sample, in general, performed below national norms on school readiness and overall academic achievement, as measured by the Peabody Picture Vocabulary Test-Revised (PPVT-R) and the Peabody Individual Achievement Test-Revised (PIAT-R) respectively. However, children who grew up in less supportive and nurturing home environments were comparatively lower achieving and less motivated towards school than participants who did not grow up in similar settings. Interestingly, educational levels of mothers were not related to their child's level of academic motivation. The authors postulated that academic differences may have been directly related to socio-economic status and environmental factors rather than the mothers' educational level. Despite this, healthy babies born to adolescent parents continued to appear at-risk for developmental delays due to poor social and environmental variables brought on by the availability of resources and other salient factors related to young parenthood and poor school attainment.

Although a greater awareness of the importance of context in childrearing has been noted, it does not minimize or negate the contribution of early parenthood in perpetuating less than satisfactory environments for bringing up children.

Undeniably, these contextual factors appear to be tightly and intricately interwoven with the age and educational attainment of the parents which greatly determine how and what they can provide to their children (i.e., environment).

Maternal Social Support

The amount and type of support provided to adolescent mothers have been examined to determine their role in helping adolescent mothers gain self sufficiency. Social support is seen as a buffer for adolescent mothers and their children from some of the negative ramifications of young parenting (Turner, Grindstaff, & Phillips, 1990). There is supporting evidence that family support encourages favorable outcomes regardless of life stress and circumstances relevant to young motherhood. In the past, it was believed that support provided by the family was only beneficial if the adolescent mother was experiencing dire situations. However, according to Turner and his colleagues (1990), young mothers who were faring well with low amounts of life stress can and do benefit from supportive

family members as well. Unfortunately, a study by Herrmann, Van Cleve, and Levisen (1998) found that the amount of social support an adolescent mother received progressively decreased over an 18-month period after the birth of her child, with statistically significant reductions after the 6- and 18-months mark.

In addition to the gradual removal of needed support, the social networks of younger mothers are characteristically different from older mothers (Coll, Hoffman, & Oh, 1987). For example, adolescent mothers often looked towards their peers and mother for child care support, whereas older, first-time mothers (aged 21-years or older) tended to rely on their siblings, significant other, or the baby's paternal grandparents. Schilmoeller, Baranowski, and Higgins (1991) reported similar age-based differences for first-time child-bearing females. For older mothers in this sample, a large amount of support was provided by co-workers and the baby's father, whereas the main source of supportive interaction for adolescent mothers stemmed from social service agencies. Although both groups of mothers perceived their families as supportive, the older mothers reported a greater sense of familial support than mothers who were 21-years-old or younger.

Way and Leadbeater (1999) further expanded and investigated the concept of social support in two divergent areas, emotional and material support. Material support was defined as child care and residency. In addition, sources of support were narrowly specified such as the adolescent's mother, family, or outside support. As predicted; the source, quality, type, timing, and duration of support did influence long-term outcomes for the sample of mothers. Way and Leadbeater (1999) found that higher levels of emotional support from family members were associated with greater amounts of child care support from the adolescent's mother which correlated with lower life stress, fewer repeated pregnancies, and less delayed grade placement during time of delivery. Compared to those who did not live with their parents, parenting students who resided with their mothers reported lower amounts of life stress and depressive symptoms (Turner et al., 1990; Way & Leadbeater, 1999). Additionally, familial support appeared to predict birth weight in a study conducted by Turner et al. (1990). The authors reported that familial support, in their 268-subject study, was a better predictor of birth weight than smoking which is a commonly accepted risk factor for low birth weight. As a matter of fact, smoking came in second and was non-significant in their study.

As some studies suggest, the presence of social support networks may be able to cushion some of the ramifications of early parenthood. However, results from Way and Leadbeater's (1999) six-year longitudinal study indicated that higher emotional support may not necessarily correlate with an adolescent's long-term financial success. As a matter of fact, young mothers in this study who received greater support from their families and lived at home obtained lower educational attainment than those who did not. In general, the data suggested that too much support from the family can create overdependence and less academic success. On the contrary, the presence of a mentor outside of the immediate family appeared to have contributed positively to students who were parenting and high achieving in school.

The unavailability of child care is frequently cited as an obstacle preventing parenting students from attending school and attaining their high school diploma, but research has not led to consistent results regarding this topic. Leadbeater (1996) found adolescent mothers who 1) returned to school after a period of absence, 2) continuously attended school, or 3) graduated high school were more likely to have their mothers as a source of child care. However, another study by the researcher suggested that child care support did not affect the

academic achievement of adolescent mothers as a whole (Way & Leadbeater, 1999). In this latter study, only students who were good students benefited from day care assistance. Those who achieved low grades before becoming parents continued to fare poorly despite the availability of child care. Way and Leadbeater (1999) concluded that individual strengths, such as confidence and independence, were far more important for academic success than the availability of child care while in high school.

Academic achievement is primarily gained through the institution of education. For adolescent mothers, Kalil (2002) found that only certain aspects of the school environment correlated with their academic achievement. In a one-year study, participants were examined for changes in academic expectation and motivation. These two variables were postulated to depend on participants' perceived support from teachers and counselors, negative treatment resulting from their parenting status, and a sense of school belonging. On average, the sample of 81 low-income adolescent mothers reported high levels of social support, academic expectation, and motivation throughout the duration of study. According to Kalil's (2002) analysis, a sense of school belonging and the amount of social support received at school did not tend to

significantly predict the educational attainment for that particular sample of students. On the other hand, teacher perceptions of the adolescent mothers' abilities to succeed were negatively associated with the students' level of educational expectations. In other words, adolescent mothers who perceived unfair treatment from their teachers were more likely to experience a decrease in school motivation and expectation.

The Field of Positive Psychology and Adolescent Parenting

There is a dearth of research examining variables associated with adolescent parenting that relates to well-being and success in school. The emerging paradigm of positive psychology can be incorporated into programs as a method of enhancing the daily and academic functions for this population of high-risk youth. Historically, psychology has focused primarily on a medical model of treating pathology and mental illnesses. On the contrary, positive psychology is "the scientific pursuit of optimal human functioning and the building of a field focusing on human strength and virtue" (Lopez, 2000). It exists to discover individual strengths and talents which support holistic well-being and functioning. In 2000, the American Psychological Association (APA) recognized

the fruitfulness of embracing positive psychology by devoting an issue of the *American Psychologist* to the theme. The realm of positive psychology encompasses a broad range of variables which are associated with resiliency and success. Popular positive psychological variables such as optimism, happiness, self-esteem, and locus of control have been investigated as predictors of various life outcomes (Goleman, 1995; Pajares, 2001; Puskar, Sereika, Lamb, Tusaie-Mumford, & McGuinness, 1999; Taylor, Kemeny, Reed, Bower, & Gruenewald, 2000).

The broad spectrum of positive psychology ideally encompasses the domains of emotional intelligence and self-efficacy, which this study aimed to investigate. In general, emotional intelligence is the ability to perceive, understand, and utilize emotions to guide behaviors toward adaptability. Despite the current controversy about emotional intelligence, a number of prominent researchers uphold the promising future of the utility and predictive value of the construct (Bar-On, 2005; Ciarrochi, Chan, & Caputi, 2000; Mayer, Salovey, & Caruso, 2000; Newsome, Day, & Catano, 2000; Zeidner, Matthews, & Roberts, 2001). Due to the relative newness of emotional intelligence, it is not surprising that there is much scrutiny regarding its conceptualization and usefulness. Although it is recognized that the field has not reached maturity, the

management and regulation of emotions are, nonetheless, important issues to explore within the population of adolescent mothers who are more likely to encounter higher levels of emotional stressors. In order to provide a context in which this present study can be interpreted, the current position of emotional intelligence will be addressed in the following section.

Self-efficacy theory, a widely researched and accepted phenomenon developed by Bandura (1977), can also be classified as a psychological component that falls within the paradigm of positive psychology. Self-efficacy research explores the relationship between personal perceptions, motivation, and positive adaptive behaviors. It is hopeful that emotional intelligence and self-efficacy theory can offer insightful knowledge about the lives and functioning of young mothers who delicately balance the challenges of adolescence, parenthood, and educational attainment.

Emotional Intelligence

Emotional Intelligence versus Cognitive Intelligence

Traditionally, intelligence has been primarily examined through cognitive domains. It is well established that cognitive intelligence is highly predictive of academic success

(Ceci & Williams, 1997; Estes, 1982). However, cognitive intelligence has not been consistently linked to other life successes which limited its predictive validity. Standard cognitive measures have been found to explain about 20% of the variance for success with a positive correlation of 0.55 (Neisser et al., 1996). In other words, a large amount of unexplained variance is left when attempting to predict overall success with cognitive intelligence, therefore suggesting other variables are at play (Goleman, 1995; Weschler, 1940).

Emotional intelligence, on the other hand, has been claimed to account for up to 60% of the variance in global success (Goleman, 1995). Although Goleman's (1995) assertion should be regarded as an overestimation, the theory does appear to provide a promising explanation of individual functioning above and beyond the scope of cognitive intelligence. Emotional intelligence, a relatively new construct which claims to predict multifaceted success (including academic achievement), is gaining popularity among researchers and the public alike. This sudden interest in emotional intelligence can be attributed to Goleman (1995) who introduced the construct to the public by authoring a book encompassing the concept. Emotional intelligence quickly appealed to the general

community, evident by Goleman's book climbing up the New York Times best sellers list.

Recent studies have demonstrated emotional intelligence as a distinct entity from traditional cognitive intelligence (Chan, 2003; Derksen, Kramer, & Katzko, 2002). In their study, Derksen et al. (2002) reported low correlations between the Bar-On Emotion Intelligence Quotient Inventory (EQ-i) and the General Adult Mental Ability scale (GAMA). The GAMA, like the Raven's Standard Progressive Matrices, measures a broad nonverbal ability of cognitive intelligence called fluid reasoning. Fluid reasoning encompasses an individual's ability to problem solve unfamiliar and novel items without depending on verbal skills and past academic exposure. Results also indicated that emotional problem solving may differ from intellectual problem solving since the Problem Solving subscale of the EQ-i correlated lowly with the GAMA, thus indicating the two types of problem solving as unique.

To this day, the construct validity of emotional intelligence is debatable among researchers; and two opposite schools of thought exist. Some authors argue that emotional intelligence lacks sufficient divergent validity with personality measures (Davies, Stankov, & Roberts, 1998; Ciarrochi et al., 2000), while others contend that there is too

much divergent validity with cognitive intelligence (Davies et al., 1998). In Mayer et al. (2000); the authors proclaimed that Goleman's theory of emotional intelligence lacked construct validity. These authors acknowledged its general appeal to the public but suggested that Goleman's theory does not hold a lot of merit on scientific grounds due to the hodgepodge of variables that Goleman (1995) purported it to encompass. Another criticism is that Goleman's emotional intelligence variables have been researched in the past as separate entities, not as subcomponents of his larger theory.

Other researchers criticized emotional intelligence as an "elusive" construct (Davies et al., 1998). In a series of studies, Davies et al. (1998) concluded that the construct lacked divergent validity with personality measures. The authors did confirm a unique variance for Emotion Perception, a subdomain of emotional intelligence, but they remained reluctant to declare it as a true and independent entity due to its negative correlation with the well-established construct of crystallized intelligence. Davies and his colleague based their decision on the subcomponent's failure to meet Guttman's (1992; as cited in Davies et al., 1998) first law of intelligence. Guttman's law specified that true abilities are to some degree positively correlated with one another. In

their studies, emotional intelligence was not able to meet this criterion.

A study by Ciarrochi et al. (2000) found comparable results when an objective emotional intelligence instrument, the Multi-factor Emotional Intelligence Scale (MEIS), was administered to undergraduate students in an Australian university. The authors employed a number of criterion measures such as the Raven's Standard Progressive Matrices, the Empathy Scale, and the NEO-Personality Inventory-Revised. Among the intelligence and personality constructs, emotional intelligence was not found to relate to fluid intelligence, a broad ability measured by the Raven's Standard Progressive Matrices. However, the MEIS did correlate with some personality constructs such as empathy and life satisfaction, even after controlling for intelligence and personality traits. In Chan's study (2003), correlations between the two intelligences were found to be minimal or nonexistent with measurements of emotional intelligence, nonverbal cognitive intelligence, and divergent thinking.

Contrary to the scant but existing evidence that emotional intelligence may be distinct from traditional cognitive intelligence, the divergent validity between emotional intelligence and personality constructs have not been fully

supported. It will probably remain ambiguous until conceptual or assessment advances can disentangle the complexity of emotions and personalities within individuals.

In their article, Zeidner et al. (2001) commented that the popularity and claimed significance of emotional intelligence have far preceded any concrete evidence to support the purported declarations of explained variance (Bar-On, 2005; Goleman, 1995). A major obstacle hindering the soundness of emotional intelligence research appears to involve its structural conceptualization. Currently, a universally accepted definition has yet to materialize in the field which had led researchers to branch off into various areas of emotionality and personality.

In their attempt to unify the field, Zeidner et al. (2001) proposed a primary goal of clearly demonstrating the existence of emotional intelligence. The authors supported a multi-factored model where a distinct, higher-order emotional construct is formed from the clustering of smaller and narrower emotional abilities. Their model was described to be similar to the Cattell-Horn-Carroll (CHC) model of cognitive intelligence. They believed mapping emotional intelligence onto a multi-tier system may better support and explain the linkages between established abilities and purposed emotional abilities. This

multi-layered perspective will be discussed further in a later section (i.e., Mayer-Salovey-Caruso theory).

While the construct of emotional intelligence remains controversial, some researchers continue to consider it an important psychological construct for investigation (Mayer et al., 2000). As mentioned previously, standard measures of intelligence (i.e., cognitive intelligence) have been able to account for only a small amount of global success which implies the significance of other variables in predicting positive outcomes. Due to its infancy, the struggle of empirically validating emotional intelligence as a true and legitimate psychological construct is not particularly surprising. The development of emotional intelligence theory appears similar to the history of cognitive intelligence. A look back provides evidence of the changes and adaptations in which cognitive intelligence evolved (i.e., school knowledge, reaction time). In the same sense, emotional intelligence can be understood as a construct currently undergoing a period of refinement. Current and past research have resulted in mixed findings regarding the elusiveness of emotional intelligence, and the rejection of an emotional construct influencing success should not be considered until empirical data firmly indicates otherwise.

Despite its shortcomings, several beneficial areas of emotional intelligence research have been identified such as the development of emotional abilities over the life span (Bar-On, 1997; Derksen et al., 2002) and the exploration of individual, cultural, and group differences in emotional competence, expression, and abilities (Chan, 2003; Gumora & Arsenio, 2002; Matthews, Zeidner, & Roberts, 2002; Parker, Hogan, Eastabrooke, Oke, & Wood, 2006; Parker, Creque, et al., 2004; Parker, Summerfeldt, et al., 2004; Petrides et al., 2004). However, it is understood that until a vibrant and substantial theory of emotional intelligence is established, research encompassing the topic should be held as exploratory in nature and cannot be claimed to fully affirm the predictability of life outcomes. In general, researchers should understand its limitations as well as the promise of emotional intelligence theory and research.

History of Emotional Intelligence

Although Goleman (1995) popularized the term emotional intelligence, similar theories emerged prior to Goleman's publication. Thorndike (1920), Gardner (1983, 1999), and Sternberg (1988, 1996) were forerunners in developing theories related to emotional intelligence. Theories of social

intelligence have been regarded as the building blocks of emotional intelligence (Mayer et al., 2000; Mayer & Salovey, 1997). According to Thorndike (1920), social intelligence was considered a third domain of intelligence, alongside verbal and performance intelligence, and was defined as the ability to understand and to act "wisely in human relations." Even though the aforementioned definition was vague and problematic for research purposes, it nonetheless alluded to the importance of noncognitive factors in the production of intelligent behavior.

On a similar note, Alfred Binet and David Wechsler, two prominent figures in the field of intelligence testing, acknowledged the intricacy of true intelligence as being the sum of an individual (Kaufman & Kaufman, 2001). In the early stages of intelligence testing, Binet wrote of the experiential component of knowing. He believed an individual's comprehension of the world can only be understood within "an experiential context" (p. 259) which involved the flexibility of cognitive processes and the emotional states of the experience. From this viewpoint, emotions and cognitive thoughts were not independent. Emotions and intellectual abilities were both seen as vital components to an individual's functioning.

Additionally, David Wechsler spent a significant amount of his life striving to account for unexplained variances of success. He developed a collection of cognitive intelligence assessments that are, to this day, widely recognized and used throughout the world. However, his accomplishments in cognitive testing were not able to satisfy his desire to predict human achievement completely. Wechsler's intelligence tests reportedly explained roughly about 40% of the variance (Kaufman & Kaufman, 2001). Wechsler (1943) believed that nonintellective factors such as persistence, drive, emotional insecurity, and impulsivity can account for the residual variance not measured by his intelligence tests. These nonintellective factors of a person, termed as "conative" by Wechsler, were believed to either facilitate or hinder an individual's intelligent behavior.

In an attempt to encompass a holistic representation of intelligence, Wechsler integrated concepts of emotional intelligence into the Wechsler Intelligence Scale for Children-Revised (WISC-R; Kaufman & Kaufman, 2001). The Comprehension and Picture Arrangement subscales of the WISC-R clearly assessed some dimensionality of emotional intelligence. For example, "What is the thing to do if a boy (girl) much smaller than yourself starts to fight with you?" is an item from the

Comprehension subscale which assessed an individual's ability to demonstrate emotional restraint (Kaufman & Kaufman, 2001). The ability to restrain from acting on emotions is indicative of several theoretical branches of emotional intelligence based on Mayer and Salovey's (1997) current definition. Specifically, that particular item tapped into the highest level of emotional intelligence— emotional management and regulation. Although the language used to describe Wechsler's "conative" factors was quite different from current terminology, he undoubtedly recognized the importance of emotional factors in the execution of positive adaptable behaviors, as well as in an individual's overall level of intelligence.

