

To the Graduate Council:

I am submitting herewith a dissertation written by Kelli Renee Jordan entitled “The Universal Academic, Cognitive, Creativity, Emotion Screening Scale (UACCESS) Score Comparisons between African American and Caucasian Gifted and Non-gifted students.” I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in School Psychology.

Sherry K. Bain , Major Professor

We have read this dissertation
and recommend its acceptance:

R. Steve McCallum

Sherry M. Bell

John Lounsbury

Accepted for the Council:

Carolyn R. Hodges
Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

The Universal Academic, Cognitive, Creativity, Emotion
Screening Scale (UACCESS) Score Comparisons between African American and Caucasian
Gifted and Non-Gifted Students

A Dissertation Presented for
the Doctor of Philosophy
Degree
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Kelli Renee Jordan
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Dedication

I'd like to dedicate my dissertation to my late grandmother Mama Gladys. I miss you and I know that you will be there with me in spirit as I walk across the stage.

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Abstract

Forty-seven gifted and non-gifted African American and Caucasian students in grades third through fifth were rated by their teachers on the Universal Academic, Cognitive, Creativity, and Emotion Screening Scale (UACCESS) (McCallum & Bracken, in press). Internal consistency was high with Chronbach's alphas ranging from .97 to .99 and correlation coefficients for the six scales ranged from .42 to .92. Factorial MANOVA's for each composite scale showed no significant score differences between African American and Caucasian students. There was a significant difference in scores based on placement, with higher scores in favor of gifted students on both the General Aptitude Composite (Wilk's Lambda=. 70, $F(3,41) = 5.87, p < .01$ and the Specific Academic Aptitude Composite (Wilk's Lambda=. 73, $F(3,41) = 5.03, p < .01$. There were no interaction effects for placement x race. A discriminant analysis using the six UACCESS scales resulted in 76.6% of participants being correctly classified as gifted or non-gifted. There were no score differences across gender. Based on the results of this study, the UACCESS shows some promise as an effective gifted screening instrument to supplement the referral/nomination process.

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Chapter 1

Introduction and General Information

Introduction

In 2006, approximately 17.1% of school children in the United States were African American. Strikingly, only 3.6% of this total African American population is gifted, a number that is significantly lower than all other ethnic groups, including minorities (United States Department of Education [USDE], 2008). Traditionally, African American students are underrepresented in gifted and talented programs (Bonner, 2000; Ford, 1998; Naglieri & Ford, 2003) and even undernominated for identification (McBee, 2006; Oakland & Rossen, 2005). There has been wide speculation as to why this phenomenon is consistently an issue in schools in the United States. Current research suggests problems with the definition of giftedness, differences in learning style, underachievement, differences in parental involvement, the referral process, teacher nominations (Bonner, 2000; Ford, 1995), narrow definitions, and a heavy reliance on intelligence tests for entry into gifted programs (Callahan, 2005).

In the referral process, typically, the first step is for a teacher to refer a student for gifted assessment. This referral, however, is based on the teacher's perception of how the student is performing in comparison to his or her same-aged peers. Gifted screening scales address this issue by providing an efficient and reliable method for teachers to summarize their perceptions of a student's classroom performance based on observations and academic work (Jarosewich, Pfeiffer & Morris, 2002). Currently, however, there is little research that specifically focuses on how samples of minority students are rated on gifted screening scales. In this study, I examine the scores of gifted African American and Caucasian

students, as rated by their teachers on the UACCESS: Academic, Cognitive, Creativity, Emotion Screening Scale (UACCESS) and compare these scores with non-gifted African American and Caucasian students.

Chapter 2

Literature Review

Definition of Giftedness

Over the decades, the field of gifted education has been faced with an ever-changing definition of what it means to be gifted and talented. Paradoxically, the field still lacks a standard or universal definition (Ford, 1994; Gray, McCallum, & Bain, 2009; Hoge & Cudmore, 1986). Furthermore, with states not mandated to provide gifted services, state-to-state definitions vary tremendously (Ford, 1998; Stephens & Karnes, 2000). This inconsistency can be troublesome to the field of gifted education that struggles to remain relevant and receive funding to meet the unique needs of exceptional learners (Stephens & Karnes, 2000).

The definition of gifted within federal legislation dates back to The Education Amendments of 1969 (U.S. Congress, 1970). This definition stated:

The term ‘gifted and talented children’ means in accordance with objective criteria prescribed by the Commissioner, children who have outstanding intellectual ability or creative talent, the development of which requires special activities or services not ordinarily provided by local education agencies. (1970, as cited in Stephens & Karnes, 2000, p. 219)

In 1972, the Commissioner of Education, Sidney Marland, defined gifted students as exhibiting “outstanding abilities [and] are capable of high performance” (Marland, 1972, p.5) that may require alternative education programs outside of the general education classroom in six areas. Children were required to exhibit “demonstrated and/or potential ability in any of the following areas singly or in combination: general intellectual ability,

specific academic aptitude, creative or productive thinking, leadership ability, ability in the visual or performing arts, and psychomotor ability (Marland, 1972, p.5). Marland hypothesized that using these criteria, approximately three to five percent of school-aged children would be identified as gifted.

A modified version of the Marland definition became a part of the Gifted and Talented Children's Education Act of 1978. Psychomotor ability was removed and the terms preschool and youth were added in this modification. According to the 1978 definition:

'Gifted and talented children' means children and, whenever applicable, youth, who are identified at the preschool, elementary, or secondary level as possessing demonstrated or potential abilities that give evidence of high performance capability in areas such as intellectual, creative, specific academic or leadership ability or in the performing and visual arts and by reason thereof require services or activities not ordinarily provided by the school. (Purcell, 1978, P.L. 95-561, Title IX, sec. 902)

Since states are not mandated to serve gifted students, this definition served as a guideline for many years. In fact, many states did not modify their definitions for well over 10 years (Cassidy & Hossler, 1992).

In 1988, the Jacob K. Javits Gifted and Talented Students Education Act was created (U.S. Congress, 1988) to support and encourage the development of gifted and talented students (National Association for Gifted Children [NAGC], n.d.) The Javits Act provides federal funds for research, activities, and projects to support the needs of gifted and talented students, including those who are typically underserved (NAGC, n.d.) The definition within the Jacob K. Javits Act (U.S. Congress, 1988) was very similar to the 1978

modifications, but removed the references to preschool, elementary and secondary education, and references to the performing arts (Stephens & Karnes, 2000).

In 1993, the United States Department of Education report titled, “National Excellence” was created to encourage schools to continue their development of gifted and talented students. It offered a more current definition of giftedness, more reflective of the times and it incorporated portions of the definition from the Javits Act (1988). It is promising that to date, the 1993 definition includes more language than prior definitions that reference cultural considerations (Ford, 1998). For example, the 1993 definition states:

Children and youth with outstanding talent perform or show the potential for performing at remarkably high levels of accomplishment when compared with others of their age, experience, or environment. These children and youth exhibit high performance capacity in intellectual, creative, and/or artistic areas, and unusual leadership capacity, or excel in specific academic fields. They require services or activities not ordinarily provided by the schools. Outstanding talents are present in children and youth from all cultural groups, across all economic strata, and in all areas of human endeavor. (USDE, 1993, p. 2)

An important aspect of this definition is the inclusion of potential ability, which has been in and out of previous definitions. This is promising because it recognizes “students who have, for various reasons yet to manifest their gifts” (Bonner, 2000, p.645) and gives them the opportunity for access to services if they are demonstrating this potential, to some extent, in the classroom (Ford, 1994). This definition should be considered a step in the right direction, with its acknowledgement that intellectual ability alone may not constitute giftedness for all

students. Specifically, it is promising that this definition includes other aspects of giftedness such as creativity/artistic and leadership capabilities.

However, students whose exceptional abilities are in other areas may still be overlooked based on this definition. In other words, it does not address the “multiple intelligences,” a term coined by Gardner (1983). Multiple intelligences now includes nine distinct intelligences that go beyond the traditional definition of intelligence that predicts school success (Gardner, 2004). Gardner believes that each person exhibits a unique profile of intelligences that consist of relative strengths within the following areas: (a) linguistic, (b) logical-mathematical, (c) musical, (d) spatial, (e) existential, (f) bodily-kinesthetic, (g) naturalistic, (h) interpersonal and (i) intrapersonal.

Callahan (2005) supports using the construct of multiple intelligences, where students may exhibit one or more areas of giftedness or talent which would contribute to the expansion of what it means to be gifted. Ford (1994) noted that of the nine intelligences, only logical-mathematical and linguistic are measured by traditional, norm-referenced intelligence tests. However, newer instruments such as the *Wechsler Intelligence Scale for Children, Fourth Edition* (Wechsler, 2003) and the *Universal Nonverbal Intelligence Test* (UNIT; Bracken & McCallum, 1998) include some of the additional components (e.g., spatial ability) that Ford questioned in traditional measures of intelligence.

Regardless of its shortcomings, many states have incorporated aspects of the 1993 definition within their state guidelines. For example, in the state of Tennessee, intellectual giftedness is defined as “intellectual abilities and potential for achievement [that] are so outstanding the child’s educational performance is adversely affected” (Tennessee Department of Education, 2008, p.48). In a 1998 survey sent to state gifted and talented

coordinators, Stephens and Karnes (2000) found that most states were using some variation of the 1978 federal definition. They reported that only four states used the 1993 definition, one using the Javits definition, and five states used having no definition at all. Furthermore, they found that thirteen states only acknowledged the word gifted, but others have developed alternative terminology to label students with exceptional abilities (e.g., learner of high ability).

