

ABSTRACT

FUNDERBURK, NANNETTE SMITH. Measurement of Emotional Intelligence in African-American Adolescents: Testing the Validity and Reliability of an Original Instrument. (Under the direction of Dr. Edwin Gerler and Dr. Marc Grimmatt).

The purpose of this dissertation was to develop a valid and reliable measurement tool of emotional intelligence, specifically for African-American adolescents. The problem investigated was that of no existing valid and reliable youth version measurement tool of emotional intelligence that used a sample of African-American adolescents large enough to effect the development of the tool. The investigation also noted the effects of such studies on African-American adolescents in general, such as low performance when compared to other populations and stereotype threat. From these findings the African-American Emotional Intelligence Survey was created and administered. In the study, there were a total of 108 male and female, adolescent and adult participants. The adolescents' ages were between 13-19 years old. All adolescents self-identified as African-American. The adults, who all self-identified as African-American, were between the ages of 20-25 and had work experience with African-American adolescents. Qualitative data were gathered through focus groups and quantitative data were gathered through 2 large group administrations of the survey. The focus groups were held in 3 groups of 6 and the large group administrations held in 3 groups of 30. The results concluded that the survey was valid but unreliable due only to outlier data. Future iterations of the survey will include additional instructions and visual cues to aid in participant ease of use and decrease the chance of outlier data.

Measurement of Emotional Intelligence in African-American Adolescents: Testing the
Validity and Reliability of an Original Instrument.

by

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BIOGRAPHY

Nannette Smith Funderburk is a Licensed Professional Counselor with several years experience counseling children, youth, and adults. Her primary interest is emotional intelligence and how it can be taught to a variety of populations to increase appropriate behavioral responses to everyday stressors.

Nannette's educational background includes a Bachelor of Arts degree from the University of North Carolina Greensboro in Speech Communication and a Master of Science degree in Agency Counseling from North Carolina Agricultural and Technical State University. She has worked as a therapist providing behavioral and mental health therapy to children, youth, and adults; as an adjunct faculty member in the community college system; and as a lecturer at the university level.

Future endeavors include continued post secondary teaching, continued practice of behavioral and mental health therapy, and the development of a non-profit organization dedicated to teaching social and emotional learning skills to various populations.

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CHAPTER 1

Introduction

This chapter addresses the reason for researching emotional intelligence (EI) instruments for African American adolescents as well as the problem of no existing reliable emotional intelligence instruments available to counseling and other professionals for this population. The goal of the research was discussed as well as the scope. Finally, an overview of the study was provided.

Statement of the Problem

Several researchers recognized very early that there are non-cognitive aspects of intelligence that are important. Wechsler (1958) defined intelligence as “the aggregate or global capacity of the individual to act purposely, to think rationally, and to deal effectively with his environment”. Also, Weschler referred to “non-intellective” as well as “intellective” elements (Weschler, 1940) meaning emotional, personal and social factors. He proposed that the non-intellective abilities were vital in predicting a person’s ability to succeed.

Since beginning to use mental ability tests, researchers and lay people alike have questioned the appropriateness of such tests in measuring intellectual ability of certain sociocultural groups and minority groups. There are several arguments against using these types of tests with minority populations, however they all assert that the tests of mental ability are biased against and possibly harmful for minority children. These cries of ethnic test bias came and were heard because of one consistency when analyzing test results. That consistency was that African Americans scored, on average, one standard deviation lower

than whites on most standardized intelligence tests (Hickman & Reynolds, 1987). G. M. Harrington made an assertion for the reasoning of this consistency. He contends that minorities were sampled in such small numbers that they did not significantly affect the item statistics because samples developed to reflect the total population characteristics are predominately White. Test items are chosen based on the responses of the total sample, which is primarily influenced by Whites.

In the Bar-On Emotional Quotient Inventory: Youth Version (EQ-i: YV) there was no mention of African American adolescents used in the sample when norming the test, nor was there mention of ethnic diversity at all. This is an industry well-known measure of emotional intelligence that appears to lack any diversity sampling. It was understood that the researcher's choice not to disclose whether adolescents of color were used in the study does not definitively indicate that adolescents of color were not used. However, in studies such as this, disclosing such a fact would aid in external validity. Because of the sample populations, this measure is not ideal to use with African American adolescents.

From the above reading, it can be seen that there has long been suspicion of standardized measures used with ethnic minorities, specifically African American adolescents, because of the samples used and because of test construction. An answer to the suspicion could lie in a test developed specifically for use with African American adolescents.

Standardized tests determine much in American society. These tests can determine the type of education received, how much funding a program or person receives, or indirectly

and in some situations the level of success a person achieves in life. With this in mind, it seemed more than unfair that on the October 2000 SAT, test makers retained all pretest items on which White students outperformed African American and Latino students, but discarded all pretest items on which African Americans and Latinos outperformed Whites (Young, 2003). The test developers did not know the ethnic identities of the test takers as items were discarded. These items were cast aside because they negatively affected internal consistency (Crain, 2004). Even with this stated, it was an interesting fact that the test takers of color on the whole were negatively affected.

Another problem that has arisen in testing situations is stereotype threat. Stereotype threat is the “decrement in test performance that results when members of some group fear that their test performance will confirm a negative stereotype of their group” (Mayer & Hanges, 2003). Group members will experience stereotype threat, it is believed, if the following three conditions are met.

- 1) The test is relevant to the feared stereotype.
- 2) The construct measured is an important aspect of the group members’ self-concept.
- 3) Group members identify with their group (Mayer & Hanges, 2003).

Steele and Aronson (1995) found they could induce or reduce the gaps in test performance by changing what participants thought the test was assessing. A simple change in test administration could address this issue in many, if not all, test administrations and thereby change the results of the measure.

The problem is simple. The needs of African American adolescents are considered neither in test development and construction, nor when analyzing results in most standardized tests of intellectual and non-intellectual abilities. Because of this oversight, it was imperative that a test addressing the needs of this segment of the population was created. As stated before, several have recognized that there are non-cognitive aspects of intelligence that are important and this includes emotional intelligence. This assumption alone was cause for an accurate measure of the construct in African American adolescents. Furthermore, Harrington's assertion of small African American sample sizes, stereotyped threat, and biased test development are facts that warrant the development of an emotional intelligence measure for African American adolescents.

Goal of the Research

The goal of this research was to create a valid and reliable measure of emotional intelligence for African American adolescents not to replace any previous measure of emotional intelligence. The instrument to be developed as a result of this research addressed the issues of determining emotional intelligence in African American adolescent populations and stereotype threat. Stereotype threat is the "decrement in test performance that results when members of some group fear that their test performance will confirm a negative stereotype of their group" (Mayer & Hanges, 2003). The research questions (RQ) to be addressed are:

RQ 1: Is this measure of emotional intelligence a valid measure when administered to African American adolescents?

RQ 2: Is this measure of emotional intelligence reliable when administered to African American adolescents?

Scope of the Research

The limitations and assumptions of the research are listed below.

Limitations

The study was limited to African American adolescents in Guilford County, North Carolina public and private high schools, middle schools or after school programs.

- 1) The study was limited to a time period of Spring 2007.
- 2) The study was limited to adolescents who will be ages 13 through 18 during the specified time period.

Assumptions

- 1) Administrators at Guilford County, North Carolina public and private high schools, middle schools, and/or after school programs allowed students to participate.
- 2) Parents/guardians of students at Guilford County, North Carolina public and private high schools, middle schools, and/or after school programs allowed students to participate.
- 3) Students were willing to participate by responding to the measure honestly during the allotted time.
- 4) Students understood the language used and questions asked on the measure.

- 5) Questions and/or concerns of the administrators, parents/guardians, and students will be addressed.

Overview of the Study

In chapter two of the dissertation, a literature review detailed current and pioneering research on emotional intelligence and its necessity. Literature also was reviewed on African Americans and emotional intelligence as well as the development of emotional intelligence instruments.

Chapter three of the dissertation discussed how the statement of the problem will be addressed. A description of the participants, statistical procedures used, and procedure for administration of the instrument was addressed.

Chapter four of the dissertation provided the results of the study, specifically a data analysis which included a summary of the findings and answers to the research questions.

Chapter five of the dissertation discussed implications for future research and implications for the use of valid and reliable emotional intelligence testing on African American adolescents and other people of color.

This chapter has addressed the reason for researching emotional intelligence instruments for African American adolescents as well as the problem of no existing reliable emotional intelligence (EI) instruments available to counseling and other professionals for this population. The goal of the research was presented as developing a valid and reliable measure of emotional intelligence. The scope of the research was defined and an overview of the research to be presented was provided.

CHAPTER 2

Literature Review

This chapter will address a review of literature that discusses usefulness of emotional intelligence (EI), emotional intelligence and African American adolescents, and a further critical review of literature researching emotional intelligence measures.

Emotional intelligence has become a popular topic of research among and outside of communities of science alike (Vander Zee and Wabeke, 2004). It has been “portrayed as critical to human success and sometimes even more important than IQ” (Goleman, 1995). In part, because of Daniel Goleman’s 1995 book titled *Emotional Intelligence*, the namesake idea has become popular and has since emerged as a concept of intelligent behavior in the emotional domain. In the book, Goleman states that EI “includes self-awareness and impulse control, persistence, zeal and self-motivation, empathy and social deftness” (Goleman, 1995). His research demonstrates factors at work when a person of high IQ fails and a person of moderate IQ does well. In the book he details how those of moderate IQ are intelligent in a different domain. These people successfully demonstrate emotional intelligence. Goleman also asserts that the costs of low EI can range from marriage and family problems to poor physical health. Fortunately, however, EI is not “fixed at birth” (Goleman, 1995). He discusses how it can be nurtured and strengthened.

Salovey and Mayer (1990) originally defined EI as “the ability to monitor one’s own and others’ emotions to discriminate among them and to use the information to guide one’s thinking and actions.” In a more recent study, Salovey and Mayer (1997) provided a model

with specific attempts to avoid non ability factors such as persistence and warmth. The researchers were careful to note that these factors were a part of the human experience but were separate from emotional intelligence. Salovey's and Mayer's (1997) more recent attempt to conceptualize EI was written as follows: "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 and Salovey, 1997). In accordance with this definition, the abilities were divided into four branches. The lower branches are basic psychological processes such as perception, appraisal, and expression of emotion. The higher branches contained the more complex abilities such as understanding and reflective regulation of emotion (Woitaszewski, 2004). In general, EI is regarded as a construct within human cognitive abilities. Studies have been attempted to uncover a relationship between EI and academic intelligence. A lack of support exists for this partially because academic intelligence refers to maximum intelligence whereas the majority of instruments measuring EI measure typical performance (Cronbach, 1949; Hofstee 2001). This awareness led Petrides and Furnham (2000, 2001) "to propose a theoretical distinction between trait-EI (also referred to as 'emotional self-efficacy') and ability-EI" (Van der Zee and Wabeke, 2004).

To further explain emotional intelligence, Goleman (1995) provided what he called the "anatomy of an emotional hijacking" (Goleman, 1995) through the retelling of a true

story. Richard Robles was a veteran burglar who was recently released from jail. He had committed over 100 burglaries in the past to support a heroin habit. Robles wanted to turn away from a life of crime but desperately needed money to support his family. Because of this, he decided to commit one more burglary.

He broke into an apartment belonging to two young women. Robles, expecting no one to be in the home, was surprised to find Janice Wylie, a researcher at Newsweek magazine, in the apartment. Figuring this would not be a problem, he tied her up and continued to rob the apartment. Unexpectedly again, the second young lady, Emily Hoffert, a grade-school teacher, returned home as Robles was leaving. To make sure he escaped, Robles tied up Hoffert as well.

“When Robles told the story years later, he explained that while he was tying up Hoffert, Wylie warned him he would not get away with this crime: She would remember his face and help the police track him down. Robles, who had promised himself this was to have been his last burglary, panicked at that, completely losing control. In a frenzy, he grabbed a soda bottle and clubbed the women until they were unconscious, then awash in rage and fear, he slashed and stabbed them over and over with a kitchen knife. Looking back on that moment some twenty-five years later, Robles lamented, ‘I just went bananas. My head exploded.’” (Goleman, 1995).