Despite some continued recognition of the intricate relationship between emotional and cognitive processes, forty years after Thorndike's original definition, Cronbach (1960) dismissed the validity of social intelligence and any research related to the construct. According to Cronbach, social intelligence can not be differentiated from verbal intelligence since much of human communication encompasses some type of social and emotional knowledge. On these grounds, verbal and social intelligence were regarded as the same and indistinguishable. However, if it did exist, Cronbach insisted

that social intelligence would be much too difficult to operationalize and suggested the abandonment of its research due to previous and anticipated futile attempts.

In face of the difficulties identified, Gardner (1983, 1999) and Sternberg (1988, 1996) continued to develop theories encompassing aspects which progressed from traditional views of cognitive intelligence. In Sternberg's (1988) conceptualization, he developed a triarchic theory of human intelligence. He posited that intelligence was comprised of three fundamental aspects: analytic, creative, and practical intelligence. Although Sternberg did not explicitly write about the interplay between emotions and intelligence, his description of practical intelligence incorporated similar notions of noncognitive abilities in decision making. For example, practical intelligence assumes that past experiences, self motivations, and personal involvement are important factors in problem solving.

Gardner's (1983, 1999) theory of multiple intelligence, an even closer resemblance to today's conceptualization of emotional intelligence, proposed that intelligence is composed of a large variety of abilities instead of a global *g* (Spearman, 1927). Within his theoretical structure, Gardner (1983, 1999) identified an interpersonal and intrapersonal

intelligence sub-category. Intrapersonal intelligence described abilities such as personal awareness of thoughts and feelings and self-reflection of emotions, whereas interpersonal intelligence refers to the emotions and behaviors necessary to forge personal relationships with others. Both Gardner's intrapersonal and interpersonal intelligences coincide with recent definitions of emotional intelligence (Bar-On, 2005; Mayer & Salovey, 1997).

However, even with Gardner's delineation of an intrapersonal and interpersonal intelligence, Mayer (2001) believed Gardner's theory continued to lack discriminant validity, as did its predecessor, social intelligence. According to Bar-On (2005) and Mayer et al. (2000), past conceptualizations and theories lacked depth and completeness. These contemporary leaders of emotional intelligence believe in a much broader range of emotional abilities than once described (i.e., Thorndike's social intelligence, Gardner's interpersonal and intrapersonal intelligences). The following sections will review the current understanding and conceptualization of the construct.

Models of Emotional Intelligence

The dynamic progress of emotional intelligence has presently led the field into three main conceptual models. Although three models exist, the following sections will elaborate only on the Mayer-Salovey and Bar-On models. The third model based on Daniel Goleman's book has generally appealed to the public; however, relatively scant research has been conducted due to the theory's problematic boundary issues between Goleman's purposed construct and already established competencies, skills, and traits.

While differences exist between models, five central themes are apparent regardless of the specified model (Bar-On, 2005). The first critical element of emotional intelligence centers on an individual's ability to identify, understand, and express their own emotions. Secondly, recognizing emotionality in others is another main theme. An individual who is regarded as emotionally intelligent has heightened abilities in recognizing, understanding, and relating to another's emotions and feelings. Generically speaking, a person with high levels of emotional intelligence would be regarded as highly empathetic. Emotional management, the third theme, describes an individual's ability to control and manage personal emotions. The ability to accept change with positive

adaptations and to problem solve various intra- and interpersonal hardships is the fourth characteristic of emotional intelligence. Lastly, the ability to generate positive affect towards oneself and others, as well as to engage in self-motivated activities is the fifth theme of all emotional intelligence theories.

As a matter of fact, Cherniss (2004) reported that all three models actually overlap and describe very similar details using different terminology. For example, Salovey-Mayer's Perception of Emotion and Understanding of Emotion are very much parallel to Bar-On's ideas of emotional self-awareness and empathy. Likewise, the Emotional Facilitation of Thinking and Managing Emotions branch of Salovey and Mayer's conceptualization appears very similar to Bar-On's Interpersonal, Stress Management, and Adaptability dimensions (Cherniss, 2004, p. 317).

Current Definitions of Emotional Intelligence

Salovey-Mayer Model

Most recently, the progression of emotional intelligence research had evolved with the development of Salovey and Mayer's conceptual model (1990, 1997). Unlike past attempts to operationally define the construct, Salovey and Mayer view

emotional intelligence as an ability that exists, interacts, and complements an individual's cognitive capabilities. According to these theorists, emotional intelligence is not mutually exclusive from cognitive abilities; they believe both types of intelligence work in tandem. Both systems, emotional and cognitive, work in unison to enable an individual's decision-making and execution of adaptive behaviors. The cognitive system is theorized to process emotional information by ways of abstract thinking, while the emotional system, in turn, enhances this cognitive capacity. Salovey and Mayer, now prominent researchers within the field of emotional intelligence, originally conceptualized the construct as:

a set of skills hypothesized to contribute to the accurate appraisal and expression of emotion in oneself and in others, the effective regulation of emotion in self and others, and the use of feelings to motivate, plan, and achieve in one's life. (Salovey & Mayer, 1990, p. 185)

However, research conducted after their original definition was published indicated a need to broaden the scope. The original definition was limited to emotional perception and regulation.

Mayer and Salovey (1997) revised and expanded their definition:

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. (Mayer & Salovey, 1997, p. 10)

In addition to expanding the idea of emotional intelligence, Mayer and Salovey (1997) suggested that emotional intelligence actually develops and functions in a hierarchal manner. Their model places perception and expression of emotions as the most basic processes and the regulation of emotions as the highest level. Each of the four levels is referred to as a branch, and four representative abilities are subsumed under each branch. These emotional abilities are structured in a manner corresponding to their posited course of development. That is, earlier abilities are noted first within the model. It is also posited that individuals with higher levels of emotional intelligence tend to ascend the hierarchy at a quicker rate and are likely to master more emotional skills than individuals with lower emotional intelligence.

In Mayer-Salovey's theory, the most basic branch of emotional intelligence is the Perception, Appraisal, and Expression of Emotions which is believed to emerge during infancy. The discrimination of emotions is a definitive characteristic at this stage and is concerned with the accurate recognition and identification of personal emotions as well as feelings in others. Emotional self-recognition is generalized to understanding emotions in others, especially in situations which invoke feelings of arousal similar to those experienced

personally. The generalization of emotions can also be extended, although usually after the emergence of empathy, to objects that are abstract and conceptual in nature such as artwork and music. The ability to perceive ambiguous and subjective expressions conveyed by various artists further suggests the progression of an individual's emotional intelligence.

Emotion's Facilitation of Thinking, the second branch, explains the role of emotions in modifying thought processes. The notion of an interaction between cognitions and emotions once again re-emerged. However, unlike prior theories, Mayer and Salovey (1997) purported that emotional intelligence indirectly influence behaviors via the cognitive system, informing the rational thought processes with subjective information to make decisions based on a comprehensive analysis of a situation. Emotional facilitation of thinking is the "emotion acting on intelligence; it describes emotional events that assist intellectual processing" (Mayer & Salovey, 1997, p. 12). Included in this spectrum of emotional intelligence is the ability to empathize with other people's emotional states. A higher level of mastery at this stage is the capacity to predict emotions for informed decision-making. An example provided by Mayer and Salovey (1997) is an individual who is

anticipating new environmental circumstances such as a new school or job. The person may utilize her emotional intelligence to anticipate emotions that would guide thoughts to make a decision on how to handle various possible situations. The ability to predict and think about emotions assists in choosing appropriate behaviors as well as with engaging in perspective-taking. The capability to contemplate a number of scenarios may "help the individual choose alternative life courses" (p. 13) and help facilitate decisions based on a variety of factors that are salient but has not yet occurred.

The third branch of emotional intelligence, Understanding and Analyzing Emotions: Employing Emotional Knowledge, involves the ability to identify diverse levels of emotions and to understand the relationship and intensity between those emotions. In addition, it is the recognition that internal emotions are linked to external contexts such as specific situations and interpersonal relationships. According to Mayer and Salovey (1997), "reasoning about the progression of feelings in interpersonal relationships is central to emotional intelligence" (p. 14). At this stage of development, an individual should be able to recognize feelings of contradictory emotions, understand emotional blending (e.g.,

feeling of awe is a combination of fear and surprise), and be aware of emotional sequences.

Lastly, Reflective Regulation of Emotions to Promote Emotional and Intellectual Growth is the ultimate and most complex branch of emotional intelligence. Mastery of emotional reflection and regulation involves the purposeful control of one's emotions and those behaviors elicited by emotions. In essence, the individual learns to be aware of her emotions and to have an ability to manage feelings according to social settings. For example, a person should be able to recognize her anger towards a respected authority figure but is able to self-regulate her emotional, verbal, and physical responses and not act upon emotional impulse. Of particular importance at this last stage, an individual's meta-evaluative and meta-regulatory skills should be well-developed and are necessary for the successful reflection and control of emotions and behaviors.

Bar-On Model

Bar-On describes emotional intelligence as a set of inter-related competencies and skills necessary for behaving intelligently which is similar to the definition offered by Salovey and Mayer (Bar-On, 2005). According to Bar-On (1997),

emotional intelligence is characterized by "an array of non-cognitive capabilities, competencies, and skills that influence one's ability to succeed in coping with environmental demands and pressures" (p. 14). As with the Salovey-Mayer model, Bar-On's conceptual model consists of broad categories which are further delineated into subcategories. However, in contrast to Salovey and Mayer's model, Bar-On does not conceptualize emotional capabilities as a progressive continuum of lower- to higher-order skills. An individual is not required to master lower-leveled skills prior to ascending to the next skill level.

Bar-On's theory (1997) provides a framework for organizing and analyzing the multi-dimensionality of emotional intelligence. It is believed that all components may contribute to an individual's emotional functioning equally, but they are functionally independent of each other to some degree. For example, an individual may have a strength in one particular domain of emotional intelligence while other domains fall within the average or deficient range.

Bar-On (1997) identifies four areas of emotional intelligence: Intrapersonal, Interpersonal, Adaptability, and Stress Management. Intrapersonal intelligence, the first component of Bar-On's model, is comprised of emotional

awareness, assertiveness, self-regard, self-actualization, and independence (Matthews et al., 2002). These characteristics allow an individual to effectively understand and express personal emotions, to understand personal strengths and weaknesses, and to successfully cope with life stressors.

Interpersonal intelligence, the second component, encompasses abilities which are imperative to an individual's social nature. The ability to be aware of and to empathize with another person's emotional state and needs is the foundation for building and maintaining effective and satisfying relationships. An emotionally intelligent person should be able to interact with others in an effective and adaptive manner which should also be reflective of societal rules and norms. Interpersonal intelligence is composed of skills such as empathy, relationship building, and sense of social responsibility.

According to Bar-On (1997), emotionally intelligent people are also able to adapt to various situations by effectively managing personal, social, and environmental changes by employing various skills such as problem solving, reality testing, and flexibility. As such, Adaptability is the third component of Bar-On's model.

Through effective stress management, the fourth component of the Bar-On's model, an emotionally intelligent person will be able to manage emotions and to use those emotions to stay motivated and persistent. Individuals who have enhanced emotional management skills tend to possess greater stress tolerance and impulse control which relates to better behavioral control (i.e., the elicitation or suppression of behaviors) and decision-making.

In addition to the four basic components of emotional intelligence, Bar-On believed in the importance of optimism and happiness in facilitating intelligence (Matthews et al., 2002). Bar-On developed a series of emotional intelligence rating scales under the label of Bar-On Emotional Quotient Inventory (EQ-i). With his instruments, a General Mood score is calculated which measures the test taker's levels of optimism and happiness.

Emotional Intelligence and Education

Educational researchers are beginning to focus on the relationship between social-emotional functioning and academic performance. In the past, the psychological well-being of students was not considered within the scope of public education. However, an increase in school violence over the

last several years, such as the massacre at Columbine High School in Colorado, has prompted professionals to delve deeper into the psychological health of students.

Aside from the extreme and nationally publicized cases of student psychopathology, literature has supported the role of emotionality in school performance. In a general middle school population, students' emotionality towards school-related activities was found to be directly connected to and predicted academic performance, even after cognitive abilities and academic self-efficacy beliefs were controlled (Gumora & Arsenio, 2002). Gumora and Arsenio (2002) reported that students who were rated as possessing positive moods, by self-reports and teachers, had higher grade point averages (GPA), achievement scores, and academic competence, as opposed to students who demonstrated negative emotions towards school.

Although it may be logical to assume that emotional regulation may be correlated with emotionality, this was not supported in the sample of middle school students studied by Gumora and Arsenio (2002). As a result, it would be interesting to investigate factors that may influence negative emotions and poor school performance such as emotional intelligence. Gumora and Arsenio (2002) demonstrated the importance of positive moods in facilitating academic success;

however, a closer examination into the roles of emotional well-being and intelligence within various populations of the school system is warranted.

A series of studies have examined the linkage between emotional intelligence and academic achievement. As a result, more data has emerged supporting the correlation between emotional well-being (e.g., emotional intelligence) of students and academic achievement (Parker, Creque, et al., 2004; Parker, Summerfeldt, et al., 2004; Petrides et al., 2004; Schutte et al., 1998). In a sample of 667 high schools students, Parker, Creque, et al. (2004) found students who scored higher on the Bar-On Emotional Intelligence Quotient Inventory: Youth Version (EQ-i:YV) achieved higher grade point averages (GPA), an indicator of academic achievement, than students who scored lower on the scale. In this study, students were separated and compared based on their current level of academic achievement. Emotional intelligence was found to correlate moderately ($r = .41$) with students' GPA, and the total variance explained for academic achievement was reported at approximately 20%. In a similar study with college students, emotional intelligence predicted about 8 to 10% of the variability in grade point averages during their first year of post-secondary education (Parker, Summerfeldt, et al., 2004).

To further examine the role of emotional intelligence on school achievement, Petrides et al. (2004) conducted a study with a population of high school students from Britain using structural equation modeling. The researchers investigated several constructs which may be linked to positive school outcomes such as personality, cognitive intelligence, grades, standardized testing scores, absences, and emotional intelligence. A negative association between emotional intelligence and deviant school behaviors was found. More specifically, truancy and expulsion were less likely to occur for students who scored higher on the Trait Emotional Intelligence Questionnaire, a self-report developed by Petrides and his colleagues. Statistical results concluded that emotional intelligence actually moderated the relationship between a person's cognitive ability and academic achievement. Petrides et al. postulated that individuals with lower cognitive intelligence may rely more heavily on emotional intelligence as a method of compensation, whereas individuals who have higher mental abilities may not need to depend on their emotional skills for coping. In essence, students tend to utilize their emotions as a way to cope with difficult situations and perform better on school activities. In fact, Romasz, Kantor, and Elias (2004) believed that both emotional

skills and intelligence are precursors to successful academic performances.

The examination of the predictive power of emotional intelligence has extended beyond high school into post-secondary school achievement. Emotional intelligence has been reported to discriminate successfully between students who 1) obtained low and high GPA's during their first year as undergraduate students (Parker, Summerfeldt, et al., 2004; Schutte et al., 1998) and 2) decided to continue or drop out of college after their first year (Parker et al., 2006). In their study examining retention, Parker et al. indicated that students' high school GPA, course load in college, and age did not correlate significantly with post-secondary success. It was their level of emotional intelligence that significantly correlated with decisions to remain or withdraw from college. Students who did remain in school, as opposed to those who withdrew, scored higher on the Bar-On Emotional Quotient Inventory (EQ:i).

In addition to the need to examine emotionality in schools, a particular appeal of emotional intelligence is its purported malleability. More specifically, a number of researchers have reported that emotional intelligence is dynamic and teachable (Bar-On, 1997; Goleman, 1995, Mayer et al., 2000). As an

individual matures through life experiences, emotional skills are expected to develop and increase in proficiency. In his literature, Bar-On (1997) noted that scores on emotional intelligence measures usually reach their highest peak during middle adulthood. Salovey and Mayer (1997) depicted similar emotional progressions. That is, their hierarchical model illustrated the development of emotional abilities over a lifespan.

Derksen et al. (2002) further investigated the progression of emotional capabilities over time. A sample of 873 adults between the ages of 19- to 84-years were critically cross-examined for temporal changes in emotional intelligence. The Emotional Quotient Inventory (EQ-i) was completed by this sample, and results indicated that emotional intelligence peaked between the ages of 35- to 44-years, and then slowly decreased until later adulthood. This finding expanded upon Bar-On's (1997) previous study, which had only examined changes up to the age of 50-years. Although this area should be further investigated, available research appeared to support the idea of emotional intelligence as a malleable human ability.

The perception that emotional intelligence can be taught and learned has created a discipline of education known as

social and emotional learning (SEL), which has been developed and implemented into various school curricula. Social and emotional learning, a currently popular topic in education, resulted from preliminary studies linking the potential positive effects of teaching emotional intelligence in formal school settings. The Collaborative for Academic, Social, and Emotional Learning (CASEL); an organization comprised of international researchers, educators, and policy makers; focuses on the science and practice of emotional intelligence and the advancement of social-emotional learning in schools. Although SEL programs have begun to blossom in various school districts, its efficacy has not been solidified by research. The status of SEL closely resembles that of emotional intelligence, the construct in which SEL was developed to enhance. Like emotional intelligence, SEL has been experiencing a surge of research activity which will be able to lend a hand in understanding the practicality and usefulness of this type of nontraditional education.

In summary, the idea that other variables, such as emotional intelligence, may also influence positive life outcomes has led many researchers to explore the possibility of how emotions can affect thinking and behaviors in everyday activities such as school achievement, job performance, and

perseverance. The few studies available have suggested a positive relationship between emotional intelligence and school performance. In the past, traditional cognitive abilities have been examined and linked to academic success. Although emotional intelligence has not been able to account for a large amount of variance in the current literature, it nonetheless has some supporting evidence to be a possible reliable predictor of life achievement.