Even though the field lacks one standard definition of giftedness there is some consensus regarding the identification process. It is generally agreed upon that evaluation procedures should be multimodal and come from a variety of sources (Bonner, 2000; Ford, 1998; Jarosewich et al., 2002). The sole use of intelligence and/or achievement tests is typically inappropriate, particularly for identifying minority students (Bonner, 2000; Callahan, 2005; Ford, 1998).

Potential Barriers to Identification for African American Students

Despite general consensus on the identification process, African American students face numerous barriers for recruitment, placement, and retention in gifted programs. These barriers are the very problems that contribute to their underidentification and underrepresentation. Potential barriers include the identification process, heavy reliance on intelligence tests, lack of teacher nominations, learning styles differences, and lack of parental involvement (Bonner, 2000; Ford, 1994). Because the process for gifted identification generally begins with referrals/nominations from teachers (McBee, 2006; Siegle, Moore, Mann, & Wilson, 2010) this is an area that must be targeted for evaluations of potential disproportionality.

Nomination and Identification. Teachers are typically responsible for making referrals/nominations based on their classroom observations of the student, thus serving as gatekeepers for students' admission into gifted programs. Unfortunately, teachers are not always aware of what to look for in potentially gifted students and may be influenced by socioeconomic status (McBee, 2006; Siegle et al., 2010), students' interests, and areas of academic achievement (Siegle et al., 2010). Most often, they are not given instructions on what to base their judgments (Hoge & Cudmore, 1986) and lack the proper training to identify students that possess characteristics of giftedness (Ford, 1998; Siegle et al., 2010). Also, teacher expectations and their influence on student achievement and referral rates has been a source of debate for many years. In meta-analyses examining teacher expectations, referrals, and speech patterns, Tenenbaum and Ruck (2007) found that teachers held lowered expectations for minority students and even spoke to minority students in a less favorable manner (negative speech patterns). Jussim (1989) found that while teachers were somewhat biased and displayed self-fulfilling prophecies about their students, the effects were more accurate evaluations of student achievement. Regardless, lowered expectations, whether based on race, behavior or socioeconomic status, can result in lowered referrals and nominations for minority gifted students.

In a recent study, McBee (2006) explored gifted nomination status and gifted identification status for first through fifth grade students in the state of Georgia ($N=705,074$). McBee (2006) used race, socioeconomic status (as defined by free or reduced lunch), nomination status, nomination source, and identification as variables for the study. Nomination status was defined as whether or not students had been nominated for participation in the assessment process. Success rate (accuracy) was defined as whether or

not the student was ultimately identified as gifted based on the full evaluation results. There were six possible nomination/referral sources available from the data: automatic referrals, teacher referrals, parent referrals, self-referrals, peer-referrals and other referral sources (e.g., community members, ministers, etc.). Students who score at the 90th percentile or higher on standardized testing were referred automatically. Results from this study indicated that automatic referrals occurred most frequently and had the highest accuracy, followed by teacher referrals and then parent referrals.

With respect to race, African American and Hispanic students had the lowest percentage of teacher referrals among the various racial groups in the study (McBee, 2006). Overall nomination rates (includes all sources of referral) for African Americans were 4.58% and 3.34% for Hispanic students. The success rates for placement were 68.9% and 70.1%, respectively. These percentages are in contrast to 14.65% of Caucasian students who were nominated and 83.9% of the nominated students who were placed. Teacher accuracy was lower for African American and Hispanic students, compared to the Asian, Native American, and White students in the sample. Free lunch status also contributed to referral rates and teacher accuracy. Students who received free lunch were three times less likely to be referred for gifted, and teachers were less accurate in their ratings of these students (McBee, 2006).

These discrepancies provide some evidence that undernomination and underrepresentation of minorities for gifted programs, particularly African Americans, still exists. While teachers can be somewhat judgmental in their ratings, their ratings are generally accurate (Hecht & Greenfield, 2002; Hoge & Coladarci, 1989). Teachers' ratings represent a rich source of information related to a student's performance and characteristics

due to the substantial interactions they have with students throughout the school day (Hoge & Cudmore, 1986; Oakland & Rossen, 2005). Furthermore, with “optimal circumstances,” most notably, preparation, training, and adequate tools, teachers can be more than potentially capable of providing accurate ratings (Hoge & Cudmore, 1986, p. 192). According to McBee (2006), while there were variations across race and SES, the overall quality of nominations in his study was relatively high. In this study, there was no mention of the race of teachers that were nominating students.

McBee (2006) acknowledged a number of factors that may be contributing to his findings including assumptions and beliefs about the distribution of ability across race and class. He stated that low rates of teacher nominations could be attributed to racism, classism, cultural ignorance as well as the possibility that fewer students from the undernominated groups actually exhibiting advanced potential. Unfortunately, without knowing specifically how ability is distributed, we may never know the correct interpretation of these findings. Still, while it may be difficult to pinpoint a definitive explanation for these data, the underlying issues of undernomination and underrepresentation for subgroups of students are still prevalent and warrant significant attention in the field of gifted education. (McBee, 2006)

Testing and Potential Biases. For many years, standardized testing has been the primary means of identification for gifted students (Ford, 1995). Bonner (2000) argues that relying only on standardized measures puts African American students and others who may be outside the mainstream culture at a severe disadvantage. He further states that tests are created based on the culture of the test constructor; thus, minority students are required to succeed on measures based on Caucasian, middle-class cultural standards. Historically, even

on tests that purport to be culturally fair, discrepancies in intelligence test scores exist, with higher scores favoring Caucasian students (Arvey, 1972). Likewise, the racial gap in achievement scores may be decreasing, but still remains large between African American and Caucasian students (Hedges & Nowell, 1999).

Partly in response to these criticisms, culturally sensitive testing, including learning style assessments, holistic assessments, non-verbally loaded assessments, creativity checklists, and parent and teacher nominations are gaining greater acceptance for the identification of traditionally underrepresented students for gifted programs (Ford, 1994). Cultural bias in testing can come in numerous forms, including but not limited to, content bias, item bias, and bias in favor of one subgroup over another (Sattler, 2001; Zurcher, 1998). While it is difficult to completely eliminate all sources of cultural bias in testing, it is recommended that authors take extensive measures to accommodate students from diverse backgrounds by choosing appropriate instruments for evaluation (Maller, 2003; Zurcher, 1998). Many researchers encourage the use of nonverbal measures, which place less emphasis on language skills, for culturally fair testing (Bracken & McCallum, 1998; Naglieri & Ford, 2003) and nondiscriminatory assessment (Joseph & Ford, 2006; Ortiz, 2002;). Maller (2003) recommends an extensive examination of tests' psychometric properties to investigate potential item bias across groups. She cites numerous statistical methods such as chi-square, logistic regression, differential item functioning, and item response theory (IRT) as examples of best practices. Such attempts are the direct result of diligent efforts by test authors to eliminate item and scoring bias for minorities on standardized tests (Sattler, 2001). In the end, however, it is up to practitioners to choose an

appropriate instrument with evidence of adequate validity for their testing purposes (Maller, 2003; Sattler, 2001).

Other Reasons for Underrepresentation. Aside from potential test bias issues, Ford (2003) offers an alternative perspective as to why there is underrepresentation of minority students in gifted education. She uses the term “deficit thinking” to explain the negative and stereotypical views that educators hold about minority students, which ultimately lead to lowered expectations for this group. She further suggests that if this frame of mind does not change to “dynamic thinking,” the trend will continue.

Though somewhat controversial, previous studies have, in fact, confirmed the effects of teacher expectations and self-fulfilling prophecies on student behavior, achievement, and motivation (see, for example, Brophy & Good, 1970). Deficit thinking occurs when educators hold negative perceptions about students from diverse backgrounds, and in turn, decrease their expectations (Ford, 2003). Eight symptoms of deficit thinking are highlighted by Ford (2003) to address the causes and begin a discussion of the solutions for this problem. The eight areas where symptoms of deficit thinking may occur include (a) intelligence, (b) testing and assessment, (c) policies and practices, (d) teacher preparation in multicultural education, (e) gifted education, (f) communication/relationships with diverse families, and (g) communities and students’ perceptions about gifted education. Four of these eight areas, involve problems in testing and evaluation procedures, some of which I reviewed in above sections. In order for a shift in thinking to occur, Ford (2003) suggests that schools evaluate their definition of gifted, policies, and procedures for identification and determine how they are contributing to the underrepresentation of minority students. She recommends that schools adequately prepare teachers in gifted and multicultural education,

and assessment, and educate students about what it means to be gifted. The ultimate goal will be better recruiting practices and retention of diverse students in gifted education, as well as a permanent shift from deficit to dynamic thinking. One potential effort to ameliorate deficiencies in identifying underrepresented students is through the use of gifted screening scales (Pfeiffer, Petscher, & Kumtepe, 2008).

Gifted Screening Scales

Gifted screening scales are designed to provide an efficient method of screening students for gifted identification and placement (Jarosewich et al., 2002; Renzulli et al., 2009). They might be helpful because they assess the important characteristics of giftedness such as creativity, leadership and academic abilities that are present in definitions adopted by both federal and state departments of education (Jarosewich et al., 2002). Researchers suggest the use of rating scales to complement IQ testing for a more comprehensive picture of a student's abilities (Pfeiffer et al., 2008; Renzulli et al., 2009).

Teachers may also benefit from the use of screening scales because of their role as “gatekeeper” to gifted identification. It may be easier for teachers to complete a standardized measure evaluating a student's abilities or behavior, versus relying on their own knowledge of gifted characteristics. As stated before, most school systems rely on teacher nominations of students for giftedness. Generally, classroom teachers are not provided with guidance on how to identify and/or assess giftedness (Bonner, 2000; Hoge & Cudmore, 1986; Jarosewich et al., 2002). As a result, nomination is based on teachers' preconceived ideas of how gifted characteristics are displayed in their students (Bonner, 2000), thus, introducing unknown error into the process, sometimes based on potential bias, as reported by McBee (2006). By

providing a standardized method of assessing a student's behavior, teacher bias is hypothetically reduced.

