

Language-Reduced Screening for Giftedness

Rebecca Gray, R. Steve McCallum, and Sherry K. Bain
University of Tennessee

Based on data from a sample of 106 students in grades 2 through 8, we explored the psychometric integrity of the Universal Academic, Cognitive, Creativity, Emotion Screening Scale (Universal ACCESS; R. S. McCallum & B. A. Bracken, in press). We obtained Cronbach's alphas ranging from .95 to .98 across the eight scales of the Universal ACCESS. Concurrent validity, based on comparisons of the eight scales with "like" constructs from the Gifted Rating Scales (S. I. Pfeiffer & T. Jarosewich, 2003), the Bar-On Emotional Quotient Inventory: Youth Version (J. D. Bar-On & R. Parker, 2000), and the Terra Nova Comprehensive Test of Basic Skills (CTB, 1996), produced correlations ranging from .46 to .85 ($p < .001$). All Universal ACCESS scale means were significantly higher ($p < .001$) for 53 students participating in a gifted and talented program than for matched nongifted peers. We discuss implications for screening gifted students using an instrument that deemphasizes language abilities.

Language-Reduced Screening for Giftedness

The issue of diversity in gifted education is a major concern among proponents of gifted assessment and programming (McIntosh & Dixon, 2005). Although students from culturally, linguistically, or ethnically diverse groups represented approximately 33% of the school population in the early years of the 21st century, they comprised only about 10% of students performing at the highest levels (Gallagher, 2002). Ford and Harris (1999) have addressed the issue of increasing diversity in gifted education programs by suggesting that, among other things, instruments designed to assess giftedness be adapted to accommodate for varied language demands and that they be normed based on local characteristics and needs.

Rebecca Gray has a M.Ed. in school counseling from Carson-Newman College and a Ph.D. in school psychology from the University of Tennessee. R. Steve McCallum, Ph.D., is (Professor and) Head of the Department of Educational Psychology and Counseling at the University of Tennessee. Sherry K. Bain, Ph.D., is a member of the school psychology graduate faculty in the Department of Educational Psychology and Counseling at the University of Tennessee.

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Although a number of gifted rating scales are available, all have limitations that potentially impact the inclusion of culturally, linguistically, or ethnically diverse students in the selection process for gifted and talented programs. For example, no gifted rating scales currently offer instructions urging raters to refrain from penalizing examinees because of limited English language use. Other limitations relate to the limited scope of current instruments. Case in point, no currently available screeners assess the construct of emotional intelligence in a focused manner. Finally, few screening instruments require raters to incorporate local standards in the scoring process. Of primary concern, however, is the relative impact that the typical emphasis on language fluency may have on screening outcomes for students. Is it, in fact, possible for a language-reduced screening instrument to differentiate gifted from nongifted students? Our study examines the utility of the Universal Nonverbal Intelligence Test–Gifted Screening Scale (Universal ACCESS; McCallum & Bracken, in press), a language-reduced screening instrument designed to address the limitations mentioned above. Besides evaluating the psychometric properties of the Universal ACCESS, we will examine its ability to discriminate between gifted and nongifted students.

The Broadening Definition of Giftedness and Talent

Although recent interest in gifted screening has focused on nondiscriminatory assessment of children for giftedness (McIntosh & Dixon, 2005), the lack of a universally accepted definition of giftedness has confounded efforts to develop screening instruments without bias. The United States Department of Education defines giftedness as extraordinary ability in intellectual and specific academic or artistic fields or high performance capabilities in creativity or leadership (U.S. Department of Education, 1993), leaving states to interpret assessment in a variety of ways.

In efforts to develop inclusive assessment for giftedness, personnel within the U.S. Department of Education have recommended that the identification of gifted students include assessing diverse talents through a variety of measures that are bias free (U.S. Department of Education, 1993). Consequently, assessment should not be limited to areas of

intellectual and academic ability but also should reflect performance in areas of creativity, artistic ability, and leadership (Jarosewich, Pfeiffer, & Morris, 2002). A gifted child may not exhibit outstanding abilities in every area. For example, children may be gifted or talented in an area such as mathematics but not in reading or writing (Callahan, 2005).

Nevertheless, giftedness has been associated with advanced academic skills and characteristics measured by traditional intelligence tests (Callahan, 2005), with criterion IQ scores frequently designated for inclusion in a gifted program. The use of IQ scores as the sole indicator of giftedness has serious limitations (Baldwin, 2005). Using the IQ-only criterion, domains such as creativity, artistic ability, and leadership skills may be assessed superficially or not at all. Therefore, students talented in the arts or leadership are often overlooked (Jarosewich et al., 2002). Furthermore, traditional methods that primarily depend on IQ scores often result in underrepresentation of students from culturally diverse backgrounds in gifted programs (Callahan, 2005). Plucker, Callahan, and Tomchin (1996) have suggested using assessment procedures that rely on broader definitions of *talent* and *intelligence* and that focus on screening and assessment strategies that are less verbally laden to accurately identify gifted students and increase representation of children from ethnically diverse populations.