Self-Efficacy as a Positive Psychological Variable

Self-efficacy, a concept investigated in depth by Bandura (1977) and his followers, conveys similar notions of positivity as emotional intelligence. Relating to this study, self-efficacy focuses on the strengths, knowledge, and competencies of young mothers as opposed to viewing adolescent parenting from a deficit orientation. Research on the various types of self-efficacy has linked the construct to a variety of accomplishments. Specifically, self-efficacy theory purports that higher levels of efficaciousness are related to more experiences of success. The theory is based on the rationale that people who have healthy levels of self-efficacious beliefs are more likely to persevere in face of challenges, trust their abilities in resolving issues, and are less likely to exhibit

negative emotional arousal in difficult situations (Jerusalem & Mittag, 1995), thus allowing a greater likelihood for success. Bandura (1977) hypothesized that self-efficacious beliefs help determine whether behaviors will be initiated, how much effort will be expended, and how long behaviors will be maintained in face of obstacles. Regardless of behavioral variables, population, or methodology employed; self-efficacy concepts have "consistently demonstrated that individuals possessing low and high estimations of perceived self-efficacy consistently exhibit distinct affective, motivation, and cognitive reactions to the task situation in addition to exhibiting discrepant behavioral responses" (Coleman & Karraker, 1998, p. 54).

According to Bandura (1977), self-efficacious beliefs are a motivating factor in many of our behaviors. His theory did not conceptualize self-efficacy as a single, unitary concept (i.e., general self-efficacy), but as a diverse group of beliefs about what one can accomplish. Albeit general self-efficacy has been investigated in the past for various reasons, many researchers including Bandura himself, acknowledged the existence and importance of measuring self-efficacy in terms of specific task domains. Narrowed levels of specificity strengthen the predictive validity of the measured self-efficacy belief. In an article, Pajares (1996) claimed that

when studies do not report significant relationships between self-efficacy and performance, two methodological problems were typically present: inadequate level of specificity and a lack of task correspondence. Task correspondence refers to how well the measurement tool actually assessed the desired construct (i.e., construct validity). Pajares (1996) asserted that these two errors may diminish or even nullify the predictive value of self-efficacy in those flawed studies.

Furthermore, concepts of self-efficacy are derived from four types of informational sources and are specific to task domains (Bandura, 1989). Eventually, the person develops a unique sense of self-efficacy by integrating and evaluating information gained through these four venues. The most significant and influential determinant of self-efficacy is one's own personal accomplishment with a task. For example, parenting self-efficacy research has found that parents with difficult-to-control children were less likely to perceive themselves as efficacious in parenting, whereas parents with children with no behavioral difficulties tended to score higher on parenting self-efficacy measures (Teti & Gelfand, 1991). In addition, parenting self-efficacy among parents with difficult-to-control children tended to decrease over time as parenting self-efficacy among parents of non-behaviorally challenged

children increased. Taking a look at the parenting history of their participants, Coleman and Karraker (1998) reported that such findings should not be surprising due to the ratio of successes and failures each parenting group experienced. Needless to say, parents of difficult-to-control children were more likely to encounter negative parenting experiences than parents of typically behaving children. Porter and Hsu (2003) also found that past child care experiences of first-time mothers were positively associated with high perceptions of parenting skills during the prenatal period.

Secondly, vicarious experiences tend to influence the development of self-efficacious beliefs. Through observational learning, an individual has the capacity to experience vicarious reinforcements and to form thoughts regarding one's personal abilities to accomplish similar tasks. This form of indirect learning should also hold true for parenting self-efficacy where childrearing schemas and behaviors are internally absorbed through external experiences.

Verbal persuasions, a third source, posited that the nature and quality of verbal feedback an individual receives from others will influence personal thoughts about one's own competence. Criticism from both expected or actual

performances seem to affect internal beliefs about one's skills.

An individual's level of emotional arousal, the fourth factor, plays a significant role in self-efficacy development. According to Bandura (1989), high levels of aversive physiological arousal (i.e., negative emotions) tended to foster lower levels of self-efficacious thoughts. On the other hand, successful expectancies were associated with positive and lower levels of emotional arousal.

In this study, two domain specific constructs of self-efficacy were investigated with a population of adolescent mothers. Emotional intelligence was explored in relation to adolescent mothers' perceptions of parenting and academic self-efficacy. Additionally, the predictive validity of academic and parenting self-efficacy on school outcomes were also investigated.

Parenting Self-Efficacy

Literature on parenting has shifted from focusing on observable parenting behaviors to more cognitive attributes that are associated with those behavioral outcomes (Smetana, 1994). A central goal of exploring the mental processes of parenting behaviors was to examine the development and

importance of parenting self-efficacy (Coleman & Karraker, 1998). An in-depth understanding of parenting self-efficacy should have direct implications for services provided to adolescent mothers. Social service programs can utilize knowledge of parenting self-efficacy to foster competency in parenting perceptions and behaviors. Research has strongly suggested a high association between parenting self-efficacy beliefs and parenting competence (Coleman & Karraker, 2005). In turn, parenting competence appears to influence positive child outcomes. In the following section, parenting self-efficacy will be defined and investigated in relation to parenting competence and child outcomes.

For mothers of any age group, the possession of high parenting self-efficacy should be particularly desirable since it is purported to relate with healthy child and family functioning. According to Coleman and Karraker (1998), "it is possible to assert with certainty that high parenting self-efficacy is strongly related to maternal ability to foster a healthy, happy, and nurturant childbearing environment" (p. 62). A literature review of 47 studies found parenting self-efficacy to correlate with parenting competencies, parental psychological functioning, and child adjustment (Jones & Prinz, 2005). Jones and Prinz (2005) concluded that there was a

strong link between parenting self-efficacy and parenting competence (e.g., positive maternal interaction with child, parental warmth, parental control, limit setting, and parenting involvement). In addition, their review purported a unidirectional association between the two variables.

According to Jones and Prinz (2005), parenting self-efficacy appeared to predict parenting competence with higher levels of parenting self-efficacy being able to predict higher levels of parenting competence. This relationship appeared to hold true even in face of challenging parent-child circumstances. On the other hand, lower levels of parenting self-efficacy were significantly related to poor parenting practices and discipline styles (Sanders & Woolley, 2005). The psychological functioning of parents was also correlated with parenting self-efficacy. Parents reported less symptoms of depression and more satisfaction with parenting when they also reported high levels of parenting self-efficacy.

Parenting self-efficacy is defined as "the expectation caregivers hold about their ability to parent successfully" (Jones & Prinz, 2005, p. 342). In general, self-efficacy is an individual's self-perception regarding the extent of obtainable success when performing behaviors directed towards a desired

outcome. According to Coleman and Karraker (1998), efficacious parents must possess the three following elements:

(a) knowledge of appropriate child care responses (e.g., how to detect infant distress and how to relieve it or what limits should be established for 3-year-olds and how to enforce them, (b) confidence in their own abilities to carry out such tasks, and (c) the beliefs that their children will respond contingently and that others in their social milieu, including family member and friends, will be supportive of their efforts. (Coleman & Karraker, 1998, p. 50)

Elster, McAnarney, and Lamb (1983) examined literature regarding parenting behaviors among adolescent mothers and found that the central component of effective parenting was parenting sensitivity. Parenting sensitivity often

involves the ability of a parent to provide contingent, consistent, and appropriate responses to his/her infant's signals- most importantly, the infant's cry. A parent must perceive the child's cues, interpret these cues correctly, and implement an appropriate response in an effective manner. (Elster et al., 1983, p. 495)

Notably related to this study, Elster et al.'s (1983) definition of parental sensitivity seems to require comparable skills as those of emotional intelligence theory. Parental sensitivity appears to develop from the components, regulation, and management of emotions. Therefore, it appears that emotional intelligence is a vital element of positive and effective parenting.

The malleable and dynamic nature of parenting self-efficacy (Evans et al., 2003; Miller-Heyl, MacPhee, & Fritz, 1998) seems to be a promising answer to ameliorating some concerns regarding adolescent parenting behaviors. In a study of first-time mothers, Porter and Hsu (2003) examined levels of parenting self-efficacy over a three-month postpartum period. Participants were assessed during the last trimester of pregnancy and when their child reached one- and three-months old. Although parenting self-efficacy was found to be relatively stable over time, differences were found with significant increases between the one- and three-months postpartum period.

Exploring different demographic variables than in Porter and Hsu's (2003) study (i.e., white, middle-class, well educated, and married); Herrman et al., (1998) investigated levels of parenting self-efficacy in a group of adolescent parents from a diverse sample (i.e., 25% Black, 25% White, 45% Hispanic, and 4% Other). Over an 18-month period, the authors found qualitative increases in parenting self-efficacy scores. The authors reported that increasing levels of efficacious parenting beliefs may be attributed to new mothers gaining more experience with their children and becoming more comfortable in

a maternal role. However, none of the changes were statistically significant.

A promising study examining parenting self-efficacy in a sample of depressed and non-depressed mothers found parenting self-efficacy to mediate various psychosocial variables (Teti & Gelfand, 1991). The authors statistically controlled for parenting self-efficacy using hierarchical multiple regression analyses, and results indicated that socio-demographic status, infant temperamental difficulty, social marital supports, and depression were no longer associated with maternal competence. Teti and Gelfand's (1991) results provided evidence that these psychosocial variables were not directly linked to parenting competence and behaviors, but to personal thoughts and perceptions related to feelings of parenting self-efficacy. In other words, environmental circumstances were not found to impair parental functioning; it was the beliefs and cognitions of parents which emanate the greatest influence on parenting behaviors. The mediating role of parenting self-efficacy should be particularly encouraging for professionals working with mothers in poor environmental conditions where numerous uncontrollable variables are at play. Based on Teti and Gelfand's (1991) results, preventative services and interventions should aim at enhancing parenting competencies

through manipulating parenting beliefs and perceptions since parenting self-efficacy may counteract problems stemming from poor environmental circumstances (Coleman & Karraker, 1998; Jones & Prinz, 2005).

Additionally, the children of highly self-efficacious parents were found to benefit from positive parenting behaviors and practices (Jones & Prinz, 2005). Children with parents possessing higher levels of parenting self-efficacy tended to display fewer behavioral problems; lower avoidance behaviors and negativity; and greater enthusiasm, compliance, and levels of affection (Coleman & Karraker, 2003). There was evidence to suggest a relationship between parenting self-efficacy and children's level of academic achievement; however, the results have been inconsistent regarding the directionality of interaction (Jones & Prinz, 2005). Additionally, the authors stated that self-efficacy beliefs may be transmitted to children by way of observational learning. That is, children have the capability to develop and learn about their own behaviors and levels of self-efficacy through their parents' modeling.

Although plentiful research has been devoted to self-efficacy and its domains, no current studies have explored the connection between emotional intelligence and self-efficacy,

particularly in the adolescent mother population. From a conceptual perspective, emotional intelligence should influence self-efficaciousness, decisions, and behaviors associated with parenting. Since greater emotional intellect is believed to enhance a mother's ability to identify and manage emotions related to childrearing, it is also hypothesized that greater emotional intellect will carry over to positively influence actual parenting behaviors.

Academic Self-Efficacy

Academic self-efficacy, a specific and personal belief about one's ability to accomplish school tasks and goals, plays a vital role in the academic success of high school students. Self-perceptions influence the selection of academic goals, activities, and even high school graduation. More specifically, confidence in activating and utilizing academic self-regulatory practices was found to influence students' self-perceptions as active learners. Pajares (2001) found students who felt capable of motivating themselves, scheduling time for schoolwork, completing homework, and other academic-related tasks usually rate themselves as highly self-efficacious in school. Similarly, research by Caraway, Tucker, Reinke, and Hall (2003) investigated a group of 123 high school

students from a southeastern urban area. Although the researchers did not utilize a scale specifically assessing academic self-efficacy, results remained consistent with previous research on self-efficacy, indicating that higher levels of perceived competence (i.e., general self-efficacy) were associated with better grades and various types of school engagement and activities.

In a study by Collins (1982), self-efficaciousness correlated directly with performance regardless of the individual's ability to succeed. As an example, an individual may have had an above-average ability to complete an assigned task but nevertheless performed poorly due to poor self-perceptions of efficaciousness. Many reasons may have contributed to poor performance, but personal beliefs exerted powerful influences on other factors needed for success such as motivation, effort, persistence, and perseverance (Pajares, 1996).

Traditionally, academic performance is measured in terms of grade point average (GPA) or academic achievement test scores; however, in a study conducted by Pajares and Kranzler (1995), a global measure of mental ability, *g*, was examined to determine the effects of self-efficacious beliefs on ability and performance. Similar to other studies utilizing GPA and

achievement test results, key findings suggested that self-efficacy tend to have a direct effect on performance and ability. More notably, self-concept and other determinants believed to affect academic performance (e.g., anxiety, previous grades, and gender) diminished in predictive validity when self-efficacy was included in the analysis model.

Some researchers have examined the role of self-efficacy as a mediator between cognitive abilities, academic self-regulatory behaviors, and academic performance (Pintrich & DeGroot, 1990; Zimmerman, Bandura, & Martinez-Pons, 1992). For instance, Pintrich and DeGroot (1990) reported that students with high academic self-efficacy tend to employ more cognitive and metacognitive strategies and persistence while completing school work, which ultimately resulted in higher levels of performance. According to the Pajares (1996), the difference in academic performance among

Students with similar previous performance attainments and cognitive skills may differ in subsequent performance as a result of differing self-efficacy perceptions because these perceptions mediate between prior attainments and academic performances. As a consequence, such performances are generally better predicted by self-efficacy than by prior attainments. (Pajares, 1996, p. 554)

A meta-analysis of 39 studies, selected by strict criteria, confirmed the importance of self-efficacy beliefs in educational performance (Multon, Brown, & Lent, 1991). In

their meta-analysis, studies meeting the following three criteria were included: 1) measured self-efficacy, 2) measured academic performance or persistence, and 3) provided sufficient data to calculate effect sizes. The meta-analysis strengthened the evidence to confidently state that self-efficacy beliefs were consistently related to school performance ($r_u = .38$). Multon et al. (1991) also revealed that self-efficacy beliefs explained approximately 14% of the variance.

School Outcomes: Attendance and Academic Achievement

Prior to the 1970's, pregnant and parenting female students were denied access to schools they previously attended. While some moved to group homes or schools for adolescent mothers, many were expelled with no other educational options available (Hofferth, Reid, & Mott, 2001; Pillow, 2004). However in the 1970's, a number of cultural and political shifts occurred, especially in regards to the tolerance for diversity. Teen pregnancy and parenting, once a taboo and unforgivable aberration from the norm, was gaining some acceptance under a more liberal society. The policy and attitudinal changes that surrounded adolescents who were pregnant or parenting were relatively more supportive. In 1975, Title IX, a broad legislation protecting the rights of

women, was passed. Of particular relevance, Title IX prevented school systems across the country from expelling students on the basis of their pregnancy or parenting status. Under legal protection and softened social-cultural conditions, students were less pressured to hide their pregnancy, drop out of school, or enter marriage during their adolescence years (Hofferth et al., 2001).

Despite gains in women's rights and equalities, daily functioning for adolescent mothers did not contingently improve or become progressively more manageable. As a matter of fact, by allowing adolescent mothers to continue their education, their level of responsibility increased and their lives became more difficult to balance on a daily basis. Along with typical adolescent development and parenthood, the opportunity provided by Title IX added school responsibilities into their complex lives (Hofferth et al., 2001).

Earlier studies reported detrimental educational and social consequences for adolescent parenting; however, more recent research have revealed weaker than previously believed effects (Hofferth et al., 2001; Ribar, 1994; Upchurch & McCarthy, 1990). Some literature suggested that pregnant and parenting students may not be much different from students who were not pregnant or parenting. For example, Hofferth et al.

(2001) reported that students who were not parents and dropped out of school shared similar characteristics with mothers who also dropped out of school such as low motivation and a poor history of educational attainment. The resemblance between these two sampled populations, where 41% of adolescent mothers and 61% of non-parenting students graduated, suggested that childbearing contributed to but may not be one of the main factors influencing high school drop out.

In their study, Jones, Astone, Keyl, Kim, and Alexander (1999), reported a reduction in graduation rate of 8 to 10% for adolescent mothers sampled from the High School and Beyond Study. The High School and Beyond Study was part of a 20-year research effort (i.e., National Educational Longitudinal Surveys) which followed four cohorts of students into adolescence and young adulthood. Although the authors cautioned against the causal interpretation of the study, they suggested that decisions to have children and graduate high school may be two separate issues which also require different methods of prevention, intervention, and treatment. In their conclusion, the decision to raise a child did not necessarily correlate with an adolescent's decision to drop out of school.

Another series of studies exploring the nature of high school completion and drop out among adolescent mothers have

revealed fairly consistent results (Leadbeater, 1996; Linares et al., 1991; Ribar, 1994; Upchurch, 1993; Upchurch & McCarthy, 1990). It appeared that students who became pregnant, decided to bring the child to full-term and raise it, and attended high school had the same likelihood to graduate as students without children or students who had not dropped out (Upchurch & McCarthy, 1990). Students most at-risk for permanently withdrawing from school were those who dropped out of school and then became pregnant. Students fitting this profile often had difficulty reentering school which reduced their chances of graduating. Primary factors relating to high school graduation, once again, appeared to be related to personal motivation, perseverance, and academic history; and not necessarily the individual's pregnancy or parenting status.

A longitudinal study by Linares et al. (1991) examined differences between four categorizations of high school attendees. The sample consisted of 120 African-American and Hispanic students who lived in an inner city area. Although academic achievement scores were generally poor and below the 25th percentile, continuous school attendees were more likely to score higher on reading than their counterparts during a follow-up at 3-week and 12-week postpartum. Continuous attendees were also less delayed in grade placement and less

likely to have repeat pregnancies. Additionally, other categorizations of students; such as before-pregnancy drop out, after-pregnancy drop out, and school returners; reported greater amounts of depressive symptomology.