Review of Current Scales. According to Jarosewich et al. (2002), of the 31 most cited gifted screening instruments in the *Mental Measurements Yearbook*, the three most common scales that are currently in print and used teachers as informants are the *Gifted and Talented Evaluation Scales* (GATES; Gilliam, Carpenter & Christensen, 1996), the *Gifted Evaluation Scale, Second Edition* (GES-2; McCarney & Anderson, 1998) and *Scales for Rating the Behavioral Characteristics of Superior Students* (SRBCSS; Renzulli et al., 2004). In addition, Pfeiffer and Jarosewich (2003) have recently published a fourth scale, the *Gifted Rating Scale* (GRS-S), for use in screening. I will summarize each of these below and then provide a brief critique based on published information.

The GATES (Gilliam, Carpenter & Christensen, 1996) is a behavior checklist used to screen gifted and talented students between the ages of five and 18 years of age. The GATES should be completed by teachers, parents or others with knowledge about the child's abilities. The five subscales on the GATES are based on the federal definition of giftedness; (a) Intellectual Ability, (b) Academic Skills, (c) Creativity, (d) Leadership, and (e) Artistic Ability.

The GES-2 (McCarney & Anderson, 1998) was designed for use with students between the ages of 5 and 18 years of age and is to be completed by teachers familiar with their abilities. The scale consists of 48-items, loosely based on federal definitions of giftedness. The items fall into five subscales: Intellectual, Creativity, Specific Academic Abilities, Leadership Ability and Performing and Visual Arts. It also includes a separate Motivation Index, which consists of items imbedded in all five scales.

The SRBCSS (Renzulli et al., 2004) was developed to assist teachers with the gifted identification process. It is comprised of the following ten scales: Learning, Motivation, Creativity, Leadership, Artistic, Musical, Dramatics, Communication-Precision, Communication-Expressiveness and Planning. The first three scales are the primary basis of assessment while the others are optional for educators to use based on their specific goals. The scales are intended to be interpreted individually and there is no global score comprised of all ten scales. Four new content area scales-reading, math, science, and technology, are currently in development and have undergone validity studies (Renzulli et al., 2009). These additional scales may be beneficial for students who excel and have strengths in one academic area over another.

Finally, the GRS-S (Pfeiffer & Jarosewich, 2003) is another screening scale intended for students between the ages of 6:0 and 13:11 in grades 1-6. It has multiple uses, but was primarily developed as a tool for teachers to identify potential gifted students. The School Form consists of five scales, each made up of 12 items. The scales include Intellectual Ability, Academic Ability, Creativity, Artistic Talent and Motivation and Leadership Ability. The Motivation Index, which measures persistence and drive, is interpreted separately and not included as a giftedness characteristic. Teachers with sufficient knowledge and contact with a student can complete the GRS-S in less than 15 minutes.

Critique of Current Gifted Screening Scales. There are numerous technical adequacy problems within the most commonly used screeners. Jarosewich et al. (2002) examined the scale characteristics, standardization sample, reliability and validity of three scales (GATES, GES-2 and SRBCSS) and discussed their relative deficiencies in technical adequacy, specifically noting a lack of evidence to support predictive accuracy of each scale in

identifying giftedness. Others have also addressed technical issues in their reviews of the aforementioned scales. Brody (2007) addresses problems with the usefulness, methodology, and validity of the GATES. Similar to Jarosewich et al. (2002), she points out the lack of studies to support its predictive ability and recommends further data to support its value. The primary concerns with the GES-2 involve the standardization samples' lack of representation of the United States population (Smith, 2001; Young, 2001) and its limited theoretical support (Young, 2001).

In a review of a previous edition of the SRBCSS, Rust (1985), stated these concerns with the technical adequacy of the instrument: the lack of a published normative sample, the individual interpretation allowed across reviewers, and the omission of a total score that combines the ten SRBCSS scales. Lastly, Ward (2005) reports adequate validity of the GRS-S but raises concerns related to its reliability, standardization sample, and scale overlaps. In summary, the current and most commonly used scales over the past two decades contain limitations, specifically technical shortcomings, which significantly limit their use in the schools as effective screeners for giftedness (Jarosewich et al., 2002).

Potential limitations concerning minorities. Another potential limitation of existing gifted screening scales is the lack of research studies focusing on their use with minority students. Pfeiffer et al. (2008) acknowledged this limitation in their study on identifying gifted preschool and kindergarten students using the GRS-S. In their sample of 126 students, only 16 (13%) were African American; however, this representation included even lower percentages of Asian, Hispanic and Native American students. In reviewing the *Gifted Evaluation Scale*, Matthew (1997) found no detailed information about race, ethnicity or socioeconomic status in the technical manual. It is possible that there is a representative

sample of individuals based on these characteristics. However, failure to report these data cannot ensure technical adequacy for use with diverse populations. Overton (1996, as cited in Zurcher, 1998) acknowledged that when standardization samples do not include individuals from a variety of cultural backgrounds, scores that are obtained are unreliable measures of their abilities. Future standardization studies should aim for the inclusion of extended samples of minority groups. A recently developed instrument that attempts to address the issue of lack of representation in the standardization samples is the UACCESS (see extended name below), which may be helpful for evaluating students based on two innovations: reduced language considerations and local normative comparisons.

Universal Academic, Cognitive, Creativity, Emotion Screening Scale (UACCESS).

The UACCESS (McCallum & Bracken, in press) is a recently developed rating scale used by teachers to rate aptitudes that are typically associated with giftedness for children between the ages of 5 and 18. It yields two composite scores and six subscale scores. The General Aptitude Composite includes the following three subscales: Cognitive Aptitude, Creative Arts Aptitude, and EQ/Leadership Aptitude. The Specific Academic Aptitude Composite includes three subscales associated with academic achievement: Math Aptitude, Literacy Aptitude, and Science Aptitude.

This scale has potential as a screener for African American students (and other traditionally underserved populations) because it is designed to focus on how well a student performs regardless of his or her cultural background or communication modes. Thus, a student who speaks in broken-English, in a dialect, or whose primary language is not English would not be penalized when being compared to his or her same-aged peers on the

UACCESS. The scale also provides a basis for local comparison (norms) by using teachers' to ratings of students' ability in reference to same-aged peers.

Current Study

Currently, there is very little research that compares gifted screening scale ratings between students who are already identified as gifted and their non-gifted peers. Existing studies of these instruments generally use standardization samples, which are representative of the demographics of the United States of America (Pfeiffer & Jarosewich, 2007). Gray et al. (2009) compared gifted and matched non-gifted peers on the UACCESS (McCallum & Bracken, in press), but for an all-Caucasian sample of students. Studies investigating the performance of gifted minority students and their non-gifted peers are rare or nonexistent in the professional literature. In this study, I determine if there are significant mean score differences between African American and Caucasian gifted and non-gifted students. Particularly, I compare mean scores on the UACCESS composite scales and subscales to see if race or placement (gifted vs. non-gifted) result in significant score differences. If there are score differences, I identify the areas in which one group is performing higher than the other, so that (educators) can determine strengths/weaknesses. These data can help inform general guidelines for educators seeking to nominate students for participation in gifted programs. If there are no mean differences, these data could provide support for the use of the UACCESS as part of the nomination process of African American students who are traditionally underrepresented. I also determine how well the six UACCESS subscales predict gifted placement. Altogether, the results of this study could provide further support for the use of the UACCESS which may result in increasing the number of minority students who are recommended for gifted evaluation.

I predict that the scores will be higher for the students who have been identified as gifted than the non-gifted students, for both the African American students and for the Caucasian students. I also predict that African American students who are gifted will not differ in mean scores from Caucasian students who are gifted.

The following are my research questions:

1. Is there a UACCESS composite mean difference between gifted and non-gifted African American and Caucasian students on the three subscales that make up the General Aptitude Composite (Cognitive Aptitude, Creative Arts Aptitude, and EQ/Leadership Aptitude)?
2. Is there a UACCESS composite mean difference between gifted and non-gifted African American and Caucasian students on the three subscales that make up the Specific Academic Aptitude Composite (Math Aptitude, Literacy Aptitude, and Science Aptitude)?
3. What is the relative discriminative power of the 6 UACCESS subscales for predicting gifted placement?

Chapter 3

Methods

Participants

The 47 participants of this study were from two school districts in the southern United States, one urban (District A) and one rural (District B). Detailed demographic information is presented in Table 1 (all tables and figures are in the appendix). Sixty-six percent of students came from District A and thirty-four percent of students were from District B. Eleven gifted and general education teachers participated as raters of the students. Ten teachers were female, and one was male. All teachers who rated students were Caucasian and taught at the 3rd, 4th or 5th grade level. Each teacher who participated rated one or more gifted students that he or she taught. Three teachers were general education teachers with gifted students in their classrooms. On average, teachers completed 6.34 (SD=2.89) rating scales.

Seven of the teachers taught in a self-contained gifted setting that included gifted and non-gifted students. Students are eligible for temporary (maximum of two years) placement in the gifted classroom based on screening results, which include a score at the 84th percentile or higher on a psychological screening instrument or on standardized end-of-the-year test scores. During the two-year period that students are allowed to remain in the course, they must undergo a full evaluation to determine if they qualify for gifted services. Approximately 30% of students who participate in the program qualify for gifted services after their full evaluation.

Twenty male and twenty-seven female students were assessed in this study. Of the 47 participants, 51% ($n=24$) were identified as gifted and 49% ($n=23$) were non-gifted.