Emerging Theories That Apply to Gifted and Talented Selection

Some emerging theories have attempted to expand the notion of intelligence to provide more inclusive and less biased identification. For example, Gardner's (2004) theory of multiple intelligences provides constructs of intelligence that extend areas of giftedness to include not only verbal-linguistic talent, but also spatial, logical-mathematical, musical, kinesthetic, interpersonal, intrapersonal, and naturalist talents. Similarly, Sternberg (1985) advocated the use of a triarchic theory of intelligence that includes analytical, synthetic/creative, and practical elements. Triarchic theory, along with Gardner's multiple intelligences, provide a basis for consideration of the different ways in which stu-

dents are best able to know, understand, and express themselves within the school curriculum (Callahan, 2005).

In a similar vein, Renzulli (2001) has presented a framework for more inclusive definitions of intelligence and/or giftedness. Two types of intelligence are included in this model. The first, schoolhouse giftedness, refers to test-taking or lesson-learning giftedness. The second, creative/productive giftedness, refers to the ability to generate original and useful products. According to Renzulli, both types are equally important, as is the interaction between the two, and special programs should make provisions to encourage both. Using these and other models, some test authors have developed a number of helpful scales.

Currently Used Rating Scales for Giftedness

As suggested above, effective identification of students who are gifted should result from a combination of procedures based on multiple perspectives and informants (McIntosh & Dixon, 2005). The National Association for Gifted Children actively advocates using measures of diverse abilities, talents, strengths, and needs (Landrum, Callahan, & Shaklee, 2001). Among such measurements are gifted rating scales. These scales allow teachers or other professionals to summarize their perceptions of students based on classroom observations and samples of academic tasks. Unlike many traditional measures, rating scales assess a variety of skills and talents and offer the potential to complement and increase the validity of the identification process, particularly as part of inclusive portfolio assessment (Jarosewich et al., 2002).

Because teachers are primary observers of their students in a variety of settings, their perspectives are valued, and their ratings are often included as part of the identification process for gifted and talented children (Gagné, 1994; Siegle & Powell, 2004). Based upon a review of gifted rating scales, Jarosewich et al. (2002) reported and critiqued the psychometric properties of three such instruments selected on the basis of current availability and their focus on teachers as informants. Additionally, Jarosewich and colleagues have introduced a fourth scale that was in development at the time the review was written. To provide an overview of currently available instruments, we will summarize the four scales below.

The Gifted Rating Scales (GRS; Pfeiffer & Jarosewich, 2003) are available in two age-related forms (GRS Preschool Form for 4 to 6 year olds; GRS School Form for ages 6 to 13). The GRS Preschool Form is a 60-item questionnaire that measures five areas or scales: Intellectual Ability, Academic Ability, Creativity, Artistic Talent, and Motivation. The GRS School Form contains 72 items that contribute to the five scales previously listed and to one additional scale, Leadership Ability. We will describe the psychometric properties of the GRS later, under the *Instruments* subsection of our study.

A second rating instrument in current usage, the Scales for Rating Behavioral Characteristics of Superior Students (SRBCSS; Renzulli et al., 2004), contains 96 items and includes measures of 10 characteristics associated with giftedness: Learning, Creativity, Motivation, Leadership, Artistic, Musical, Dramatics, Communication (Precision), Communication (Expressiveness), and Planning. Children from kindergarten to 12th grade can be rated with the SRBCSS. In contrast to the GRS, the authors of the SRBCSS do not present normative information because they encourage users to establish local norms for making eligibility decisions. According to Jarosewich et al. (2002), the authors of the SRBCSS have reported test-retest reliability and interrater reliability for four of the ten scales: Learning, Motivation, Creativity, and Leadership. Test-retest coefficients ranged from .77 to .91 for these four scales. Interrater reliability ranged from .67 (Leadership) to .91 (Creativity) across the four scales. The SRBCSS authors have not provided internal consistency reliability estimates in their manual (Jarosewich et al., 2002). The SRBCSS authors also provide information on concurrent validity for the Learning and Motivation scales, compared with tests of intelligence and achievement, and comparisons of the Creativity scale with the Torrance Tests of Creative Thinking (Torrance, 1990). Resulting correlations ranged from .29 to .61. The SRBCSS manual does not provide evidence of criterion-related validity (Jarosewich et al., 2002).

A third currently available scale is the Gifted and Talented Evaluation Scales (GATES; Gilliam, Carpenter, & Christensen, 1996). This norm-based questionnaire was designed to evaluate children 5 to 18 years old. This scale can be completed by teachers, parents, or others familiar with the student. The GATES was standardized on a sample of more than 1,000 students identified as gifted. The instrument contains

50 items, which can be broken down into five scales related to the federal definition of giftedness: Intellectual Ability, Academic Skills, Creativity, Leadership, and Artistic Talent. Internal consistency reliability estimates for the five scales were .90 or higher. Test-retest reliability coefficients ranged from .42 to .98 across subtests. The authors provide results of concurrent validity studies, comparing the GATES with measures such as the Renzulli-Hartman Scales (Renzulli et al., 2004), the Williams Scale (Williams, 1993) and the Comprehensive Scales of Student Abilities (Hammill & Hresko, 1994). Results of these comparisons ranged from .30 to .92 (as cited in Jarosewich et al., 2002). A discriminant function analysis, conducted during GATES development, suggested a low level of sensitivity; the GATES incorrectly classified nongifted students as gifted in leadership and the arts at rates greater than 50%. (Jarosewich et al., 2002).