The murders of these two young women became known as the Career Girl Murders. Goleman (1995) called Robles’ actions an emotional explosion and more precisely, a neural hijacking. The hijacking occurs instantaneously at the center of the limbic brain and triggers

a reaction before the neocortex, the thinking brain, has the opportunity to know what is happening. The identifying mark of this hijacking is that after the moment is over, the person experiencing the hijack does not know what came over them. Emotional hijacking can produce such terrible events as the Career Girl Murders but less catastrophic hijackings occur to many people on a frequent basis. (Less catastrophic does not mean less intense.) It can happen when a person honks the car horn outrageously at the driver ahead, who drives the speed limit, all the while wanting to speed past. It can happen when, having already had a trying workday, your children beg, in high pitched, loud voices, for your attention or any number of daily occurring situations. Not all limbic hijackings are distressing. When a joke strikes a person as so hilarious that the laughter erupts without control, this is a limbic response as well, one of intense joy.

Zeidner, Matthews, Roberts, and McCann (2003) assert that there are difficulties and ambiguities in conceptualizing EI. One such ambiguity is that “different constructs may exist under the same name of EI, which can be problematic for scientific study” (Zeidner, et. al., 2003). Some classify EI solely as mental abilities, others classify it as a “mixed model” (Zeidner, et. al., 2003) where there is both mental ability combined with personality and motivation that direct the application of the ability in real life.

Goleman’s theory is a mixed model that has five dimensions of EI: (1) self-awareness, (2) self-regulation, (3) motivation, (4) empathy, and (5) social skills. Mixed models such as Goleman’s may be linked with questionnaires like the EQ-i (Bar-On, 1997) but have been criticized for the overlap into existing personality constructs suggesting they

are not measuring new constructs but a mixture of existing ones (Davies, Stankov, and Roberts, 1998; Matthews, Zeidner, and Roberts, in press).

Conversely, ability models measure EI by objective, performance based scales. The four-branch model of Salovey, Mayer, and Caruso (2000) “groups the psychological processes supporting (1) perception and identification of emotion in the self and others, (2) utilization of emotion to facilitate cognition and performance, (3) understanding of antecedents and consequences of emotions and (4) regulation of emotion in the self and others.” Zeidner, Matthews, and Roberts (2001) contend that EI represents knowledge of cultural norms for recognizing, expressing, and managing emotion in limited contexts rather than intrapersonal qualities. Zeidner, et. al. (2003) make a well-taken point that there may be benefits to being “emotionally socialized” but cultural conformity is not aptitude.

Just as the various authors and researchers define EI differently there also are differences of opinion about its validity, affect, and a host of other variables. The following section will note and discuss some of those variances.

Emotional Intelligence and African American Adolescents

Several may question the uniqueness of the African American adolescent population. The thought that their everyday lives are no different than the lives of other adolescents is easily embraced by some. There is, however, research that disagrees with this. “Many urban adolescents face a myriad of stressors, such as exposure to violence and poverty (Safyer, 1994). When coupled with African American minority status in the United States, these chronic stressors can present significant obstacles toward achievement and success.” (Miller,

Webster, & MacIntosh, 2002). This stress also is related positively to increased anxiety and depression. The daily stressful experiences contribute to negative outcomes such as maladaptive coping behavior. Detecting the presence or absence of emotional intelligence in these youths can be the initial step in providing appropriate intervention, hopefully leading to life success.

Despite the sometimes negative views and statements made of African American adolescents, these youths can decipher the jargon spoken of them and are keenly aware of their reputation in American society. While it is important to be aware, this awareness can threaten African American adolescents. As stated earlier stereotype threat is the “decrement in test performance that results when members of some group fear that their test performance will confirm a negative stereotype of their group” (Mayer & Hanges, 2003). Aronson, Fried, & Good (2002) believe that stereotype threat can be reversed by teaching the view that intelligence is malleable and not fixed at birth. This supports both Goleman’s, and Salovey’s and Mayer’s theories that emotional intelligence can be learned. Aronson, Fried, & Good (2002) explored the question of whether encouraging a view of intelligence as changeable could be the link to educational improvement for African American students who regularly are suspicious of standardized testing. The results of the researchers study showed that after only three sessions of advocating malleability of intelligence, there was beneficial change in personal attitudes of intelligence. Consequently this change improved their academic profile. Controlling for stereotype threat can have a positive outcome with African American adolescents and can aid in attaining a truer assessment of ability in the tested area.

In other research, when comparing among African American and White students with identical scores on the verbal portion of the SAT, White students scored higher on items labeled by test developers as easy and African American students scored higher on items labeled as hard (Freedle, 2003). There were only slight differences in the scores, however, they were consistent. The same results were found when comparing performance on the quantitative portion of the test. Freedle explains the phenomenon as having to do with language. The easy items were written in everyday vocabulary that was usually the vernacular of white, middle class students. The White students are more familiar with this type of language and the cultural nuances contained within it. The hard questions are phrased using abstract language typically seen in textbooks or heard in classroom lectures. It is more culturally neutral which decreases the comprehension gap and African American students do relatively better. These findings, coupled with the findings of Young (2003) discussed in the introduction about discarded SAT pretest items, points to substantial biases that call into question the entire SAT. This test is a standard of standardized tests. If there is substantial bias in this test, then it is not unfathomable for other measures to have the same bias, specifically if the sample of African American adolescents used is small.

Critical Review of Relevant Literature

Researching Emotional Intelligence Measures

Following are five article summaries and critiques. The critiques are based on direct examination of research articles. All are analyzed as factor analysis studies. A factor analysis “is a class of multivariate statistics whose primary purpose is data reduction and

summarization” (Heppner, Kivlighan, and Wampold, 1999). This type of study views relationships between a large number of variables and summarizes them into a smaller set of common, underlying factors. Elements in a factor analysis critique are detailed in Appendix A. Preceding each critique is a brief summary of the article and background information about the lead author or in some instances coauthors.

Dimensional Structure and EI

The first article to be critiqued is by Petrides and Furnham (2001). Petrides is a senior lecturer in the Institute of Education at the University of London. His interests are in trait emotional intelligence; individual differences (including cognitive ability, mood, emotion, and personality); data analysis; psychometrics; social psychology, and psychometric applications. (Institute of Education, n.d.). Petrides has presented at several conferences internationally in the areas of emotion research, individual differences, and personality. Adrian Furnham is Professor of Psychology at University College, London and has been acknowledged as the world’s most productive psychologist for the last twenty years (Social Affairs Unit, 2005). His expertise lies in selection methodology, the assessment of potential, and the management of performance within organizations.

The Petrides and Furnham (2001) article sets a theoretical foundation for Emotional Intelligence (EI) as a grouping of traits and self perceived abilities. This empirical study seeks to examine the psychometric properties of the Emotional Quotient inventory (EQ-i). The inventory is a self-assessment comprised of 133 statements that provides an individual with an opportunity to describe him or herself by indicating which statement is true of

personal feeling, thoughts, or actions most of the time and in most situations. There were 227 participants in the study. The majority of the participants were White with a mean age of 37.9 years. The measures used were the EQ-i which, as stated earlier, is an inventory comprised of 133 items and 15 scales. Response style for the inventory uses a five-point Likert Scale ranging from “not true of me” to “true of me”. Concerning validity, the scores differentiate between professional and unemployed groups, successful and unsuccessful U.S. Air Force recruiters, and clinical and normative samples in the various international locations. The Eysenck Personality Profiler (EPP) also was used. It uses 420 items measuring 21 scales and 3 Eysenckian superfactors. The inventory is based on a three-pronged response scale (yes/cannot decide/no) and is usually administered by personal computer. Procedurally, all of the participants completed the questionnaire and received feedback.

The first study in the article uses factor analysis to scrutinize the EQ-i and the article clearly states the type of factor analysis as confirmatory. In confirmatory factor analysis the researcher first “identifies the number of dimensions he or she expects to find and the items or scales in the data set that will correlate with (or ‘load on’) each construct” (Heppner et al. 1999). An advantage of using confirmatory factor analysis is that the researcher decides what number of dimensions will be found beforehand and then tests whether the data will confirm or disconfirm those expectations. The researchers state their first intent is to “tap aspects of trait EI” (Petrides and Furnham, 2001). The second goal is to locate trait EI in Eysenckian factor space. The researchers place trait EI in the domain of personality and “investigate how the construct belongs in this domain” (Petrides and Furnham, 2001) directly correlating to

how a confirmatory factor analysis is completed. The description of the sample was clear, however, it is unclear if the sample is representative enough to make the findings useful due to its homogeneous nature. Participants were predominantly White, and all were employees from a large transport company in New Zealand. There was, however, an almost even mixture of males and females. The sample size of 227 presents as sufficiently large. The procedural steps were presented clearly, however, the names of the factors derived were not, and it is difficult to fully understand. There is a table that summarizes the intercorrelations between the EQ-i scales. Additionally, findings are discussed in conjunction with the goals of the study. The first goal was to scrutinize the factorial structure of the EQ-i via confirmatory factor analysis. The article did such and reported the data as correlated to relevant values. Implications for future research discussed in the article include developing measures that cover the construct's sampling domain more extensively than the EQ-i. The article also states "it would be important to investigate the extent to which the discriminant validity of the construct translates into incremental predictive power over the basic traits" (Petrides and Furnham, 2001). The authors also encourage replication of the study with more comprehensive measures of trait EI. There is no mention of previous findings or theory. Data collection was not unobtrusive but self-report. The sample population was chosen from an employer. While the physical location of the data collection is not mentioned, there may have been some participant bias or Hawthorne effect because participation was a function of employment. There was no apparent prevention of evaluation apprehension. Three of the six tables presented stand alone or can be understood without referring to the text, however once

making a reference to the correlating section of text, all tables and results are fully understandable and presented accurately and appropriately.

Validity of the Trait Meta-Mood Scale

The second article to be critiqued is authored by Palmer, Gignac, Bates, and Stough (2003). The lead researcher in this study, Dr. Benjamin Palmer is the Director of Research and Development at Genos Limited, an Australian based firm that designs and distributes psychometric assessment instruments and associated development programs for the workplace. He is also a research associate with the Organizational Psychology Research Unit at Swinburne University where he completed a PhD in psychology.

This article reports on the factorial and construct validity of the Trait Meta-Mood Scale (TMMS) and whether the validities can be replicated. The TMMS uses 30 items to define subscales based on an exploratory factor analysis of Salovey, Mayer, Goldman, Turvey, and Palfai (1995). Research associated with the measure identifies an "...ongoing process associated with moods whereby individuals continually reflect their feelings, monitoring, evaluating and regulating them..." (Salovey et. al., 1995). This is what the authors termed the meta mood experience. In this experiment the authors hypothesized that a three-factor model and functional sequence would be confirmed by the exploratory principal components factor analysis.

The hypothesis was tested using a representative sample of 310 participants from the Australian population. The ethnic make up of the sample was representative of the Australian

population. The first three factors successfully replicated the clarity, attention, and repair factors of the TMMS. The results also suggested a possible fourth factor that was unnamed.

The type of factor analysis used by the researchers was exploratory factor analysis. This was clearly identified and appropriately chosen. Exploratory factor analysis is the most commonly used type of factor analysis. In it the “researcher examines a set of data to determine underlying dimensions, without any a priori specification of the number or content of these constructs” (Heppner et. al., 1999). In the Palmer et al. (2003) article, the researchers examined data from the TMMS to determine which statements corresponded to the three factors of clarity, attention, and repair. The sample was defined sufficiently by age, gender, education, and ethnicity. The group was heterogeneous which will allow for more generalizability, however it is unclear how this study with a heterogeneous population will apply to the subgroups of the population. The sample size presents as sufficiently large. According to the four steps in conducting a factor analysis as described by Heppner et al. (2003), the researchers presented only two of the four steps. The type of factor analysis to use was determined and the number of factors expected to be found in each set of data were stated. The method of rotation, however, was not presented. All derived factors were not named as the authors stated there was a fourth factor, but did not name the factor. By not listing completely the names of each of the derived factors, their presentation of findings was unclear. There is, however, a table to summarize the values associated with the derived factors. This table and the one additional table both stand-alone. The findings of the study are discussed in conjunction with the research goals, which were to confirm the three-factor

model and functional sequence by the exploratory principal components factor analysis. Implications for further research discussed a need to “replicate the extent to which the TMMS is related to other measures of mood and emotion management, and to determine the extent to which it correlates with measures of personality” (Palmer, et. al., 2003). The findings are not discussed in relation to previous findings or theory. The data collection was not unobtrusive; a self-report measure was used. The results are presented accurately and appropriately, however, steps taken to prevent evaluation apprehension are not reported.

