Naglieri

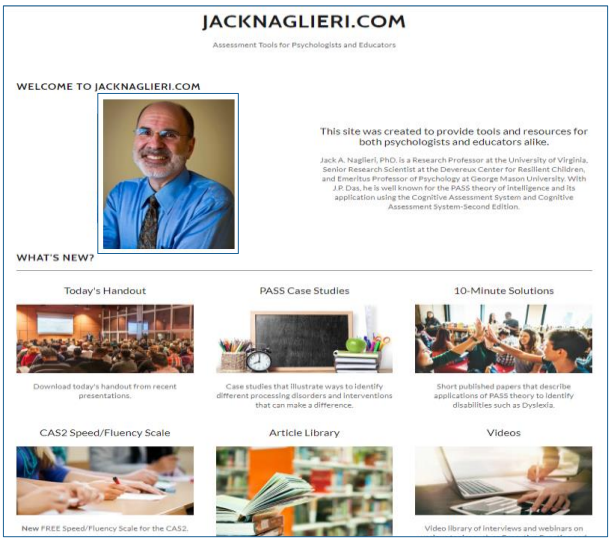
Verbal
Nonverbal
Quantitative

General Ability Tests

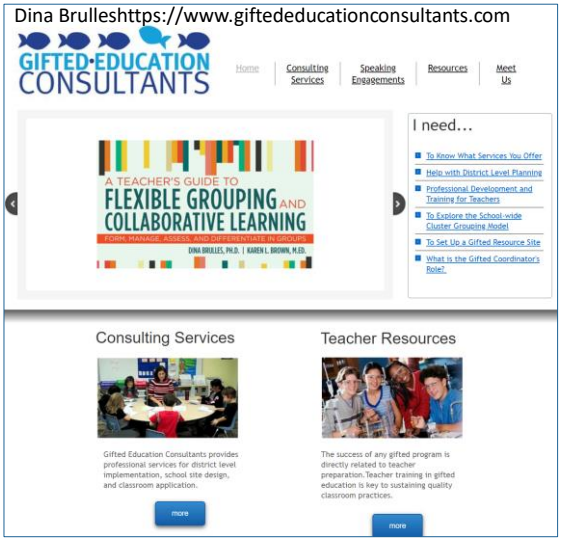
MHS
Beyond Assessments
mhs.com

The Naglieri General Ability Tests (Naglieri, Brulles & Lansdowne, 2021)
Naglieri Nonverbal (Naglieri)
Naglieri Verbal (Naglieri & Brulles)
Naglieri Quantitative (Naglieri & Lansdowne)

1



Dina Brulleshttps://www.giftededucationconsultants.com



FOR MORE INFORMATION PLEASE GO TO OUR WEB PAGES

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Conclusions in the Era of BLM

- Gifted identification based on verbal, nonverbal and quantitative tests requires too much knowledge of
  - the language used in the directions (V, NV, Q)
  - the content of questions (V & Q)
- Students who come from low income families, are culturally different, or limited English skills are not assessed accurately
- Many Hispanic and Black students are denied entry to gifted education and therefore they don't reach their potential
- BUT…WE CAN and **MUST** DO BETTER especially **NOW**!

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Ideas to Consider

- Introduction
- Measurement of General Ability
- Three New Tests
- How to Identify Gifted Students

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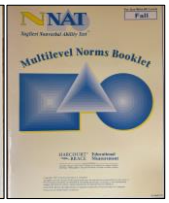
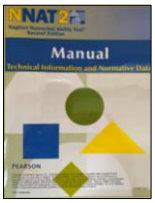
How and Why…

- My work in equitable assessment began in 1982
  - Lecture on Navajo Indians
  - Havasupai Indian Reservation
- First Research
  - Naglieri, J. A. (1982). Does the WISC-R measure verbal intelligence for non-English speaking children? *Psychology in the Schools, 19*, 478-479.
- First Test
  - Matrix Analogies Tests Individual and Group administrations (1985)
- First Book
  - Helping All Gifted student Learn (Naglieri, Brulles & Lansdowne, 2009)