Fifty-three percent ($n=25$) of participants were African American and 47% ($n=22$) were Caucasian. Forty-three percent of the participants were male and 57% students were female. Students were in grades 3 through 5 at the time of the rating. Forty percent ($n=19$) of the students rated were in third grade, twenty-one percent ($n=10$) were in fourth grade, and thirty-eight percent ($n=18$) were in fifth grade. Parent education level of the students that participated in the study was also obtained. Four percent ($n=2$) of the parents had no high school degree, 15% ($n=7$) had a high school diploma, 9% ($n=4$) had some college, but no degree, 17% ($n=8$) an Associate's degree, 23% ($n=11$) had a Bachelor's degree, and 19% ($n=9$) had an Advanced degree. In total, 60% ($n=28$) of the parents had an Associate's degree or higher.

The gifted students who participated were identified using procedures established by the Louisiana State Department of Education's guidelines. In Louisiana, gifted and talented students are served within special education. In order to qualify for services, students in grades 1-12 must meet one of three criteria that take into consideration performance on a standardized test of intellectual ability and/or achievement in math and reading. A separate criterion exists for students in preschool and kindergarten. Figure 1 is the Standard Matrix used to determine areas in which students can earn points, based on their scores on the assessments that are given. The Standard Matrix allows a student to earn between 0 and 3 points based on the standard deviation range within which their overall score falls.

(Louisiana Department of Education, 2009)

For option one, a student must score at least two standard deviations above the mean on a test of intellectual abilities. This score alone qualifies a student for gifted services.

Option two requires that a student obtain at least seven points on the Standard Matrix, two of

which must be from the test of intellectual abilities. For option three, a student must obtain a total of six points on the Standard Matrix, along with a recommendation for classification by the evaluation team.

Of the 23 non-gifted students, 13 (57%) were enrolled in a special program for students who show potential for gifted services based on screening results. These students are placed in a self-contained classroom with a gifted teacher and students who qualify for gifted services. Non-gifted students are allowed to spend no more than two years in this program, and during those two years they must have a full evaluation in order to determine if they meet the full criteria for gifted.

The participants came from rural and urban districts, mostly low socioeconomic areas. In district A, 81% of students qualify for free or reduced lunch. The racial composite of District A at the time of data collection was 81.9% African American, 10.7% Caucasian, 3.3% Hispanic, 2.9% Asian, 0.1% American Indian, and 1.3% other. In district B, 74% of students qualify for free or reduced lunch. The racial composite of District B at the time was 64% Caucasian, 25% African American, 7% Hispanic, 3% Asian, and 1% American Indian/Alaskan Native.

Instrument

Universal Academic, Cognitive, Creativity, Emotion Screening Scale (UACCESS).

As previously stated, the UACCESS (McCallum & Bracken, in press) is a recently developed rating scale for teachers to complete in order to assess Aptitude that are typically associated with giftedness for children between the ages of 5 and 18. It yields two global composite scores and six subscale scores.

The General Aptitude Composite includes the following three subscales: Cognitive Aptitude, Creative Arts Aptitude, and EQ/Leadership Aptitude. The Cognitive Aptitude Subscale measures teachers' perceptions of students' abilities such as abstract thinking, reasoning, memory and logical problem solving. The Creative Arts Aptitude Subscale reflects students' ability to demonstrate divergent thinking in solving everyday problems. The EQ/Leadership Aptitude Subscale measures students' ability to effectively lead by example and motivate others and to effectively handle emotions and to interact with peers.

The three Specific Academic Aptitude subscales ask teachers to rate student's performance in three subject areas: math, literacy, and science. The Math Aptitude Subscale assesses teachers' perceptions of students' ability to solve various types of math problems, math fluency, application, and mathematical relationships. The Literacy Aptitude Subscale assesses teachers' perceptions of students' vocabulary and written expression and ability to read fluently and with good comprehension. The Science Aptitude Subscale assesses teachers' perceptions of students' interest and ability to use scientific methodology to understand and observe natural and scientific events and concepts.

Each subscale consists of 15 items, which are rated on a Likert-scale from 1 (well below average) to 5 (well above average). Teachers are asked to rate each student based on how they perform relative to their same-aged peers in their immediate environment. A rating of 3 is considered average. Behavior should be considered within the context of one's local environment should consider communication skills in one's primary language. A response should ultimately reflect the best characterization of a student's performance or behavior.

Evidence supporting the reliability of the original experimental draft of the UACCESS was found for 106 students from a rural, low socioeconomic status (SES) school

system (Gray et al., 2009). This earlier version contained two composite scales and eight subscales: Cognitive Aptitude, Creative Arts Aptitude, Emotional Aptitude, Leadership Aptitude, Math Aptitude, Science Aptitude, Reading Aptitude, and Language Arts Aptitude. Reliability coefficients (Chronbach's Alpha) for the eight original subscales ranged from .95 to .98 for each scale. This suggests high internal consistency within the scales. Concurrent validity between the UACCESS and scales measuring similar constructs ranged from .70 to .85 with the Gifted Rating Scale (Pfeiffer & Jarosewich, 2003), .47 with the [Bar-On EQ-i: YV (S); Bar-On & Parker, 2000] and ranged from .60 to .64 with Terra Nova Comprehensive Test of Basic Skills (CTBS; CTB, 1996) end-of-year achievement test scores. Construct validity was measured comparing mean scores of gifted and non-gifted students. The results indicated that there were significantly higher scores for gifted students on each scale, with average scores ranging from 3.61 to 4.20 for gifted students and 2.85 to 3.09 for non-gifted students.

Recent revision of the UACCESS combined two subscales within each composite, reducing the number of subscales to three for both the General Aptitude and Specific Academic Composites. Items from each of the original Leadership and Emotional Aptitude Scales were combined to make the new EQ/Leadership Aptitude subscale on the General Aptitude Composite. Similarly, items from the Language Arts and Reading Scales were combined to make the Literacy subscale on the new Specific Academic Aptitude Composite. Normative data for the UACCESS is currently being developed and its availability is pending.

Procedure

In District A, after approval from the university Institutional Review Board, the school district's Office of Research, the school district's Office of Gifted Student Services, and principals at targeted schools, I met with gifted coordinators based at each school site. The gifted coordinators were given the responsibility of disseminating packets to teachers at their respective schools. Each packet included instructions, a Teacher Consent Form (Appendix A), and Parent Consent forms (Appendix B). The consent forms explained the procedures of the study and asked for voluntary participation in rating the students. Teachers were offered a gift card worth \$10 for their participation. If they were willing to participate, teachers were asked to sign the Teacher Consent form and then distribute the Parent Consent Forms to their students. If the teachers chose not to participate, they were asked to simply return the packet to their gifted coordinator.

The Parent Consent forms explained the purpose and procedures of the study, and asked permission for their child to be rated. In addition to the consent form, parents were asked to complete a demographics form (Appendix C). This form included the following information about the student: birth date, grade, race, parent's education level, placement (gifted or non-gifted), and special education status. Once students returned signed consent forms and demographics forms, gifted coordinators picked up the forms and brought them to a secretary at the central office. In District B, upon approval from the director of special education the superintendent and principal's teachers at the targeted schools were contacted about participation. The same procedures for obtaining informed consent applied for district B, with the exception that the signed consent forms were picked up by the researcher.

Code sheets (Appendix D) were created for the teachers based on the consent forms that were obtained from each school. A second packet of information was dropped off at each school for the teachers who agreed to participate. The second packet included the code sheet and UACCESS rating scales. Teachers were asked to use the code sheet to assist them with completing the UACCESS without putting the child's name on the screening forms, thus guaranteeing anonymity. Upon completion of the rating scales, the packet of forms was picked up from each school site, and gift cards were distributed upon receipt of the completed UACCESS forms.

Chapter 4

Results

Descriptive Statistics

Table 2 (Appendix H) includes means and standard deviations for all UACCESS scores across race (African American and Caucasian) and placement (Gifted and Non-gifted). Scores on the UACCESS range from 1 (well below average) to 5 (well above average). A rating of 3 indicates Average performance. Figure 2 also includes means and standard deviations for all Universal ACCESS scores across race and placement.

For African American gifted students, mean scores on the General Aptitude and Specific Academic Aptitude Composite were 3.97 (SD=.42) and 4.16 (SD=.34), respectively. Non-gifted African American students had a mean score of 3.52 (SD=.84) on the General Aptitude and 3.57 (SD=.89) on the Specific Academic Aptitude Composite. Caucasian gifted students had a mean score of 4.14 (SD=.82) on the General Aptitude Composite and 4.23 (SD=.70) on the Specific Academic Aptitude Composite. Non-gifted Caucasian students had a mean score of 3.42 (SD=.82) and 3.60 (SD=.88) for the General Aptitude and Specific Academic Aptitude Composites, respectively. Table 3 (Appendix J) presents UACCESS mean subscale and composite scores and minimum and maximum scores for students based on placement. Gifted students across the African American and Caucasian groups had a mean score of 4.05 (SD=.65) and 4.19 (SD=.54) on the General Aptitude and Specific Academic Aptitude Composite scores, respectively. Non-gifted students had mean scores of 3.48 (SD=.82) and 3.58 (SD=.87) on the General Aptitude and Specific Academic Aptitude Composites, respectively. Overall, score minimums were lower

for the non-gifted group, ranging from 1.07 to 2.07, when compared to the gifted group score minimums, which ranged from 1.40 to 3.31.

For the gifted group, no student had perfect ratings on the EQ/Leadership scale, the General Aptitude Composite, or the Specific Academic Aptitude Composite. Interestingly, in the non-gifted group, at least one student obtained a perfect score on each UACCESS scale and composite. Table 4 (Appendix K) displays UACCESS mean subscale and composite scores, and minimum and maximum scores for students based on racial group. Between the African American gifted and non-gifted students, there was a very small difference between mean scores on the EQ/Leadership subscale. Gifted African American students had a mean of 3.65 and non-gifted African American students had a mean of 3.69. In addition to the fact that non-gifted students scored slightly higher on this subscale, across both racial groups, no other subscale had such a small within-race difference between mean scores.