Development Measures of EI

The third article, by Schutte, Malouff, Hall, Haggerty, Cooper, Golden, and Dornheim (1998) conducts a series of studies about the development of measures of emotional intelligence. The lead author of this research, Dr. Nicola Schutte, has research interests in the following areas: emotional intelligence, situational aspects of the Big Five dimensions, and scale development. With regard to emotional intelligence, Dr. Schutte is particularly interested in exploring the ways in which high emotional intelligence may lead to positive outcomes. The personality applications of the Big Five dimensions of extraversion, agreeableness, conscientiousness, openness, and emotional stability have been extensively studied. A complimentary area of study focuses on the role of the Big Five in the creation and influence of situations and the interaction between situations and personality. Because accurate assessment of constructs is an essential component of research in any area, Dr. Schutte is also interested in scale development and validation, especially for constructs that do not yet have validated measures (School of Psychology, 2005). Although there were

several studies conducted for this article, only one of the studies will be critiqued. The study to be critiqued focuses on development, internal consistency, and validity of the measure. The authors describe the need for a brief and valid measure that is based on a comprehensive model of emotional intelligence. The researchers used the original model by Salovey and Mayer (1990) as a foundation to develop a self-report measure of emotional intelligence. Their hypothesis was that on a valid measure of emotional intelligence there would be specific between-group differences. The researchers expected that psychotherapists would score higher than prisoners and psychotherapy clients, and that women would score higher than men based on prior findings suggesting that women are better at expressing emotion and relating to others. These skills are theorized as components of emotional intelligence (Salovey and Mayer, 1990). Their goal was that this model would provide a stable basis to measure an individual's current level of emotional intelligence.

A total of 346 participants were in the study from a variety of metropolitan southeastern United States areas. Two hundred eighteen participants were women and 111 were men with a mean age of 29.27. Individuals responded to the initial items so researchers could analyze the factor structure and select items for the final scale. Participants included university students as well as individuals from diverse community settings.

As expected, therapists scored higher than prisoners and higher than participants in psychotherapy. Also, as expected, women scored higher than men. The scale showed validity with a Cronbach's alpha score of .90 for the 33-item scale. The measure also demonstrated good internal reliability when doing a two-week test-retest.

The type of factor analysis used for this study is not identified and it is therefore unclear as to whether or not the researchers chose the appropriate type of factor analysis. The sample was defined clearly with demographics such as age, gender, and geographic location and an appropriately large sample of 346 participants was used. The sample is heterogeneous enough to make the results generalizable to other populations. Procedural steps are presented clearly and describe a principal-components, orthogonal rotation, factor analysis that resulted in a screen plot of eigenvalues showing four factors having items loading at .40 and above. The names, however, of the derived factors are not presented clearly, using only number values for distinction (factor 1, factor 2, and so forth). In addition, there are no tables to summarize the intercorrelations and relevant values associated with the derived factors. The one table that is present shows the 33-item emotional intelligence scale and stands alone.

The findings of the research are discussed in conjunction with research goals and there are implications for professional practice and further research. The authors state the scale might be used to help those at risk for performing poorly at tasks requiring emotional intelligence. Schutte et al. (1998) also state the scale could be used in research exploring the nature of emotional intelligence. The findings of the research are discussed in relation to Salovey's and Mayer's (1990) theory.

Data collection was not unobtrusive as participants self-reported information in response to the scale items. Results presented appear accurate and appropriate. Participant evaluation apprehension prevention is unclear in procedures.

Validity of the Emotional Intelligence Inventory and the Emotional Intelligence Scale

The fourth article, by Tapia and Marsh (2003), is an empirical study examining concurrent validity of the Emotional Intelligence Inventory (EII) and the Emotional Intelligence Scale (EIS). The co-authors of this research have both been feature editors for the Academic Exchange Quarterly.

Dr. Tapia is an Associate Professor of Mathematics at Berry College in Mount Berry, GA. Her research interests include students' attitudes toward mathematics, technology in education and emotional intelligence. Dr. Marsh is currently a professor in the Institute for Interactive Technology, The University of Alabama, and a partner in emTech. Dr. Marsh has served on three college faculties and has been a school administrator, psychometrist, and classroom teacher at the elementary and secondary levels (George E. Marsh II, 2001).

In this study the researchers posit that an accurate and effective measure of emotional intelligence is necessary to effectively use the theory of emotional intelligence whether in research or in vivo. The study's purpose was to validate the EII and the EIS.

There were 234 participants (84 male, 150 female), all were undergraduates at a private, liberal arts college. The sample was 95% Caucasian and 3% African-American ranging from ages 18 to 29. All subjects volunteered. An exploratory factor analysis was done and, as expected females score higher than males on emotional intelligence, specifically in empathy and handling relationships. Also high scores on the EII corresponded to high scores on the EIS.

The type of factor analysis used in the study is clearly and appropriately identified as exploratory factor analysis. There was, however, some confusion in the sample used. Initially, the sample is presented as undergraduates from a private college, however, later a sample of high school students is mentioned but not clearly defined. It is unclear what the purpose is for the sample of high school students. Also, this sample is not defined outside of the description as high school students. The undergraduate sample may or may not reflect the larger population of the college, however, because of the uneven ratio of Caucasian to African-American students the results will not be generalizable to a larger African-American population. It is unclear whether the sample is random. The article states that all participants were volunteers, however, there is no indication as to whether participants were chosen from a group of volunteers or whether the group was entirely a volunteer sample. Using a volunteer sample may, however, have prevented evaluation apprehension. The sample size presents as sufficiently large.

The procedural steps are presented clearly by stating the study uses a “maximum likelihood method of extraction and a varimax, orthogonal rotation” (Tapia and Marsh, 2003). Derived factors from the factor analysis are all presented and named. There is one table that summarizes the derived factors but there are no correlating values listed. It does, however, stand-alone.

The findings of the study state that, as expected, females scored higher than males on emotional intelligence, specifically in empathy and handling relationships, and that high scores on the EII corresponded to high scores on the EIS. While these are significant findings

and they appear to be presented accurately and appropriately, they were not addressed earlier as a research goal or hypothesis. Implications are also listed for the findings for further research or use in professional settings. Initially the study discusses using the valid model done by Salovey and Mayer (1990) to serve as a basis for the measure, however, there is no mention of it in the discussion. The data collection method was not unobtrusive. Self-report measures were used.

Structural Invariance of the Five Factor Personality Inventory

Several authors penned the fifth article. A. Jolijn Hendricks is the lead author, however no background information could be found on this author.

The study seeks to find the structural invariance of the Five Factor Personality Inventory across several cultures. The self-report measure was given to several varying groups in ten European and three non-European countries. Psychometric properties were investigated with the goals of checking to see whether the five-factor structure could be recovered in each country, to check the generalizability of the five-factor structure, and to establish an international FFPI reference structure.

Throughout the 13 countries there were a total of 7748 participants with ages ranging from 15 to 91. Both genders were a part of the study and all were above average education level. All of the participants took a self-report measure in various settings.

The results related directly to the initially stated goals. There was almost always the suggestion of a five-factor solution and the internal consistency reliabilities corroborated this conclusion. Concerning generalizability, 80% of the items were almost equally stable in each

country. Some items were problematic, however this occurred in all five areas suggesting that subtle differences between cultures may warrant repositioning of some of the items. Finally, the overall structure was rotated to establish final factor positions. The final positions constituted the FFPI international reference structure.

The statistical procedure used for this study was factor analysis. It is clearly and appropriately identified as a principal components analysis. The study investigated a myriad of participants for the studies in the various countries. The total sample size was over 7000. Individual sample sizes were much smaller, the smallest being 97 and the largest being 2494. The sample sizes are all sufficiently large, however, some may be too large. Using too many participants increases the chance of a small effect size. The effect size represents the smallest effect that would be of clinical significance. In some cases a small effect size can be misleading and signify an important result when it actually is trivial.

The steps in the analysis are presented clearly. It is noted from the onset that there were five factors in the data sets. The method of rotation is a varimax rotation and an orthogonal Procrustes rotation. Also, the derived factors are all named and presented clearly. Data collection was not unobtrusive as all data were collected via self-report survey. The tables presenting the data all stand-alone and the presentation of the data is appropriate and accurate.

The findings are discussed in direct relation to the research goals, but there is no reference to previous findings or theory. The main implication for professional practice is its suggested use with the general population in a variety of countries.

Recommendations

The theories discussed previously by Goleman, and Salovey and Mayer are guiding forces in the field of emotional intelligence. These researchers are saluted as pioneers of the field. In a practical sense these authors are making the same statements concerning this construct. When viewing their tenets side by side, there is tremendous correlation as noted in Table 1.

Table 1

Comparison of Salovey's and Mayer's Versus Goleman's Theories of Emotional Intelligence

Salovey and Mayer	Goleman
perceive emotion	self-awareness
use emotion to facilitate thought	motivation (to change emotion)
understand emotions	empathy
manage emotion	self-regulation

Note. Goleman makes the addition of including social skills after self regulation.

The question many critics asked is does the presence of emotional intelligence predict behavior? The review of relevant literature shows that emotional intelligence is present to a greater extent in certain populations, however, there was no prediction of behaviors followed because of the presence of EI. The theories by Salovey and Mayer, and Goleman, do predict behaviors as is consistent with the definition of a theory. The theories predict that behavioral responses of emotionally intelligent individuals will not include the negative “hijacked”

response of which Goleman speaks, but will include a response that incorporates appropriate behavior to personal feelings and the perceived feelings of others. The theories also provide a framework of optimal behavior in emotionally charged situations as well as providing empirical evidence of the presence of EI and who is more likely to be emotionally intelligent.

The theory of emotional intelligence will only be applicable to those who have a similar sense of what is right and what is wrong. This perception of right and wrong will effect perception of thoughts, feelings, and appropriateness of response actions. It is unclear how applicable the theory of emotional intelligence will be with populations outside of the United States although the studies of Hendriks, et al. (2003) indicate that their measure of emotional intelligence is valid and reliable when used with various ethnicities and nationalities.

The articles critiqued relate to Salovey's and Mayer's, and Goleman's foundational tenets. Because these researchers are pioneers of the field, it is difficult to conduct emotional intelligence research without using their information. Each of the measures tested in the critiques have derived factors that directly pertain to the tenets proposed by Goleman, and Salovey and Mayer.

In a practical sense, the studies offer a tangible method of measuring emotional intelligence. The theorists have stated that its presence is a better predictor of life success than IQ. The preceding research provided various measures of the construct that can be used on several populations. One population, however, not specifically targeted is that of adolescents. Adolescents' emotional intelligence is vital to the well being of future

generations, however the research critiqued did not target this population and barely included them at all. A measure specifically for adolescents, and even more specifically African-American adolescents, is necessary to accurately understand the construct in this population because. Due to their in-progress development, emotional intelligence is different in adolescents than in other populations.

Stages of Development

In Erikson's Stages of Psychosocial Development, an adolescent is in a state of confusion and is attempting to figure out who they are or would like to be. Kohlberg's Stages of Moral Development describe a conventional morality that is not specifically labeled as adolescence, but is defined as the acceptance of the rules and standards of one's group. Specifically, stage three of conventional morality says that doing what is right is conforming to behavioral standards of the peer group. The phrase "Everybody's doing it" exemplifies how good behavior is behavior that pleases or helps the group. Piaget, however, developed Stages of Cognitive Development that label adolescence as a Period of Formal Operations. The formal operational stage is characterized by the ability to devise hypotheses and systematically test them to arrive at an answer to a problem. Thinking becomes more abstract and is not always connected to a concrete reality. This stage begins around age 11 or 12 and continues through adulthood, however, Piaget is careful to point out that some individuals never reach or complete this stage of cognitive development. The definition of emotional intelligence states that an individual will be able to, first, accurately perceive personal thoughts and feelings, second, accurately perceive the thoughts and feelings of others, and

third, respond appropriately to such. Succinctly, the theories of Erikson, Piaget, and Kohlberg state that adolescents (or individuals in the aforementioned stages) are in a time of life confusion, living by the rules of the group, and learning to think abstractly. This time of life transition can be a stumbling block to adolescent development of emotional intelligence, although it does not mean development is arrested altogether. The emotionally intelligent adolescent may only understand the thoughts and feelings of self versus thoughts and feelings of self and others. Understanding the thoughts and feelings of others is a possible limitation to adolescent emotional intelligence as is responding appropriately to the thoughts and feelings. The lack of full human development directly impacts an adolescent's emotional intelligence. This statement could also have research implications for other populations who may have reached adulthood chronologically but are developmentally delayed.