A fourth rating scale in current usage is the Gifted Evaluation Scale, Second Edition (GES-2; McCarney & Anderson, 1998). This scale also measures areas relevant to the federal definition: Intellectual Abilities, Academic Abilities, Creativity, Leadership, and Artistic Talent. In addition, the authors have included an optional subscale, Motivation. Appropriate for students 4 years 6 months to 18 years of age, the GES-2 contains 48 items and is designed to be completed by teachers or other school professionals. The questionnaire was standardized on a sample of general education students not identified as gifted and, according to reviewers, the standardization sample deviates appreciably from U.S. demographic characteristics. Specifically, the sample was predominantly White and urban-suburban, with over-represented students in some regions (Jarosewich et al., 2002; Young, 2001). Authors of the GES-2 report internal consistency estimates that ranged from .92 to .99 for the subscales and the total scale (Jarosewich et al., 2002). The authors also reported high test-retest reliability and strong interrater reliability coefficients across scales, and they provided evidence of concurrent validity for GATES scales across relevant subtests (Jarosewich et al., 2002). However, McCarney and Anderson reported factor loadings for three scales (Intellectual, Creativity, and Specific Aptitude) fail to support independence because of high item cross-loadings.

Limitations of Existing Gifted Rating Scales

Although the gifted screening scales described above have many positive features, each lacks some important characteristics. For instance, none of these instruments instruct the rater to be sensitive to language limitations and to appreciate alternate means of communication (e.g., nonstandard English, American Sign Language, foreign languages). Previous research suggests that assessment procedures relying on the use of less verbally laden assessment strategies will produce a more accurate identification of gifted students, increasing the number of children from ethnically diverse populations in gifted programs (Plucker et al., 1996). According to Callahan (2005), one reason for the underrepresentation of ethnic minorities in gifted programs is the acceptance of a very narrow conception of intelligence and giftedness that is largely associated with traditional school skills including advanced vocabulary, strong verbal and written skills in standard English, and advanced reading skills. Teachers are seldom provided with ways to identify talents in students who lack opportunities to develop abilities in English (Callahan, 2005). In addition, existing gifted screening scales were not developed for use with examinees who use alternate forms of communication such as manual signing.

Another limitation of existing scales is that none contain a unique scale assessing emotional intelligence, an area of cognition that is increasingly recognized by many psychologists as critical to success (e.g., Gardner, 2004). For example, Salovey and Mayer (1990) presented a model of emotional intelligence that includes five abilities: knowing one's emotions, managing emotions, motivating oneself, recognizing emotions in others, and handling relationships. According to Salovey and Mayer, emotional intelligence requires the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thoughts and behaviors. Goleman (1995) estimated that traditional IQ accounts for only about 25% of the variance in an individual's career success, the assumption being that a large part of the remaining variance may be accounted for by characteristics related to emotional intelligence. Evidence in support of the relationship between emotional intelligence and success has been presented by Bar-On (2000) and Stanley (2000). Bar-On sampled more than 8,000 managers and found that an

emotional quotient (EQ) was four times more effective in predicting job performance, compared to IQ. Stanley surveyed more than 700 multimillionaires, asking them to list reasons for their success. The top five reasons included honesty, being well disciplined, getting along, and being hard working, all integral to the concept of emotional intelligence. IQ was the 21st reason listed.

There is evidence that, as a group, people who are gifted exhibit stronger emotional or personal adjustment than the general population. For example, early studies by Terman and Oden (1947) showed lower incidences of mental illness and adjustment problems among gifted students than across the general population. Bracken and Brown (2006) reported that a group of gifted students received higher ratings on adaptive scales and lower ratings on several problem behavior scales of the Clinical Assessment of Behavior (Bracken & Keith, 2004) than a comparison group of general education students. Similarly, Bain and Bell (2004) found that fourth, fifth, and sixth graders identified as gifted scored higher than a comparison group of high-achieving peers in areas related to self-concept, including physical ability, physical appearance, and peer relations. Other studies also have provided evidence of high levels of emotional adjustment among gifted students (e.g., Beer, 1991; Grossberg & Cornell, 1988; Jackson & Bracken, 1998; Kennedy, 1990; Nail & Evans, 1997).

A third limitation of many currently used rating scales for giftedness focuses on the inappropriateness of using national norms to identify students at the local level. Only the SRBCSS encourages the use of local norms; however, on the SRBCSS, local norming is implied, not explicitly built into its scoring process. Establishing local norms can be useful because scores earned in one part of the country may not represent meaningful measures of giftedness in another part of the country and may limit the number of children who might legitimately benefit from gifted programs.

The Universal ACCESS

The Universal ACCESS (McCallum & Bracken, in press) was developed to address some of the limitations discussed previously. Teachers can use it as a screening measure of giftedness in grades K through 12. The Universal ACCESS may be used to evaluate native English

speakers, but it was designed to be amenable for use with students who use different means of communication. The instrument consists of eight scales that comprise two clusters. The scales are designed to incorporate definitions of giftedness by the U.S. Department of Education. The General Aptitude Cluster consists of four scales: Cognitive Aptitude, Creative Aptitude, Emotional Aptitude, and Leadership Aptitude. The Specific Academic Aptitude Cluster consists of four scales: Language Arts Aptitude, Math Aptitude, Reading Aptitude, and Science Aptitude. See the Appendix for general examples of item types in each scale. Assessment results can be used as part of an overall evaluation that includes measures of intelligence, portfolios, auditions, and other evidence. Once identified, students' abilities can be nurtured in a consistent and systematic fashion that meets his or her educational needs.