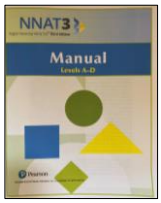
1985 MAT Short and Expanded Forms



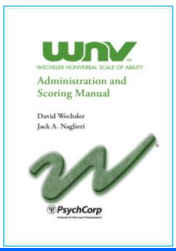
Naglieri Nonverbal Ability Test in 1997



NNAT -2 published in 2008



NNAT -3 published in 2016



5

Tests Created with Equity as a Goal

1. Naglieri, J. A. (1985). Matrix *Analogies Test - Expanded Form*. San Antonio: The Psychological Corporation.
2. Naglieri, J. A. (1985). Matrix *Analogies Test - Short Form*. San Antonio: The Psychological Corporation.
3. Naglieri, J. A. (1997). Naglieri *Nonverbal Ability Test.* San Antonio, TX: The Psychological Corporation.
4. Naglieri, J. A., & Bardos, A. N. (1997). General *Ability Scale for Adults (GAMA* San Antonio, TX: Pearson.
5. Naglieri, J. A., & Das, J. P. (1997). Cognitive *Assessment System*. *Austin: ProEd*.
6. Naglieri, J. A. (2003). Naglieri *Nonverbal Ability Test - Individual Form.* San Antonio, TX: Pearson.
7. Wechsler, D., & Naglieri, J. A. (2006). *Wechsler Nonverbal Scale of Ability*. San Antonio, TX: Pearson.
8. Naglieri, J. A. (2008). *Naglieri Nonverbal Ability Test – 2nd Edition.* San Antonio, TX: Pearson.
9. Naglieri, J. A., Das, J. P., & Goldstein, S. (2014). *Cognitive Assessment System Second Edition.* Austin, TX: ProEd.
10. Naglieri, J. A. (2016). *Naglieri Nonverbal Ability Test – Third Edition*. San Antonio, TX: Pearson.
11. Naglieri, J. A., Moreno, M. A., & Otero, T. M. (2017). *Cognitive Assessment System – Espanol*. Austin, TX: ProEd.
12. Naglieri, J. A. (2021). *Naglieri Ability Test: Nonverbal*. Markham, Canada: Multi-Health Systems.
13. Naglieri, J. A. & Brulles, D. (2021). *Naglieri Ability Test: Verbal*. Markham, Canada: Multi-Health Systems.
14. Naglieri, J. A. & Lansdowne, K. (2021). *Naglieri Ability Test: Quantitative*. Markham, Canada: Multi-Health Systems.

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Obstacle to Gifted Identification

- Clarification of terms…
  - Gifted = very smart
  - Talented = very accomplished

Does a verbal test that demands English really make sense?

- Identification procedures
  - Gifted/Talented students are often identified with traditional IQ tests comprised of
    - verbal and quantitative tests that demand knowledge of English
    - Verbal directions that include many verbal concepts
- Using a test of ability that demands knowledge of English and understanding verbal directions is not reasonable

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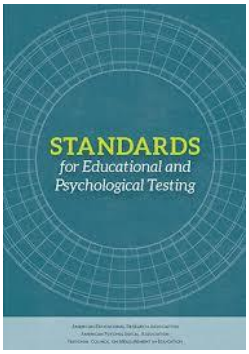
Opportunity to learn and Test Bias

- *According to the Standards for Educational and Psychological Testing* (AERA, APA & NCME, 2014), if a person has had limited opportunities to learn the content in a test of intelligence, that test may be considered **unfair because** it penalizes students for not having learned the content
- **Equitable assessment** can be achieved if all examinees have equal opportunity to perform
- The Standards also remind us that **even if the norming data do not demonstrate psychometric bias tests can still be considered unfair.**



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Gifted Identification

- This presentation is about children who may not have good grades, or the academic skills or command of English, yet they are very smart – **gifted**
- These children can become very **talented** given the opportunity to learn
- How many children like this are in our country?

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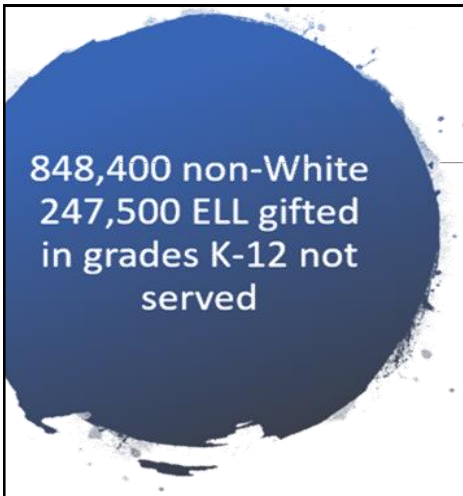

Number of Students Missed = 848,402

Table 1. Number of Students in US Public Schools Grades K-12 in 2018

	US Population	Potentially Gifted (8%) of US Population	Actual Numbers of Students in Gifted & Talented Programs	Numbers of students Not Identified
White	26,822,930	2,145,834	2,065,366	80,468
Black	8,530,756	682,460	366,823	315,637
Hispanic	15,888,681	1,271,094	778,545	492,549
Native American	572,330	45,786	25,183	20,603
Two or More Races	1,782,991	142,639	123,026	19,613
Total non-White	26,774,758	2,141,979	1,293,577	848,402

English language learner (ELL) students enrolled in public elementary and secondary schools in 2015 by Race and Ethnicity

	N of ELL in Public Ed	N Potentially Gifted (8%)	N students Identified	N Missed (% Missed)
White	294,763	23,581	8,548	15,033 (64%)
Black	178,141	14,251	5,166	9,085 (64%)
Hispanic	3,772,633	301,811	109,406	192,404 (64%)
Asian	511,703	40,936	14,839	26,097 (64%)
Pacific Islander	26,992	2,159	783	1,377 (64%)
Native Am./ Alaska Native	38,792	3,103	1,125	1,978 (64%)
Two or More Races	31,136	2,491	903	1,588 (64%)
Total	**4,854,160**	**388,333**	**140,771**	**247,562**

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Ideas to Consider

- Introduction
- Measurement of General Ability
- Three New Tests
- How to Identify Gifted Students