In Leadbeater's (1996) study, participants were involved in a 28-week and 36-week postpartum follow-up. Adolescent mothers who remained in school or graduated achieved better outcomes than those who chose to drop out. For example, students who continuously attended reported fewer repeat pregnancies and a greater likelihood of pursuing post-secondary education. Also, those who returned to school after a period of absence reported lower stress levels, more familial support, less depressive symptoms, and stronger career goals and commitments. Continuous school attendees and school returners were most likely to report a desire to obtain a college education. After controlling for risk and protective factors, the main variable for continuing and successfully completing high school appeared to be the students' prior school achievement.

Gray and Ramsey (1986) were also hesitant to declare adolescent childbearing as the sole predictor of school failure in adolescent mothers. These researchers examined the effects of a preschool intervention program, the Early Training Program

(ETP), on the graduation rate for a sample of low-income African-American females. In the original ETP study, participants were enlisted two-and-an-half years prior to enrolling in the first grade. A total of 14 females from the original ETP study, who became adolescent mothers, were targeted in Gray and Ramsey's study. Eight participants were randomly assigned to the preschool intervention program; and six were assigned to a control group. The original experimental group was required to complete a 10-week summer session, including weekly home visits, for one year prior to entering elementary school. The targeted intervention was aimed to improve school achievement and attitudes. Pre-test data revealed similar cognitive functioning for both groups; however, only one participant in the control group graduated high school, whereas seven out of eight graduated from the intervention group. Additionally, significant differences were reported at post-test for cognitive functioning ($<.0001$) and academic achievement, with higher scores for high school graduates. Gray and Ramsey (1986) provided evidence that the goal of increasing graduation rates did not solely rest upon the issue of delaying childbirth. Similar to past findings, this study strongly suggested that other factors, particularly early childhood experiences, may affect later academic

motivation and school success (Gray & Ramsey, 1986; Jones et al., 1999; Leadbeater, 1996; Ribar, 1994; Upchurch, 1993; Upchurch & McCarthy, 1990).

Although academia and the public have concentrated on the negative effects of early motherhood, little is known about mothers who have decided to remain in school despite the daily challenges of being young parents. In the past, external variables (e.g., family support, program services) have been investigated to determine their contribution to the academic success of adolescent mothers. Social service programs are available to meet the surface needs of adolescent mothers and their children by providing referral services, information, and support. However, a dearth of studies has been conducted in examining variables considered positive and intrapersonal in nature that promotes self-sufficiency and academic success. The need to identify and understand the contributions of these variables to the academic success of adolescent mothers is warranted.

Emotional intelligence has been purported to correlate highly with a wide range of successful outcomes, and research encompassing the construct has yielded promising results. To date, no research has been conducted to determine how the emotional intelligence of adolescent mothers can influence

their sense of parenting and academic self-efficacy, academic achievement, and school attendance. The underpinning rationale of this study is to determine the predictive validity of emotional intelligence in relation to parenting self-efficacy and academic self-efficacy, which in turn relates to academic success. The outcomes of this study will be informative and beneficial to organizations that are interested in implementing teen parenting programs which aim to foster emotional competence, academic success, and general well-being.

Conceptual Model

Based on the literature that was available, a conceptual model was developed to explore the nature of emotional intelligence on self-efficacy beliefs and school outcomes. One hypothesis of this study was that emotional intelligence scores were predictive of both academic and parenting self-efficacy scores (path A and path B). Adolescent mothers who were able to identify, regulate, and manage emotions in themselves and others were hypothesized to use these emotional skills to develop and adopt healthy beliefs about their abilities and adapt successfully to parenting and school situations (i.e., acceptable school attendance and achievement).

For the purpose of this study, emotional arousal was assumed to be related to an individual's emotional intelligence. Individuals high in emotional intelligence were believed to gain knowledge from both successful and unsuccessful situations due to their ability to regulate their emotions, think logically under duress, take multiple perspectives, predict emotions, and learn from past mistakes without emotional interference which should ultimately build their level of self-efficacy.

In particular, this study hypothesized that young mothers with high levels of emotional intelligence should be able to cope better with the demands of parenthood and build their sense of parenting self-efficacy. Mothers who were emotionally intelligent should be able to read their child's emotions, incorporate their emotions with past parenting knowledge, and respond accordingly to their children. On the other hand, mothers who have low emotional intelligence may not be able to identify the emotional states of their babies, thus responding inappropriately and yielding frustrating results which will impede the development of parenting skills and self-efficacious beliefs.

A second hypothesis speculated that parenting self-efficacy will have an indirect effect on academic achievement.

Due to the responsibilities and demands of parenting, it was believed that school attendance mediated the relation between parenting self-efficacy and academic achievement (path E and path F). It was predicted that adolescent mothers who have more parenting self-efficacious beliefs tended to be more competent in their roles as parents (Coleman & Karraker, 2005; Jones & Prinz, 2005), thus allowing more time and energy to focus and attend school on a regular basis (path E). It was assumed that home stability will allow adolescent mothers to concentrate on school endeavors which will ultimately influence academic achievement (path F).

As opposed to parenting self-efficacy, academic self-efficacy was hypothesized to relate directly with academic achievement (path C) as well as school attendance (path D). Self-efficacious beliefs were believed to be motivating factors to human behaviors (Bandura, 1977), including school behaviors. Past research supported the direct correlation of self-efficacy beliefs and academic performance (Collins, 1982; Multon et al., 1991; Pajares, 2001; Pintrich & DeGroot, 1990).

In summary, this study aimed to examine several possible predictors of academic achievement. It was expected that academic achievement would be associated with emotional intelligence, academic self-efficacy, parenting self-efficacy,

and school attendance. Prior research had demonstrated the effects of high self-efficacious beliefs on targeted tasks. However to date, no studies were found which focused on the effects of emotional intelligence on self-efficacy and school outcomes or the directionality among these variables. To examine the conceptual model, a statistical path analysis was proposed to determine whether such relationships existed. However, a path analysis was not conducted due to preliminary findings that indicated the model was not supported due to the lack of significant correlations between investigated variables (Baron & Kenny, 1986).

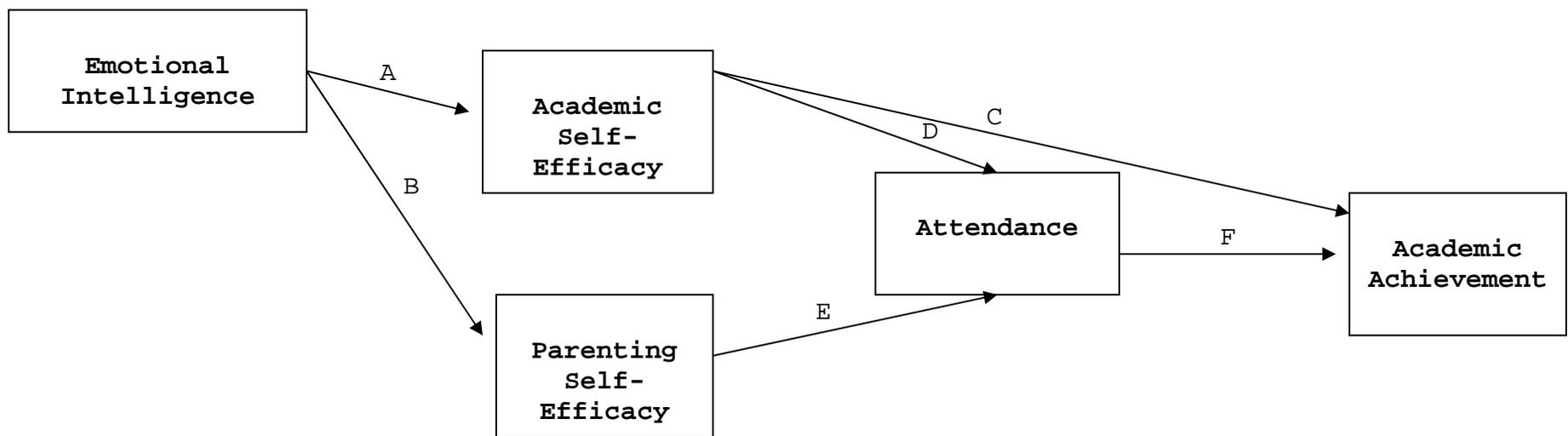


Figure 1.1 Conceptual Model

CHAPTER 3

METHODOLOGY

Chapter 3 details the methodological procedures of this study. A narrative of the methodology includes a general description of the participants involved in the study, assessment instruments employed in the study, recruitment and data collection procedures, and a general overview of the statistical analyses conducted.

Participants

The participants of this study were 108 adolescent mothers enrolled in secondary education from the Northeastern region of the United States. A total of 113 students completed the questionnaires, and five were excluded. Of the excluded questionnaires; two were not currently parenting, two were younger than 16-years-old, and one had dropped out since completing the forms. Therefore, the overall number of participants was 108. According to Cohen (1977), the sample size obtained for this study was adequate since a moderate effect size and a high degree of predictive power can be obtained with 107 participants. The sample size was determined based on a multiple regression analysis model with an alpha level of .05, power level of .80, and a medium effect size.

The following criteria were used to select participants from the general population: 1) participants must have been a biological mother of a child at the time of participation, 2) participants must have been actively living in the same residence as their child(ren) at the time, 3) participants must have been 16-years-old or older, and 4) participants must have been currently enrolled in 10th, 11th, or 12th grade. Only students who met these requirements were asked to participate in the study.

The sources for recruitment were six school-based pregnant and parenting teen programs located within several school districts in Pennsylvania. In 1990, Education Leading to Employment and Career Training (ELECT), a school-based adolescent parenting program, was developed by the Pennsylvania Department of Education (PDE) and the Department of Public Welfare (DPW). The state-wide initiative resulted from the Family Support Act of 1988. The purpose of the legislation was to strengthen the American family network and to enhance self-sufficiency of these families. Most students enrolled in ELECT were from low-income backgrounds, defined as not exceeding 235% of the Federal Poverty Income Guidelines. In the past, a majority of the students received federal- or state-funded

financial assistance, in the form of Temporary Assistance to Needy Families (TANF) and/or food stamps.

The ELECT program focuses on pregnant and parenting adolescents (age 22-years or younger) who have decided to continue their high school education despite their pregnancy or parenting status. The ultimate goals of the program are to assist pregnant, parenting, and non-custodial parents with high school completion and post-secondary school transitions. Although both adolescent mothers and fathers are eligible for ELECT participation, only adolescent mothers were asked to participate in this study. Intensive case management and academic support are provided regularly to students by trained mental health professionals, with a minimum of one contact every two weeks. Ongoing educational assessments are performed for all enrolled students, with mandatory re-evaluations every six months. As a preventive measure for truancy and drop-out, school attendance and other academic activities are monitored, recorded, and reported for each student on a regular basis.

Instrumentation

Demographic Questionnaire for Adolescent Mothers (DQAM)

After gaining student and/or parent consent, each student completed the Demographic Questionnaire for Adolescent Mothers (DQAM). The questionnaire was developed specifically for this study to collect information pertaining to the participant's personal and academic histories. Items solicited general demographic information such as date of birth, ethnic background, current grade level, grade point average, months enrolled in the ELECT program, number of children, and age of oldest child. See Appendix F for a complete DQAM form.

Bar-On Emotional Quotient: Short Version (EQ-i:S)

The Bar-On Emotional Quotient Inventory: Short Version (EQ-i:S) is a 51-item measure of emotional intelligence for individuals ages 16-years and older (Bar-On, 2002). The EQ-i:S is a self-report rating measure, using a five-point Likert scale (1- *Very Seldom or Not True of Me*, 2- *Seldom True of Me*, 3- *Sometimes True of Me*, 4- *Often True of Me*, and 5- *Very Often True of Me or True of Me*). Higher standard scores indicate higher levels of emotional functioning. For example, scores of 130 and up signify well-adjustment and high social and emotional capacity, whereas scores of 70 and below signify

social and emotional impairment. A number of administration formats is allowed and was included in the standardization process, such as individual and group administration formats.

On the EQ-i:S, emotional intelligence is measured across five indices and one composite score: Intrapersonal EQ, Interpersonal EQ, Stress Management EQ, Adaptability EQ, General Mood EQ, and Total EQ. The EQ-i:S also has two validity indicators, the Inconsistency Index and the Positive Impression Scale, which respectively measure random or careless responding and exaggerated self-impressions.

The standardization process included a sample of 3,174 adults (1,543 males and 1,631 females) from the United States and Canada (Bar-On, 2002). The sample included individuals from various ethnic backgrounds (Caucasian-79%, Asian-8.1%, African-American-7.1%, Hispanic-2.8%, Native American- 0.7%, and Other-2.3%), with an age range from 16- to 93-years old (males- $x = 35.52$ years, $SD = 11.68$, females- $x = 34.41$ years, $SD = 12.14$). Scores were reported according to gender and age groups. The four broad age groups were 29-years and younger, 30- to 39-years, 40- to 49-years, and 50-years and older.

A number of reliability coefficients were reported in the EQ-i:S technical manual according to gender and age groups. Table 1.1 lists the psychometric properties of the EQ-i:S for

the standardization group of females aged 29-years and younger female. Internal consistency scores ranged from .51 (Female, >50-years, Positive Impression) to .93 (Male, <29-years and 30- to 39-years, Total EQ). All internal consistency scores for females in the <29-years age group were adequate, with most values in the .80 range. Mean inter-item correlations supported the internal consistency of the EQ-i:S. Lastly, test-retest reliability at a six-month interval revealed stability coefficients ranging from .46 to .80. Although the technical manual considered these as "excellent," it may be an overestimate for some of the scales with coefficients under .70. For the female group, individual coefficients of stability ranged between .46 and .80.

The EQ-i:S technical manual reported several types of validation studies. Factor analyses of the test items supported the alliance and multi-dimensionality of Bar-On's Model of Emotional Intelligence and the EQ-i:S, thus indicating the existence of factorial validity for the instrument. As outlined by Bar-On's (1997) model, the EQ-i:S assesses five aspects of emotional intelligence: intrapersonal skills, interpersonal skills, stress management, adaptability, and general mood. Correlation matrices, based on gender and age

Table 1.1 EQ-i:S Reliability Coefficients

Internal consistency coefficients		
Females (<29-years)	Positive Impression	.76
	Total EQ	.92
	Intrapersonal EQ	.81
	Interpersonal EQ	.82
	Stress Management EQ	.82
	Adaptability EQ	.81
	General Mood EQ	.85
Mean inter-item correlations		
	Total EQ	.22
	Intrapersonal EQ	.31
	Interpersonal EQ	.32
	Stress Management EQ	.38
	Adaptability EQ	.39
	General Mood EQ	.37
Test-retest reliability		
Females	Positive Impression	.46
	Total EQ	.80
	Intrapersonal EQ	.77
	Interpersonal EQ	.61
	Stress Management EQ	.76
	Adaptability EQ	.57
	General Mood EQ	.79

groups, revealed that the instrument functioned similarly across test takers of different gender and age groups. The construct validity of the EQ-i:S was determined by examining its relationship with several other scales or subscales of emotional intelligence (i.e., convergent validity). The correlation between the original Emotional Quotient inventory (EQ-i) and the EQ-i:S was found to be generally high, ranging from .75 to .97 for females and from .73 to .96 for males. In

turn, the EQ-i was found to correlate significantly with the Trait Meta-Mood Scale ($r = .58$; TMMS), an emotional intelligence scale developed by Salovey and his colleagues (1995 as cited in Bar-On, 2002); and the Toronto Alexithymia Scale (TAS-20; Bagby, Parker, & Taylor, 1994 as cited in Bar-On, 2002). According to Bar-On (2002), the construct validity of the EQ-i also established validity for the EQ-i:S due to the high correlations between the two instruments. As for data pertaining directly to the EQ-i:S, it was found to correlate significantly with the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT), an ability-based measure, on a low to moderate basis. According to Bar-On (2002), divergent validity of the EQ-i:S have been established by its low correlations with personality measures such as the 16PF (Cattell, Eber, & Tatsouka, 1970 as cited in Bar-On, 2002) and the NEO-Five Factor Inventory (NEO-FFI, Costa & McCrae, 1992 as cited in Bar-On, 2002). The EQ-i:S has been examined and found to have predictive validity in the areas of academic achievement, leadership, and job performance (Bar-On, 2002; also see section on Emotional Intelligence and Education).

Although the Bar-On Emotional Quotient Inventory: Short Version (EQ-i:S) does not demonstrate overall strong psychometric properties, no alternative scales were available.

During the study's planning stage, the EQ-i:S was the only instrument developed that had been normalized for this study's age group. Due to copyright laws and the test publisher's unwillingness to publicize, sample items from the EQ-i:S were not listed.

Self-Efficacy for Learning Form- Abridged (SELF-A)

The Self-Efficacy for Learning Form- Abridged (SELF-A; Zimmerman & Kitsantas, 2005) is a 19-item self-report scale. It uses a 10-point rating scale from zero to 100 (0-*definitely cannot do it*; 30- *probably cannot do it*; 50- *maybe*; 70- *probably can*; 100-*definitely can do it*). Higher scores on the measure indicate greater levels of self-efficacy for learning. The SELF-A has a Dale-Chall readability index of 7.16. Items were constructed to assess students' certainty about school-related tasks and their ability to cope with various academic problems or contexts. The original format of the SELF-A required participants to write down their responses on a line provided before each item. In this study, the format was modified to enhance the ease of completion. Instead of writing percentages, the participants circled their responses on the percentage rating scale which was listed after each item. For a copy of the SELF-A, see Appendix G.

An exploratory principal component analysis of the original 59-item SELF yielded five factors, which accounted for 84% of the variance. Factor 1 accounted for 66% variance (Eigen value= 38.06), and was labeled self-efficacy for learning. Due to the heterogeneity and low number of items in the other four factors, they were maintained, but not labeled. The two items loaded .60 or below on Factor 1 were removed, resulting in a 57-item scale. The remaining items on Factor 1 had loadings between .68 and .91, with no factor loadings above .40 on the other factors. Item reliability ranged between .69 and .91, which indicated a high level of reliability between items. On four items with negative wording, item reliability ranged between .86 and .87, which also indicated a high degree of reliability. The final 57-item scale had a mean item score of 79.76, SD of 13.02. The Cronbach α reliability coefficient was .99.