Data Analysis

Internal consistency values for the six UACCESS subscales and the two composite scales. Chronbach's alpha reliabilities ranged from .97 to .99 for subscales and composites. Correlations between the subscales on the UACCESS are presented in Table 5 (Appendix L). The highest correlation coefficient was between the Cognitive Aptitude and Literacy Aptitude subscales. The lowest correlation was between EQ/Leadership Aptitude and Creative Arts Aptitude subscales. All correlation coefficients were significant at the $p < .01$ level. These findings are consistent with internal consistency values reported in Gray et al. (2009) on a previous version of the UACCESS.

Research Question Results

In order to determine homoscedascity, Box's M statistic was computed, and a p level of .001 was indicated for both factorial MANOVA's. Even though the results indicated that the sample groups vary significantly in the normality of their distributions, Garson (2009) indicates that a MANOVA may be an appropriate analysis, due to the robustness of Box's M to normality violations. To address research questions one and two, two separate 2 (race) x 2 (placement) factorial MANOVAs were conducted to determine if there were mean differences between gifted and non-gifted African American students on the subscales that make up the General Aptitude Composite (Cognitive, Creativity, and EQ/Leadership) and the subscales that make up the Specific Academic Aptitude Composite (Math, Literacy, and Science).

There were no statistically significant differences between composite means for African Americans and Caucasians for the three General Aptitude subscales, Wilk's Lambda = .99, $F(3,41) = .16$, $p > .05$, and for the Specific Academic Composite subscales, Wilk's Lambda = .85, $F(3,41) = 2.40$, $p > .05$ based on race. However, there was a significant difference in composite means for placement on the subscales of the General Aptitude Composite Wilk's Lambda = .70, $F(3,41) = 5.872$, $p < .01$ and on the subscales of the Specific Academic Aptitude Composite Wilk's Lambda = .73, $F(3,41) = 5.03$, $p < .01$, with composite means for gifted significantly higher than non-gifted students. There were no interaction effects for placement by race on the General Aptitude Composite, (Wilk's Lambda = .98, $F(3,41) = .28$, $p > .05$) or on the Specific Academic Aptitude Composite (Wilk's Lambda = .98, $F(3,41) = .34$, $p > .05$).

Following a significant MANOVA main effect for placement, between-subjects ANOVA's were conducted to determine whether the UACCESS subscales yielded significant differences within each composite. The results of the first between-subjects ANOVA indicated a significant effect for placement on the Cognitive ($F = 11.85, p < .01$) and Creative Arts ($F = 9.84, p < .01$) subscales of the General Aptitude Composite, but not the EQ/Leadership subscale. An additional between-subjects ANOVA showed a significant effect for placement on the Literacy ($F = 7.20, p < .01$) and Science ($F = 4.02, p < .05$) subscales of the Specific Academic Aptitude Composite, but not the Math subscale. All significant differences favored the gifted group. Table 6 (Appendix M) displays means, standard deviations, and F values for Main effects on UACCESS scales, with respect to placement.

A discriminant function analysis was conducted to determine the relative power of the UACCESS subscale and composite scores to correctly predict group membership (i.e., gifted and non-gifted placement). Two separate discriminant analyses were run using a) the six UACCESS subscale scores and b) the two global composite scores as predictor variables for placement (gifted versus non-gifted). First, I will present the classification results of each discriminant analysis.

Classification results based on the six UACCESS scales resulted in a total of 77% (Wilk's Lambda=.008) students correctly placed into their correct categories. Seventy-nine percent of students were correctly identified as gifted and 74% were correctly identified as non-gifted. These results are expressed in terms of sensitivity and specificity values (see Table 7, Appendix N) for the six UACCESS scales. Sensitivity measures the proportion of correctly classified true positives (gifted students correctly identified) and specificity

measures correctly classified true negatives (non-gifted students correctly identified). The positive predictive value represents the 79% of correctly classified gifted students and the negative predictive value represents the 74% of correctly classified non-gifted students. The sensitivity value represents the total positive classification results of the UACCESS using the six subscales.

The unstandardized canonical coefficient values are used to hypothetically predict new cases, while standardized canonical coefficient values represent the contribution of a variable to the discrimination between groups. Table 8 (Appendix O) displays both the unstandardized and standardized canonical discriminant coefficient values for UACCESS subscales. Table 9 (Appendix P) displays the unstandardized canonical discriminant coefficient value for the UACCESS composite scores. In reference to the unstandardized coefficient, the largest coefficient, Cognitive, contributes the most in terms predicting new cases. For example, a one-unit change in one's score on the Cognitive subscale will increase one's discriminant score by approximately 1.7 points, which in turn affects one's classification. This is a relatively large change compared to the other subscale scores. The Creative Arts subscale for example, does not contribute as much of a change. The EQ/Leadership, Math, and Science subscales had negative unstandardized discriminant function coefficients, which indicated that higher scores in those areas are more likely to result in a non-gifted classification. The standardized coefficients represent the importance of each subscale to the discrimination between groups. Again, the Cognitive Aptitude subscale is the highest coefficient and provides the greatest contribution while the EQ/Leadership subscale had the lowest coefficient and contributes the least to the discrimination.

Table 10 (Appendix Q) displays structure coefficients which are whole coefficients that represent correlations between the standardized canonical discriminant functions and the independent variables. These coefficients represent the order of importance of each UACCESS subscale and composite, much like a factor analysis. The Literacy Aptitude subscale had the highest correlation (.74), followed by the Cognitive Aptitude (.71) and Creative Arts Aptitude (.65). The Specific Academic Aptitude Composite had the higher correlation with the discriminant functions.

Interestingly, depending on the predictor variables used in the discriminant analysis, there were variations in the percentage of correct classifications. Based on the first discriminant analysis, the six UACCESS scales predicted the highest percentage (77%) of students correctly placed into gifted and non-gifted categories. The second discriminant function analysis, using only the General Aptitude Composite and Specific Academic Aptitude Composite Scale scores as predictors, resulted in the overall percentages of students correctly placed decreasing to 72%. The number of students correctly placed into the non-gifted category decreased to 65%. The number of gifted students correctly identified remained at 79%; however, there were more gifted students misidentified as non-gifted which indicates higher numbers of false negatives when using the composite scores as predictors. Table 11 (Appendix R) displays classification results for the second discriminant analysis using the two composite scores as variables.

Post-hoc ANOVA's for the six UACCESS scales were run using the six scales and the two composite scores to determine if there were any significant main effects for gender. There were no main effects for gender on any scales or composites. Table 12 (Appendix S) displays the results of this analysis.

Chapter 5

Conclusions

Discussion

The most widely used gifted screening scales have become a popular supplement to the nomination and referral process for gifted. The UACCESS is a recently developed instrument with reduced language considerations and an emphasis on local norms, making it appropriate for students from diverse backgrounds (McCallum & Bracken, in press). One purpose of this study was to determine if there were significant mean differences between gifted and non-gifted African American and Caucasian students on the UACCESS. It is encouraging that there were no significant racial differences among scale scores on the UACCESS. These results lend support to the validity of the UACCESS as an effective screening instrument for children with gifted potential. That is, apparently African American students will not earn significantly lower scores than Caucasian peers as a function of race. These findings are consistent with results of a study by Pfeiffer and Jarosewich (2007) who found only modest mean score differences between racial groups on the Gifted Rating Scales-School Form. Asian Americans and Whites were rated only slightly higher than African American and Hispanic children in the Pfeiffer and Jarosewich study, but not at a significant level.

The UACCESS has some unique features that may have contributed to the results. Two things that set the UACCESS apart from the GRS-S and other gifted rating scales are its emphasis on local norms and on reduced language considerations. Oakland and Rossen (2005) emphasize that local norms are more accurate in judging how students perform in comparison to their same-aged peers locally. Local norms can be particularly beneficial in

areas where characteristics of students in the district are significantly different from the national norm sample.

The second unique feature of the UACCESS is the reduced language requirement from examiners. According to some experts (e.g., Ortiz, 2002), discrimination in testing can be reduced by minimalizing language (and cultural loading) in the assessments. According to some research findings, minority students benefit from the use of measures that deemphasize language skills. Nonverbal intelligence tests require little to no verbal responses, and may be appropriate for students of diverse ethnic backgrounds, bilingual students, and those with low verbal and academic skills (e.g., The *Naglieri Nonverbal Ability Test* (NNAT; Naglieri, 1996); *Comprehensive Test of Nonverbal Intelligence* (CTONI; Hammill, Pearson, & Wiederholt, 1996), and the *Universal Nonverbal Intelligence Test* (UNIT; Bracken & McCallum, 1998)) are three examples of nonverbal intelligence tests. Several studies have yielded no or decreased mean difference scores on nonverbal IQ tests (e.g., UNIT, NNAT) comparing performance of minority and nonminority students (McCallum, 2003; Naglieri & Ford, 2003).

The differences in mean composite scores between gifted and non-gifted students in my study were consistent with a study on a previous version of the UACCESS, which found that composite mean differences were in favor of students identified as gifted (Gray et al., 2009). Score results from the UACCESS correctly identified 70% or more of gifted and non-gifted students. This percentage was lower than the 95.3% correct classification results obtained by Gray et al. (2009) using the eight UACCESS subscales on a previous version. However, the sample in that study consisted of gifted students and matched general education students. The non-gifted students in my study consisted of 10 students placed in

general education classes, and 13 high-achievers who were placed in self-contained gifted classrooms. We probably should not expect the high level of discrimination between gifted students and high-achievers as we would between gifted students and a comparison group of general education peers.