Another implication for future research is inducing a change in the measures used to assess emotional intelligence. Most of the measures used in the critiqued articles were over 100 items (one was over 400 items) and took significant time to administer. A factor in obtaining accurate results to any measure is controlling the participants' comfort and interest level when completing the measure. A measure that is over 100 items with significant administration time is reminiscent of the standardized tests that most individuals are subjected to in elementary, middle, and high school. There is already a preconception that the experience will be boring and/or difficult. Because this measure is not mandated for passing a grade, gaining employment, or the like, participants may simply mark any answer, not necessarily an honest answer simply to finish the test. If participants are not encouraged to

answer honestly (through verbal and non verbal encouragement) the results from even a valid and reliable measure will be skewed. A research interest of this author is to create a valid and reliable short-form measure of emotional intelligence. A measure such as this is likely to have more appeal to adolescents.

In conclusion, emotional intelligence is still a relatively new construct, however, already it has the necessary functions of a theory, several empirical studies, and valid and reliable measures. While researchers have made significant strides in promoting the concept, there is still more to be done. Professional implications could be far reaching for counselors in any area and offers a wealth of opportunities for practitioners and researchers alike.

This chapter addressed a review of literature discussing usefulness of emotional intelligence (EI), emotional intelligence and African American adolescents, and a further critical review of literature researching emotional intelligence measures.

CHAPTER 3

Methodology

The purpose of this chapter was to identify the participants in the study, describe the development of the survey instrument, describe the survey instrument, explain the data collection methods, describe how data were analyzed, and identify the limitations of the study.

Focus Group Participants

Participants for the focus group were obtained through a North Carolina after school program. These participants were chosen because of the age appropriateness of the students and because the program provided an apposite number of students. The participants ranged in age from 13 – 25 years of age. Adolescent focus group participants were all students in Guilford County, North Carolina public or private high schools and middle schools. Adult participants were all employees of the after school program and have worked with African-American adolescents. There were a total of nine adolescent focus group participants and nine adult focus group participants.

Large Group Participants

The sample was obtained by selecting students from North Carolina public and private middle schools, high schools and/or after school programs. The range of participant ages was between 13 and 19 years of age. Although the school system utilized has a racial distribution of African American 40.7%; American Indian, .6%; Asian, 4.4%; Hispanic, 6%; Multiracial 3.7%; and White 44.6%, this study was limited to African American students

with an even distribution of genders. The study was limited to African American adolescents because the survey was developed specifically to assess the emotional intelligence of African American adolescents, a population that is rarely used or used in small populations when other emotional intelligence tests have been developed.

Goal of the Research

The goal of this dissertation was to create a valid and reliable measure of emotional intelligence for African American adolescents. The instrument that was developed addressed the problems identified in determining emotional intelligence in African American adolescent populations including stereotype threat. The research questions (RQ) addressed were:

RQ 1: Is this measure of emotional intelligence a valid measure when administered to African American adolescents?

RQ 2: Is the newly created measure of emotional intelligence reliable when administered to African American adolescents?

Development of the African American

Adolescent Emotional Intelligence Test (AAAEIS)

As stated in chapter one, several have recognized that emotional intelligence is more important than IQ. This assertion alone could be cause enough for an accurate measure of the construct in African American adolescents. Stereotype threat, Harrington's assertion of small African American sample sizes, and biased test development are factors that warranted the development of an emotional intelligence measure for African American adolescents. In

addition, the initial idea to create the AAAEIS came from an immediate need for an instrument that could produce accurate results for the purpose of assessing emotional intelligence in African American adolescents.

Interest in the subject came from work done with an organization that teaches emotionally intelligent behaviors to middle school and high school students. The organization's work began with a test intended to acquire a baseline of the students' knowledge of conflict resolution and emotional intelligence practices. (For the purposes of this dissertation the test will be referred to as the CR/EI.) The CR/EI was not valid or reliable and yielded inconsistent results.

As the process of creating a new instrument began, the CR/EI was re-read and past administration experiences of the instrument were reviewed to determine problems. When taking the CR/EI students were frustrated with the long test and frequently needed to have words explained. The context of the questions was lost in misunderstood slang. The length of the test and some of the difficult to understand verbiage needed to be addressed.

Next the test was reviewed again by a counseling and academic professional. The question of what, specifically, was the test attempting to measure was asked and not easily answered. When reading the test it was unclear as to whether the questions were to detect the presence of emotional intelligence, conflict resolution skills, or specific knowledge about the intervention used.

Information on emotional intelligence tests currently published and in progress of development was reviewed. Two of the most widely used tests in the field, the Mayer,

Salovey, Caruso Emotional Intelligence Test (MSCEIT) and the BarOn Emotional Intelligence Inventory, listed sufficient validity and reliability data, however, information noting the sample sizes of the ethnic populations was unavailable for youth versions of the tests. The MSCEIT did state that the sample was very large with the results being statistically weighted to be representative of the adult population of the United States (in terms of age, gender, and ethnicity). Although this is true, the test items are representative of the white culture and the word cues that lend meaning in that culture.

In all, it was surmised that students needed an easy-to-understand test that reflected their culture and did not remind them of their yearly end of grade tests. This would require age appropriate language and significantly fewer test items. This was translated as a three page, twenty-item test, with pictures (see Appendix F).

Description of the AAAEIS

The AAAEIS was designed to measure the emotional intelligence of African American adolescents. The after school director and after school teachers of the program used in obtaining focus group and general survey participants reviewed the survey before any administration procedures took place to ensure that the language was understandable and appropriate for the population. All who reviewed the survey were veteran employees meaning each has worked for the program for a minimum of three years.

The AAAEIS is a measure based on the emotional intelligence theories of Goleman, and Mayer, Salovey, and Caruso described in the literature review. It was constructed to measure perception of emotion in self and others, action choice per situation, regulation of

emotion, and empathy. The AAAEIS could be administered through a paper survey booklet and can be scored by the test administrator. The survey was designed for individuals ages 13-19. There was no time limit for completing the survey although most survey participants completed it in 10 to 15 minutes. The AAAEIS was designed to be used in a variety of settings including educational, clinical, and research.

The survey was divided into two sections, a managing emotions section and a perceiving emotions section. The managing emotions section was assessed by a series of questions that required the survey participant to list action choice per situation. This section was included to measure perception of emotion in self, action choice per situation, regulation of emotion, and empathy. Utilization of each of these concepts is an integral part of learning and displaying emotional intelligence according to both Goleman's, and Mayer's, Salovey's, and Caruso's research. A sample item is listed below.

“When another person starts a fight or argument with me, I fight or argue back”

1	2	3	4
Almost Never	Rarely	Sometimes	Almost Always

The perceiving emotions section is assessed by the survey participant viewing a series of pictures with human faces expressing various emotions at varying intensities. The survey taker then chose the emotion that displayed the most appropriate emotion state in their opinion. This section of the survey measured perception of emotion in others, another integral part of learning and displaying emotional intelligence according to both Goleman's,

and Mayer's, Salovey's, and Caruso's research. A sample item is listed below.

“Choose the feeling word that best describes what you think the picture shows.”



- a) Disinterested
- b) Lonely
- c) Hostile
- d) Hopeful

Item Generation

To initiate the generation of survey items, other literature about emotional intelligence measures was reviewed. The MSCEIT spoken of earlier separated the measurement tool into the four branches of emotional intelligence discussed in their research. The four branches are perceiving emotions, facilitating thought, understanding emotions, and managing emotions. The two sections of the AAAEIS, managing emotions and perceiving emotions, were derived from the four branches of the MSCEIT. Specific statements made on the AAAEIS came from a combination of items on the CR/EI and experiences in the field of counseling when working with the target population. The decision to include pictures derived from the MSCEIT's perceiving emotions section.

Item Refinement

Once items were generated, focus group participants helped to refine the items. As participants discussed the survey, their comments were noted. Questions were asked such as “What words or phrases were unclear to you?” (adolescents), “What words or phrases would be unclear to the population of African American adolescents with whom you work?” (adults) and “What would make this test easier to understand and complete?”. For the perceiving emotions section (the section that uses photos), questions about photo clarity were asked, such as “Can you see clearly the face in the photograph?”.

Data Collection

Validity

Validity is “a term used to describe a measurement instrument or test that accurately measures what it is supposed to measure; the extent to which a measure is free of systematic error” (Vogt, 1999). Face validity “is a form of validity determined by whether, on the face of it a measure seems to make sense. In determining face validity one often asks expert judges whether the measure seems to be valid” (Vogt, 1999). “A measure has content validity when its items accurately represent the thing...being measured. Content validity is not a statistical property; it is a matter of expert judgment” (Vogt, 1999).

Focus Groups

The data collection for this study began by using focus groups. A focus group involves “explicit use of group interaction to produce data and insights that would be less accessible without the interaction found in a group” (Morgan, 1988, p.12). Focus groups can

provide greater information in a shorter time span and foster creativity that may have been stifled in an individual session. In addition, focus groups can “provide a means of evaluating existing programs” (Marczak and Sewell, n.d.) or surveys. This was especially helpful in determining if the measure had face and content validity related to emotional intelligence and was free of systematic error, or validity.

For the current study, focus groups were used for the reasons listed in Appendix G. These reasons helped determine validity of the instrument which was the purpose of using a focus group for this research. According to Morgan (1998a), focus groups are used when the reasons in Appendix G are applicable.

Conducting a focus group can occur in four phases - conceptualization, interview, analysis and reporting (Krueger, 1988). The latter two phases are often discussed in conjunction, but each will be discussed in detail below.

Conceptualization

In the conceptualization stage, a general purpose was defined by reflecting the information to be obtained. Questions were asked such as “Why should the study be conducted?”, “What kinds of information will be produced?”, and “What types of information are important?” Goals for the group were identified by noting specific questions to be addressed. How the information was used was determined as well as outcomes needed for the group to be successful. Finally, during this stage a specific selection of individuals to be included in the group was determined. Group members with homogeneous characteristics were selected. Individuals were selected using a purposive sampling which used

predetermined criteria such as geographic area location, income, or similar groupings. During this stage, the moderator also determined whether the immediate goal was to obtain a participants past behaviors, thoughts, or feelings; current behaviors, thoughts or feelings, or future behaviors thoughts or feelings.

For the current study during the conceptualization stage the questions “Why should the study be conducted?”, “What kinds of information will be produced?”, and “What types of information are important?” were asked and answered with the following responses, respectively. The study was to be conducted with the main goal of assessing the practicality and validity of the survey for the typically under sampled population in other popular tests of emotional intelligence, African American adolescents. Information produced in the focus group was to demonstrate appropriateness of survey word choices, applicability of survey item situations to the population, and overall understandability of the instrument. The most important information was the response of the participants to the survey and whether the survey would be understandable for the predetermined population. It was determined that African American adolescents would be used in the focus groups (labeled as groups 1, 2, and 3 respectively) to garner direct adolescent feedback. It also was determined that adults who work with African American adolescents would be used in the focus groups to provide further support for the measure and its ability to be used with this population. The composition of the group came from a purposive sample. “A purposive sampling strategy chooses the focus group participants according to the project’s goal” (Morgan, 1998b). This was appropriate because “the goal in a focus group is to gain insight...by hearing from

people in depth, this requires selecting a purposive sample that will generate the most productive discussions in the focus groups” (Morgan, 1998b). The number of the focus groups was predetermined and set at three based on guidance from counseling and academic professionals with a maximum of six participants per group. According to focus group research, most focus groups have between six and eight participants (Morgan, 1998a). Questions such as those listed below were developed to be asked of the group members.

- 1) What words or phrases were unclear to you? (Adolescents)
- 2) What words or phrases would be unclear to the population of African American adolescents with whom you work? (Adults)
- 3) What would make this test easier to understand and complete?