Due to the presence of a single factor, Zimmerman (personal communication, June 19, 2007) developed a shorter version of the SELF, which consisted of 19 items from the original instrument. The new, abbreviated scale is called the Self-Efficacy for Learning Form- Abridged (SELF-A). A comparative analysis between the original and abridged scales found the abridged version "to work slightly better"

(Zimmerman, personal communication, June 19, 2007). The factor loadings of the 19 items ranged from .76 to .88, with most loadings above .80.

Predictive validity of the SELF has been supported (Zimmerman & Kitsantas, 2005). In Zimmerman and Kitsantas (2005), teachers' ratings of students' self-regulatory behaviors were used as predictors of self-efficacy beliefs, as measured by the SELF. The Cronbach α reliability coefficient for the teacher-rating scale was .96. The correlation between this 12-item teacher-rating scale and the SELF was .72, indicating a high degree of predictive validity for the SELF.

Parenting Sense of Competence (PSOC)

The Parenting Sense of Competence Scale (PSOC; Johnston & Mash, 1989) was administered to assess each participant's level of parenting self-efficacy. The PSOC is a 17-item self-report with two subscales: Satisfaction and Efficacy. The word "father" on items was omitted or replaced with "parent" to reflect this sample of adolescent mothers. A 6-point Likert response scale ranged from "strongly disagree" to "strongly agree." Items of the Satisfaction subscale were negatively worded and required a reverse scoring method. As a result,

participants who scored higher on the assessment were said to have higher levels of parenting satisfaction and self-efficacy.

Internal consistency coefficients, ranging between .75 and .88, were reported by several researchers (Johnston & Mash, 1989; Lovejoy, Verda, & Hays, 1997; Ohan, Leung, & Johnston, 2000). For example, Johnston and Mash (1989) found internal consistency coefficients of $r = .79$ for the Total Score, $r = .75$ for the Satisfaction subscale, and $r = .76$ for the Efficacy subscale. Inter-rater reliability for mother-father dyads were .31 ($p < .001$, Total Score), .31 ($p < .001$, Efficacy), and .28 ($p < .001$, Satisfaction). Additionally, small to moderate levels of divergent validity of the PSOC were established with the Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1983 as cited in Johnston & Mash, 1989), ranging from $-.10$ to $-.31$. The PSOC Total and Satisfaction Subscale were significantly and negatively correlated with both the Internalizing and Externalizing scales of the CBCL, whereas the Efficacy Subscale was not significantly associated with the CBCL. Convergent validity has also been established between the PSOC and other measures of family functioning (See Lovejoy et al., 1997; Ohan et al., 2000 for details). For a copy of the PSOC, see Appendix H.

Pilot Study

Prior to initiating the proposed research as outlined in the section below, a pilot study was conducted with three mothers between the ages of 21- and 27-years old. Two of the mothers graduated from high school with no post-secondary experience, and one did not complete high school. The purpose of the pilot study was to determine the clarity of the wording and format of the instruments, as well as to obtain a general range of time needed to complete the administration process.

As a result of the pilot study, a number of items on the DQAM were reworded or reformatted for user-friendliness. Examples of changes included expanding items to enhance clarity (e.g., "Length of time at this school" was changed to "How long have you been at this school?") and including response sets where participants can circle their answers (e.g., A, B, C, D, F scale for GPA instead of a blank space). Additionally, one member of the pilot study noted that the rating scale on the EQ:i-S was confusing; however, changes could not be made to this standardized scale.

Recruitment and Data Collection Procedures

To solicit interest and participation, ELECT administrators were contacted at various school districts within Pennsylvania. Once site permission was granted, students who met the study's criteria were identified by ELECT staff and provided with a flyer (see Appendix A) and a consent form explaining the study and requesting the students' participation and permission (see Appendices B and C). In Pennsylvania, mothers under the age of 18-years are considered emancipated minors, therefore parental consent was not needed for this study. However, some individual ELECT programs required parental permission, and a parental consent form was completed for each participant enrolled in those programs. Solicitation for participation was limited to students who were 1) the biological mother of a child at the time of participation, 2) actively living in the same residence as their child(ren), 3) 16-years old or older, and 4) currently enrolled in 10th, 11th, or 12th grade.

Once site and participant consent were granted, data was collected by either the author or an ELECT staffperson. The assessments were administered in either a group or individual format at each participating site, and a standardized script was read aloud to the group of participants (see Appendix D and

Appendix E) by the author of this dissertation or by ELECT staff. Participants were reminded of their option to omit any questions they felt uncomfortable with responding. Each participant received a package containing the Demographic Questionnaire for Adolescent Mothers (DQAM), the Emotional Quotient Inventory-Short Version (EQ-i:S; Bar-On, 2002), the Parenting Sense of Competence Scale (PSOC; Johnston & Mash, 1989), and the Self-Efficacy for Learning Form- Abridged (SELF-A; Zimmerman & Kitsantas, 2005). Each student was assigned a code for confidentiality which was pre-written on the upper right-hand corner of each assessment document. Instructions and items for all administered instruments were read aloud when necessary to minimize the effects of poor reading skills. No time limit was enforced for any of the self-report forms. Individual demographics of participants were collected through a student self-report form, the DQAM. Reported grade point averages and attendance were cross-referenced with school records to ensure accuracy by ELECT staff. Once participants completed the DQAM, they were asked to complete the EQ-i:S. Any questions regarding the instrument or rating scale of the EQ-i:S were clarified when necessary. Upon finishing the EQ-i:S, participants were asked to complete the PSOC and the SELF-A. When necessary, clarification for these forms' instructions

and rating scales were provided. All materials were collected by the author of the study or by ELECT staff. The total time estimated to complete the assessments was one-and-a-half (1½) hours.

After data collection was completed at each site, information was entered into the Statistical Package for Social Science 16 (SPSS) computer program. To ensure confidentiality, all information was entered only with the participant's identifying code. In addition, the computer was password protected and located in a secure area. Physical materials (i.e., completed instruments) were stored in a locked file cabinet. Confidential information was available and accessible to the author of this dissertation only.

Data Analysis

Hypotheses were tested using the Statistical Package for the Social Sciences 16 (SPSS), a statistical analysis computer program. Due to the exploratory nature of this study, the determination of sample size was based on the following suggestion by Cohen (1977) for generating sufficient power to investigate medium-sized relationships between variables in a correlational analysis with an alpha level of .05, a medium effect size, and a power value of .80. Based on Cohen (1977),

a total of 107 participants was required to adequately investigate the desired relationships and utilize the appropriate statistical procedures. This study met the sample size requirement, and the following research questions were addressed:

Research Question #1: Is there a relationship between emotional intelligence and self-efficacy (i.e., parenting self-efficacy and academic self-efficacy) in a sample of adolescent mothers?

Research Question #2: Is there a relationship between emotional intelligence and school outcomes in a sample of adolescent mothers?

Research Question #3: What is the relationship between the length of time parenting and parenting self-efficacy?

Research Question #4: What is the relationship between the length of time parenting and academic self-efficacy and school outcomes?

Research Question #5: Is emotional intelligence mediated by self-efficacy variables and school attendance in predicting school achievement?

For research questions #1 and #2, identical statistical procedures were employed. First, descriptive statistics were computed to demonstrate the variation of estimated means and standard deviations for each variable. Second, bivariate

correlations between the independent variable (i.e., emotional intelligence) and dependent variables (i.e., academic self-efficacy and parenting self-efficacy, and school attendance and academic achievement) were calculated to determine the strength and direction of the relationships.

For research questions #3 and #4, bivariate correlations between the independent variable (i.e., length of time parenting) and dependent variables (i.e., parenting self-efficacy, academic self-efficacy, and school attendance and academic achievement) were calculated to determine the strength and direction of the relationships. To further investigate possible differences for length of time parenting, an independent t-test was conducted to explore possible group differences between mothers who have parented less than 12 months and mothers who have parented more than 12 months. In this case, the primary purpose was to determine whether the two groups were different on measures of parenting self-efficacy (Hypothesis #3), academic self-efficacy, and school outcomes (Hypothesis #4).

For research question #5, a path analysis was originally planned to examine several possible predictors of academic achievement, including emotional intelligence, self-efficacy beliefs, and school attendance. A path analysis was selected

as a method of analysis to help strengthen the inference of causation, as well as to determine the strength and relationships among the variables. However, through preliminary analyses, the proposed model was not viable and a path analysis of the original model was not conducted.

CHAPTER 4

RESULTS

The present investigation was designed to examine the role of emotional intelligence in predicting self-efficacy, academic achievement, and school attendance among a group of adolescent mothers. In this chapter, the results will be discussed in three main sections. First, results from descriptive analyses will be presented which will examine demographic data of the participants, psychometric properties of the instruments, and key variables of the study. The second section will include statistical analyses required for hypotheses testing. Finally, the third section will include results from supplemental analyses.

Descriptive Analyses

Demographic Data of the Sample

The sample for this study consisted of 108 female students from various high schools throughout Pennsylvania. Participants were referred and recruited through a pregnant and parenting teen program called Education Leading to Employment and Career Training (ELECT). In total, 113 students completed the study; however, data from five students were excluded due to their failure to meet the study's criteria. Of the excluded

students, two were pregnant and not currently parenting, another two were younger than 16-years-old, and one had dropped out since completing the forms. Demographic data of this study's sample are outlined in Table 4.1.

In comparison to Pennsylvania's demographics, the sample had an over-representation of participants who described their ethnicity as "African-American" (16.7%) and "Hispanic" (23.1%). In 2007, reflecting the currently available U.S. Census (n.d.) data, 10.8% and 4.5% of Pennsylvania's general population were African-American and Hispanic, respectively. In contrast, the percentage of white participants was below the state's population rate of 85.6%. In this study, they represented 63.0% of the sample.

The majority of adolescent mothers participating in this study were between the ages of 17- and 18-years old ($M=17.71$, $SD=1.07$) and enrolled in the eleventh and twelfth grades. The average length of time that students were enrolled in the ELECT program was 18.6 months with a range between 1 and 60 months. All, except for seven students, were not married. Only seven students reported having more than one child (i.e., two children). For this sample, the children's ages ranged from 1 to 75 months ($M=17.1$ months, $SD=16.08$). The gender distribution of this sample's first-born was fairly balanced,

Table 4.1 Demographic Characteristics of Sample (n=108)

<u>Variable</u>	<u>No. of Subjects</u>	<u>Percent</u>
<i>Ethnicity</i>		
White	68	63.0
African-American	18	16.7
Asian	3	2.8
Spanish/Hispanic/Latino	25	23.1
American Indian/Alaskan Native	1	0.9
Pacific Islander/Native Hawaiian	0	0.0
Other	2	1.9
<i>Age</i>		
16-years	12	11.1
17-years	33	30.6
18-years	45	42.1
19-years	11	10.3
20-years	3	2.8
21-years	3	2.8
<i>Grade Level</i>		
10 th	6	5.6
11 th	27	25.0
12 th	70	64.8
<i>Marital Status</i>		
Single	99	91.7
Married	7	6.5
Separated	0	0.0
Divorced	0	0.0
Widowed	0	0.0
<i>Number of Children</i>		
One	101	93.5
Two	7	6.4
<i>Gender of First Child</i>		
Male	51	47.2
Female	53	49.1
<i>Gender of Second Child</i>		
Male	6	5.6
Female	1	0.9
Non-applicable	101	93.5

with 47.2% of participants reporting baby boys and 49.1% reporting baby girls. Of the seven participants with two children, only one reported that her second child was a girl; the remaining six conceived baby boys.

The majority of adolescent mothers in this sample lived primarily with their mother (61.0%), father (28.7%), boyfriend (28.7%), or alone (28.7%). A disproportionately high number of participants reported that their parents' marital status was separated, divorced, or widowed (54.0%). For the remainder of the participants, responses indicated that 29.0% of their parents were single (i.e., never been married) and 22.0% were married.

This sample of adolescent mothers reported that their income was largely supplied by their parents (41.7%), followed by employment (38.9%) and public assistance (Food Stamp, 22.2%; Temporary Assistance to Needy Families, 7.4%). The rest of the participants (25%) reported other sources of income, such as from boyfriends, social security income (SSI), or child support.

In addition to living arrangements and sources of income, participants responded to items pertaining to their social support network. Questions measured the degree of involvement from their child(ren)'s father and the number of social support

systems the participants had in place. Responses indicated that over one-half of adolescent mothers have regular contact with their child(ren)'s father. However, a little over 25.0% reported that they rarely (once every other month or less) or never have contact with their child(ren)'s biological father.

An analysis suggested that major sources of social support are the adolescent mother's family, the child(ren)'s father and his family, friends, school, boyfriends, and social service agencies (e.g., ELECT Program). The absence of a support system was not reported by any of the participants.

Among the list of social support networks, responses clearly specified that adolescent mother's families played an important role since they were reported to be a primary source of support for 38.0% of the participants. Additionally, over 75.0% of the participants reported that they were either "Satisfied" or "Very Satisfied" with their support system. A neutral rating was provided for 14.8% of the participants, and a very unsatisfied rating was provided for 2.8% of the participants.

Corresponding to their primary source of social support, it appeared that mothers of parenting students were a main source of child care while participants attended school (39.8%).

Table 4.2 Social Support Systems

Variable	Frequency	Percent
<i>The father of my child(ren) is involved with our lives:</i>		
We live together	34	31.5
Always involved (5-7 times per week)	20	18.5
Very often (3-4 times per week)	7	6.5
Often (1-2 times per week)	7	6.5
Sometimes (1-3 times per month)	9	8.3
Rarely (once every other month or less)	6	5.6
Never (no contact)	23	21.3
<i>I have the following social support systems:*</i>		
My family	99	91.7
My friends	67	62.0
My child's father	58	53.7
My child's father's family	53	49.1
My boyfriend (not baby's father)	18	16.7
My school (teachers, counselors, etc.)	45	41.7
My church	7	6.5
Social service agencies	34	31.5
I have no support system	0	0.0
Other	0	0.0
<i>Primary source of social support (n=63)</i>		
My family	41	38.0
My friends	3	2.8
My child's father	13	12.0
My child's father's family	4	3.7
My boyfriend (not baby's father)	2	1.9
My school (teachers, counselors, etc.)	0	0.0
My church	0	0.0
Social service agencies	0	0.0
I have no support system	0	0.0
Other	0	0.0
<i>Satisfaction with social support networks</i>		
Very satisfied	58	53.7
Satisfied	28	25.9
Neutral	16	14.8
Unsatisfied	0	0.0
Very unsatisfied	3	2.8

*item indicated participants to check all that applies.
 Cumulative percentage does not equal to 100%

Day care centers were reported to provide for 23.1% of the participants' children during school hours. Both the child's father's family and boyfriend (not baby's father) were equally stated as a source of child care for 15.7% of the respondents.

During after-school hours, findings suggested that adolescent mothers have a variety of help with raising their child(ren). On a check-all-that-applies item, 93.5% of the participants reported that they took care of their child(ren), 40.7% reported that their mothers helped watch their children, 35.2% reported that the child(ren)'s father tended to their child(ren), and 16.7% of the participants reported that their fathers helped with childrearing after school. Despite the availability of various caretakers, the majority of respondents indicated that they were the primary caretaker for their child(ren) (n=74, 68.5%). The mother and grandmother of the adolescent mother were cited as primary caretakers for two (1.9%) and one (0.9%) of the participants, respectively.

Each participant was also asked to describe their post-secondary plans after high school. Although a range of responses was provided, it revealed that most had the intention of finding a job and continuing their education or solely pursuing employment.

Table 4.3 Plans After High School

	<u>Response</u>	<u>Frequency</u>	<u>Percent</u>
Find a job		38	35.2
Stay at home		1	0.9
Attend vocational school only		5	4.6
Attend college only		5	4.6
Find a job and attend vocational school		11	10.2
Find a job and attend college		44	40.7
Other		2	1.9

Internal Consistency Reliability Analyses

To confirm the reliability of the instruments utilized within this study, each scale was examined for internal consistency. In general, internal consistencies of employed measures were reliable and within acceptable limits. Cronbach's Alpha coefficients found in this study were comparable to ones reported in the instruments' technical manual or available literature. Table 4.4 outlines the reliability coefficients of those found within this present study and those reported by the test developers.

Table 4.4 Internal Consistency Reliability Coefficients

Scale and Subscales	Test Developer	Present Study
<i>Emotional Quotient Inventory:</i>		
<i>Short Version (EQ-i:S)*</i>		
Positive Impression	.76	.67
Total EQ	.92	.92
Intrapersonal EQ	.81	.77
Interpersonal EQ	.82	.81
Stress Management EQ	.82	.84
Adaptability EQ	.81	.80
General Mood EQ	.85	.81
 <i>Self-Efficacy for Learning Form- Abridged (SELF-A)</i>		
SELF-A Composite	.99	.93
 <i>Parenting Sense of Competence Scale (PSOC)</i>		
Satisfaction Subscale	.75	.77
Efficacy Subscale	.76	.73
PSOC Composite	.79	.80

*Females (<29-years old)

Preliminary Analyses of Key Variables

In order to conduct the multiple regression analysis and path analysis, dependent variables were tested to determine whether assumptions of normality were met. There were some expectations that several variables would not be normally distributed due to the nature of the variables (e.g., attendance, GPA, parenting satisfaction) as well as to the population under study (i.e., adolescent mothers). A descriptive analysis and visual inspection of the distribution of scores were conducted to examine whether skewness and

kurtosis within the data were present. Concerns with normality were identified on all school outcome variables (i.e., GPA and attendance). Both attendance items were positively skewed with scores clustering to the left at the lower values (i.e., more students reported lower number of absences). Whereas, grades reported for individual subjects were negatively skewed with scores clustering to the right at the higher values (i.e., more students reported better grades).