The Universal ACCESS is unique in several ways relative to other measures of giftedness. The Universal ACCESS was designed to be sensitive to those with communication problems (e.g., those with speech, language, or hearing deficits) or who are culturally different from mainstream children (e.g., those for whom English is a second language). Secondly, in addition to the characteristics described in the federal definition, which other instruments also incorporate, the Universal ACCESS includes a measure of emotional aptitude. Unlike conventional intelligence testing, with its long history of research, assessment of emotional intelligence is relatively new, although similar constructs have been described for decades (e.g., social intelligence [Thorndike, 1927]).

A third salient, but not entirely unique, characteristic of the Universal ACCESS is its emphasis on peer comparisons and the establishment of local norms. Although standardization data do provide national norms for peer comparisons, the format of the Universal ACCESS allows respondents to compare each child to "average" children in the geographic area. Consequently, the Universal ACCESS allows comparisons to local peers, resulting in increased sensitivity to students who display outstanding performance within the local context.

Another potential advantage offered by the Universal ACCESS is its conorming with the Universal Nonverbal Intelligence Test–Group Abilities Test, currently in development (UNIT-GAT; Bracken & McCallum, in press); the Universal ACCESS can be used with that

instrument for comparing the rated skills of an examinee directly with his or her cognitive skills using the same standardization sample.

In spite of these potential advantages, the ultimate utility of the Universal ACCESS will be determined by independent researchers and practitioners. Our study is designed to provide a preliminary investigation into the rigor and utility of the Universal ACCESS. In order to examine the psychometric properties and utility of the Universal ACCESS, we examined reliability via interitem consistency for the eight scales. We examined concurrent validity via correlations of the eight Universal ACCESS scales with existing instruments that measure similar constructs. Specifically, we compared “like” scales measuring cognitive/intellectual aptitude, creativity, and leadership on the Universal ACCESS and the GRS. We compared the Universal ACCESS Emotional Abilities scale with the Bar-On Emotional Quotient Inventory: Youth Version (Short Form; Bar-On EQ-i: YV [S]; Bar-On & Parker, 2000). Finally, we compared the Universal ACCESS Specific Academic Cluster subscales with relevant scales from the Terra Nova Comprehensive Test of Basis Skills (CTBS; CTB, 1996). And, perhaps most importantly, we examined construct validity of the Universal ACCESS by comparing the mean scores of students identified as gifted with scores earned by students not identified as gifted but matched on salient variables.

Method

Participants

Fifty-eight male and 48 female students from a rural school system in a southeastern state participated in our study. Of these 106 participants, 53 were classified as gifted and talented. The remaining 53 students were matched to the gifted students based on gender, age, race, grade, classroom teacher, and nonparticipation in special education services. All students were White (non-Hispanic) and between 7 and 13 years of age.

Thirty-nine general education teachers participated as raters of the students. Thirty-five teachers were female, 4 were male, and all were White. Participating teachers taught between the second- and

eighth-grade levels, and each taught one or more students identified as gifted and talented. Each teacher rated no more than 4 students, with the modal number being 2.

The gifted students had been identified using assessment procedures specified by the state's department of education. These guidelines state that a student may be identified as gifted using one of three options. Each option takes into consideration cognition, achievement, academic performance, and creative thinking. Among the three options, criteria vary so that students may qualify for gifted and talented services based on a minimum composite score on a cognitive test that ranges from 118 to 130 across options. Achievement test scores from individually administered or group-administered tests generally must be at increasingly higher levels across a varying number of achievement areas under the options that allow lower composite IQ scores. Academic performance, gifted rating scale scores, and scores on creativity tests are also taken into account in classification.

Instruments

The Universal ACCESS. As described previously, the Universal ACCESS (McCallum & Bracken, in press) is a teacher-rated scale designed to assess aptitudes typically associated with giftedness in students ages 5 through 18. Currently under standardization, the Universal ACCESS consists of two clusters, the General Aptitude Cluster and the Specific Academic Aptitude Cluster. Four scales are subsumed under each cluster. Items were originally written to reflect the theoretical criterion for each scale. Initial development of the scales relied on pilot data from approximately 90 participants. Factor analytic data from the pilot study were used to assign items to scale domains using a loading criterion of .35. Items with dual loadings were excluded from the final version of the scales.

Each scale contains 15 items, each rated with a numerical system ranging from 1 (*well below average*) to 5 (*well above average*). A rating of 2 indicates *below average* performance; 3 indicates *average* performance; and 4, *above average* performance. Teachers were instructed to rate each statement based on knowledge of the child and relative to the child's same-aged peers in the local environment. Teachers were also instructed to consider the native language of the

child and to focus on how well the child communicates, regardless of the language or medium used.

The General Aptitude Cluster consists of the Cognitive Aptitude scale, the Creative Aptitude scale, the Emotional Aptitude scale, and the Leadership scale. The Cognitive Aptitude scale requires the teacher to rate the student on abstract and logical reasoning, problem-solving ability, memory, cognitive speed, and quantitative facility. The Creative Aptitude scale requires rating of the student's ability to produce novel and useful solutions to problems through divergent thinking. The Emotional Aptitude scale assesses the student's ability to get along with peers, recognize one's own and others' emotions, and manage emotions. The Leadership Aptitude scale assesses the student's ability to inspire confidence in others, successfully lead and positively influence group behavior, and understand interpersonal dynamics and communications involved in decision making.