The information garnered from this group was used to determine changes that needed to be made to the survey. Upon reflection on the focus group discussion and analysis of the content of the focus groups no refining was needed. The adult focus group members in each group noted that teenagers may have difficulty understanding the meanings of certain words. After discussing the words with the adolescents in each group and asking about their understanding of the meaning of those words in the context of specific sentences, it was determined that the adolescents understood the terms adequately enough to respond to the item numbers without changes in wording which is why no refining was needed for the survey items. If revisions would have occurred, each group would have taken the revised AAAEIS and again discussed the test. The survey would have again been revised based on focus group discussions. This process was to be repeated if warranted based on findings from

the group discussions. At the conclusion of the groups, adolescent participants were given a small gift bag of assorted candies and school supplies.

Interview

In the next stage, interview, the focus group moderator greets the participants without using professional titles such as doctor or president. After an introduction, the moderator opened the discussion by stating the purpose of the interviews and similar information. The moderator also emphasized that there were no right or wrong answers, clarified difficult concepts, and described confidentiality. The moderator created and maintained a comfortable environment by completing setup prior to participant arrival, keeping participants focused on the moderator and providing positive feedback and praise. Another task of the moderator was to control the topic. The moderator gained the required information within the boundaries of the focus group interview. When gaining information, the moderator began with more general questions before inquiring about specific areas. Questions should also be open-ended. It was necessary for the moderator to probe in attempt to get participants to expand on previous statements, increase involvement, or clarify responses. The moderator was careful not to lead the respondents. It was desirable that there was as little interruption from the moderator as possible. The moderator kept questions in mind such as “Am I obtaining needed information?”, Am I addressing questions of interest to the group?” and “Am I promoting the comfort and interaction of all group members?”. When ending the group, the moderator did not allow the discussion to extend beyond its scheduled time. The moderator could have decided to summarize main points of the group or allow participants to express

final thoughts.

For the current study, the moderator met with the participants in the library of the participating organization. There were no other library patrons in the library during the focus group session. The moderator had pencils and surveys positioned for participant use before participants entered. The participants were greeted and thanked for their consent to participate in the focus group. The purpose of the group was explained to the participants as was why their help was necessary. Participants were told that this survey would be given to African American adolescents and to ultimately determine whether their action choice per situation is appropriate or inappropriate. It was also explained that before this ultimate goal could be met, it must first be determined if the survey is capable of accurately measuring this construct. It was emphasized that there were no right or wrong answers and that the information would be used to strengthen the survey. The participants began by reading over each item on the survey and making written notes beside unclear words or phrases. The participants were then asked to share the notes. Throughout the focus group session, the participants were told that their participation was voluntary.

The group discussion remained within the boundaries of the group's purpose and the length of the session was kept within 30 minutes. Participants were allowed to express any closing thoughts and the groups were dismissed.

Reliability

Reliability is “freedom from measurement or random error” (Vogt, 1999). In practice, this refers to the “consistency or stability of a measure or test from one use to the next”

(Vogt, 1999). When repeatedly measuring the same construct and obtaining the same or similar results, the measurement instrument is said to be reliable. In this study, two terms are combined to determine reliability. They are repeatability and reproducibility. Repeatability is the ability of a survey participant to obtain consistent results when measuring the same construct using a measurement tool multiple times (Griffeth, 2000). Reproducibility is the overall ability of two or more survey participants to obtain consistent results repeatedly measuring the construct using the same or similar measurement tool (Griffeth, 2000). The terms repeatability and reproducibility can be used interchangeably with reliability as reliability occurs “When repeated measurements of the same thing give identical or very similar results...” (Vogt, 1999). These two terms are the foundation of the Gage R&R procedure used in this study.

Administration

After focus group information was collected, the AAAEIS was administered to three groups of 30 African American adolescents. According to the statistical expert used in this study, group sample sizes of 25 or higher are accepted as appropriate among statisticians and specifically for the statistical process used, the Gage R&R (which will be described in depth in forthcoming pages), a minimum sample size of 20 is acceptable. The groups were labeled as Group A, Group B, and Group C. Informed consent forms were provided for and secured from the participants prior to administering the AAAEIS. In the informed consent form legal guardians and school administrators were informed of the study’s purpose and data collection procedures. The groups had instructions read aloud before beginning and no questions were

allowed once the instructions were read. Instructions to participants included a statement that results of the survey would be used to critique whether or not the survey was appropriate to be used on an even larger group of students, not the students' intellectual or other ability. The participants were provided with the survey and a writing utensil, and could begin the survey as soon as it was received. The participants were allowed to complete the survey in their own time. The maximum time needed by a participant was 15 minutes. After all surveys were completed, the participants held the survey until each participant was finished. All surveys and writing utensils were collected after the last person completed the survey. Each group went through this process and completed a re-take of the survey by participating in the same process one week later. The host organization helped in gathering the surveys and redistributing them to the appropriate groups. The statistical procedure used, the Gage R&R, does not comment on a length of time needed between survey administrations. As such, this study used a functional time span, one week, that worked best for the survey participants and program administrators at the after school program from which the participants were utilized. Completing a re-take of the same instrument and earning similar scores demonstrates repeatability within a group. Administering the survey to multiple groups demonstrates reproducibility because there are different participants completing the same survey.

Data Analysis

Focus Group Analysis

Many of the steps used in analysis of the data were required in reporting the data as well. As such, these steps will be reviewed together. Analysis of the data can be done in four ways; transcript-based analysis, tape-based analysis, notes-based analysis, and memory-based analysis. A transcript-based analysis would include tapes that are transcribed and used along with the notes. Tape-based analysis is an abridged transcript prepared by listening to tapes of the session; this transcript contains comments related to the focus group topic in addition to the moderator's summary comments. Notes-based analyses rely primarily on notes taken during the session, a debriefing session, and summary comments; a tape may be used primarily to verify specific quotes and to transcribe the summary. Finally, in a memory-based analysis the moderator presents an oral summary immediately following the focus group.

To further analyze the data, three additional steps were taken. It was not necessary that all three steps be taken. A researcher may choose one step over the other or use some but not all of the steps. They included describing the participants and the group, considering analysis and reporting prior to the groups' beginning, and analyzing using the analytic approach. The first step, describing the participants and the group, includes a thorough description of the participant selection procedures is provided. This includes sampling criteria, how subjects were identified and contacted, the number of subjects contacted, the percentage of those who agreed to participate and those who actually participated. Another

step, considering analysis and reporting prior to the groups' beginning, included taking notes during the interview, making group member checks during the interview, applying appropriate procedures for transcribing data, and summarizing big ideas from the focus group interview immediately on its completion. A third step could include analyzing using the analytic approach. The analytic approach is divided into five categories. First, the significant ideas were identified immediately following the focus group. Second, a process of identifying units of information that can later become basis for a category was defined. Third, the units were categorized. The fourth step includes a negotiation of categories. Steps one through three should be done by two analysts working alone. After completing the steps alone, the analysts will come together to negotiate which categories that have been derived separately will be used in the final analysis. Finally, themes can be identified and applied to theory. The significant ideas established earlier are supported by the categories. They can also be restated as themes.

In the current study, a notes-based analysis was used as notes made during the session were utilized. In further analysis, the step of considering analysis and reporting prior to the groups' beginning was used. Due to prior consideration, notes were taken during the interview and checks were made several times during the session to ascertain participant understanding of information and to include any input about the survey. Significant ideas were summarized such as considering choice and meaning of words, and context.

The focus groups in the current study demonstrated the three forms of validity spoken of earlier, [general] validity, face validity, and content validity. Validity, in general, describes

whether a measure accurately measures what it is supposed to measure. In this study, an expert group was provided the survey. The group read and answered each item as though they or one of their African American adolescent students were completing the survey. In this study, the expert group consisted of nine adults who worked with African American adolescents and nine African American adolescents. Each of the 18 experts had the opportunity to comment on the areas of potential misunderstanding. The moderator also was able to review written notes of the experts to note any areas of consistent misunderstanding, thereby assessing that the survey was free of systemic error. The group of experts also determined whether the measure would make sense to the group to whom the survey would be administered. The experts reviewed certain words and debated whether the sample population would understand the word choices. Some of the adults were uncertain that the students would understand select words. The adolescents in the group understood the words in the context used in the survey which led to the word choices being left unchanged. This understanding provided face validity because as the definition of face validity states the survey must make sense to the participants. Finally, the expert group determined that the items on the survey accurately represented the construct being measured. The experts made comments about how the survey aided in ascertaining a student's feelings per situation and how the students may act differently per situation because of recognized or unrecognized feelings. Additional comments were made about the survey providing a way to see what feelings a student has most often.

Large Group Analysis

The data collected from the administrations of the AAAEIS were analyzed using the Gage Repeatability and Reproducibility (Gage R&R) (Six Sigma, n.d.) measurement system of evaluation (Six Sigma, n.d.). The Gage R&R is a statistical tool that measures how much variation is in the measurement device and those taking the measurement. The Gage R&R notes other factors however the focus is usually placed on the previously defined concepts of repeatability and reproducibility.

There were three steps in conducting a Gage R&R study (Gage R&R, Viewing Measurement, n.d.). The first step was to collect the data. This step has already been described in the Data Collection section of this chapter. This step was necessary as it provided the raw data needed to critique the AAAEIS.

After the raw data were collected, they were entered into a Microsoft Excel spreadsheet and the statistical procedure for the Gage R&R began which is described next. First, the ranges (R) of participant data for each trial were calculated for each group. The range is “a measure of variability...or the dispersion of values in a series of values. To get the range, you subtract the lowest value or score from the highest” (Vogt, 1999). This statistic was necessary for future calculations and also to note whether there is a small or a large difference between participant scores. A small difference is an early indicator of reliable data. A large difference was an indicator of unreliable data. The range was calculated as the difference between Group A, Participant 1, Trial 1 and Group A, Participant 1, Trial 2. This process was completed for each of the 30 participants in each group to determine the

score differences or variations between trial administrations. Table 2 below provides an example of the initial Gage R &R process.

Table 2

Example of the Gage R&R Process

Group	A			B			C		
Participant #	1st Trial	2nd Trial	Range	1st Trial	2nd Trial	Range	1st Trial	2nd Trial	Range
1	0.3694	0.3694	0	0.3692	0.3692	0	0.3688	0.3688	0
2	0.3693	0.3696	0.0003	0.3693	0.3693	0	0.3686	0.3687	0.0001
3	0.3698	0.3696	0.0002	0.3692	0.3691	0.0001	0.3691	0.3687	0.0004

When all range data were calculated and totaled per trial, the averages between the two trials were calculated for each group. An average, or mean, is a statistic calculated by adding “values for each case and divide by the total number of cases” (Vogt, 1999). The averages calculated were group averages of the ranges. Averages were calculated to determine small group (Group A, Group B, and Group C individually) performance during the two trials. To determine the average, the sum of the trials will be divided by the number of trials.

$$\text{average} = \frac{\text{Sum of trials}}{\text{Number of trials}}$$

Next, the average range was calculated for each group by dividing the sum of the ranges by the number of ranges. Again, a range is “a measure of variability...or the dispersion of values in a series of values” (Vogt, 1999). In all cases a range is used to note the difference between scores. In this instance the average range was calculated to note variations between group scores.

$$\text{Average R} = \frac{\text{Sum of ranges}}{\text{Number of ranges}}$$

From this, the average of all the ranges, or the grand average range was calculated. This calculation determined total group performance.

$$\text{Grand Average R} = \frac{\text{Average R}_A + \text{Average R}_B + \text{Average R}_C}{\text{Total number of ranges}}$$

The grand average range was multiplied by the appropriate D_4 value from the Table of Factors for Control Chart Limits (Table 3) below. This table recognizes the number of trials per measurement instrument which is a factor in determining the Upper Control Limit (UCL_R). The D_4 value is the number of units necessary to reach the UCL_R , the level above which the data should not fall.

Table 3

Table of Factors for Control Chart Limits

# Trials	D_4
2	3.27
3	2.58

Note. The chart includes a maximum of 10 trials, however, a smaller table was used in this research to highlight information used with the number of trials for this process.

Because this study used two trials per group, the D_4 value corresponding to # *Trials*, 2 was multiplied by the Grand Average R to calculate the UCL_R . Data that falls outside of the UCL_R is outlier data and should be re-tested. Next, the average difference of the highest range and lowest range was calculated to determine the average difference which is the

consistency between the ranges. As stated before, small differences in ranges are early indicators of reliability.

Next, equipment/measurement variation (EV), or repeatability is determined. As stated before, repeatability is the ability of a survey participant to obtain consistent results when measuring the same construct using a measurement tool multiple times (Griffeth, 2000).

$$EV = \text{Grand Average } R \times \alpha$$

α is derived from the standard Table 4 below.