In addition, the Kolmogorov-Smirnov Test of Normality was employed to further examine the distribution of data.

Significant results of $<.05$ indicated that data were not normally distributed and violated assumptions of normality.

Table 4.5 outlines the results of the Kolmogorov-Smirnov Test.

Table 4.5 Kolmogorov-Smirnov Test of Normality

<u>Dependent Variable</u>	<u>Statistic</u>	<u>Df</u>	<u>K-S sig.</u>
SELF-A	.084	108	.059
PSOC Composite	.063	107	.200
PSOC Satisfaction Subscale	.088	107	.040
PSOC Efficacy Subscale	.063	107	.200
English GPA	.202	99	.000
Math GPA	.230	84	.000
Science GPA	.185	75	.000
Social Studies GPA	.254	92	.000
Absences This Year	.167	89	.000
Absences Last Year	.176	74	.000

The Kolmogorov-Smirnov Test of Normality confirmed the skewness of data for school outcome variables. It also showed a slight violation of normality for the PSOC Satisfaction Subscale. Further visual inspections of PSOC Satisfaction's histogram, boxplot, and Normal Q-Q Plot determined that the distribution is within reasonable limits for further analyses. However, these violations should be considered while interpreting the data.

Descriptive statistics for the Emotional Quotient Inventory: Short Version (EQ-i:S), the Self Efficacy for Learning Form- Abridged (SELF-A), and the Parenting Sense of Competence (PSOC) are presented in Table 4.6. Findings indicated that the mean emotional intelligence quotient (Total EQ) for this sample of participants was slightly below the population mean of 100 with a standard deviation of 15 (i.e., $M=93.98$, SD of 17.00). Several subscales of the EQ-i:S were also below the average mean of the scale's normative sample: Interpersonal EQ ($M=91.36$, $SD=19.76$), Adaptability EQ ($M=90.07$, $SD=17.94$), and General Mood EQ ($M=93.69$, $SD=16.47$). For this sample, the mean of the Intrapersonal EQ subscale was almost exactly at the population mean of 100 with a standard deviation of 15 ($M=100.59$, $SD=15.38$), whereas the Stress Management subscale had a mean of 99.81 and standard deviation of 17.94.

The Positive Impression index, which detected extreme response styles, had a mean of 103.94 and was well within the acceptable range. According to Bar-On (2002), scores 130 and above indicated an overly positive response style, whereas scores 70 and below indicated a consistently negative response style.

Table 4.6 Descriptive Statistics of the EQ-i:S, SELF-A, and PSOC

Scale and Subscales	<u>Mean</u>	<u>SD</u>
<i>Emotional Quotient Inventory:</i>		
<i>Short Version (EQ-i:S)</i>		
Total EQ	93.98	17.00
Intrapersonal EQ	100.59	15.38
Interpersonal EQ	91.36	19.76
Stress Management EQ	99.81	17.94
Adaptability EQ	90.07	17.94
General Mood EQ	93.69	16.47
Positive Impression	103.94	14.53
 <i>Self-Efficacy for Learning Form-</i>		
<i>Abridged (SELF-A)</i>		
SELF-A Composite	65.12	16.77
 <i>Parenting Sense of Competence</i>		
<i>Scale (PSOC)</i>		
Satisfaction Subscale	37.13	7.65
Efficacy Subscale	35.08	4.71
PSOC Composite	72.22	10.88

For the SELF-A, 108 participants attained an average score of 65.12 ($SD=16.77$). The self-report scale was based on a 10-point rating scale from 0 to 100. A mean score of 65.12 indicated that the academic self-efficacy beliefs for this study's sample were not overly high or low. Higher scores on

this instrument indicated greater levels of self-efficacy for learning, where 100 indicated solid confidence towards academic tasks.

For the PSOC, the index and composite scores revealed high mid-range averages. In this sample, a mean of 37.13 ($SD=7.65$) was found for the Satisfaction Subscale, where the highest possible score was 54 and the lowest possible score was nine. Similarly, a high mid-level mean of 35.08 ($SD=4.71$) was found for the Efficacy Subscale, where the highest possible score was 42 and the lowest possible score was seven. On the PSOC Composite, the participants of this study attained a mean of 72.22 ($SD=10.88$), with a range between 16 and 96.

Statistical Analyses

Research Question #1: *Is there a relationship between emotional intelligence and self-efficacy (i.e., parenting self-efficacy and academic self-efficacy) in a sample of adolescent mothers?*

Pearson Product Moment correlations were obtained between emotional intelligence variables (i.e., indices and composite) and self-efficacy variables. In determining the strength of relationships, correlations between .10 to .29 were considered small, correlations between .30 to .49 were considered moderate, and correlations between .50 to 1.0 were considered

large (Cohen, 1988). Table 4.7 outlines the correlation coefficients for the first research question.

Table 4.7 Pearson Product Moment Correlations for Emotional Intelligence and Self-Efficacy Variables

	<u>Academic Self- Efficacy</u>	<u>Parenting Satisfac- tion</u>	<u>Parenting Self- Efficacy</u>	<u>Total PSOC Score</u>
<u>Intrapersonal</u>	.367**	.330**	.373**	.394**
<u>Interpersonal</u>	.383**	.200*	.386**	.309**
<u>Stress Management</u>	.329**	.311**	.362**	.375**
<u>Adaptability</u>	.333**	.297**	.400**	.382**
<u>General Mood</u>	.377**	.485**	.420**	.523**
<u>Emotional Quotient</u>	.489**	.446**	.528**	.542**
<u>Positive Impression</u>	-.011	.130	.067	.120

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

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

For this sample, significant and moderate correlations were found between emotional intelligence and self-efficacy variables. Aside from the Positive Impression subscale, academic and parenting self-efficacy have moderate, yet positive relationships with Intrapersonal EQ, Interpersonal EQ, Stress Management, Adaptability, General Mood, and Total EQ. A low, but significant, correlation between Interpersonal EQ and

parenting satisfaction ($r=.200$, $p\leq 0.05$) was found. None of the correlations between the Positive Impression scale and self-efficacy variables were significant.

In summary, higher emotional intelligence scores were related to academic and parenting self-efficacy beliefs as hypothesized; correlations between these variables were moderate.

Research Question #2: *Is there a relationship between emotional intelligence and school outcomes in a sample of adolescent mothers?*

Pearson Product Moment correlations were obtained between emotional intelligence variables (i.e., indices and composite) and school outcome variables. Table 4.8 outlines the correlation coefficients for the second research question.

For this sample, small but significant correlations were found between participants' Social Studies GPA and Interpersonal EQ ($r=.230$, $p\leq .05$), General Mood ($r=.252$, $p\leq .05$), and Total EQ ($r=.227$, $p\leq .05$). No other significant results were found.

Aside from Social Studies GPA, emotional intelligence scores were not related to school outcome variables as hypothesized. Most correlations between these variables were small and nonsignificant. In summary, findings suggest that

Table 4.8 Pearson Product Moment Correlations for Emotional Intelligence and School Outcome Variables

	<u>English GPA</u>	<u>Math GPA</u>	<u>Science GPA</u>	<u>Social Studies GPA</u>	<u>Absences This Year</u>	<u>Absences Last Year</u>
<u>Intrapersonal</u>	-.112	.080	-.095	.083	.043	.042
<u>Interpersonal</u>	.044	.156	.091	.230*	.094	.030
<u>Stress Management</u>	-.030	.109	-.021	.140	-.042	.032
<u>Adaptability</u>	.048	.019	-.003	.168	.112	-.090
<u>General Mood</u>	.077	.131	.106	.252*	-.076	-.132
<u>Emotional Quotient</u>	.002	.134	.019	.227*	.031	-.027
<u>Positive Impression</u>	-.047	-.050	.025	.052	.119	-.183

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

only Social Studies achievement may be related to particular domains of emotional intelligence.

Research Question #3: *What is the relationship between the length of time parenting and parenting self-efficacy?*

Pearson Product Moment correlations and independent samples t-tests were utilized to determine whether a relationship existed between length of time parenting and parenting self-efficacy. The age of the first-born child was used to determine an adolescent mother's length of time parenting. Correlations are provided in Table 4.9.

Table 4.9 Pearson Product Moment Correlations for Length of Time Parenting and Parenting Self-Efficacy Variables

	<u>Length of Time Parenting</u>
Satisfaction Subscale of PSOC	-.083
Efficacy Subscale of PSOC	-.040
PSOC Composite	-.076

Results from the bivariate analysis did not indicate a relationship between length of time parenting and parenting self-efficacy beliefs. None of the PSOC subscale or composite scores were significant.

An independent samples t-test was conducted to further examine whether differences in parenting self-efficacy would

arise when adolescent mothers were separated into two groups: those parenting fewer than 12 months (n=55) and those parenting longer than 12 months (n=52). Results of the independent samples t-test are listed in Table 4.10. There was no significant difference in Satisfaction Subscale scores for adolescent mothers parenting less than twelve months (M=37.76, SD=7.409) and adolescent mothers parenting more than twelve months (M=36.46, SD=7.910). The magnitude of the difference in means was very small ($\eta^2=.007$). On the Efficacy Subscale, no significant difference was found for adolescent mothers parenting less than twelve months (M=35.11, SD=4.512) and adolescent mothers parenting more than twelve months (M=35.06, SD=4.956). The magnitude of the difference in means was very small ($\eta^2=.00003$). Lastly, no significant difference was found on the PSOC Composite scores for adolescent mothers parenting less than twelve months (M=72.89, SD=10.609) and adolescent mothers parenting longer than twelve months (M=71.52, SD=11.214). The magnitude of the difference in the means was very small ($\eta^2=.005$).

Table 4.10 Independent Samples T-Test for Length of Time Parenting and Parenting Self-Efficacy

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig.
Satisfaction Subscale (PSOC)	Equal variances assumed	.493	.484	.879	105	.381
Efficacy Subscale (PSOC)	Equal variances assumed	.207	.650	.056	105	.955
PSOC Composite	Equal variances assumed	.150	.699	.650	105	.517

It was originally hypothesized that adolescent mothers who have been parenting longer would score higher on parenting self-efficacy measures. However, in this study, analyses did not support the hypothesis since no significant relationships between length of time parenting and parenting self-efficacy beliefs were found in this sample. The independent samples t-test suggested small or very little effect sizes between the means scores of adolescent mothers who were parenting less or more than 12 months.

Research Question #4: *What is the relationship between the length of time parenting and academic self-efficacy and school outcomes?*

Pearson Product Moment correlations and independent samples t-tests were utilized to determine whether a relationship existed between length of time parenting and academic variables such as self-efficacy and school outcomes. The age of the first-born child was used to determine an adolescent mother's length of time parenting. Correlations are provided in Table 4.11

Results from the bivariate analysis did not indicate a relationship between length of time parenting and academic variables. GPA's, absences, and academic self-efficacy beliefs were not significantly related to length of time parenting.

Table 4.11 Pearson Product Moment Correlations for Length of Time Parenting and School Outcome Variables

	<u>Length of Time Parenting</u>
English GPA	.052
Math GPA	-.163
Science GPA	-.009
Social Studies GPA	.057
Absences (This Year)	-.131
Absences (Last Year)	-.067
Academic Self-Efficacy	.028

An independent samples t-test was conducted to further examine whether differences in academic variables would arise when adolescent mothers were separated into two groups: those parenting fewer than 12 months (n=55) and those parenting more than 12 months (n=52). Results of the independent samples t-test are listed in Table 4.12. No significant differences were found between the academic variables and how long an adolescent mother has been parenting. Academic achievement scores (i.e., GPA) did not differ between adolescent mothers that parented less or more than 12 months. The magnitudes of the difference in means were considered small or very small (English, $\eta^2 = .009$; Math, $\eta^2 = .004$; Science, $\eta^2 = .014$; Social Studies, $\eta^2 = .009$). School attendance also did not differ between the two groups of mothers based on length of time parenting. The magnitudes of the differences in means for school attendance were very small (absences this year, $\eta^2 = .001$; absences last year, $\eta^2 = .002$). Lastly, on the academic self-efficacy variable, no significant difference was found for adolescent mothers parenting less than twelve months ($M = 64.89$, $SD = 16.240$) and adolescent mothers parenting more than 12 months ($M = 65.36$, $SD = 17.484$). The magnitude of the difference in means was very small ($\eta^2 = .0002$).

Table 4.12 Independent Samples T-Test for Length of Time Parenting and School Outcome Variables

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig.
English GPA	Equal variances not assumed			-.938	93.732	.351
Math GPA	Equal variances assumed	.226	.636	.585	82	.560
Science GPA	Equal variances assumed	.078	.781	-1.033	73	.305
Social Studies GPA	Equal variances assumed	1.717	.193	-.897	90	.372
Absence-This Year	Equal variances assumed	.033	.857	.304	87	.762
Absence-Last Year	Equal variances assumed	2.924	.092	.334	72	.740
Academic Self-Efficacy	Equal variances assumed	.891	.347	-.147	106	.884

It was originally hypothesized that adolescent mothers who have been parenting longer would score higher on all academic variables. However, in this study, analyses did not support the hypothesis since no significant relationships between length of time parenting and academic variables, such as GPA's, attendance, and academic self-efficacy, were found. The independent samples t-test did suggest very small to small effect sizes between the means scores of adolescent mothers who were parenting less or more than 12 months.

Research Question #5: *Is emotional intelligence mediated by self-efficacy variables and school attendance in predicting school achievement?*

Since this hypothesis was not supported by preliminary analyses, a path analysis was not conducted. In order to obtain valid pathway coefficients, a correlation between emotional intelligence and academic achievement must first be identified through bivariate analyses (Baron & Kenny, 1986). Research question #2 explored the required relationships and found small, but significant, relationships only between three emotional intelligence constructs and Social Studies GPA. More specifically, only the Interpersonal, General Mood, and Total EQ scores were correlated to this sample's social studies achievement. No other significant relationships were found

between the independent variable (i.e., emotional intelligence) and dependent variable (i.e., English, Math, and Science GPA's). In conclusion, Hypothesis #5 was rejected and it appears that emotional intelligence is not generally related to school achievement, attendance, or academic self-efficacy.

Supplemental Analyses

Several hypotheses for this study were unsupported by current findings, and additional statistical analyses were conducted to examine whether possible significance would occur when targeted variables were manipulated. More specifically, school outcomes variables were simplified by factor analysis.

In order to answer the first supplemental question, a factor analysis was performed on school outcome variables: English GPA, Math GPA, Science GPA, Social Studies GPA, current school year attendance, and previous school year attendance. Due to missing data, the mean value was substituted for subjects who did not respond or reported "N/A." The six school outcomes variables were subjected to principal components analysis using SPSS Version 16. Prior to performing the analysis, the suitability of data for factor analysis was assessed. An inspection of the correlation matrix revealed the presence of many coefficients of 0.3 and above. The Kaiser-

Meyer-Olkin value was .697, exceeding the recommended value of 0.6 (Kaiser, 1970, 1974) and the Barlett's Test of Sphericity (Bartlett, 1954) reached statistical significance, supporting the factorability of the correlation matrix.

Principal components analysis revealed the presence of two components with eigenvalues exceeding 1, explaining 47% and 18.2% of the variance respectively. An inspection of the screeplot revealed a break after the second component. Using Catell's (1966) scree test, it was decided to retain two components for further investigation using the Parallel Analysis and Oblimin Rotation methods. See Tables 4.13 and 4.14.

The Parallel Analysis indicated the presence of one component with eigenvalues exceeding the corresponding criterion values for randomly generated data of the same size (six variables X 108 participants).

Table 4.13 Eigenvalues from Principal Component Analysis and Criterion Values from Parallel Analysis

Component	Eigenvalue	Criterion Value	Standard Deviation
1	2.82	1.32	.082
2	1.09	1.16	.051
3	.773	1.04	.047
4	.652	.934	.042
5	.354	.828	.044
6	.307	.710	.063

To further aid in the interpretation of the two identified components, an Oblimin rotation was conducted. The rotated solution revealed both components showing a number of strong loadings and all variables, except for Social Studies GPA, loading substantially only on one component. The two-component solution explained a total of 65.2% of the variance, with Component 1 contributing 47% and Component 2 contributing 18.2%.

Table 4.14 Oblimin Rotation of Two Factor Solution for School Outcome Variables

Variable	Component 1 GPA	Component 2 Attendance
English	.893	.132
Science	.816	-.062
Math	.660	.015
Social Studies	.584	-.353
Attendance (Last Year)	.055	.926
Attendance (This Year)	-.046	.765
% of variance explained	47.0	18.2

The interpretation of the two components was consistent with the type of school outcomes measured. That is, GPA measuring academic achievement clustered to form Component 1 and attendance items clustered to form Component 2.

A standard multiple regression analysis was performed on emotional intelligence, parenting self-efficacy, and academic self-efficacy variables, with GPA entered as the criterion

variable. The results are presented in Table 4.15. The multiple R^2 of .338 and adjusted R^2 of .131 indicated that about 13.1% of the variation in GPA was accounted for by a linear composite of emotional intelligence, parenting self-efficacy, and academic self-efficacy as predictor variables. However, this multiple adjusted R^2 was not statistically significant ($p = .141$). Low or no correlations between these predictor variables and GPA were responsible for these insignificant multiple regression results. It was hypothesized that self-efficacy variables would contribute significantly to predicting GPA once emotional intelligence was statistically accounted. However, the only significant standardized coefficients was the academic self-efficacy variable ($\beta = .460$, $p = .014$). Similar to correlational analyses, it appears that academic self-efficacy is the biggest and only contributor in predicting GPA.

Table 4.15 Summary of Standard Multiple Regression Analysis for Emotional Intelligence and Self-Efficacy Variables Predicting GPA

<u>Variable</u>	<u>Beta</u>	<u>Significance</u>
Intrapersonal	-.323	.178
Interpersonal	.250	.343
Stress Management	-.120	.640
Adaptability	-.179	.461
General Mood	.015	.193
Positive Impression	-.122	.494
Academic Self-Efficacy	.460	.014 S
Parenting Satisfaction	2.104	.782
Parenting Efficacy	1.509	.796
PSOC Total Composite	-3.316	.780

Note. N=108; S= significant

A bivariate correlation procedure was conducted to examine whether relationships between self-efficacy and school outcomes variables existed. Table 4.16 outlines the correlation coefficients for this inquiry.