The Specific Academic Aptitude Cluster consists of the following four scales: Language Arts Aptitude, Math Aptitude, Reading Aptitude, and Science Aptitude. Language Aptitude assesses the student's performance in written and spoken language. Math Aptitude assesses the ability to use numbers, solve mathematical problems, and understand numerical relationships. Reading Aptitude assesses the student's ability to read fluently, prosodically, and with comprehension. Science Aptitude assesses the student's interests in and abilities to use analytic processes to investigate phenomena in experimental ways.

The GRS. Also described previously, the GRS (Pfeiffer & Jarosewich, 2003) are available in two age-related forms (GRS Preschool Form for 4 to 6 year olds; GRS School Form for ages 6 to 13). We used the GRS School Form in our data study. This form contains 72 items that contribute to six scales: Intellectual Ability, Academic Ability, Creativity, Artistic Talent, Motivation, and Leadership Ability. Teachers are instructed to rate students on each item using a 9-point scale that is divided into three ranges: 1–3 *Below Average*, 4–6 *Average*, and 7–9 *Above Average*. Teachers are instructed to first determine the range in which the student should be rated based on normative distinctions. Next, the teacher determines whether the student falls at the bottom, middle, or top of that range.

The GRS was normed on a national sample, although there was a slight disproportion in the representation of children across regions (Margulies & Floyd, 2004). Six hundred children were rated by 382 teachers for the GRS School Form. According to Margulies and Floyd's review, the instrument exhibits adequate floors and ceilings as well as adequate score gradients. The reviewers also commented that scale scores from both forms appeared to be stable indicators of the characteristics of giftedness, based on internal consistency data (Margulies & Floyd, 2004).

The GRS authors, Pfeiffer and Jarosewich (2003), present evidence of construct validity, comparing the GRS with the Wechsler Preschool and Primary Scales of Intelligence III (Wechsler, 2002), the Wechsler Intelligence Scale for Children IV (Wechsler, 2003), and the Wechsler Individual Achievement Test II (Wechsler, 2001). Resulting correlations ranged from .29 to .54 for the GRS School Form. The authors also reported positive correlations with measures comparing its Creativity and Leadership scales to similar constructs from the Torrance Tests of Creative Thinking (Torrance, 1990) and the SRBCSS (Renzulli et al., 2004). Evidence of criterion-related validity was also provided, based on comparisons of matched samples of gifted and nongifted students.

The Bar-On EQ-i: YV (S). Bar-On and Parker's (2000) Bar-On EQ-i: YV (S) is the short version of a self-report instrument designed to measure constructs related to emotional intelligence in children aged 7 to 18. Respondents are required to answer a series of questions about themselves by selecting the most appropriate response option, ranging from *Very Seldom True of Me* to *Very Often True of Me*. The short version contains 30 items that make up five scales: Intrapersonal, Interpersonal, Stress Management, Adaptability, and Positive Impression. The Intrapersonal scale measures the ability to understand his or her emotions and his or her ability to communicate those emotions to others. The Interpersonal scale measures the ability to have satisfying interpersonal relationships and to understand the emotions of others. The Stress Management scale measures the ability to manage and control emotions and to respond calmly to stressful events. The Adaptability scale measures the ability to be flexible, realistic, and effective in problem solving and managing change. The

Positive Impression scale measures the likelihood that an individual has answered in a way that creates an overly positive self-impression.

In general, the Bar-On EQ-i: YV (S) is reported to be a psychometrically sound instrument (Ballard, 2003). Standardized using 9,172 children and adolescents in general education classes in the U.S. and Canada, the instrument yielded internal reliability coefficients ranging from .65 to .90, with most of the coefficients in the .80 range. Test-retest reliability at 3 weeks ranged from .77 to .88 for each scale. The test-retest correlation for the total Bar-On EQ-i: YV (S) was .88 for the short version. Intercorrelations of domain scores ranged from .16 to .72, suggesting relatively distinct factors. Construct validity was based on comparisons with several instruments measuring similar constructs. The highest correlation, .85, was between the Bar-On EQ-i: YV (S) Stress Management scale and the Anger Control Problems of the Conners-Wells Adolescent Self-Report Scale (CASS; Conners, 1997).

The CTBS. The Comprehensive Test of Basic Skills (CTBS; CTB, 1996) is a standardized group achievement test designed for administration to students from Kindergarten through 12th grade. The test is given in the spring of each school year. CTBS scores used in this study included those from the Reading Composite, comprised of Reading and Vocabulary subtests; the Language Composite, comprised of Language Mechanics and Language subtests; the Math Composite, comprised of Mathematics and Mathematics Computation subtests; and the Science Score. These scores were reported as normal curve equivalents.

The CTBS was normed on a nationwide sample of 312,890 students. The sample accurately represented the U.S. population, with a few exceptions. Internal consistency indices were high, typically about .80, with the exception of the Language Mechanics subtest, which fell in the .55 to .59 range across alternate forms.