Table 4

Equipment Variation Units

# of Trials (m)	2	3
α	4.56	3.05

The EV (repeatability) was then converted to a percentage using the following formula.

$$\%EV = 100 [(EV) / (\text{tolerance})]$$

Appraiser variation (AV), or reproducibility, was then determined using the formula below.

Reproducibility is the overall ability of two or more survey participants to obtain consistent results repeatedly measuring the construct using the same or similar measurement tool (Griffeth, 2000).

$$\%AV = \text{square root of } [(\text{ave. difference}) \times (\beta)]^2 - [(EV)^2 / (n \times m)]$$

Table 5

Appraiser Variation Units

# of Groups	2	3
β	3.65	2.70

n = number of samples

m = number of trials

Repeatability and reproducibility (R&R), also synonymous with reliability, equal the following.

$$\text{R\&R} = \text{square root of } (EV)^2 + (AV)^2$$

$$\% \text{R\&R} = 100[(\text{R\&R}) / (\text{tolerance})]$$

From these statistical procedures the following analysis of the results is performed.

1. If total R&R consumed less than 10% of the tolerance (at 99% confidence limit)
Measurement system is acceptable
No action is required
2. If total R&R consumed between 10% and 30% of the tolerance.
Measurement system may be acceptable.
Decision must be made based on purpose of study, importance of the requirement, application, or other risk analysis.
3. If total R&R consumes more than 30% of the tolerance.
Consider developing an action plan to address the measurement

Focus Group and Large Group Reporting

Typically within a written report of group data, there are key elements of the report.

They include a cover page; summary; table of contents; statement of problem, key questions,

and study methods; results or findings; summary of themes; limitations and alternative explanations; recommendations; and an appendix if necessary. Because the reporting of the current research is a part of a larger written report, all of the items mentioned will not be utilized in reporting results only, but will instead be utilized as a part of reporting the research as a whole. The elements not utilized specifically in reporting results were the cover page and table of contents.

Limitations

Data Collection

The focus group results were dependent upon the interaction between the respondents and the moderator. Unprofessional moderating such as asking leading questions, dominating the conversation, or allowing a group member to dominate the session could lead to inaccurate conclusions. The responses of each focus group participant were not independent. Responses could have been dependent on other group member responses. A few dominant focus group members could have skewed the session in a positive or negative direction. The purposive sampling spoken of earlier required homogeneity with enough variety to allow for a breadth of opinion. This is a delicate balance. Too much conflict could have damaged the *permissive* environment and can undermine the internal validity of the study. External validity was always an issue for focus group studies because of the small homogeneous samples. The Gage R&R can be difficult to compute by an inexperienced statistician. The results of the Gage R&R must be analyzed correctly and within the scope of the procedure.

Chapter Summary

This chapter addressed and described in detail the participants in the study, presented the development of the survey instrument, described the survey instrument, explained the data collection methods, determined how datum were analyzed, and clarified the limitations of the study.

CHAPTER 4

Results

This chapter detailed the results of the African American Adolescent Emotional Intelligence Survey (AAAEIS). The description of the sample population is presented. Data was presented corresponding to each of the research questions described in chapter two. Findings related to the research questions for this study were presented in the following sections.

Description of Focus Group Sample

The sample included a total of 18 participants, 13 females and 5 males. Of the 13 females, 6 were adults and 7 were adolescents. Of the 5 males, 3 were adults and 2 were adolescents. Adolescents were participants ages 13-19. Adults were ages 20 and over. The ages of all focus group participants ranged from ages 13-25. Participants self-identified racially/ethnically as African-American.

Table 6

Demographic Characteristics of the Focus Group Sample

Variable	n	Percent*
Gender		
Females	13	72%
Males	5	28%
Females		
Adult	6	46%
Adolescent	7	54%
Males		
Adult Male	3	60%
Adolescent Male	2	40%

Description of Large Group Sample

The sample included a total of 90 participants; 47 females (52%) and 39 males (43%) (Table 7). The participants self-identified racially/ethnically as African-American. The adolescents in the study represented middle school students (20%), high school students

(76%), and students beyond high school (4%). Fifteen respondents were from a group specifically for adolescent parents-to-be.

Table 7

Demographic Characteristics of the Large Group Sample

Variable	n	Percent*
Gender		
Females	47	52%
Males	39	43%
No Response Provided	4	4%
Age Group		
No response	7	8%
13 yr olds	17	19%
14 yr olds	18	20%
15 yr olds	18	20%
16 yr olds	8	9%
17 yr olds	9	10%
18 yr olds	10	11%
19 yr olds	3	3%

Note. Percentages do not add up to 100% due to rounding of figures.

See Appendix C for a graphic representation of the information presented in Table 7.

Research Questions

The key research questions (RQ) of this study were:

RQ 1: Is the AAAEIS a valid measure when administered to African American adolescents?

RQ 2: Is the AAAEIS reliable when administered to African American adolescents?

Research Methods

This research study used focus groups to determine the validity of the AAAEIS. A large group survey administration, analyzed with the Gage R&R, was used to determine reliability of the AAAEIS.

The Gage R&R is a statistical tool that measures how much variation is in the measurement device and those taking the measurement. The large group administration process consisted of administering the survey to three groups of African-American adolescents. The Gage was then applied to data gathered from this administration of the survey.

Results and Findings

Validity

As stated in chapter three the focus group for the current study was provided the survey and asked to read and answer the survey as though they were the target population. Each of the focus group members had the opportunity to comment on the areas of potential

misunderstandings and determined whether the survey would make sense to the group to whom the survey was administered.

This study used focus groups to determine validity because this method of data collection can “provide a means of evaluating existing programs” or surveys (Marczak and Sewell, n.d.). Specifically, the focus groups sought to find this instrument’s face and content validity. The focus group allowed a listen and learn atmosphere with exploration of the topic of interest through participant conversations. In-depth knowledge was obtained by listening to participant discussion, asking open-ended “how” and “why” questions, and through identification of problems that need to be addressed.

The focus group determined that the items on the survey accurately represented the construct being measured. The group determined this by answering the open ended questions such as “Do you understand this word’s meaning?” and “What does this word mean to you?”. The group made comments about how the survey aided in ascertaining a student’s feelings per situation and how the students may act differently per situation because of recognized or unrecognized feelings. Additional comments were made about the survey providing a way to see what feelings a student has most often. The findings were divided into the topics below.

Focus Group Feedback from Adult Participants

Some of the adults in the focus group were uncertain that the students would understand select words. Others made comments such as, “Change number one to say ‘When I hear a rumor about someone, I usually repeat the rumor to someone else before I stop and think about how that person might feel’” instead of “When I hear a rumor about someone, I

usually tell someone else before I stop and think about how that person might feel” (See Appendix F AAAEIS item). Another adult focus group member thought number nine of the survey may prove to be difficult but could be more understandable by adding more punctuation. Number nine stated “I am willing to let someone else get some of what they want, while I get some of what I want, in order to find an answer to a problem.” Still others thought the students would not understand certain words listed in numbers 16-19 and suggested that the word “ecstatic” be changed to “excited”, “hostile” be changed to “angry”, and “disinterested” be changed to “bored”.

Focus Group Feedback from Adolescent Participants

Adolescent focus group participants reported full understanding of the survey. The adolescents in the group, more specifically, understood the words in the context used in the survey. This understanding supported the face validity of the AAAEIS because the survey must make sense to the focus group participants reflective of the target population of the study. The difference in feedback between the adult and adolescent focus group participants prompted the researcher to present the survey to the large research sample (i.e., adolescent research population for the AAAEIS) as it was originally presented to the focus groups. The survey was not changed based on the comments of the adolescents in the focus group. This decision was made because the target population (African-American adolescents) understood the survey as intended by the researcher.

The adult members of the focus group assumed that the target population would be unclear on the material as it was presented. This assumption demonstrated how stereotype

threat (Mayer and Hanges, 2003) can be created in specific groups through lowered expectations. The assumption also provided credibility to development of a measure created for African American adolescents because African American adolescents who take the survey will not knowingly be compared to White adolescents taking the same survey and thus may answer more honestly and present an accurate measure of the construct. Steel and Aronson (1995) stated they could induce or reduce the gaps in test performance by changing what participants think about an assessment.

The adults of the focus groups assumed the African American adolescents in general to be surveyed would misconstrue or misunderstand the survey item meanings. The opposite turned out to be true as the adolescents in the focus groups generally understood the survey item meanings.

In summary, based on the qualitative data presented, the focus group members' responses demonstrated the validity of the survey. The major theme observed centered on word choice as noted earlier in this chapter. The survey demonstrated face validity as stated before by making sense to the participants when viewing and reading over the measure. The survey demonstrated content validity in that group members noted a match between the survey questions and the content (or subject area) of the survey.

Reliability

The data were collected via the data collection procedures detailed in chapter three. Next, Gage R&R calculations were performed. First, the ranges (R) of participant data for each trial were calculated for each group. The range was calculated as the difference in

scores between Group A, Participant 1, Trial 1 and Group A, Participant 1, Trial 2. This process will be completed for each of the 30 participants in each group to determine the score differences or variations between trial administrations (Appendix B). After all range data were calculated and totaled per trial, the averages between the two trials were calculated for each group (See Figure 1).

$$\text{Average} = \frac{\text{Sum of trials}}{\text{Number of trials}}$$

$$\begin{array}{l} \text{Group A} \\ \frac{1329+1351}{60} = \frac{2680}{60} = 44.66 \end{array}$$

$$\begin{array}{l} \text{Group B} \\ \frac{1392+1389}{60} = \frac{2781}{60} = 46.35 \end{array}$$

$$\begin{array}{l} \text{Group C} \\ \frac{1321+1344}{60} = \frac{2665}{60} = 44.41 \end{array}$$

Figure 1. Calculations of the ranges of participant data for each group administration of the AAAEIS .

These numbers provided one average score for each group and allowed for preliminary analysis based on how close the scores were to each other. Scores that were closer together appear to demonstrate more similarity between groups which was a preliminary positive predictor for reliability.

Next, the average range was calculated for each group by dividing the sum of the ranges by the number of ranges. This was done to note variations between groups (See Table

8). Low variation between groups is another preliminary positive predictor of reliability because it demonstrates similarity between the groups (See Figure 2).

$$\text{Average R} = \frac{\text{Sum of ranges}}{\text{Number of ranges}}$$

$$\begin{array}{l} \text{Group A} \\ \frac{133}{30} = 4.43 \end{array}$$

$$\begin{array}{l} \text{Group B} \\ \frac{51}{30} = 1.7 \end{array}$$

$$\begin{array}{l} \text{Group C} \\ \frac{64}{30} = 2.13 \end{array}$$

Figure 2. Calculations of the average ranges for each group of participants taking the AAAEIS used as a part of the Gage R&R process.

Table 8

Raw Score Group Averages Per Trials and Range of Averages

Group	Trial 1 Average	Trial 2 Average	Range
A	1321	1344	133
B	1392	1389	51
C	1329	1351	64

This statistic allowed a preliminary view of the amount of variation between each group's first trial and second trial to be gained. Similar scores between trials was another preliminary

positive indicator of reliability because it demonstrated that similar results can be obtained by the same group of participants retaking the survey.

From this, the average of all the ranges, or the grand average range was calculated (See Table 9). This calculation determined total group performance which indicates the variation between groups (See Figure 3).

$$\text{Grand Average R} = \frac{\text{Average R}_A + \text{Average R}_B + \text{Average R}_C}{\text{Total number of ranges}}$$

$$\frac{4.43 + 1.7 + 2.13}{3} = \frac{8.26}{3} = 2.753$$

Figure 3. Calculation of the grand average range used as a part of the Gage R&R process.

Table 9

Average Ranges Per Group

Group	Average
A	4.43
B	1.7
C	2.13

Sum of ranges divided by total number of groups is 2.753

This statistic, which is similar to the previous statistic, reported the variance between group ranges. A higher number indicates high variation between groups. A low number indicates low variation between groups. High or low variation was defined based on the survey scores.

For example, variation would be high on a survey that was scored using a scale of 0-60 with an Average R for group one being 30, for group two being 15 and group three being 45.