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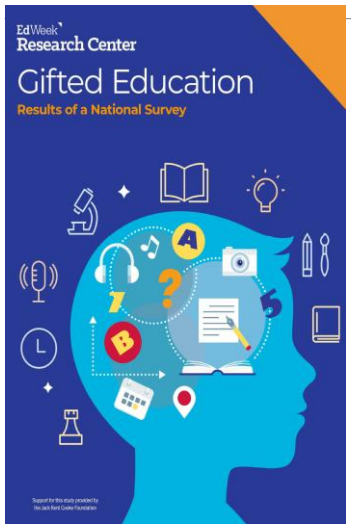
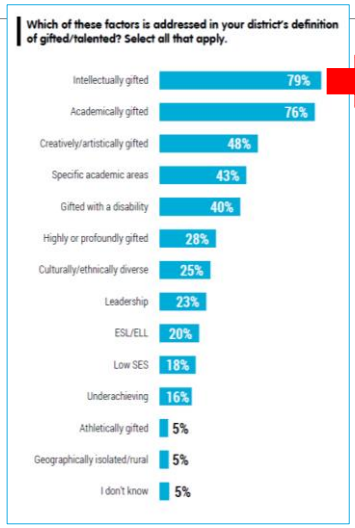
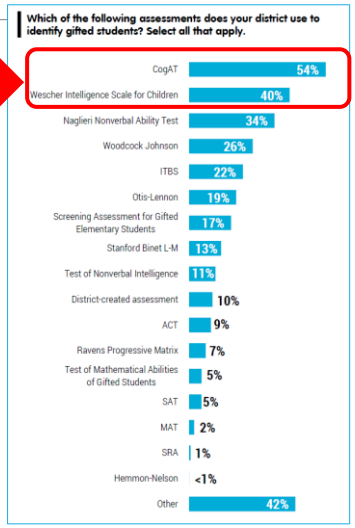
National Survey of Gifted Education







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Alpha, Beta, V, NV, Q = 'General Ability'

- **Army Alpha**
  - Synonym- Antonym
  - Disarranged Sentences
  - Number Series
  - Arithmetic Problems
  - Analogies
  - Information

→ Verbal IQ → Verbal and Quantitative on CogAT & Otis-Lennon

- **Army Beta**
  - Maze
  - Cube Imitation
  - Cube Construction
  - Digit Symbol
  - Pictorial Completion
  - Geometrical Construction

→ Originally called "Performance" now "Nonverbal" → Naglieri Nonverbal Ability Tests

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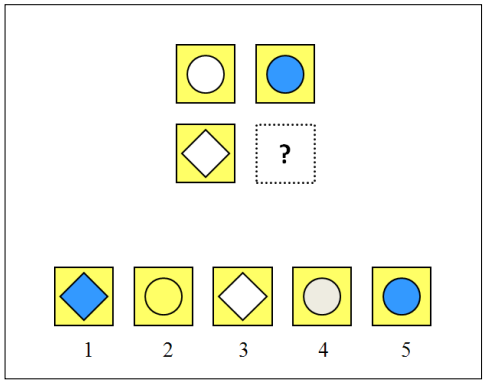
These questions require General Ability!



Which word is different:
girl dog chair fish ?

3 is to 6 as 5 is to _____?

C^7 is to F as E^7 is to____?

Despite the differences in content, each of these questions requires understanding the relationships among parts.

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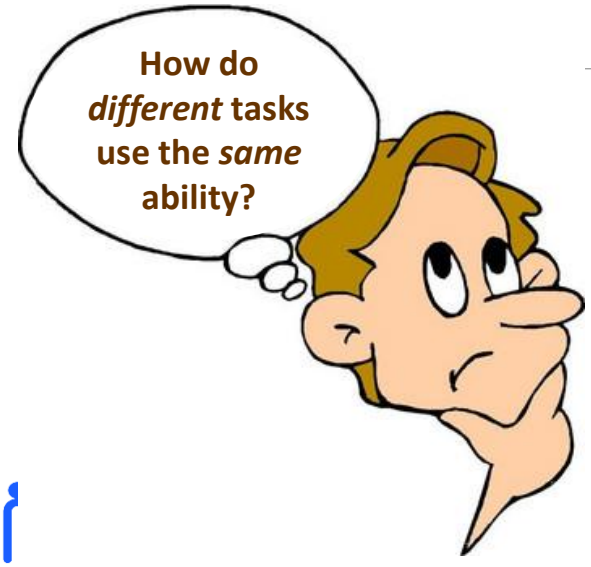
14



General Ability

- Even though the tasks were different in content (shapes, words, numbers) they all rely on general ability as described by Wechsler and many others
- The reason is that they all require understanding relationships among things or ideas

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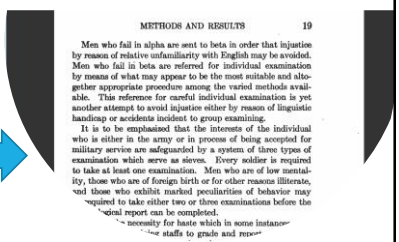
15

General ability

- "The aggregate or global capacity of the individual to act purposefully, to think rationally, and to deal effectively with his environment (Wechsler, 1939)"
- Yoakum and Yerkes (1920, p. 19) "Men who fail in alpha are sent to beta in order that injustice by reason of relative unfamiliarity with English may be avoided"



METHODS AND RESULTS 19

Men who fail in alpha are sent to beta in order that injustice by reason of relative unfamiliarity with English may be avoided. Men who fail in beta are referred for individual examination by means of what may appear to be the most suitable and altogether appropriate procedure among the varied methods available. This reference for careful individual examination is yet another attempt to avoid injustice either by reason of linguistic handicap or accidents incident to group examining.