For this study, significant correlations were found for academic self-efficacy and achievement in Math, Science, and Social Studies only. Participants' level of academic self-efficacy did not predict achievement in English or school attendance. Parenting self-efficacy and satisfaction were not related to any school outcome variables.

Table 4.16 Pearson Product Moment Correlations for
Self-Efficacy and School Outcome Variables

	<u>Academic Self-Efficacy</u>	<u>Parenting Satisfac.</u>	<u>Parenting Self-Efficacy</u>
English GPA	.173	.078	-.084
Math GPA	.221*	.143	.158
Science GPA	.250*	.106	.056
Social Studies GPA	.367**	.072	.051
Absences (This Yr.)	-.108	-.010	.044
Absences (Last Yr.)	-.112	-.141	.008

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

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

Lastly, Pearson Product Moment correlations were obtained for variables related to the social support network of adolescent mothers. The relationship between father involvement, rate of satisfaction with their social support networks, parenting satisfaction, parenting self-efficacy, and the total score on the PSOC were investigated. Table 4.17 outlines the correlation coefficients for this analysis.

For this sample, no relationship was significant for the involvement level of the child's father. The level of satisfaction with social support networks were negatively correlated with parenting satisfaction ($r = -.212$, $p < 0.05$) and

Table 4.17 Pearson Product Moment Correlations for Social Support Variables

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Father Involvement (1)	---	---	---	---
Satisfaction with Social Support Network (2)	.015	---	---	---
Parenting Satisfaction (3)	.079	-.212*	---	---
Parenting Self-Efficacy (4)	.072	-.115	.518**	---
Total Score on PSOC (5)	.088	-.199*	.929**	.799**

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

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

the total score on the PSOC ($r = -.199$, $p < 0.05$). The level of parenting satisfaction was positively related to parenting self-efficacy ($r = .518$, $p < 0.01$) and to the total score on the PSOC ($r = .929$, $p < 0.01$). The parenting self-efficacy variable was also positively related to the total score on the PSOC ($r = .799$, $p < 0.01$).

CHAPTER 5

DISCUSSION

The purpose of this study was to examine the role of emotional intelligence in predicting self-efficacy, academic achievement, and school attendance. In this chapter, an overview and discussion of the study findings will be presented with an emphasis on the implication for programs servicing adolescent mothers and their children. Suggestions for future research in this area will be provided in the final section.

For this study, a number of instruments were administered to collect data pertaining to the variables under investigation. Emotional intelligence was assessed with the Bar-On Emotional Quotient: Short Version (EQ-i:S), and self-efficacy variables were measured with the Self-Efficacy for Learning Form-Abridged (SELF-A) and the Parenting Sense of Competence scale(PSOC). School outcome variables, such as grades and attendance, were obtained through student reports and confirmed through school records.

Several hypotheses were posed for this study. First, it was hypothesized that a positive relationship between emotional intelligence and self-efficacy and school outcomes would exist. Secondly, it was hypothesized that the length of time parenting influenced self-efficacy variables. And lastly, a final

hypothesis posited that self-efficacy and school attendance variables mediated the relationship between emotional intelligence and school achievement.

Due to the recent interest in the predictive value of emotional intelligence, this current study sought to investigate its role in projecting self-efficacy and school outcomes among a sample of adolescent mothers. According to Goleman (1995), emotional intelligence plays a vital part in everyday functioning. Goleman (1995) actually claimed that emotional intelligence can account for up to 60% of the variance in global success. Therefore, it is only logical to explore emotional intelligence within a group that has a likelihood to experience bleak outcomes related to the effects of early parenting (Caulfield & Thomson, 1999; Furstenberg et al., 1989; Kirby, 2002; Letourneau et al., 2004; Trad, 1999).

Increasing educational attainment for pregnant and parenting adolescents is one of the central goals of programs developed and implemented for this population. According to Caulfield and Thomson (1999), early parenting often interferes with a young lady's ability to obtain an education and increases the likelihood of dropping out of high school, depending on public assistance, and experiencing difficulty gaining stable and sustainable employment. In their

literature, the authors stated that approximately 25% of adolescent mothers reported pregnancy and parenting as a major cause for their decision to terminate formal education.

As a result, this study aimed to focus on variables that may potentially enhance the circumstances of adolescent mothers and to provide recommendations to programs targeting pregnant and parenting adolescents. The relationship between emotional intelligence and several variables salient to the global success of adolescent mothers were identified and explored (i.e., academic self-efficacy, parenting self-efficacy, and school outcomes).

Findings indicated that the moderate correlation between emotional intelligence and academic and parenting self-efficacy is significant. Adolescent mothers who scored highly on a measure of emotional intelligence (i.e., EQ-i:S) also tended to score highly on measures of self-efficacy (i.e., Parenting Self-Efficacy Index-PSOC and SELF-A). In Bandura's work (1977, 1982, 1989), an individual's level of self-efficaciousness is said to be highly correlated to task outcomes. It is believed that individuals with positive self-efficacy beliefs tend to display higher levels of perseverance and emotional control which increases the probability of success (Jerusalem & Mittag, 1995). For the purpose of this study, it appears that

emotional intelligence should have some impact on this sample's parenting and academic behaviors.

It is interesting to note that only a significant, yet small, correlation between parenting satisfaction, as measured by the Parenting Satisfaction Subscale-PSOC, and the Interpersonal EQ Index was found. No other emotional intelligence indices were related to parenting satisfaction. It is unclear why other significant correlations were not found between these variables since it is reasonable to assume that other EQ-i: S indices measuring constructs such as stress management, adaptability, and general mood would be correlated with parenting satisfaction.

A bivariate analysis revealed some unexpected results and determined that significant correlations between emotional intelligence and most school outcome variables were not found. Except for Social Studies, academic subjects and school attendance were not related to this sample's level of emotional intelligence. Since academic self-efficacy was found to be associated with emotional intelligence, a direct and significant correlation between emotional intelligence and school outcomes was highly anticipated. On the other hand, achievement in social studies was correlated with several emotional intelligence indices: Interpersonal EQ, General Mood,

and Total EQ. Although correlations were small, they were significant at the 0.05 level. Not surprisingly, this relationship suggests that Social Studies is a subject that requires students to be aware of others and understand connections between people and the surrounding world.

Despite the disappointing results between emotional intelligence and achievement, a bivariate analysis did find academic self-efficacy to be significantly and moderately correlated with GPA's in math, science, and social studies. These findings generally supported the notion that self-efficacy corresponded with related outcomes (Bandura, 1977, 1982, 1989).

The length of time parenting variable was also examined to determine whether actual experiences with child-rearing may correlate with parenting self-efficacy and school outcomes. It was postulated that once adolescent mothers gain familiarity, or even mastery, of parenting, their beliefs in their child-rearing ability and their focus and achievement on school endeavors will increase over time. Results from this study contradicted this hypothesis. As a matter of fact, for this sample, parenting self-efficacy and parenting satisfaction were not significantly correlated with length of time parenting.

The findings may be related to the negative psychological effects and self-fulfilling prophecy phenomena described by Schultz (2001). According to her research, Schultz (2001) reported that adolescent mothers are frequently labeled as failures by adults. This viewpoint may have led school professionals and parenting students to lower their expectations and goals which is likely to affect any positive outcomes such as self-efficacy and school performance. Although some parenting students reported that raising a child is a source of determination and motivation for completing high school, it is also a major obstacle to overcome, especially if adequate external support is not available (Gray & Ramsey, 1986). Caulfield and Thomson (1999) found that approximately 25% of their sample cited pregnancy as their primary reason for discontinuing school. It may be that adolescent mothers recognize the benefits of earning a high school diploma, which will allow them to obtain employment; however, reaching those goals may appear insurmountable with the various responsibilities they confront on a daily basis. Corresponding to research by Caulfield and Thomson (1999), this current study suggests that the competing demands of adolescence, parenting, and school do not foster a sense of parenting competence (i.e., self-efficacy) and higher educational attainment (i.e., school

attendance and GPA) which could possibly lead to higher school drop out rates.

Since literature have examined the importance of social support networks on the functioning of adolescent mothers, this study also investigated the relationship between parenting variables and various social support systems. According to Turner et al. (1990), there is supporting evidence that social support likely buffers the effects of environmental stressors confronted by parenting teens. It appears that the source, quality, type, timing, and duration of received support may influence some long-termed outcomes such as reduced life stress and fewer repeat pregnancies (Way & Leadbeater, 1999).

Interestingly, this study found that the child's father involvement was not related to parenting satisfaction and self-efficacy in this sample. In other words, in this group of teen mothers, the involvement of their child's father did not relate to their perception of child-rearing skills or satisfaction with being a mother (Way & Leadbeater, 1999).

An item measuring participants' satisfaction with all their available support systems revealed a high mean of 1.69 (sd=.934). Responses ranged from one(1) through five(5), where one (1) indicated the highest level of satisfaction. The obtained mean indicated that most sampled adolescent mothers

were very satisfied or satisfied with their overall perceived level of support. However, an analysis of this data found that the level of satisfaction with social support networks was negatively, yet significantly, related with parenting satisfaction and the total score on the PSOC. The similarity between this finding and those reported by Way and Leadbeater's (1999) may appear contradictory to logical reasoning. In Way and Leadbeater (1999), the authors reported that adolescent mothers who lived at home and received greater familial support were less likely to succeed academically as compared to their counterparts who did not live at home or receive high levels of support. They posited that teen mothers may over-rely on the support they received, and the motivation towards self-sufficiency may have diminished. The current data similarly implies that an over-reliance on social support networks may have damaging effects to an adolescent mother's own sense of satisfaction with parenting.

Implications for Practice

A central purpose of this study was to determine whether emotional intelligence would increase positive variables for adolescent mothers thus reducing the negative impact of early childrearing (Caulfield & Thomson, 1999; Furstenberg et al.,

1989; Kirby, 2002; Letourneau et al., 2004; Trad, 1999). This is particularly important due to the widespread epidemic of teen parenting in the United States. Despite a downward trend since 1991, the number of babies born to adolescent mothers in the United States remained relatively high when compared to other industrialized countries. Additionally, an increase of adolescents giving birth occurred in 2005 after 15 years of slow and steady decline. In 2006, the most recently available statistics, there were a total of 441,832 births for mothers between the ages of 10- to 19-years old (Hamilton et al., 2007).

In response to the teen parenting crisis and the negative ramifications of young parenting, a plethora of programs have been developed and implemented to help adolescents prevent unwanted pregnancies and to gain adequate parenting skills and educational opportunities for self-sufficiency. Since emotional intelligence was suggested to support and predict a wide range of human achievement (Goleman, 1995), this study aimed to determine whether this purported malleable construct of emotional intelligence was able to predict positive variables, and if so, to explore the various possibilities of integrating emotional intelligence learning within their service model.

The findings of this study concluded that social and emotional learning may be an important link to fostering parenting students' sense of self-efficacy on both academic and parenting tasks. Cultivating emotional intelligence should enhance academic performance because it addresses the social and affective dimensions of learning. It is assumed that when individuals learn to identify, understand, express, and manage emotions effectively, they will be able to make better life goals and decisions based on both cognitive and emotional aptitudes. According to Mayer and Salovey (1997), emotional intelligence is not a separate entity from cognitive intelligence. The focus should be understanding that emotions help in the facilitation of cognitive processing. Specifically, both cognitions and emotions help individuals problem solve and make thorough and deliberate life decisions.

The impact of emotional intelligence on parenting behaviors should be more than apparent. Emotional intelligence should be able to assist an adolescent mother in monitoring her own feelings and emotional responses when confronted with an infant who is also emotionally distressed; an emotionally intelligent mother will be able to control her behaviors despite her internal feelings and exude empathetic feelings and actions towards her child. The ability to accept change,

adapt, and problem solve intra- and interpersonal dilemmas are concepts salient within emotional intelligence research and literature.

Although social and emotional learning is beyond the scope of this study, several themes integral to pregnant and parenting programs will be considered in the following section. First, in order to meet the first branch of Mayer and Salovey's (1997) conceptual model of emotional intelligence, adolescent mothers are encouraged to learn emotional vocabulary which will ultimately help them in the perception, identification, and expression of feelings in themselves and others, specifically their children. In conjunction to structured instruction, adults and professionals involved in the lives of parenting teens and their children should model appropriate emotional regulation via words and actions. Once students have emotional knowledge, it is also critical to teach them to apply that knowledge to their lives. One such activity that may generalize knowledge is role playing. Role playing various real-life scenarios will allow students to contemplate different schemes that can occur and visualize an assortment of outcomes depending on their emotional management skills and subsequent actions.

A second conclusion of this study suggested that the length of time parenting did not relate to efficacious beliefs about their childrearing skills or to their school performance. This finding was not suggestive of a period of adjustment after child birth as hypothesized. There were no differences between mothers who parented more or less than six months. This result has meaningful significance to professionals who work directly with adolescent mothers, both in and out of school settings. Since the amount of time parenting did not appear to improve any of these measured variables, it indicated that academic support and social services need to concentrate on both new and more experienced mothers. It cannot be assumed that parenting beliefs and competence will increase over time or that services should concentrate primarily on new adolescent mothers.

Another important finding suggested that a delicate balance between support and dependence should be recognized. Both past literature and this current study indicated that too much support and even greater satisfaction with social supports tend to foster some negative ramifications such as over-reliance on social networks, lower school attainment, and decreased satisfaction with childrearing responsibilities. It appears that adults need to relay a clear message expressing their availability for support only, but the ultimate

responsibility for success rest solely on the adolescent mothers themselves.

Recommendations for Future Research

Researchers interested in replicating this study are encouraged to utilize a larger sample of participants. A larger sample size will allow results to be interpreted with greater confidence, especially if missing information is prominent in the data set.

A second recommendation is to utilize an ability-based measurement tool, such as the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT), instead of a self-report instrument for assessing emotional intelligence. As with any self-report scales, the perceptions of individuals, rather than true abilities, were measured. An ability-based instrument appears to collect a purer sample of an individual's emotional reasoning and intelligence. With the employment of a self-report measure, ratings were, at best, assumed to be honest and reliable even with response bias detection mechanisms such as the Positive Impression Scale and the Inconsistency Index. If developed and grounded in empirical research, the use of an ability-based instrument tool may also help to enhance the validity of the construct itself.

A third suggestion for future studies is to employ a comparison group. Since the current study was exploratory in nature, a control group was not utilized to determine whether differences between groups existed. The lack of experimental control provided no foundation for causal inferences. A path analysis was initially proposed to investigate possible causal directionality; however, due to findings of preliminary analyses, the appropriate conditions to conduct a path analysis were not met.

Assumptions and Limitations

Due to the nature and content of the study, several assumptions were made and certain conditions may have limited the application of the findings of this study. The first important assumption was that the EQ-i:S was a valid and reliable measure of emotional intelligence. As the literature review alluded, a true and agreed upon definition and measure of emotional intelligence has not yet materialized. Consequently, a universal measure of emotional intelligence has not been developed or implemented for this study.

Secondly, the voluntary, self-selection process by students and parents may not have generated a truly representative sample of the population under study. This

method of sampling limited the generalizability of the results and should be interpreted with caution when applied to the larger population.

Third, the source of data collection was a limitation. Since the study was voluntary, participants were permitted to omit responses they did not want to answer. As a result, missing responses within the data set may have skewed the results of the analyses.

Fourth, it was assumed that participants were honest in their responses. However, response bias should be considered when interpreting results from this study, especially since information was mainly gathered through self-report scales. However, a number of preventive measures were employed to detect notable biases. For example, the EQ-i:S scoring program computed an Inconsistency Index and a Positive Impression Scale for each participant to identify response variability. Additionally, school attendance and grade point averages (GPA) were crossed-referenced with formal school records. Although a number of response sets may have affected the quality of data (e.g., social desirability, acquiescence, reactivity, history), it was assumed that participants completed the instruments to the best of their ability and knowledge.

Another limitation included the format in which the scales were completed by the participants. The scales were not counter-balanced. The elimination of an order effect was impossible due to the possible need to read each item aloud to a group of participants.

Lastly, the absence of a comparative group (e.g., adolescent mothers who discontinued school, non-parenting high school students) prevented the exploration of possible inter-group differences.

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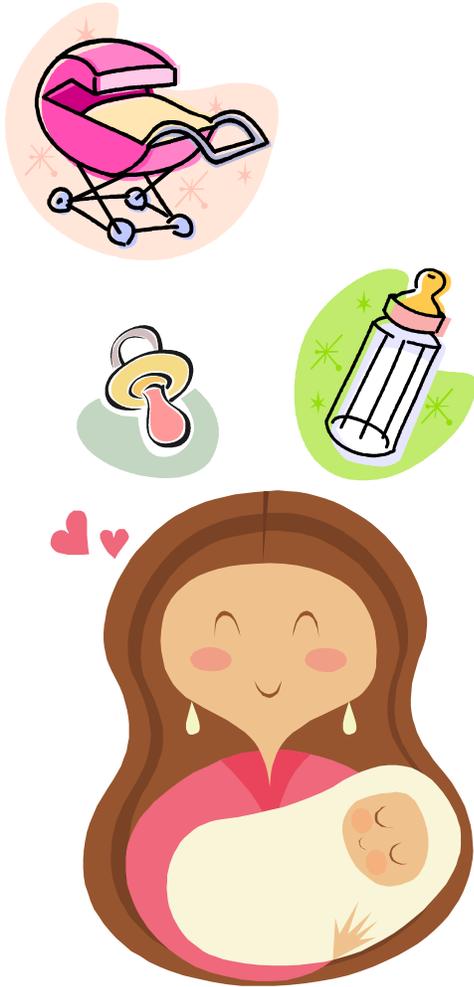
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APPENDICES

APPENDIX A

SOLICITATION FLYER

ARE YOU A TEEN MOTHER TRYING TO COMPLETE YOUR HIGH SCHOOL DIPLOMA?