There was a 15 point difference between each of these scores, which can be significant when the maximum score is 60. Low variation for the same survey would occur if group one had an Average R of 30, while group two's Average R was 31, and group three's Average R was 28. This is a difference of between one or two points. The grand average range was multiplied by the appropriate D_4 value from the Table of Factors for Control Chart Limits shown in chapter 3. This table recognizes the number of trials per measurement instrument which was a factor in determining the Upper Control Limit (UCL_R). The D_4 value was the number of units necessary to reach the Upper Control Limit Range (UCL_R), the level above which the data should not fall (See Figure 4).

$$\text{Grand Average R} \times D_4 = UCL_R$$

$$2.753 \times 3.27 = 9.00231$$

Figure 4. Calculation to determine the UCL_R used as a part of the Gage R&R process.

Because this study uses two trials per group, the D_4 value corresponding to # *Trials*, 2, 3.27, was multiplied by the Grand Average R to calculate the UCL_R . This was the level above which the data should not fall. Data that falls outside of the UCL_R is outlier data and should be re-tested. Unfortunately, some of the range data from this study's trials (See Appendix A) fell above the UCL_R of 9.00231 which means the testing must be re-evaluated and re-done to determine the cause of outlier data. Testing was not redone because the same groups of

participants surveyed previously could not be re-gathered due to the host organization's availability.

If outlier data did not exist calculations for the statistical process would have continued, as noted in chapter three, with equipment/measurement variation, appraiser variation and finally, the total R&R. Without being able to resurvey the groups, the outlier data ended the data analysis.

The research questions (RQ) addressed were:

RQ 1: Is the newly created measure of emotional intelligence a valid measure when administered to African American adolescents?

RQ 2: Is the newly created measure of emotional intelligence reliable when administered to African American adolescents?

While the focus groups did show that the survey had face and content validity, reliability of the measure was not proven. The outlier data skewed the measurement results by appearing to produce results that were not similar from one administration to another. It should be noted, however, that outlier data from only four out of the 90 surveys skewed the results. The cause of the outlier data were determined by reviewing the surveys and the raw data scores. The four surveys that skewed the results were incomplete in either the first or second administration and therefore appeared to have a larger range between scores. This large difference on specific participant administrations increased the differences for the Average R and the Grand Average R. The absence of these four surveys would have allowed for statistical computations to continue and could have thus led to reliable survey. The four

surveys could not be removed and still have met the specifications for group sample sizes required for validation of the AAAEIS.

Limitations

In a next iteration of the AAAEIS, verbiage or graphic markers will be included to encourage completion of the survey by providing a visual cue to continue to the next page. The last page of the instrument also will have a visual cue to note the end of the survey. In addition, words and photos for the instrument will be generated based on the population's understanding of the verbiage used in both the perceiving emotions and managing emotions section.

Chapter Summary

The data attained through focus group discussions was analyzed and reported, and the AAAEIS was analyzed using the Gage R&R measurement analysis system. Descriptive statistics revealed various items about participant age and gender. Comparisons between groups yielded similar results, however, outlier data negatively influenced the entire group. Participant scores, including range data, can be found in Appendix A. A discussion of the results follows in Chapter 5.

CHAPTER 5

Conclusion

This chapter included an overall summary of the study, a summary of significant research findings, and a discussion of the meanings of those findings. Implications for professionals who work with African-American adolescents were considered. Finally, recommendations for further research were presented.

Summary of the Study

There are non-cognitive aspects of intelligence that are important. Weschler (1940) proposed that the non-intellective abilities were vital in predicting a person's ability to succeed. Since beginning to use mental ability tests, researchers and lay people alike have questioned the appropriateness of such tests in measuring intellectual ability of certain sociocultural groups and minority groups. There are several arguments against using these types of tests with minority populations, however they all asserted that the tests of mental ability were biased against and possibly harmful for minority children. African Americans consistently scored, on average, one standard deviation lower than whites on most standardized intelligence tests (Hickman & Reynolds, 1987). The assertion made for this consistency was that minorities were sampled in such small numbers that they do not significantly affect the item statistics because samples developed to reflect the total population characteristics are predominately White. Test items were chosen based on the responses of the total sample, which was primarily influenced by Whites. This study sought

to develop an instrument measuring emotional intelligence specifically for African American adolescents that was both valid and reliable using an all African American sample.

The AAAEIS was developed to aid professionals who work with African American adolescents in determining non-intellective abilities, specifically emotional intelligence. A sampling of African American adolescents was chosen from adolescents in public, private, and/or after school programs in Guilford County, North Carolina. The AAAEIS was given to a focus group of African American adolescents and adults who worked with African American adolescents first, then to a larger sample of adolescents. Surveys were provided through a paper and pencil method and required no electronic media. Completed surveys were taken up, data were hand scored and inputted into an Excel data file for analysis.

The first research questions in this study asked if the AAAEIS was a valid measure of emotional intelligence. The second research question asked if the AAAEIS was a reliable measure of emotional intelligence.

Summary of Significant Findings

Validity

The results of this study indicated that the AAAEIS was valid when administering the instrument. Specifically, the instrument has face validity and content validity in that it appeared to measure emotional intelligence by viewing the test according to the focus groups and the content related to the construct as a whole. This study also gave credence to minority adolescents who are affected by stereotype threat. The adults of the focus groups assumed the African American adolescents in general to be surveyed would not understand the survey

item meanings when in fact the opposite was true. The adolescents understood the words and concepts and successfully completed the survey. A possible outcome, had these notions of inability been made aware to the large group of adolescents, could have been stereotype threat.

Reliability

The AAAEIS was measured for reliability using the Gage R&R. A determining factor in this measurement system is the range data between trial administrations within groups. A reliable measure will have similar scores within trial administrations and between trial administrations. The first method of determining this was calculating the Upper Control Limit Range (UCL_R). Data that fall outside of the UCL_R were outlier data and should be re-tested. In the first and third groups, during both the first and second trial administrations, there were participants who did not complete the measure. When comparing a completed measure to an incomplete measure the range data between the two scores appears to be large, when in fact, there was only partial data to compare. This comparison between complete and incomplete data created a range between the two scores that were vastly different, one completed score specifically was 19 points higher than the incomplete measure which was well over the UCL_R of 9.

Discussion of Findings

Relationship of Current Study to Prior Research

In chapter two, emotional intelligence and African American adolescents is discussed. Safyer (1994) notes that “Many urban adolescents face a myriad of stressors, such as

exposure to violence and poverty”. Some of the adolescents who were surveyed were parents-to-be and were dealing with other life stressors such as domestic violence, poverty, and low academic performance. Each of these stressors would either cause or perpetuate another stressor.

Also, the acknowledgement of stereotype threat was presented by an after school program director. As stated in previous chapters, stereotype threat is the “decrement in test performance that results when members of some group fear that their test performance will confirm a negative stereotype of their group” (Mayer & Hanges, 2003). The director was sure to ask that the AAEEIS not be called a test, but instead a survey. The director’s reasoning for this was so the “kids would not get nervous” about participating. The director recognized that when being assessed, the adolescents worried about how their performance would be perceived, even though the survey was anonymous.

Implications for Future Research

While it is difficult to provide a sound basis for change in any practice with one study, there are interesting facts to be considered as prompts for change in future research. A very simple change in the test construction could have eliminated most of the incomplete surveys. A parenthetical statement prompting the participant to “(Go to next page)” could have decreased range data between trial administrations and produced a reliable survey because most incomplete surveys had an incomplete back page. Another fact was the recognition that stereotype threat is a valid concept that deserves more attention and should be an impetus for change in test/survey administration. Whether doing standardized testing,

or classroom testing, it became apparent through the director's comments about what to call the AAAEIS that this phenomenon has arisen in the past. Making allowances for stereotype threat through the presentation of the survey as research to critique the researcher, not a test of participant skill or ability, led to increased participation.

In future iterations of the AAAEIS, further item generation and refinement could be done by showing photographs to adolescent participants and allowing them to come up with feeling words that appear to match or, conversely, directly oppose, what the photo presents. Also, a scoring tool will be created for the instrument.

To aid in external validity, additional research could test the AAAEIS on African American adolescents and White adolescents. This research may add more legitimacy to the statements of test bias, especially if White students are out performed by African American students on the survey. Future research could distinguish the subtle nuances between the AAAEIS and emotional intelligence tests devised for general populations to create one test that accurately measures the concept in both ethnicities. The AAAEIS could also be tested against other short form emotional intelligence tests created for adolescents. A final implication for research could be development of other emotional intelligence tests for various minority populations.

Chapter Summary

This chapter summarized the dissertation by stating African American adolescents were surveyed to assess the validity and reliability of the AAAEIS. The significant findings related to validity and reliability were discussed as well as reasoning for why the survey

lacked reliability. There was also a discussion of the findings relating the current study to prior research and discussion implications for future research.

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APPENDICES

APPENDIX A

Critiquing Factor Analysis Studies

1. Is the type of factor analysis identified and was the choice appropriate?
2. Was the sample defined or described clearly and comprehensively enough and is it representative enough to make the findings useful? Is it large enough/
3. Are the steps presented clearly? (Rotation, derived factors, correlations...)
4. Are the names of the derived factors presented clearly?
5. Are there tables summarizing the intercorrelations and the relevant values associated with the derived factors?
6. Are the findings discussed in conjunction with the research questions or goals?
7. Are the implications for professional practice and further research discussed?
8. Are the findings discussed in relation to previous findings and theory?
9. Was the data collection unobtrusive?
10. Do the tables stand alone?
11. Are the results presented accurately and appropriately?
12. Was evaluation apprehension prevented?

Baker, 2003

APPENDIX B

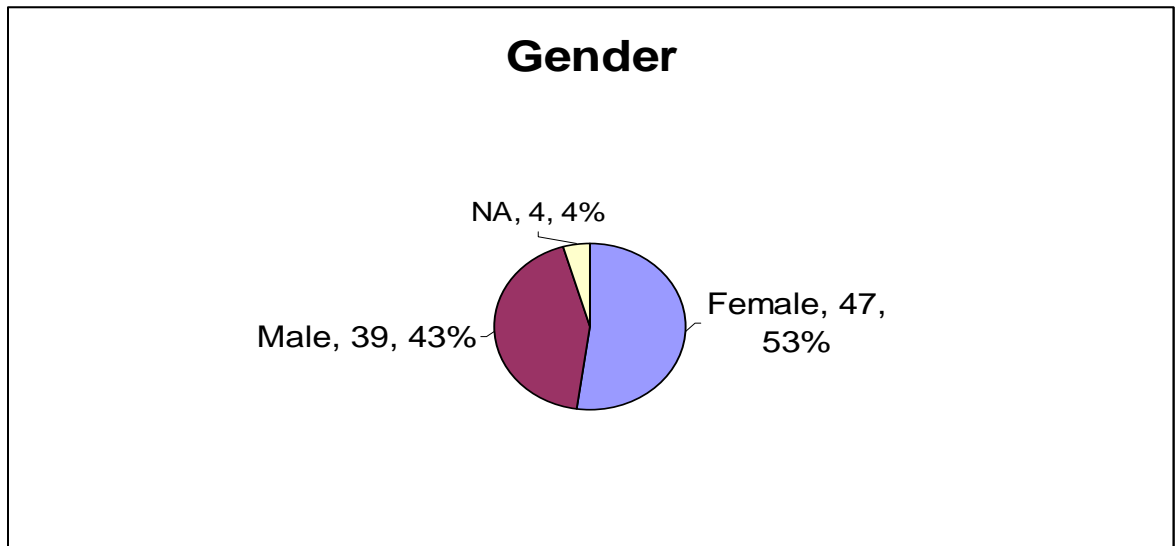
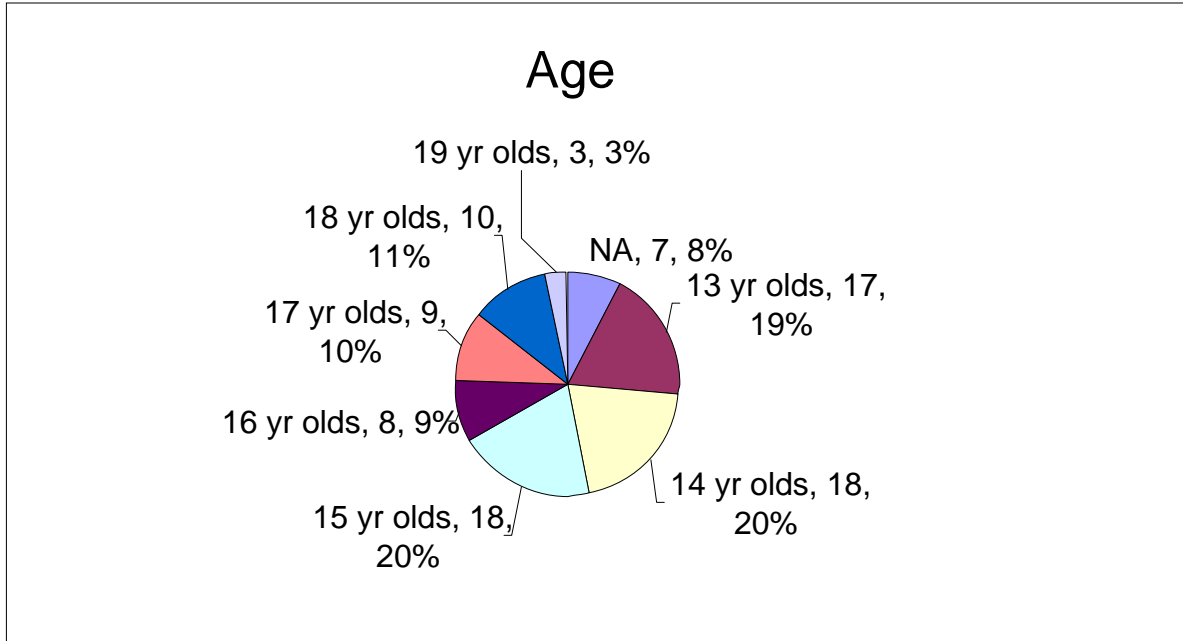
Raw Scores of AAAEIS Large Group Administration