It is to be emphasized that the interests of the individual who is either in the army or in process of being accepted for military service are safeguarded by a system of three types of examination which serve as sieves. Every soldier is required to take at least one examination. Men who are of low mentality, those who are of foreign birth or for other reasons illiterate, and those who exhibit marked peculiarities of behavior may be required to take either two or three examinations before the medical report can be completed.

... necessity for haste which in some instances ... staffs to grade and rerate

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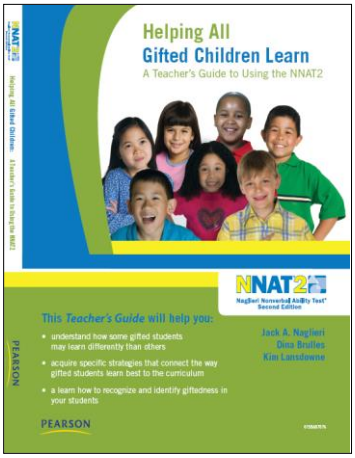
General ability (Naglieri, Brulles & Lansdowne, 2009)

- General ability is what allows us to solve many different kinds of problems
- The problems may involve
  - reasoning, memory, sequencing, verbal and math skills, patterning, connecting ideas across content areas, insights, making connections, drawing inferences, analyzing simple and complex ideas.



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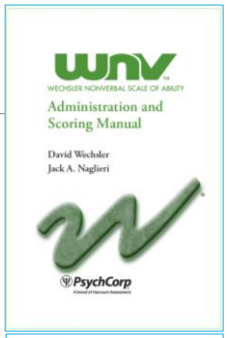
Wechsler & Spearman's *g*

of nonverbal assessment many paces forward. In addition, the emphasis in the *WNV Manual* that the Full Scale measures *general ability nonverbally*—and *not* nonverbal ability—is an important distinction that further ties the WNV to Dr. Wechsler. Although his intelligence tests in the 1930s and 1940s departed from the one-score *Stanford-Binet* by offering separate Verbal and Performance IQs as well as a profile of scaled scores, Dr. Wechsler remained a firm believer in Spearman's *g* theory throughout his lifetime. He believed that his Verbal and Performance Scales represented different ways to access *g*, but he never believed in nonverbal intelligence as being separate from *g*. Rather, he saw the Performance Scale as the most sensible way to measure the general intelligence of people with hearing impairments, language disorders, or limited proficiency in English. And that is precisely what the WNV is intended to do.

Alan S. Kaufman, PhD
Clinical Professor of Psychology
Yale Child Study Center
Yale University School of Medicine



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Journal Information
Journal TOC

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Structural validity of the Wechsler Intelligence Scale for Children–Fifth Edition: Confirmatory factor analyses with the 16 primary and secondary subtests.

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Canivez, Gary L.,Watkins, Marley W.,Dombrowski, Stefan C.

Canivez, G. L., Watkins, M. W., & Dombrowski, S. C. (2017). Structural validity of the Wechsler Intelligence Scale for Children–Fifth Edition: Confirmatory factor analyses with the 16 primary and secondary subtests. *Psychological Assessment, 29*(4), 458–472.
https://doi.org/10.1037/pas0000358

The factor structure of the Wechsler Intelligence Scale for Children-Fifth Edition (WISC-V; Wechsler, 2014a) standardization sample (N = 2,200) was examined using confirmatory factor analyses (CFA) with maximum likelihood estimation for all reported models from the WISC-V *Technical and Interpretation Manual* (Wechsler, 2014b). Additionally, alternative bifactor models were examined and variance estimates and model-based reliability estimates (ω coefficients) were provided. Results from analyses of the 16 primary and secondary WISC-V subtests found that all higher-order CFA models with 5 group factors (VC, VS, FR, WM, and PS) produced model specification errors where the Fluid Reasoning factor produced negative variance and were thus judged inadequate. Of the 16 models tested, the bifactor model containing 4 group factors (VC, PR, WM, and PS) produced the best fit. Results from analyses of the 10 primary WISC-V subtests also found the bifactor model with 4 group factors (VC, PR, WM, and PS) produced the best fit. Variance estimates from both 16 and 10 subtest based bifactor models found dominance of general intelligence (g) in accounting for subtest variance (except for PS subtests) and large ω-hierarchical coefficients supporting general intelligence interpretation. The small portions of variance uniquely captured by the 4 group factors and low ω-hierarchical subscale coefficients likely render the group factors of questionable interpretive value independent of g (except perhaps for PS). Present CFA results confirm the EFA results reported by Canivez, Watkins, and Dombrowski (2015); Dombrowski, Canivez, Watkins, and Beaujean (2015); and Canivez, Dombrowski, and Watkins (2015).

Support for 'g'

- The small portions of variance uniquely captured by [subtests]… render the group factors [scales]of questionable and support the value of general ability
- Present CFA results confirm the EFA results (Canivez, Watkins, & Dombrowski, 2015); Dombrowski, Canivez, Watkins, & Beaujean (2015); and Canivez, Dombrowski, & Watkins (2015).