Procedure

The Director of Special Education provided the primary investigator with a list of teachers who had students identified as gifted in their classrooms. These teachers were informed of the nature and approximate length of the instruments used in our study and informed that

participation was voluntary. Each teacher who agreed to participate was then given parent informed consent forms to be taken home by his or her gifted students and returned to the teacher. Once the parent's informed consent form was signed and returned, the investigator was provided with the names of those students who were cleared for participation. The investigator and participating teachers then met to select nongifted students as matches to the gifted participants. These students were also given the parent informed consent forms to be signed and returned. After all consent forms were returned, teachers rated participating students using the Universal ACCESS and the GRS.

The first author took participating students into an available classroom to complete the Bar-On EQ-i: YV (S). She reviewed informed consent information with each student. Assenting students then filled out the Bar-On EQ-i: YV (S) and returned to their classrooms.

Results

We display means and standard deviations for all variables for gifted and nongifted participants in Table 1. Gifted participants' mean scores for all instruments, excluding the Bar-On EQ-i: YV (S), were elevated relative to the average level of performance expected from the general population. For example, a rating of 3 indicates *average* performance on the Universal ACCESS items. Mean scale scores for gifted students ranged from 3.61 to 4.21. Mean scores for nongifted students ranged from 2.85 to 3.17.

Reliability

We examined reliability of the Universal ACCESS through interitem consistency by calculating Cronbach's alphas for each scale. Alphas were high, ranging from .95 to .98. Specifically, Creative Arts Aptitude obtained an alpha of .95; Leadership Aptitude obtained an alpha of .96; Emotional Aptitude, Reading Aptitude, and Science Aptitude obtained alphas of .97; and Cognitive Aptitude, Language Arts Aptitude, and Math Aptitude obtained alphas of .98.

Table 1
Means and Standard Deviations of the Universal ACCESS^a, the GRS^b, the Bar-On EQ-i: YV(S)^c, and the CTBS^d (N = 53 Gifted and 53 Nongifted)

Instrument	Gifted		Nongifted	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Universal ACCESS Cognitive Aptitude	4.21	0.45	2.87	0.56
Universal ACCESS Creative Arts Aptitude	3.67	0.47	2.86	0.49
Universal ACCESS Emotional Aptitude	3.61	0.79	3.17	0.62
Universal ACCESS Leadership Aptitude	3.79	0.72	3.09	0.57
Universal ACCESS Language Arts Aptitude	4.01	0.62	2.88	0.59
Universal ACCESS Math Aptitude	4.14	0.57	2.86	0.51
Universal ACCESS Reading Aptitude	4.17	0.54	3.01	0.60
Universal ACCESS Science Aptitude	4.10	0.58	2.85	0.51
GRS Intellectual	65.02	7.32	46.55	6.61
GRS Creativity	61.32	7.01	48.13	7.27
GRS Leadership	58.30	9.19	48.11	6.96
Bar-On EQ-i: YV(S)	104.98	10.71	89.00	13.20
CTBS Reading/Language Arts Composite	83.55	9.89	56.53	10.61
CTBS Math Composite	83.17	11.48	59.83	12.24
CTBS Science Composite	80.25	11.14	53.32	12.11

Note. ^a Average rating for Universal ACCESS Scales = 3. ^b The mean score for the GRS = 50 (*SD* = 10). ^c The mean score for the Bar-On EQ-i: YV (S) = 100 (*SD* = 15). ^d The mean score for the CTBS = 50 (*SD* = 21.06).

Universal ACCESS = Universal Academic, Cognitive, Creativity, Emotion Screening Scale. GRS = Gifted Rating Scales. Bar-On EQ-I: YV (S) = Bar-On Emotional Quotient Inventory: Youth Version (Short Form). CTBS = Terra Nova Comprehensive Test of Basic Skills.

Concurrent Validity

We examined concurrent validity by comparing scales from the General Aptitude Cluster of the Universal ACCESS with similar GRS scales. Specifically, we compared the Universal ACCESS Cognitive Aptitude scale to the GRS Intellect scale, the Universal ACCESS Creative Aptitude scale to the GRS Creativity scale, and the Universal ACCESS Leadership Aptitude scale to the GRS Leadership scale. Of these three comparisons, the correlation between corresponding

cognitive/intellectual scales was highest, .85 ($p < .01$). The correlation between corresponding leadership scales was .76 ($p < .01$). Corresponding creativity scales correlated at .70 ($p < .01$). Results are presented in Table 2.

We examined concurrent validity for the Universal ACCESS Emotional Aptitude scale by correlating the scores with those obtained from the Bar-On EQ-i: YV (S). The resulting correlation, .47 ($p < .01$), represented the lowest coefficient for the four scales among the General Aptitude Cluster (see Table 2).

To examine concurrent validity for scales on the Universal ACCESS Specific Aptitude Cluster, we compared scores on the Language Arts Aptitude scale, the Math Aptitude scale, the Reading Aptitude scale, and the Science Aptitude scale with scales measuring parallel constructs on the CTBS, namely the Reading/Language Arts Composite (compared with two scales on the Universal ACCESS), the Math Composite, and the Science Composite. Because of a restriction in range, we corrected these correlations. The CTBS Reading/Language Arts correlated with both the Universal ACCESS Language Arts Aptitude and Reading Aptitude scales at .72 (corrected). The CTBS Math Composite correlated with the Universal ACCESS Math Aptitude at .69 (corrected), and the CTBS Science Composite correlated with the Universal ACCESS Science Aptitude at .68 (corrected). See Table 2 for these results.