Be part of an important research study on emotional intelligence and academic success.

Qualifications include:

- Enrolled in the 11th or 12th grade
- 16 years of age or older
- Live with child in the same home

Study participation involves:

- One 1 ½ hour session
- All you have to do is fill out some questionnaires!

For more information and to enroll in this study, please contact:

M. Mei Lui, Ed.M. at 267.672.3934 or mungmlui@temple.edu

Principal Investigator:

Joseph DuCette, Ph.D.

M. Mei Lui
267.627.3934
mungmlui@temple.edu

**APPENDIX B
CONSENT FORM**



CONSENT FORM

Title: Can I Succeed as an Adolescent Mother? Examining the Role of Emotional Intelligence in Predicting Self-Efficacy, Academic Achievement, and School Attendance

Investigator: M. Mei Lui, M.Ed., School Psychology Program, 267.672.3934

Advisor: Joseph DuCette, Ph.D., College of Education, 215.204.4998

September 1, 2007

Dear ELECT Participant:

You can be part of a study that looks at emotional intelligence in teen mothers. The way you handle your feelings have been related to success in school and life goals. The reason for this study is to learn how emotions influence your life as a mother and student. With your help, I hope the results will aid teen parenting programs to better serve young mothers.

You will be asked to complete a series of forms, which ask questions about you, your emotions, and your feelings about parenting and school. Your school record will be looked at for grade point averages (GPA's) and attendance only. In order to complete the forms, you will need to be available for one 1 ½ hour session. The forms will be completed in your ELECT Program office or at your school.

Your information will not be shared with anyone. The forms will be coded, and the information will be put into a computer with this code. No information linking you to the study will be included in any written report and all information will be reported as a group. Everything you fill out will be stored securely. I, M. Mei Lui, will be the only person who will be able to see the forms. The risks for this study are no more than completing a paper and pencil test.

Initials _____

Title: Can I Succeed as an Adolescent Mother? Examining the Role of Emotional Intelligence in Predicting Self-Efficacy, Academic Achievement, and School Attendance

You can decide to participate or not to participate. It will not affect your academic standing in your school or with Temple University. If you decide to join this study, you are free to not answer any question that may make you uncomfortable. You may leave at any time without consequence. You are welcomed to ask questions at any time; our phone numbers are listed at the beginning of this letter.

This research study has been reviewed and approved by the Institutional Review Board-Human Subjects in Research at Temple University. For research-related problems or questions regarding subjects' rights, you may contact Richard Throm, Office of the Vice President for Research, Institutional Review Board, Temple University, 3400 N. Broad Street, Philadelphia, PA 19140, (215) 707-8757.

I have read and understand the above information on this consent form. I have received a copy of this form to keep for myself. I understand that the procedures involved in this study, *Can I succeed as an adolescent mother?: Examining the role of emotional intelligence in predicting self-efficacy, academic achievement, and school attendance*, involve very minimal risks, and I voluntarily agree to participate in the study.

Student's Name (please print) _____

Student's Signature _____ Date _____

.....

Investigator's Name (please print) _____

Investigator's Signature _____ Date _____

***** Thank you for your time and participation*****

APPENDIX C

PARENTAL CONSENT STATEMENT



PARENTAL CONSENT STATEMENT

Title: Can I Succeed as an Adolescent Mother? Examining the Role of Emotional Intelligence in Predicting Self-Efficacy, Academic Achievement, and School Attendance

Investigator: M. Mei Lui, M.Ed., School Psychology Program, 267.672.3934

Advisor: Joseph DuCette, Ph.D., College of Education, 215.204.4998

September 1, 2007

Dear Parent:

Your child is invited to take part in a project designed to examine the role of emotional intelligence in teen mothers. Emotional intelligence is believed to be important for school and life successes. The goal of this project is to learn what role emotional intelligence plays in your child's beliefs about parenting and school. With your child's participation, we hope this study will be helpful to teen parenting programs which seek to foster emotional competence, academic success, and general well-being.

Your child will be asked to complete a series of self-report forms, which contain questions relating to herself, her emotions, and her feelings about parenting and school. Your child's school record will be examined only for grade point averages (GPA's) and attendance. The self-report forms should take no more than one-and-a-half (1 1/2) hours of your child's time to complete. The location to complete the forms will either be at your child's ELECT Program office or school.

Your child's participation is voluntary and confidential. The forms filled out by your child will be labeled with a code, and the information provided will be put into a computer database, using only her code identity. No information linking your child to the study will be included in any report

Initials _____

Title: Can I Succeed as an Adolescent Mother? Examining the Role of Emotional Intelligence in Predicting Self-Efficacy, Academic Achievement, and School Attendance

that might be published. Research records will be stored securely, and only M. Mei Lui, the investigator, will have access to the records. All results will be reported in group form. The risks associated with this study are no more than completing a paper and pencil test.

If you and your child decide to participate, you are free to refuse to answer any question that may make you or your child uncomfortable. The decision whether or not to participate will not affect your child's academic standing in her school or with Temple University. Your child may withdraw at any time without consequence. You and your child are welcomed to ask questions at any time; our phone numbers are listed at the beginning of this letter.

This research study has been reviewed and approved by the Institutional Review Board-Human Subjects in Research at Temple University. For research-related problems or questions regarding subjects' rights, you may contact Richard Throm, Office of the Vice President for Research, Institutional Review Board, Temple University, 3400 N. Broad Street, Philadelphia, PA 19140, (215) 707-8757.

I have read and understand the above information on this consent form. I have received a copy of this form to keep for myself. I understand that the procedures involved in this study, *Can I succeed as an adolescent mother?: Examining the role of emotional intelligence in predicting self-efficacy, academic achievement, and school attendance*, involve very minimal risks, and I voluntarily agree to have my child participate in the study.

Parent's Name (please print) _____

Parent's Signature _____ Date _____

Child's Name (please print) _____

Investigator's Name (please print) _____

Investigator's Signature _____ Date _____

*** *Thank you for your time and participation* ***

APPENDIX D

SCRIPT FOR EMOTIONAL INTELLIGENCE STUDY

*For author of study

Hello Ladies!

My name is Mei Lui, and I am a student from Temple University, in Philadelphia. A couple of weeks ago, you received a letter in the mail which contained information and materials about a study I will be conducting as a graduation requirement. A permission slip was included in the package, and you signed and returned it.

Today will be the part of the study in which data will be collected. A series of forms will be passed out to you, and we will complete them together. I will be here to read all directions and questions aloud. This way we can be sure that we all understand what is asked. If you are unsure of what the question is asking, please raise your hand and I will come to your desk.

Before we start, I want to stress the importance of writing neatly. Although I would like you to answer all the questions, you do not have to respond to any items that you are uncomfortable with. *Pass out the assessment packages.*

Okay. The first form we want to complete is called the Demographic Questionnaire for Adolescent Mothers. It is the yellow form on top, and it is what I use to gather general information. Don't worry- once all your information is collected, it is put into my computer system confidentially. This means that your names will not be associated with the answers you give me; instead a special code will be in place for your name, so no one will know who you are. Let's start with the About Me section..... *continue to read the items one by one until the form is complete. Make sure participants put a * where needed.*

The next thing we will complete is called the Emotional Quotient Inventory. It is the form that looks like this (*hold up EQ-i:S*). Please do not put your name on the form. I have

already labeled it with your secret code. *Point to location of code. Read the standardized directions for the EQ-i:S.* Okay. Question 1 is..... *continue to read the items one by one until the form is complete.*

This last form is a little bit longer (*hold up Parenting Sense of Competence Scale and Self-Efficacy for Learning Scale*). There are two things that it is asking- how you feel about school and how you feel about parenting. It is important that you answer all questions honestly and to the best of your ability. Remember there is no right or wrong answers; it is just the way you feel and everyone's feelings are different and unique.

The way you answer the first section is a little bit different from how you answered the last form. You see on the top of the first page (*hold up Self-Efficacy for Learning Scale, and point to rating scale*), the way you answer would be in percentages; 0% means you definitely cannot do it, and 100% means that you definitely can do it. The numbers between 10% and 40% means that you probably cannot do it, and the numbers between 60% and 90% means that you probably can do it, with 50% as a maybe. Does anyone have any questions? (*wait and answer all questions before beginning*). Question 1 is..... *continue to read the items one by one until the form is complete.*

We're almost done. Only 17 more questions to go. The rating changed again with 1 meaning strongly agree and 6 meaning strongly disagree. Any questions? (*wait and answer all questions before beginning*). Question 1 is..... *continue to read the items one by one until the form is complete.*

Whew! We are all done! I want to thank every one of you for participating in this study and helping me graduate. I wish you all the best of luck with your school work and hope that you all will reach your goals and dreams!

APPENDIX E
SCRIPT FOR EMOTIONAL INTELLIGENCE STUDY
*For ELECT staff

Hello!

A couple of weeks ago, you received a letter which contained information and materials about a study that is being conducted from Temple University. A permission slip was included in the package, which you have signed and returned.

Today will be the part of the study in which data, or information, will be collected. A series of forms will be passed out to you, and we will complete them together. I will be here to read all directions and questions aloud. This way we can be sure that we all understand what is asked. If you are unsure of what the question is asking or what a word means, please let me know.

Before we start, I want to *stress the importance of writing neatly*. Although I would like you to answer all the questions, you do not have to respond to any items that you are uncomfortable with. If you come across this, please write a "NA" next to the question. This way we will know that you have not overlooked the question. Also, only write your name on the Demographic Questionnaire form; the other forms will have a code that matches the one on the Demographic form. This is to ensure that your information remains confidential. Therefore, it is *very important* to keep your packages together by paperclipping them back together after we are done. *Pass out the assessment package(s)*.

Okay. The first form we want to complete is called the Demographic Questionnaire for Adolescent Mothers. It is the yellow form on top, and it is what is use to gather general information. Don't worry- once all your information is collected, it is put into a computer system confidentially. This means that your names will not be associated with the answers you give me; instead the special code will be in place for your name, so no one will know who you are. Let's start with the About Me section..... *continue to read the items one by one until the forms are complete. Make sure participant(s) put a * where needed.*

The next thing we will complete is called the Emotional Quotient Inventory. It is the form that looks like this (*hold up EQ-i:S*). Please do not put your name on the form. It is already

labeled with your secret code. *Point to location of code. Read the standardized directions for the EQ-i:S (on top of survey).* Okay. [Does everyone/Do you] understand how to complete this? *(answer any questions before proceeding)* Now. Question 1 is..... *continue to read the items one by one until the forms are complete.*

This last form is a little bit longer *(hold up the Parenting Sense of Competence Scale and Self-Efficacy for Learning Scale)*. There are two things that it is asking- how you feel about school and how you feel about parenting. It is important that you answer all questions *honestly and to the best of your ability*. Remember there is no right or wrong answers; it is just the way you feel and everyone's feelings are different and unique.

The way you answer the first section is a little bit different from how you answered the last form. You see on the top of the first page *(hold up Self-Efficacy for Learning Scale, and point to rating scale)*, the way you answer would be in percentages; 0% means you definitely cannot do it, and 100% means that you definitely can do it. The numbers between 10% and 40% means that you **probably cannot do it**, and the numbers between 60% and 90% means that you **probably can do it**, with 50% as a **maybe**. [Does anyone/Do you] have any questions? *(wait and answer all questions before beginning)*. Question 1 is..... *(continue to read the items one by one until the question #19 is complete)*

We're almost done. Seventeen (17) more questions to go. Be careful, the rating changed again with 1 meaning **Strongly Agree**, 2 meaning **Agree**, 3- **Mildly Agree**, 4-**Mildly Disagree**, 5- **Disagree**, and 6- **Strongly Disagree**. Any questions? *(wait and answer all questions before beginning)*. Question 1 is..... *continue to read the items one by one until the form is complete.*

Now, we are all done! Mei, from Temple University, wanted to THANK YOU for participating. If you have any questions about what you have just done, please let me know and we can contact her with your question.

- My child's father
- My church
- My child's father's family
- Social service agencies

HOW SATISFIED ARE YOU WITH YOUR SOCIAL SUPPORT NETWORKS? (Circle one)

Very Satisfied Satisfied Neutral Unsatisfied Very Unsatisfied

HOW LONG HAVE YOU BEEN IN THIS PARENTING PROGRAM: _____ YRS. _____ MNTHS.

DURING SCHOOL, MY CHILD CARE PROVIDER IS:

(Circle all that applies AND put a * next to the person who takes care of your child the most often)

- Day Care Center
- Family Day Care Home
- Babysitter (not related to you)
- My mother
- My father
- My grandmother
- My grandfather
- My older sister
- My older brother
- My child's father
- My child's father's family
- My boyfriend (not baby's father)
- Other: _____

AT HOME, MY CHILD'S CARETAKER IS:

(Circle all that applies AND put a * next to the person who takes care of your child the most often)

- Me
- Babysitter (not related to you)
- My mother
- My father
- My grandmother
- My grandfather
- My older sister
- My older brother
- My child's father's family
- My child's father
- My boyfriend (not baby's father)
- Other: _____

I understand the purpose, requirements, and risks of this study. At any time, I may voluntarily withdraw my participation without penalties. By signing below, I am giving permission for my information to be used for research in a confidential manner.

Signature: _____ **Date:** _____

APPENDIX G

SELF-EFFICACY FOR LEARNING FORM- ABRIDGED

(SELF-A; Zimmerman & Kitsantas, 2005)

Definitely <i>cannot do it</i>			Probably <i>cannot</i>		Maybe	Probably <i>can</i>		Definitely <i>can do it</i>		
0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

Choose a percentage to indicate your answer.

1.	When you miss a class, can you find another student who can explain the lecture notes as clearly as your teacher did?	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
2.	When your teacher's lecture is very complex, can you write an effective summary of your original notes before the next class?	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
3.	When a lecture is especially boring, can you motivate yourself to keep good notes?	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
4.	When you had trouble understanding your instructor's lecture, can you clarify the confusion before the next class meeting by comparing notes with a classmate?	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
5.	When you have trouble studying your class notes because they are incomplete or confusing, can you revise and rewrite them clearly after every lecture?	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
6.	When you are taking a course covering a huge amount of material, can you condense your notes down to just the essential facts?	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
7.	When you are trying to understand a new topic, can you associate new concepts with old ones sufficiently well to remember them?	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
8.	When another student asks you to study together for a course in which you are experiencing difficulty, can you be an effective study partner?	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
9.	When problems with friends and peers conflict with school work, can you keep up with your assignments?	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
10.	When you feel moody or restless during studying, can you focus your attention well enough to finish your assigned work?	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

Definitely cannot do it			Probably cannot		Maybe	Probably can			Definitely can do it	
0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

11.	When you find yourself getting increasingly behind in a new course, can you increase your study time sufficiently to catch up?	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
12.	When you discover that your homework assignments for the semester are much longer than expected, can you change your other priorities to have enough time for studying?	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
13.	When you have trouble recalling an abstract concept, can you think of a good example that will help you remember it on the test?	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
14.	When you have to take a test in a school subject you dislike, can you find a way to motivate yourself to earn a good grade?	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
15.	When you are feeling depressed about a forthcoming test, can you find a way to motivate yourself to do well?	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
16.	When your last test results were poor, can you figure out potential questions before the next test that will improve your score greatly?	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
17.	When you are struggling to remember technical details of a concept for a test, can you find a way to associate them together that will ensure recall?	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
18.	When you think you did poorly on a test you just finished, can you go back to your notes and locate all the information you had forgotten?	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
19.	When you find that you had to “cram” at the last minute for a test, can you begin your test preparation much earlier so you won’t need to cram the next time?	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

APPENDIX H

PARENTING SENSE OF COMPETENCE SCALE

(PSOC; Johnston & Mash, 1989)

Circle the number which best describes your feelings towards parenting.

	Statements		Strongly Agree	Agree	Mildly Agree	Mildly Disagree	Disagree	Strongly Disagree
1.	The problems of taking care of a child are easy to solve once you know how your actions affect your child, an understanding I have acquired.		1	2	3	4	5	6
2.	Even though being a parent could be rewarding, I am frustrated now while my child is at his/her present age		1	2	3	4	5	6
3.	I go to bed the same way I wake up in the morning, feeling I have not accomplished a whole lot.		1	2	3	4	5	6
4.	I do not know why it is, but sometimes when I'm supposed to be in control, I feel more like the one being manipulated.		1	2	3	4	5	6
5.	My mother/father was better prepared to be a good parent than I am.		1	2	3	4	5	6
6.	I would make a fine model for a new mother to follow in order to learn what she would need to know in order to be good parent.		1	2	3	4	5	6
7.	Being a parent is manageable, and many problems are easily solved.		1	2	3	4	5	6
8.	A difficult problem in being a parent is not knowing whether you're doing a good job or a bad one.		1	2	3	4	5	6

	Statements		Strongly Agree	Agree	Mildly Agree	Mildly Disagree	Disagree	Strongly Disagree
9.	Sometimes I feel like I'm not getting anything done.		1	2	3	4	5	6
10.	I meet my own personal expectations for expertise in caring for my child.		1	2	3	4	5	6
11.	If anyone can find the answer to what is troubling my child, I am the one.		1	2	3	4	5	6
12.	My talents and interests are in other areas, not in being a parent.		1	2	3	4	5	6
13.	Considering how long I've been a mother. I feel thoroughly familiar with this role.		1	2	3	4	5	6
14.	If being a mother of a child were only more interesting. I would be motivated to do a better job as a parent.		1	2	3	4	5	6
15.	I honestly believe I have all the skills necessary to be a good mother to my child.		1	2	3	4	5	6
16.	Being a parent makes me tense and anxious.		1	2	3	4	5	6
17.	Being a good mother is a reward in itself.		1	2	3	4	5	6