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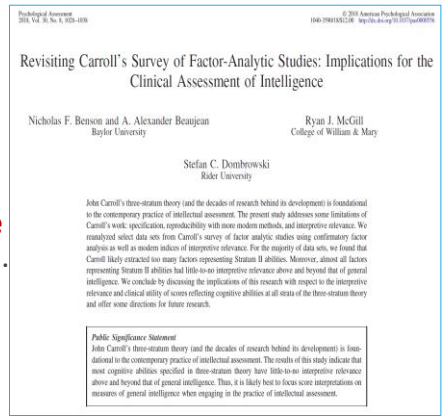
Support for 'g': Research on CHC

- John Carroll's three-stratum theory … is foundational to the contemporary practice of intellectual assessment.
- **The results of this study indicate that most cognitive abilities specified in three-stratum theory have little-to-no interpretive relevance above and beyond that of general intelligence.**
- Thus, it is likely **best to focus score interpretations on measures of *general intelligence* when engaging in the practice of intellectual assessment**.



Revisiting Carroll's Survey of Factor-Analytic Studies: Implications for the Clinical Assessment of Intelligence

Nicholas F. Benson and A. Alexander Beaujean
Baylor University

Ryan J. McGill
College of William & Mary

Stefan C. Dombrowski
Rider University

John Carroll's three-stratum theory (and the decades of research behind its development) is foundational to the contemporary practice of intellectual assessment. The present study addresses some limitations of Carroll's work: specification, reproducibility with more modern methods, and interpretive relevance. We reanalyzed select data sets from Carroll's survey of factor analytic studies using confirmatory factor analysis as well as modern indices of interpretive relevance. For the majority of data sets, we found that Carroll likely extracted too many factors representing Stratum II abilities. Moreover, almost all factors representing Stratum II abilities had little-to-no interpretive relevance above and beyond that of general intelligence. We conclude by discussing the implications of this research with respect to the interpretive relevance and clinical utility of scores reflecting cognitive abilities at all strata of the three-stratum theory and offer some directions for future research.

Public Significance Statement
John Carroll's three-stratum theory (and the decades of research behind its development) is foundational to the contemporary practice of intellectual assessment. The results of this study indicate that most cognitive abilities specified in three-stratum theory have little-to-no interpretive relevance above and beyond that of general intelligence. Thus, it is likely best to focus score interpretations on measures of general intelligence when engaging in the practice of intellectual assessment.

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Research Supports General Ability

Benson, N. F., Beaujean, A. A., McGill, R. J, & Dombrowski, S. C. (2018). Revisiting **Carroll's Survey of Factor-Analytic Studies**: Implications for the Clinical Assessment of Intelligence. *Psychological Assessment,* 30, 8, 1028–1038.

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Canivez, G. L., & McGill, R. J. (2016). Factor structure of the **Differential Ability Scales-Second Edition**: Exploratory and hierarchical factor analyses with the core subtests. Psychological Assessment, 28, 1475–1488. https://doi.org/10.1037/pas0000279

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McGill, R. J., & **Canivez, G. L.** (2017, October). Confirmatory factor analyses of the **WISC–IV Spanish** core and supplemental Subtests: Validation evidence of the Wechsler and CHC models. *International Journal of School and Educational Psychology*. Advance online publication.

Watkins, M. W., Dombrowski, S. C., & **Canivez, G. L.** (2017, October). Reliability and factorial validity of the **Canadian Wechsler Intelligence Scale for Children–Fifth Edition**. *International Journal of School and Educational Psychology*.

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General Ability Tests

- We can use tests of General Ability to identify GIFTED (smart) students who, if given the opportunity, can become academically talented

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Ideas to Consider

- Introduction
- Measurement of General Ability
- Three New Tests
- How to Identify Gifted Students

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Introducing The Naglieri General Ability Tests (Naglieri, Brulles & Lansdowne, 2021)

Naglieri
General Ability Tests

Verbal
Nonverbal
Quantitative

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Measuring Ability Equitably

- Dina Brulles, Kim Lansdowne and I have constructed three new tests that will be used for identification of gifted students
- The focus of these tests is EQUITABLE ASSESSMENT of all students
- The tests measure general ability using three types of content: Verbal, Nonverbal and Quantitative
  - Naglieri **Nonverbal** (Naglieri, 2021)
  - Naglieri **Verbal** (Naglieri & Brulles, 2021)
  - Naglieri **Quantitative** (Naglieri & Lansdowne, 2021)

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Naglieri General Ability Tests

(Naglieri, Brulles & Lansdowne, 2021)

Naglieri General Ability Tests — Verbal Nonverbal Quantitative

- The *Naglieri Verbal* (Naglieri & Brulles, 2021), *Quantitative* (Naglieri & Lansdowne, 2021) and *Nonverbal* (Naglieri, 2021) *General Ability Tests* are group or individually administered using online or paper formats ages 4 to 18.
- Test items are presented using diagrams and pictures.
- The questions demand reasoning while requiring little to no academic content and can be solved regardless of the language(s) spoken by the student.
- We use animated directions when taken online or comic strip display of directions for paper-and-pencil format.
- To identify gifted students from diverse cultural, linguistic, or socioeconomic backgrounds, or those who have had limited educational experiences.