Construct Validity

Using multivariate analysis of variance (MANOVA), we examined construct validity of the Universal ACCESS by comparing mean scores obtained by students in the gifted and talented program with matched students who were not part of that program. Our results indicated that the composite mean of the Universal ACCESS for the gifted students was significantly higher than the composite mean for the nongifted students, Wilks' Lambda = .28, $F(8, 97) = 30.616$, $p < .001$. Post hoc analyses indicated that mean scores for all Universal ACCESS scales were significantly higher for the gifted students compared to the matched nongifted students. Table 3 displays results for each scale, including the mean scores, standard deviations, and effect sizes. Across scales and clusters, mean scores for the gifted students

Table 2
Correlations Among the Scales of the Universal ACCESS, the GRS, Bar-On EQ-i: YV (S), and the CTBS (N = 206)

	GRS Intellect	GRS Creativity	GRS Leadership	Bar-On EQ-i: YV (S)	CTBS		
					CTBS Math Composite	Reading/ Language Arts	CTBS Science Composite
Universal ACCESS Cognitive Aptitude	.85*	.65*	.65*	.50*			
Universal ACCESS Creative Arts Aptitude	.67*	.70*	.55*	.39*			
Universal ACCESS Leadership Aptitude	.56*	.55*	.76*	.52*			
Universal ACCESS Emotional Aptitude	.36*	.37*	.65*	.47*			
Universal ACCESS Math Aptitude					.60* (.69)*	.63*	.63*
Universal ACCESS Language Arts Aptitude					.57*	.64* (.72)*	.60*
Universal ACCESS Reading Aptitude					.54*	.64 (.72)*	.62*
Universal ACCESS Science Aptitude					.56*	.60*	.62* (.68)*

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

Note. Corrected correlations appear in parentheses.

Universal ACCESS = Universal Academic, Cognitive, Creativity, Emotion Screening Scale, GRS = The Gifted Rating Scales, Bar-On EQ-i: YV (S) = Bar-On Emotional Quotient Inventory: Youth Version (Short Form), CTBS = Terra Nova Comprehensive Test of Basic Skills.

Table 3
Universal ACCESS Gifted and Nongifted Mean Comparisons, Standard Deviations, Effect Size, *F*, and Significance Levels

UNIT ACCESS Scale	Group	<i>M</i>	<i>SD</i>	Effect Size	<i>F</i>	<i>p</i>
Cognitive Aptitude	Gifted	4.21	.45	.80	182.20	.001
	Nongifted	2.87	.56			
Creative Arts Aptitude	Gifted	3.67	.47	.64	75.64	.001
	Nongifted	2.86	.49			
Emotional Aptitude	Gifted	3.61	.79	.30	10.24	.002
	Nongifted	3.17	.62			
Leadership Aptitude	Gifted	3.79	.72	.47	31.02	.001
	Nongifted	3.09	.57			
Language Arts Aptitude	Gifted	4.01	.62	.68	92.17	.001
	Nongifted	2.88	.59			
Math Aptitude	Gifted	4.14	.57	.76	148.54	.001
	Nongifted	2.86	.51			
Reading Aptitude	Gifted	4.17	.54	.71	110.43	.001
	Nongifted	3.01	.60			
Science Aptitude	Gifted	4.10	.58	.75	138.89	.001
	Nongifted	2.85	.51			

Note. Universal ACCESS = Universal Academic, Cognitive, Creativity, Emotion Screening Scale.

ranged from 3.61 to 4.21. Mean scores for the nongifted students ranged from 2.85 to 3.09.

We included all eight scales in a canonical discriminant analysis to determine the predictive validity of the Universal ACCESS. Of the 106 students included in the analysis, the Universal ACCESS correctly classified 101 students (95.3%) as gifted or nongifted, Wilks' Lambda = .28, $p < .001$. The analysis produced four false negative classifications and one false positive classification.

Discussion

The results of our study provided limited evidence for the utility of the Universal ACCESS. This gifted rating scale measures constructs in a consistent manner, correlates at significant levels with similar constructs from established instruments, and discriminates well between students identified as gifted and nongifted students in general education classes. The Universal ACCESS offers some advantages over existing rating scales, including a local norming scheme incorporated into its scoring system, sensitivity to students with communication barriers or primary languages other than English, and the inclusion of a measure of emotional aptitude.

Based on internal consistencies, we found high coefficients for all scales, with Cronbach's alphas ranging from the mid to high .90s. These data suggest that items within respective scales are homogeneous and may be interpreted with confidence. Apparently, there is little nonsystematic error variance within each scale. These reliabilities are similar to those from other gifted screening scales (e.g., GRS, GATES, SRBCSS).

Our exploration of concurrent validity resulted in strong correlations between the Universal ACCESS and the GRS for three scales measuring similar constructs: cognitive/intellectual ability, creativity, and leadership ability. Correlations ranged from .76 (creativity) to .85 (intellectual ability). These correlations suggest that constructs assessed on both instruments are similar. However, the scales also contained some unique variance. Scrutiny indicated that some "parallel" items across the two scales yielded ratings at different levels for particular students. For instance, one teacher rated a student as "average" for the Universal ACCESS item, "produces innovative and novel ideas and products." The teacher rated the same student as "above average" on the GRS item, "generates novel ideas and products." Despite conceptual similarities of the items, raters apparently interpreted them differently across rating scales, perhaps due to the slightly more inclusive language of the Universal ACCESS item.