Group	A			B			C		
Sample #	1st Trial	2nd Trial	Range	1st Trial	2nd Trial	Range	1st Trial	2nd Trial	Range
1	41	50	9	44	43	1	47	49	2
2	45	49	4	48	51	3	39	39	0
3	61	51	10	46	45	1	42	40	2
4	45	37	8	50	52	2	40	42	2
5	44	42	2	39	45	6	46	47	1
6	56	55	1	47	47	0	35	36	1
7	46	44	2	44	45	1	50	50	0
8	47	45	2	48	48	0	50	46	4
9	43	40	3	41	44	3	45	44	1
10	49	42	7	38	39	1	41	40	1
11	48	42	6	44	45	1	38	40	2
12	45	49	4	40	42	2	45	46	1
13	33	47	14	45	43	2	51	50	1
14	42	45	3	46	47	1	51	47	4
15	40	43	3	50	47	3	42	42	0
16	41	50	9	49	47	2	46	49	3
17	46	49	3	48	46	2	44	45	1
18	39	39	0	47	43	4	40	39	1
19	44	49	5	55	58	3	39	43	4
20	47	48	1	48	48	0	49	52	3
21	46	46	0	52	52	0	46	45	1
22	51	50	1	45	43	2	40	42	2
23	24	43	19	53	50	3	48	49	1
24	37	35	2	45	46	1	32	48	16
25	38	34	4	49	46	3	55	56	1
26	46	46	0	45	45	0	47	48	1
27	45	41	4	45	45	0	45	45	0
28	45	45	0	42	41	1	42	44	2
29	44	48	4	50	47	3	46	44	2
30	43	40	3	49	49	0	48	44	4
Total	1321	1344	133	1392	1389	51	1329	1351	64

**Participants in Group A with ranges of 8, 14, and 19 and group C with a range of 16 all submitted an incomplete survey during one trial and a completed survey during another trial.*

APPENDIX C

Percentage and Raw Number of Participants



APPENDIX D

Permission Form for Emotional Intelligence Research

As parent or legal guardian of _____, I consent to his/her participation in the emotional intelligence research being conducted through the Mount Zion Baptist Church of Greensboro, Inc. After School Program by doctoral student Nannette Smith.

If you allow your child to participate in this study, your child will be asked to take the African American Emotional Intelligence Test (AAAEIS) twice. You may view the test at any time. Each group will complete the survey and one week later will re-take the same survey. It will take approximately 20 minutes for a child to complete the test, however a maximum of 45 minutes may be used. There will be no personal identification information required from your child during testing.

If at anytime you have questions regarding the test, would like to view the test, would like to remove your child from the testing, or would like to speak with the Nannette, please feel free to call her at 336-508-1308.

Signature _____

Date _____

APPENDIX E

Agreement to Participate in Research

As parent or legal guardian of _____, I agree to allow her participation in the research being conducted through the Greensboro YWCA by doctoral student Nannette Smith.

The information in the study records will be kept strictly confidential.

Your child's participation in this study is voluntary; you may decide not to allow your child to participate without any negative reactions. If you do decide to allow your child to participate, you can stop participation in the study at any time without negative reactions.

I understand that if I have questions I may speak with Nannette Smith.

Signature _____

Date _____

APPENDIX F

Dissertation Research Description

Emotional Intelligence Survey Development

Nannette Smith, M.S., LPC

“We are being judged by a new yardstick: not just how smart we are, or by our training and expertise, but how well we handle ourselves and each other.”

Daniel Goleman, Author

Working with Emotional Intelligence

What I would like to do:

- Test a survey I developed to assess the presence of a concept called emotional intelligence.
- The concept can be used with teenagers to
 - teach conflict resolution skills
 - increase self-esteem
 - develop leadership
 - develop character and a host of other positive skills.

Why I am doing this research:

- To develop a survey of emotional intelligence **specifically for African American teenagers.**
- Current research demonstrates that African American teenagers are sampled in such small numbers during development of other emotional intelligence surveys that their influence on survey development is insignificant. The same occurs for test development in all areas.

“...on the October 2000 SAT, test makers retained all pretest items on which White students outperformed African American and Latino students, but discarded all pretest items on which African Americans and Latinos outperformed Whites”

(Young, 2003).

(Unpublished dissertation, Nannette Smith).

Who I would like to participate:

- Total group of 60 African American teenagers
 - 2 Groups – The survey will be administered twice to two groups of 30 African American teenagers.

- Each group will complete the survey and one week later will re-take the same survey.
- Maximum of 15 minutes per group will be needed

When will research be conducted:

Preferred timeframe of the project is March 14 and 21 during a 15 minute section of the youth Bible Study.

Benefit to you:

- As a licensed professional counselor and PhD candidate, I will provide 3-4 weeks of weekly small group training (50-60 minute sessions, maximum 10 per group however multiple groups can be scheduled).
- Training will be in the area of emotional intelligence.
- Training can provide
 - conflict resolution skills
 - self-esteem training
 - leadership development
 - character development
 - or training in another area deemed necessary by the youth ministry that can be accommodated by emotional intelligence.

Typically emotional intelligence assessments can cost between \$45 - \$250 per test and emotional intelligence training can cost up to or exceed \$400 - \$500 per person. **The training I would provide for Mount Zion during this dissertation research would be of no charge.

Additional Information

- Consent forms can be provided for parents and guardians of students (see attached).
- Parents and/or church faculty/staff/administration can preview a copy of the instrument (see attached).
- Researcher's Name, Credentials, and selected experience (see below).

▪ **Nannette L. Smith**

North Carolina State University Doctoral Candidate

Bachelor of Arts – Speech Communication, UNC Greensboro, December 1996

Master of Science – Agency Counseling, North Carolina A&T State University, May 2002

Doctor of Philosophy – Counselor Education, North Carolina State University, August 2007

Licensed Professional Counselor – June 2006

- **Conflict Resolution Trainer**
 Win-Win Resolutions
 Greensboro, North Carolina
 - Trained high school and middle school students on conflict resolution techniques to use in effort to prevent crisis situations.
 - Processed daily situations, triggers to such situations, and provide easy-to-remember steps in circumventing crisis situations.
 - Assisted students in finding alternatives self-sabotaging acts.
 - Assessed student behavior and confer with classroom teacher about possible referrals to school mental health professionals.
 - Provided added assistance to students facing unusual difficulty.

- **Therapist**
 Triad Behavioral Resources
 Greensboro, North Carolina
 - Provided mental health and behavioral therapy for adolescents addressing substance abuse, anger management, and mental health issues.
 - Provided clinical supervision for group home staff.
 - Reviewed and provide feedback on client files maintained by group home.
 - Maintained confidential files to monitor client progress.

- **Adjunct Faculty**
 Guilford Technical Community College, Human Services Technology
 High Point, NC
 - Develop course curriculum to teach human services fundamentals to degree/certificate seeking students.
 - Create activities and assignments to supplement course readings.
 - Evaluate student performance through testing, class discussions, papers, and presentations.
 - Provide assistance to struggling students or any who request additional help.

African American Adolescent Emotional Intelligence Survey

Grade _____
Male _____ Female _____
Age _____

African American Adolescent Emotional Intelligence Survey

1. When I hear a rumor about someone, I usually tell someone else before I stop and think about how that person might feel.

1	2	3	4
Almost Never	Rarely	Sometimes	Almost Always

2. Whenever someone is being rude to me, I think it is better for me to be quiet than to say something about it.

1	2	3	4
Almost Never	Rarely	Sometimes	Almost Always

3. When someone is messing with me, or getting on my nerves, it usually ends up in a fight.

1	2	3	4
Almost Never	Rarely	Sometimes	Almost Always

4. When I am mad, I try to hide it.

1	2	3	4
Almost Never	Rarely	Sometimes	Almost Always

5. I would rather avoid defending myself, even if I feel bad.

1	2	3	4
Almost Never	Rarely	Sometimes	Almost Always

6. When another person starts a fight or argument with me, I fight or argue back.

1	2	3	4
Almost	Rarely	Sometimes	Almost
Never			Always

7. I prefer to avoid the situation whenever somebody is bothering me.

1	2	3	4
Almost	Rarely	Sometimes	Almost
Never			Always

8. When I see two people talking and laughing, I think they are talking about me.

1	2	3	4
Almost	Rarely	Sometimes	Almost
Never			Always

9. I am willing to get some of what I want and the other person get some of what they want in order to find an answer to a problem.

1	2	3	4
Almost	Rarely	Sometimes	Almost
Never			Always

10. If I don't like someone, I get other people to hate on them with me.

1	2	3	4
Almost	Rarely	Sometimes	Almost
Never			Always

11. When someone does not agree with me, I try to look at the situation from the other person's point of view.

1	2	3	4
Almost	Rarely	Sometimes	Almost
Never			Always

12. Before I get to know someone, I can tell what kind of person they are going to be.

1	2	3	4
Almost	Rarely	Sometimes	Almost
Never			Always

13. I usually get angry quickly and do something crazy without thinking about it.

1	2	3	4
Almost	Rarely	Sometimes	Almost
Never			Always

14. When I am not sure what someone is thinking or feeling, I feel comfortable asking them to tell me so that I can understand.

1	2	3	4
Almost	Rarely	Sometimes	Almost
Never			Always

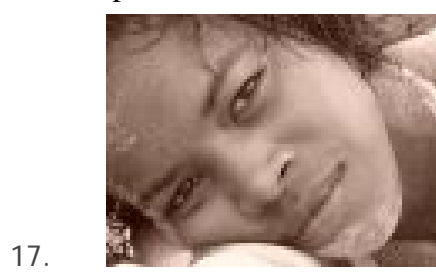
15. When I see a fight, I say things out loud that keep the fight going.

1	2	3	4
Almost	Rarely	Sometimes	Almost
Never			Always

Identify the emotion in the picture. Choose the one emotion you think the picture shows. Next, circle the number closest to the intensity shown in the picture.



- a) Happy
- b) Surprised
- c) Joyous
- d) Ecstatic



- a) Disinterested
- b) Lonely
- c) Hostile
- d) Hopeful



- a) Scared
- b) Hurt
- c) Bored
- d) Reserved



- a) Anxious
- b) Embarrassed
- c) Playful
- d) Tired



20.

- a) Frustrated
- b) Satisfied
- c) Jubilant
- d) Content

APPENDIX H

Reason to Use a Focus Group According to Morgan (1998a)

- 1) “The goal is to listen and learn from other people.
- 2) You can explore the topic of interest through conversations among participants.
- 3) You can obtain in-depth knowledge by listening to participants discuss and share an experience or opinions.
- 4) You can pursue interpretive questions about “how and why” through group discussions.
- 5) Your purpose is to identify problems that you need to address.
- 6) Your purpose is to plan for programs, survey questionnaires, quality initiatives, and so on”.