Although the six UACCESS subscales discriminated reasonably well between gifted and non-gifted placement, the EQ/Leadership, Math, and Science Aptitude subscales had negative canonical discriminant function coefficients, which indicated that higher scores on those subscales are more likely to result in a non-gifted classification. However, when a second discriminant analysis was run using the composite scales as predictor variables, the unstandardized canonical discriminant function coefficient for the Specific Academic Composite was robust and contributed significantly more to the discriminant function than the General Aptitude Composite. Students who scored higher on this composite were more likely to be classified as gifted. One explanation for the strength of this composite score may be a direct result of how a student qualified for gifted services. As explained earlier, students must obtain at least six points on a standard matrix in three areas: Cognitive ability, Mathematics achievement, and Reading achievement. It is possible that a normative strength in reading was the largest contributor to the total points that were obtained on the matrix. The positive canonical discriminant function coefficients for the Literacy Aptitude composite indicate that higher scores on this scale more often result in a gifted classification.

Alternatively, the canonical discriminant function coefficients for the Cognitive Aptitude, despite being positive as well, did not heavily influence the overall discriminant function of the General Aptitude Scale. The canonical coefficients were much lower for the General Aptitude Composite. It is possible that the low coefficient for the Creative Arts

Aptitude subscale and negative coefficient on the EQ/Leadership Aptitude subscale decreased the overall predictive strength of the General Aptitude Composite.

The UACCESS was created to provide teachers with a tool to rate students who show potential for giftedness, but incorporating reduced language considerations and using local norms. The results of the discriminant analyses provide additional support for the validity of the UACCESS to effectively screen students for gifted evaluation and, ultimately, placement. Generally, the UACCESS is able to discriminate between students who are gifted and non-gifted

The results of this study also support the notion that teachers are generally accurate in their ratings. Hoge and Cudmore (1986) recommend the continued use of teacher judgments for purposes of identifying potential students and rating their abilities for gifted placement, noting that teachers are a rich source of knowledge about the child and can provide valuable information. Secondly, there is an abundance of research from past decades to support accuracy in teacher ratings. For instance, Bain, Holliman, and McCallum (1989) found evidence that teachers could accurately predict young children's performances on basic concept tasks. Hoge and Cudmore (1986) suggested that teachers can contribute if they are adequately prepared, have adequate tools/instruments to rely on, and their opinions are considered alongside other assessment data. These later findings and recommendations are in contrast to a classic study by Pagnato and Birch (1959) which found that teacher's professional judgment was a poor method for screening potentially gifted students. However, Gagne (1994) notes that there are methodological flaws in Pagnato and Birch's study that should cause one to interpret those results with caution.

A small portion of articles published in gifted education journals addresses culturally diverse students (Ford, 1998). In fact, Ford's (1998) search of ERIC articles over a 30 span, in five gifted journals, revealed 1.2% of articles on African American students and 2.1% on minorities altogether. Even fewer studies in the gifted literature exist with predominantly African American samples. Replication of this study with a much larger sample of African American students, preferably across school districts and geographic regions, is needed. Other ethnic minority groups may be included in such studies. In order to make informed, data-based decisions on addressing problems concerning underrepresentation of African Americans in gifted programs, we must increase the body of research to clarify issues regarding screening, assessment, and instruction for this group of students.

Limitations

Although results of this study are encouraging, several limitations exist that lead to cautious interpretation. The sample size used in this study was significantly smaller than anticipated for these reasons: a) difficulty locating large samples of African American gifted students for this study, b) low teacher participation, and c) low return rate of parental consent forms. As a result, generalizations based on this sample size are limited. Due to the limited sample size, particularly of African Americans, future research should seek to replicate the findings specifically for the EQ/Leadership subscale, which yielded similar scores for African American gifted and non-gifted students.

All of the teachers who participated in this study as raters were Caucasian. Elhoweris et al. (2005) found that student's race can play a factor in how his or her behavior/ability is assessed by teachers of a different race. Additionally, teacher expectations of students can vary based on the teacher's race (Elhoweris et al., 2005). Although results of the current

study are not consistent with evidence of a teacher bias effect, future research should systematically address this question. Additionally, the teachers in this study already knew the placement of the students that they were rating, which may have in turn, affected their ratings of the students.

Although results suggest the UACCESS can discriminate gifted and non-gifted students, generalizations are limited to similar students. Like many states, the Louisiana State Department of Education uses a matrix for gifted identification and has three ways in which a student can qualify for gifted services. Students can obtain from zero to three points on the Standard Matrix in each area (i.e., cognition, mathematics, reading) based on the standard deviation of their score (see Appendix for an example of the Standard Matrix). Information about the specific bases for qualification of the students served as gifted was not available to me. Because students are identified as gifted based on a matrix, their cognitive and academic abilities may be diverse. Researchers who are able to gain specific information about the qualifying characteristics of students are encouraged to add to the research literature by investigating the predictive ability of screening instruments when taking into consideration students' areas of strength.

Generalizability is also restricted by the ages of the participants; students were only enrolled in third, fourth, and fifth grades. Oakland and Rossen (2005) noted that most students are initially identified between grades 2 through 4. Also, minority students are typically identified in the early grades (Callahan, 2005; National Research Council, 2002). States such as Louisiana do have special criteria for students who are referred and evaluated for gifted placement at early grades (Louisiana Department of Education, 2009). Future studies using the UACCESS should obtain ratings for students in earlier grades. Also,

because the scale can be used for students between the ages of 5 and 18, studies at the middle school and high school level are also recommended.

An additional limitation is that this study did not take into account the different placements of non-gifted students (general education classroom vs. self-contained classroom with gifted students). Fifty-seven percent of the non-gifted students received gifted services in a self-contained classroom with other gifted students. Even though there were score differences based on placement, despite this large percentage of students receiving gifted services, the differences may have been larger if these non-gifted students were served in the general education classroom. Also, while both districts have a large number of students receiving free or reduced lunch, over 60% of the students in this sample had parents with an Associates, Bachelors, or Advanced Degree, which generally indicates higher socioeconomic status. Future research should include a more diverse sample of students across grade, socioeconomic status, and ethnicity and gather more detailed information about the teachers that are completing the rating scales.

Implications

Similar to Gray et al. (2009), the results of this study provide additional support for the utility of the UACCESS as a supplement to the nomination/referral process. If the UACCESS continues to display psychometric integrity in its final stages of development, its use will be justified as an effective screening instrument for identifying students who are typically underrepresented. Unfortunately, the problem of disproportionality cannot and will not be eliminated overnight despite the development of new screening instruments. It is essential for school districts with problems of disproportionality to take the initiative to

evaluate their gifted nomination, screening, and identification procedures to identify deficient areas that are possibly contributing to their problems with underrepresentation.

For some districts, it is known that problems start prior to the screening and evaluation process with teacher nominations. McBee (2006) found that after automatic referrals, teacher nominations accounted for the second largest number of nominations. He suggests taking a closer look at nomination practices and how they contribute to underrepresentation, particularly in states like Georgia that take multiple referral sources into consideration. While his study found that teacher and automatic referrals are far superior to other methods of referral, African American and Hispanic students were still nominated less frequently than their Asian, Native American, and Caucasian peers (McBee, 2006). Based on these data, it is clear that nomination rates deserve more attention. In sum, McBee (2006) emphasizes that decreasing the discrepancy in success rates (students who are identified for gifted placement) is not enough, and we must look first at the large difference in nomination rates across racial groups. One possible solution is to use a gifted screening scale, such as the UACCESS, as both a nomination source and as a reliable screening instrument that can lead to a full evaluation. Thus, teacher nominations will be based on a standardized instrument which could increase the pass rates of all students, but particularly for those who are traditionally undernominated and underidentified.

As noted before, the UACCESS has advantages over other gifted screening instruments because of its reduced language considerations and local norming. It also includes a measure not typically included in other screening scales, emotional aptitude embedded within the EQ/Leadership Aptitude scale (Gray et al., 2009). An additional advantage of the UACCESS is that it does not take long to complete, particularly once a

teacher becomes familiar with the questions and the design of the rating form. Even though it does not take long to complete, I am not recommending that school districts screen every single student every year. However, teachers should consider keeping forms handy throughout the year. Over the course of the school year, as teachers become familiar with their students and as high-achievers start to stand out among their peers, teachers can immediately complete a form for that student to begin the nomination process.

It is interesting to note that District A, which participated in this study, has an “open testing” period, where parents can sign their children up for gifted screening. In the states that accept parent referrals, many parents are unaware that they can nominate their child. In McBee’s (2006) study on referrals for gifted screening, parent referrals were rare, but more likely to occur within the high socioeconomic group. A national survey of over 900 educators by Schroth and Helfer (2008) found that parent nominations received the least support as a valid nomination practice. In light of the fact that parental involvement is often cited as a contributor to underrepresentation and a barrier to identification (Bonner, 2000; Ford, 1995), future studies should explore the parent nomination process and the extent to which the UACCESS could be used with parents (in addition to teachers).

While future studies should continue to examine score profiles and mean differences between ethnic or racial groups on the UACCESS, it is important to note that mean differences alone are not sufficient grounds for calling an instrument biased (AERA, 1999; Sattler, 2001). Researchers are encouraged to examine language content and invariance at the item level (Maller, 2003). While there is no such thing as a completely unbiased test (Maller, 2003), or a test that completely controls for cultural/learning experiences (Sattler, 2001), goals should focus on recognizing and reducing bias as much as possible (Ortiz,

2002). Similar to the goals of the UACCESS authors (McCallum & Bracken, in press), I believe that researchers should continue to develop assessment and screening procedures with reduced language considerations and local norms as one step in the right direction of reducing the confounds of language and cultural differences that often contribute to testing bias.