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Goals in Making the General Ability Test Battery

- Taking English out of the testing *environment*
- Present test *instructions* using either pictorial or animated formats
- Create a Verbal test *questions* that can be solved using any language
  - The test is based on a neuropsychological concept from A. R. Luria which demand identification of verbal concepts
- Create a new version of nonverbal matrices
  - New ways of constructing progressive matrices have been developed which demand understanding the relationships among graphical stimuli
- Create a Quantitative test *questions* that do not require language
  - Several types of items are used to evaluate how well a student understands quantitative relationships

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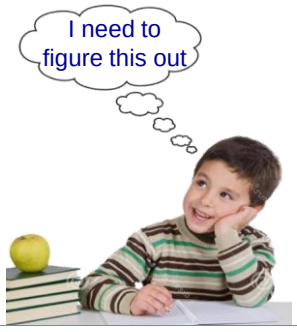
Our Tests Measure *Thinking* not *Knowing*

- What does the student have to know to complete a task?
  - This is dependent upon educational opportunity

- How does the student have to think to complete a task?
  - This is dependent on the brain



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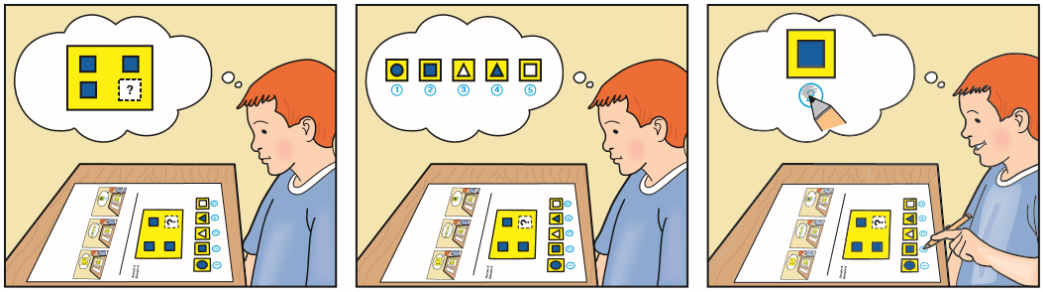
Different Approach to Test Instructions

- In order to make an ability test more accessible to a wide variety of people the *language and formal knowledge requirements must be drastically reduced*
- How to do that in a group test administration format for gifted screening?
- Use pictorial instructions as in NNAT and Wechsler Nonverbal



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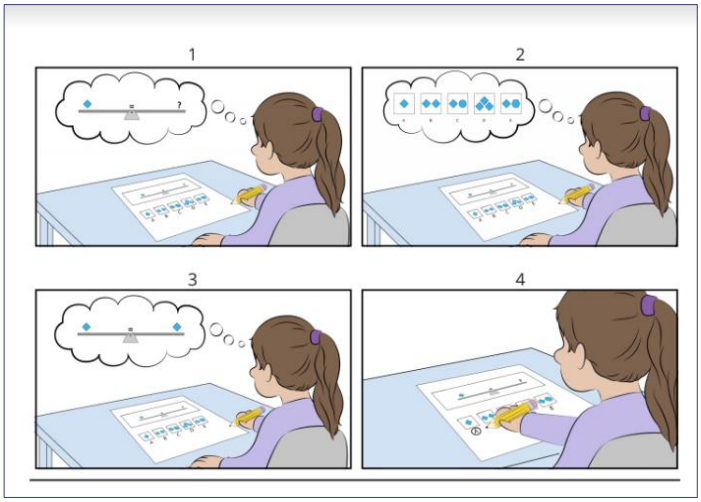
Pictorial Instructions for All Students

- The paper forms for the Naglieri General Ability Test Battery have *pictorial directions* that greatly reduce the need for verbal instructions
- Additional explanation is permitted as needed
  - Naglieri Nonverbal (Naglieri, 2021)
  - Naglieri Verbal (Naglieri & Brulles, 2021)
  - Naglieri Quantitative: (Naglieri & Lansdowne, 2021)



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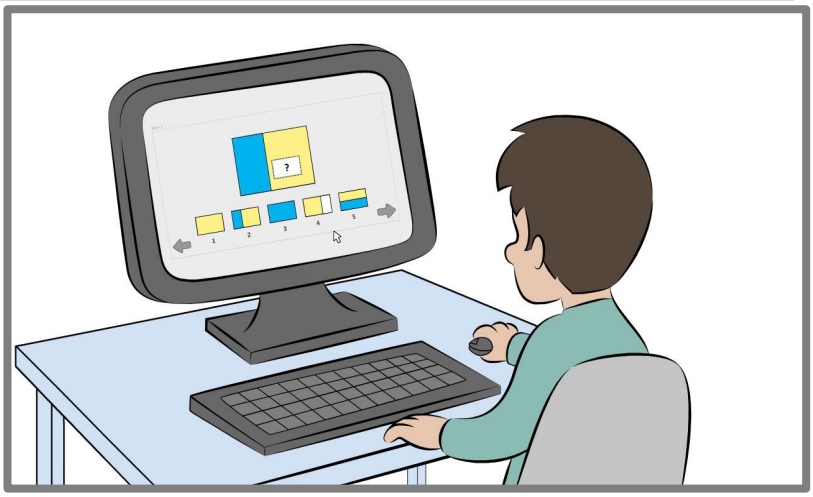
Animated Directions for All Students