Concurrent validity between the Universal ACCESS Emotional Aptitude scale and the Bar-On EQ-i: YV (S) was moderately strong ($r = .47$) indicating a shared variance of 22%. The Bar-On EQ-i: YV (S) is a self-report instrument, while the Universal ACCESS is completed

by the teacher. As a result, the correlation between the scores earned by participants on these two instruments may be limited by “method” difference. Probably contributing to this method difference is the notably different wording of items to fit the rating source. For example, the Universal ACCESS Emotional Aptitude scale contains items that measure a teacher’s perceptions about a student’s abilities to regulate emotions and behave appropriately in given situations (i.e., “is diplomatic in confrontational situations”). The items on the Bar-On EQ-i: YV (S) are generally stated in simple terms, and for this item, more broadly (i.e., “I am good at solving problems”). Additionally, because items on the Bar-On EQ-i: YV (S) require the respondent to focus on his or her behavior (i.e., “I think I am the best in everything I do”), they may be more affected by a self-serving bias (Whitehead, Anderson, & Mitchell, 1987) or by social desirability.

Concurrent validity comparing scales on the Universal ACCESS Specific Aptitude Cluster with relevant subtests of the CTBS resulted in strong coefficients, ranging from .68 to .72 (corrected for restriction of range). However, as with the Bar-On EQ-i: YV (S) and the Universal ACCESS, method differences may have attenuated results somewhat. The CTBS is a direct measure of student achievement while the Universal ACCESS is an indirect measure resulting from teacher ratings. In addition, scores from the two measures were obtained a year apart. Nevertheless, the strong correlations reported here suggest that, as a screening instrument, the Universal ACCESS can provide valid information for academic performance.

Our results of concurrent validity across the Universal ACCESS scales were consistently high when compared to reported concurrent validity results from the four rating scales we described earlier, although we recognize that there is some variation in constructs that are represented across scales. The GRS reported concurrent validity results ranging from .29 to .54 for its School Form. The SRBCSS reported correlations ranging from .29 to .61 across subtests. The GATES produced concurrent validity coefficients ranging from .30 to .92. Our results ranged from .46 to .85 across the eight Universal ACCESS scales, indicating that the concurrent validity of the Universal ACCESS is similar in range to other commonly used rating scales.

Our strategy for examining construct validity of the Universal ACCESS was to compare the scores of students previously identified

as gifted to those of matched general education students. Members of the gifted group were rated higher by their teachers on each of the eight scales and the two composite means. A discriminant analysis provided further support for construct validity of the Universal ACCESS, resulting in correct classification of 95% of the students into their respective groups. In this case, teachers were knowledgeable about the current classification of participating students, and we recommend a follow-up study examining the utility of the Universal ACCESS to discriminate when outcomes of students' assessments are unknown to raters.

Limitations of the study should be addressed in future research. Our sample was homogeneous, representing a group of children drawn from a rural, southeastern school with a population of 95.9% Caucasian students. Additionally, all of our participants were native English speakers. There were no participating students with hearing impairments or communication problems. Furthermore, our sample included students between the ages of 7 and 13, while the Universal ACCESS is designed to assess students of ages 5 to 18. We recommend that researchers using the Universal ACCESS include a more diverse sample of students of various races, cultures, ages, economic levels, and geographic locations. Future research should specifically focus on results with students for whom English is not their initial language.

We also recommend further research investigating the relationships between the Universal ACCESS scales and other measures. For example, because the Universal ACCESS is designed to be completed by a third-party informant, concurrent validity with a third-party measure of emotional intelligence will potentially clarify the extent to which method differences contribute to results for this construct. In fact, a multimethod, multitrait analysis of the subconstructs within the Universal ACCESS would provide optimal information to address this question. In addition, predictive validity studies based on specific operationalizations of school success as criterion measures should be considered for investigation.

Utility of the Universal ACCESS

Assuming further studies confirm the psychometric integrity of the Universal ACCESS, how will its use actually affect identification of

students during the gifted screening process? We predict at least four outcomes. First, some children currently underidentified because of language-related limitations will be selected. Second, because children can be identified based on local norms, children who might not excel when national norms are used may be included in local identification procedures for gifted programs. Third, there will be more accurate cognitive to noncognitive comparisons during the screening process because of the conorming of the Universal ACCESS and the UNIT-GAT (Bracken & McCallum, in press). Finally, because the Universal ACCESS assesses emotional intelligence, those children previously overlooked in spite of excellent social/interpersonal/intrapersonal skills will be included in the selection process. In conclusion, the outcome of screening with the Universal ACCESS has the potential to contribute positively to the selection process.

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Appendix

Examples of a general item type under the eight Universal ACCESS scales are included below.

General Aptitude Composite

Cognitive Aptitude: The student is an efficient learner.

Creative Arts Aptitude: The student exhibits novel problem-solving skills.

Emotional Aptitude: The student appreciates the moods of others.

Leadership Aptitude: The student leads group activities effectively.

Specific Academic Aptitude Composite

Language Arts Aptitude: The student expresses ideas effectively.

Math Aptitude: The student exhibits good “number sense.”

Reading Aptitude: The student reads for fun.

Science Aptitude: The student is curious about natural phenomena.