As stated before, gifted screening scales appear to be a promising screening method that could potentially assist school districts with reducing disproportionality among racial groups in gifted programs. Reliable and nondiscriminatory screening instrumentation may increase the number of referrals of students who are traditionally underrepresented. The fact that the results of this study did not yield any significant differences across racial groups is promising. Because the ultimate goal is reducing disproportionality in gifted programs, future research studies involving gifted screening scale ratings should include long-term follow-up on success rates.

As a final note, best practices in gifted screening and identification for minorities can include many of the same recommendations and considerations that apply to nondiscriminatory assessment as a whole (Joseph & Ford, 2006). The comprehensive framework for nondiscriminatory assessment developed by Ortiz (2002) is a starting point, and may serve as preliminary guidelines for researchers and practitioners alike. As stated earlier, while bias can never completely be eliminated, we as educators should aim for fairness.

In light of Ford's (2003) argument that educators must have a "willingness to move beyond deficit thinking," (p.224), in order to create better access for minorities traditionally underrepresented in gifted, I offer the following recommendations to school districts that are

dealing with problems of underrepresentation. It is essential that identification procedures take into consideration the unique needs of all students, especially those from diverse backgrounds. Evaluation data should come from a variety of sources, cultural and linguistic differences should always be considered, and valid and reliable instruments should be chosen carefully. Administrators and teachers should be educated on the needs of gifted students, particularly African American students who are generally underserved. Professional development workshops may be beneficial for teachers to learn how to recognize gifted characteristics in their students with the hopes that this will translate into increased nominations of minority students. Lastly, schools should provide outreach and support to the families to get them involved and to help them become just as knowledgeable about what it means to have a gifted child.

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Appendices

Appendix A

Gifted Screening for African American and Caucasian Students

Informed Consent for Teachers

Dear Teacher,

My name is Kelli Jordan, and I am a fifth-year doctoral student pursuing a degree in school psychology. I am currently in the process of working on my dissertation and would like to ask for your participation in my study. In this study, I intend to compare gifted and non-gifted African American and Caucasian students.

I would like to determine how teachers rate their student's on a screener designed to identify potential students for gifted services. I am asking you to rate students only if they have received parent permission to participate, and who qualify for participation. I am seeking student's who are either gifted or in general education, and who are not served under special education services for any other exceptionalities (besides giftedness). You will be asked to rate *no more than 10* students. Neither your name, nor the student's name will be used on any rating forms. Each student will be given a code number to be used on the rating forms. A coding sheet will be provided to facilitate the linking of names to code numbers in order to obtain LEAP scores from the school system. The researcher will obtain this code sheet along with consent forms. Each rating form should take approximately 10 minutes or less to complete. You will not be asked to complete rating forms during classroom instruction time; instead I will ask that the forms be filled out on a professional staff day or alternatively during planning time or other non-instructional time, at your discretion.

Participation in this study is completely voluntary and you can withdraw from the study at anytime without penalty. There are no perceived risks for participation in this study. Again, please note that by no circumstance will your name or the students names be used in any forms should these findings be presented and/or published. Your participation will help define the use of this questionnaire in identifying African American children who are gifted. Additionally, compensation in the form of a \$10 gift card will be mailed to you at school upon receipt of completed forms.

If you are willing to participate in this study, please sign and date this form and return it to the envelope in the front office. If you have any questions, please contact me by phone (770-355-XXXX) or by email (kjordan3@utk.edu or, my faculty advisor, Dr. Sherry Bain, by phone (865-974-2410) or by e-mail (sbain2@utk.edu) and one of us will try to answer any questions you may have. Thank you for your time and consideration. Please keep the second page for your own records and return this signed copy to the designated envelope in your school office.

Kelli R. Jordan
Doctoral Student- University of Tennessee at Knoxville

☐ I have read the above information for the study, "Gifted Screening for African American and Caucasian Students" and I agree to participate in this study. I have received a copy of this form for my records.

☐ I do not wish to participate in this study.

Signature

Date

Appendix B

Gifted Screening for African American and Caucasian Students
Informed Consent-Parents

Dear Parent,

My name is Kelli Jordan, and I am a fifth-year doctoral student pursuing a degree in school psychology. I am currently in the process of working on my dissertation and would like to ask your permission for your child's participation in my study.

I am interested in determining how teachers rate students on scales designed to identify potential students for gifted services. I would like to have the screening scale filled out for students who are in general education and those who are identified as gifted. I would also like to obtain your child's total LEAP score. As an African American, I think this research is very important in identifying and serving African American gifted students, who are generally underrepresented in gifted education. Your participation in this study will allow me to determine if this scale is an effective screener for African American students.

There are no perceived risks for participation. In fact, your child does not need to do anything to participate. The teacher will fill out a rating form, which will not identify your child by name. Code numbers will be used on all rating forms. A coding sheet with names will only be used to obtain LEAP scores. Participation in this study is completely voluntary and you can withdraw from the study at anytime without penalty.

There are no direct benefits to your child for participation. Again, please note that by no circumstance will your child's name be used on any forms should these findings be presented and/or published.

If you are willing to allow your child to be rated by his or her teacher for this study, and to allow me to obtain their LEAP scores, please answer the demographic questions on the second page, sign and date the permission form and return it to your child's teacher. If you have any questions, please contact me by phone (770-355-XXXX) or email (kjordan3@utk.edu), or my faculty advisor, Dr. Sherry Bain, by phone (865-974-2410) or by e-mail (sbain2@utk.edu) and we will try to answer any questions you may have.

Thank you for your time and consideration. Please keep the second copy of this form for your own information and return the signed copy to your child's teacher.

Kelli R. Jordan
Doctoral Graduate Student- University of Tennessee at Knoxville

☐ I have read the above information about the study, "Gifted Screening for African American and Caucasian Students," and I agree to participate in this study. I have received a copy of this form for my records.

☐ I do not want to participate in this study.

Please print your child's name _____

Parent Signature

Date

Appendix C

Gifted Screening for African American and Caucasian Students

Please answer the following questions:

Your child's date of birth _____

Your child's gender:

- a. Male
- b. Female

Your child's grade:

- a. 3rd
- b. 4th
- c. 5th
- d. Other _____

Your child's race/ethnic identity:

- a. Euro-American/White
- b. African American/Black
- c. Other _____

Child's Placement (circle appropriate answer):

Gifted: Yes No

Other special education placement (e.g., language-delayed, specific learning disability, etc.)

Yes No

Please mark your highest level of education:

- a. Did not graduate from high school
- b. High school graduate
- c. Some college, no degree
- d. Associates Degree
- e. Bachelor's Degree
- f. Advanced Degree

Appendix D

Coding Identification Sheet

(For teachers only; do not return this sheet to researcher)

Please list the students you are rating, one student name beside each code number. Please keep this list for your own record in case additional information is needed. This sheet is intended to help you stay organized as you complete the rating forms.

1001.	_____
1002.	_____
1003.	_____
1004.	_____
1005.	_____
1006.	_____
1007.	_____
1008.	_____
1009.	_____
1010.	_____

Appendix E

Sample Items for the UACCESS Subscales are included below.

General Aptitude Composite

Cognitive Aptitude: “The student asks thoughtful questions.”

Creative Arts Aptitude: “The student quickly learns artistic skills”

EQ/Leadership Aptitude: “The student regulates own emotions.”

Specific Academic Aptitude Composite

Math Aptitude: “The student solves applied-math problems.”

Literacy Aptitude: “The student demonstrates an extensive vocabulary.”

Science Aptitude: “The student explores cause-and-effect relationships.”

Appendix F

STANDARD MATRIX POINTS

	0 points <1.0 SD	1 point 1.0 – 1.49 SD	2 points 1.5 – 1.99 SD	3 points ≥2.0 SD
Aptitude: Intellectual Score				
Achievement: Reading Score				
Achievement: Math Score				

Figure 1. *Example of the standard matrix used for gifted classification in Louisiana*

Appendix G

Table 1. *Demographic Characteristics*

Gender	Male	Female				
Number	20	27				
(Percentage)	(43%)	(57%)				
Placement	Gifted	Non-Gifted				
Number	24	23				
(Percentage)	(51%)	(49%)				
Race/Ethnicity	White	African American				
Number	22	25				
(Percentage)	(47%)	(53%)				
Grade	3	4	5			
Number	19	10	18			
(Percentage)	(40%)	(21%)	(38%)			
District	A	B				
Number	31	16				
(Percentage)	(66%)	(34%)				
Parent Education Level	Did not graduate from high school	High School Graduate	Some college, no degree	Associate's Degree	Bachelors Degree	Advanced Degree
Number	2	7	4	8		9
(Percentage)	(4%)	(15%)	(9%)	(17%)	11 (23%)	(19%)

Appendix H

Table 2. *Means and Standard Deviations for the UACCESS Subscale and Composite Scores Across Race and Placement*

Subscale/ Composite Scores	African American Mean (SD)		Caucasian Mean (SD)	
	Gifted (n=12)	Non-Gifted (n=13)	Gifted (n=12)	Non-Gifted (n=10)
Cognitive	4.15 (.42)	3.44 (.97)	4.37 (.74)	3.41 (1.05)
Creative Arts	4.11 (.62)	3.43 (.71)	4.10 (.76)	3.39 (.96)
EQ/Leadership	3.65 (1.05)	3.69 (1.04)	3.95 (1.20)	3.47 (.63)
Math	4.03 (.53)	3.66 (1.00)	4.16 (.75)	3.61 (.94)
Literacy	4.41 (.44)	3.57 (.74)	4.24(.75)	3.51 (.99)
Science	4.03 (.45)	3.47 (1.01)	4.30 (.76)	3.68 (.81)
General Aptitude Composite	3.97 (.42)	3.52 (.84)	4.14 (.82)	3.42 (.82)
Specific Academic Aptitude Composite	4.16 (.34)	3.57 (.89)	4.23 (.70)	3.60(.88)