- The online version of the *Naglieri General Ability Test Battery* have animated directions that greatly reduce the need for verbal instructions
- Additional explanation is permitted as needed
  - Naglieri Nonverbal (Naglieri, 2021)
  - Naglieri Verbal (Naglieri & Brulles, 2021)
  - Naglieri Quantitative: (Naglieri & Lansdowne, 2021)



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Description of the Verbal Measure of General Ability

Naglieri & Brulles (in preparation)

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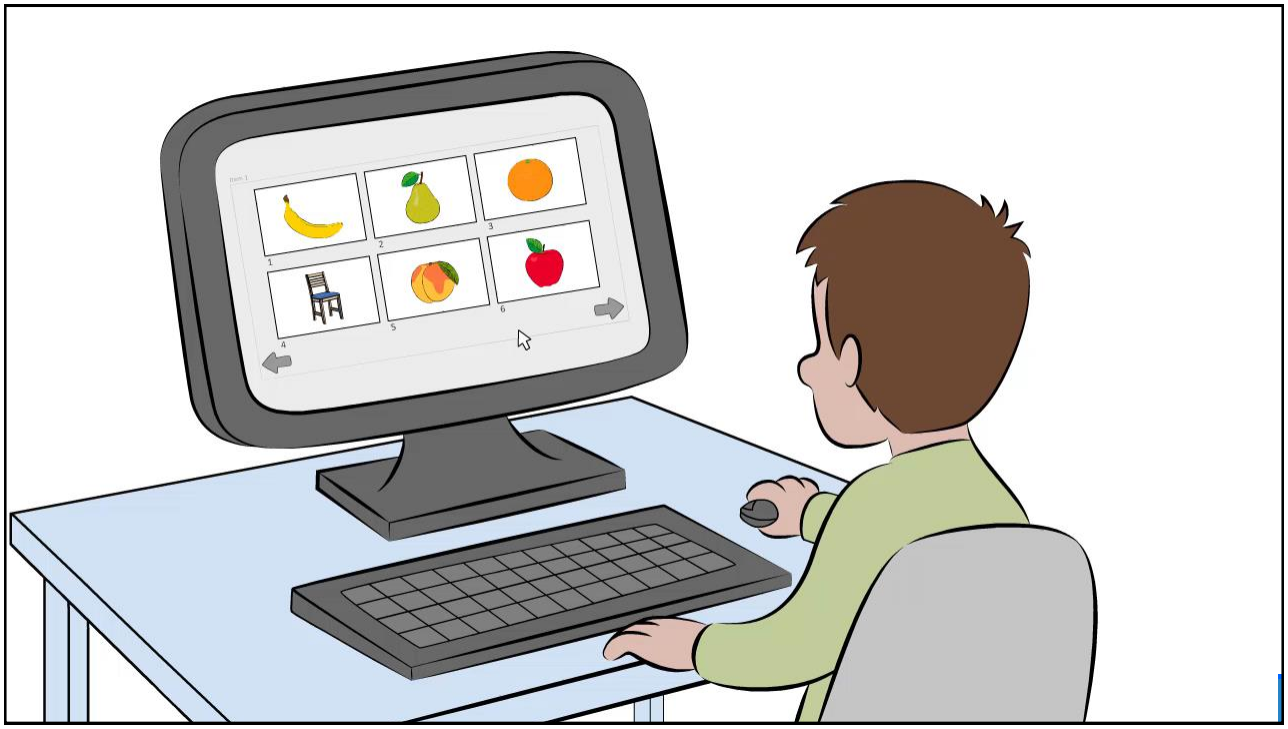

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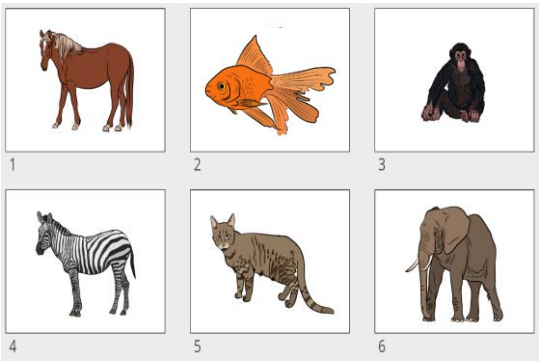
Naglieri Ability Test - Verbal

This test was modeled after an approach described by A. R. Luria (1966) to evaluate verbal conceptual thinking.

Luria (1982) stated that language involves, "a complex system of codes (p. 29)" where, "every word *designates a thing, an attribute, an action or a relationship* (p 34)."

The task, referred to as superfluous fourth, demands that a subject reason and identify which word does not belong with the others, for example, "rose, daisy, stem, tulip,".