Appendix I

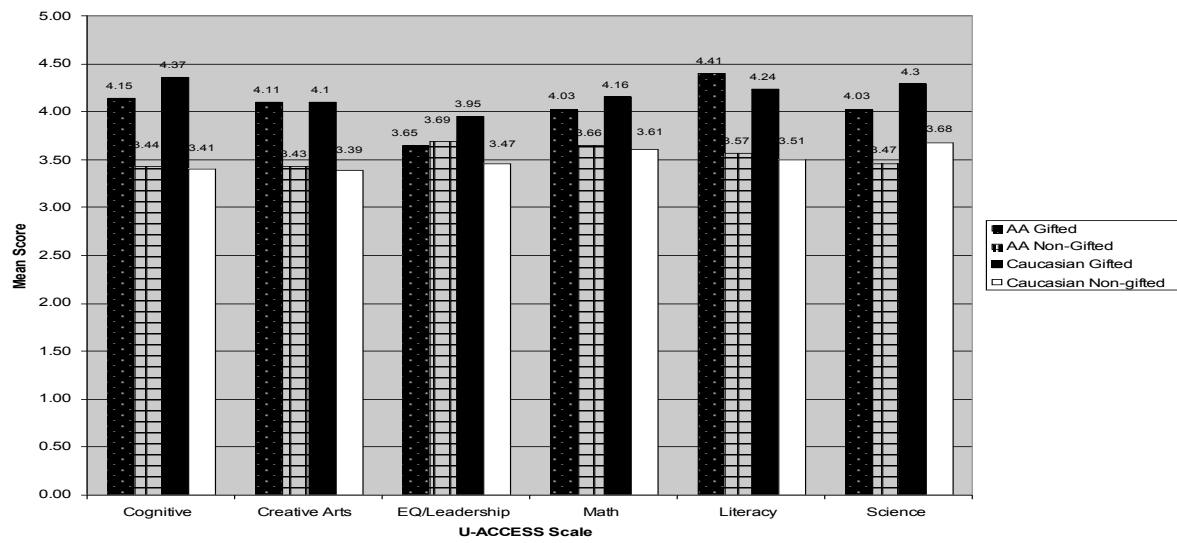


Figure 2. Means and Standard Deviations for the UACCESS Subscale and Composite Scores Across Race and Placement

Appendix J

Table 3. *Mean Scores and Standard Deviations, Minimum and Maximum Scores for UACCESS Scale and Composite Scores Across Placement.*

	Gifted (n=24)			Non-Gifted (n=23)		
	Mean (SD)	Min.	Max.	Mean (SD)	Min.	Max.
Cognitive	4.26 (.60)	3.20	5.00	3.43 (.98)	1.20	5.00
Creative Arts	4.11 (.68)	3.13	5.00	3.41 (.81)	1.93	5.00
EQ/Leadership	3.80(1.11)	1.40	4.87	3.59 (.88)	1.07	5.00
Math	4.10 (.64)	3.00	5.00	3.64 (.96)	1.87	5.00
Literacy	4.33 (.61)	3.20	5.00	3.54 (.84)	2.07	5.00
Science	4.16 (.63)	3.07	5.00	3.56 (.91)	1.07	5.00
General Aptitude	4.05(.65)	2.82	4.87	3.48(.82)	1.44	5.00
Specific Academic Aptitude	4.19(.54)	3.31	4.93	3.58 (.87)	1.67	5.00

Appendix K

Table 4. *Mean Scores and Standard Deviations, Minimum and Maximum Scores for UACCESS Scale and Composite Scores Across Racial Groups*

	African American (n=25)			Caucasian (n=22)		
	Mean (SD)	Min.	Max.	Mean (SD)	Min.	Max.
Cognitive	3.78(.83)	1.20	5.00	3.90(.98)	2.00	5.00
Creative Arts	3.73(.74)	2.07	5.00	3.78(.91)	1.93	5.00
EQ/Leadership	3.67(1.03)	1.07	5.00	3.73(.99)	2.00	5.00
Math	3.83 (.81)	1.87	5.00	3.89(.89)	2.60	5.00
Literacy	3.97 (.74)	2.07	4.93	3.91(.93)	2.07	5.00
Science	3.72 (.85)	1.07	5.00	4.00(.85)	2.60	5.00
General Aptitude	3.72 (.70)	1.44	4.78	3.80(.88)	2.47	5.00
Specific Academic Aptitude	3.84 (.74)	1.67	4.98	3.93(.85)	2.62	5.00

Appendix L

Table 5. *Pearson Correlation Coefficients Among UACCESS Scales.*

	Cognitive	Creative Arts	EQ/Leadership	Math	Literacy	Science
Cognitive	-	.75*	.68*	.85*	.92*	.91*
Creative Arts		-	.42*	.55*	.78*	.74*
EQ/Leadership			-	.66*	.63*	.64*
Math				-	.81*	.82*
Literacy					-	.83*
Science						-

* Correlations are significant, $p < .01$.

Appendix M

Table 6. Means, Standard Deviations, and ANOVA F's for Main Effects for Universal ACCESS Subscales.

	Gifted Mean (SD) (n=24)	Non-Gifted Mean (SD) (n=23)	ANOVA F (df) for Main Effect for Placement
Cognitive	4.26 (.60)	3.43 (.98)	11.85 (1,43)**
Creative Arts	4.11 (.68)	3.41 (.81)	9.84 (1,43)**
EQ/Leadership	3.80 (1.11)	3.59 (.88)	.521 (1,43) ^{NS}
Math	4.10 (.64)	3.64 (.96)	3.68 (1,43) ^{NS}
Literacy	4.33 (.61)	3.54 (.84)	13.00 (1,43)**
Science	4.16 (.63)	3.56 (.91)	6.46 (1,43)*

Note. *significance level, .05; **significance level<.01; NS= not significant

Appendix N

Table 7. *Discriminant Analysis Classification using Six UACCESS Subscales*

Predicted Classification		True Classification		
		Gifted = 24	Non-Gifted = 23	
	Gifted	19 (True Positive)	5 (False Positive/ Type I error)	Positive Predictive Value 79%
	Non-Gifted	6 (False Negative/ Type II error)	17 (True Negative)	Negative Predictive Value 74%
		Sensitivity 76%	Specificity 77%	

Appendix O

Table 8. *Standardized and Unstandardized Canonical Coefficient Values for UACCESS Subscales*

Subscale/Composite	Standardized Canonical Coefficient	Unstandardized Canonical Coefficient
Cognitive	1.40	1.73
Creative Arts	.01	.01
EQ/Leadership	-.71	-.70
Math	-.58	-.72
Literacy	.71	.98
Science	-.38	-.48

*all coefficients are rounded to two decimal places

Appendix P

Table 9. *Standardized and Unstandardized Canonical Coefficient Values for UACCESS Composites*

	Standardized Canonical Coefficient	Unstandardized Canonical Coefficient
General Aptitude Composite	.11	.15
Specific Academic Aptitude Composite	.90	1.25

Appendix Q

Table 10. *Structure Matrix for UACCESS Subscales and Composites*

Literacy	.74
Cognitive	.71
Creative Arts	.65
Science	.54
Math	.40
EQ/Leadership	.14
Specific Academic Aptitude Composite	.99
General Aptitude Composite	.92

Appendix R

Table 11. *Discriminant Analysis Classification using UACCESS Composite Scores*

Predicted classification		True Classification		
		Gifted=24	Non-Gifted=23	
	Gifted	19 (True Positive)	5 (False Positive/ Type I error)	Positive Predictive Value 79%
	Non-Gifted	8 (False Negative/ Type II error)	15 (True Negative)	Negative Predictive Value 65%
		Sensitivity 70%	Specificity 75%	

Appendix S

Table 12. Means, Standard Deviations, and Anova *F* for Main Effects for UACCESS Subscales Across Gender

Scale/Composite	Male Mean (<i>SD</i>) (<i>n</i> =20)	Female Mean (<i>SD</i>) (<i>n</i> =27)	<i>F</i> (<i>df</i>)	Significance Level
Cognitive Aptitude	3.92 (.83)	3.80 (.97)	.178 (1,45)	$p > .05^{NS}$
Creative Arts Aptitude	3.62 (.63)	3.87 (.93)	1.097 (1,45)	$p > .05^{NS}$
EQ/Leadership Aptitude	3.67 (1.02)	3.72 (1.00)	.031 (1,45)	$p > .05^{NS}$
Math Aptitude	4.00 (.78)	3.79 (.88)	.692 (1,45)	$p > .05^{NS}$
Literacy Aptitude	3.85 (.77)	4.01 (.87)	.464 (1,45)	$p > .05^{NS}$
Science Aptitude	3.97 (.75)	3.79 (.89)	.536 (1,45)	$p > .05^{NS}$
General Aptitude Composite	3.73 (.74)	3.80 (.83)	.074 (1,45)	$p > .05^{NS}$
Specific Academic Aptitude Composite	3.94 (.72)	3.86 (.83)	.101 (1,45)	$p > .05^{NS}$

Note. NS = non-significant

Vita

Kelli Renee Jordan was born and raised in Atlanta, Georgia. She graduated from North Atlanta High School and received the International Baccalaureate diploma. She obtained her Bachelor of Arts degree in Psychology from Hampton University in Hampton, Virginia in 2004. Kelli enrolled in University of Tennessee in August of 2005 to pursue her Doctorate of Philosophy in School Psychology. While enrolled at the University of Tennessee, she obtained her Master's in Applied Educational Psychology in December 2008. Kelli's research interests include disproportionality in special education, gifted education, and underrepresentation of minority students in gifted education programs.