Authors: Jack Naglieri & Dina Brulles

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Verbal Pilot Study Results (2019)

- **SAMPLE**
  - 2,482 That closely matches the US population on key demographics
- **GENDER**
  - No difference between **males** and **females** for raw score across all forms
- **RACE/ETHNICITY**
  - No differences among **White, Black, & Hispanic** for raw score across all forms
- **PARENTAL EDUCATION LEVEL**
  - No differences among five education levels (**No high school diploma; High School graduate; Some college/Associate's degree; Bachelor's degree; Graduate/professional degree**) for raw score across all forms

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Description Of The Nonverbal Measure Of General Ability

Naglieri (2021)

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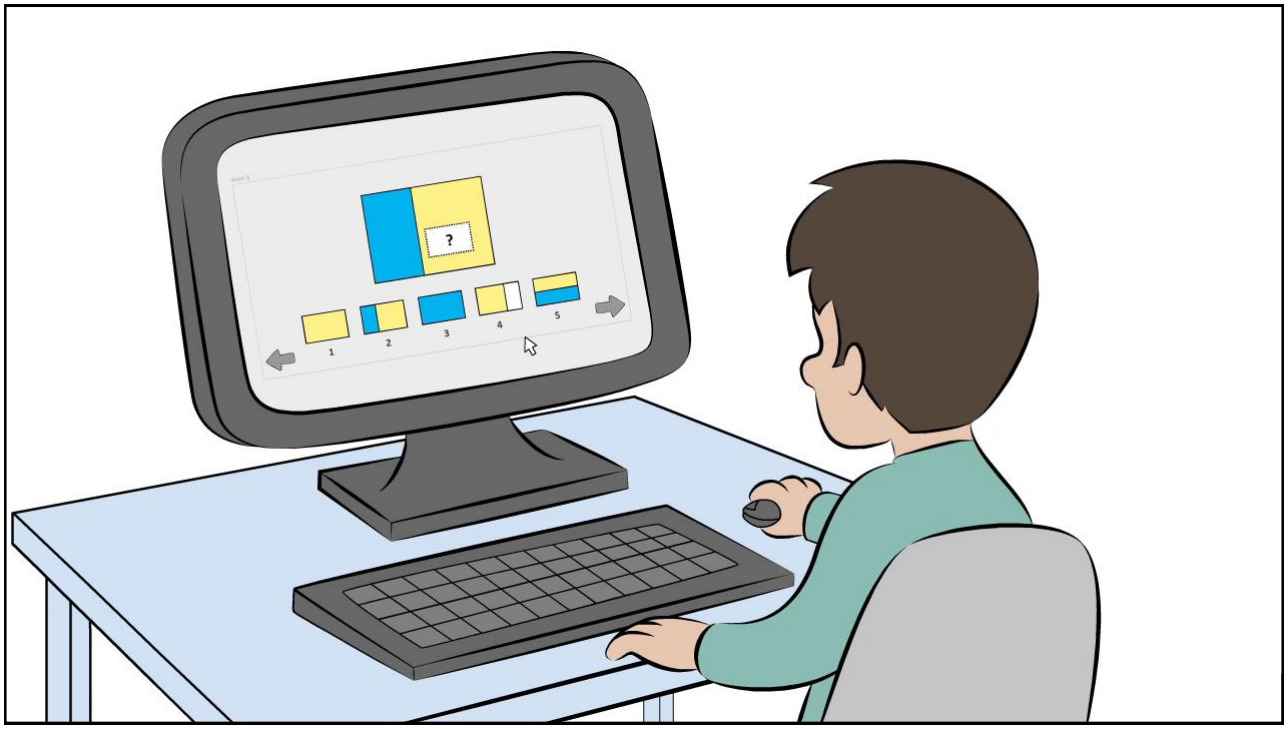

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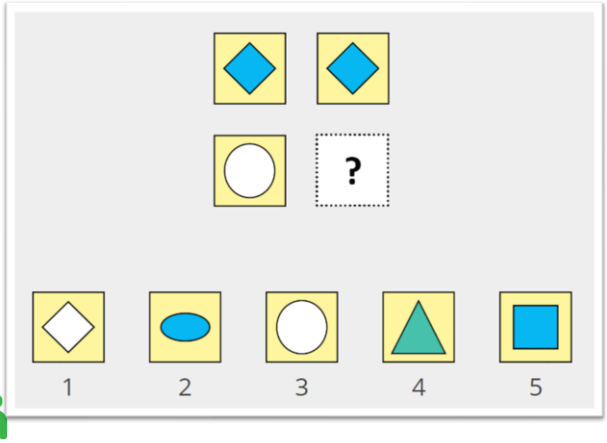
Naglieri Ability Test - Non-verbal



- Online and paper versions
- Group or individual administration
- Several NEW types of items have been developed
- Animated instructional video
- Interactive practice questions
- Minimal verbal directions
- Pre-K, Kindergarten, Grade 1, Grade 2, Grade 3/4, Grade 5/6, Grade 7-9, Grade 10-12

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Nonverbal Pilot Study Results (2019)

- **SAMPLE**
  - 3,630 That closely matches the US population on key demographics
- **GENDER**
  - No difference between **males** and **females** for raw score across all forms
- **RACE/ETHNICITY**
  - No differences among **White, Black, & Hispanic** for raw score across all forms
- **PARENTAL EDUCATION LEVEL**
  - No differences among five education levels (**No high school diploma; High School graduate; Some college/Associate's degree; Bachelor's degree; Graduate/professional degree**) for raw score across all forms

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Description of the Quantitative Measure of General Ability

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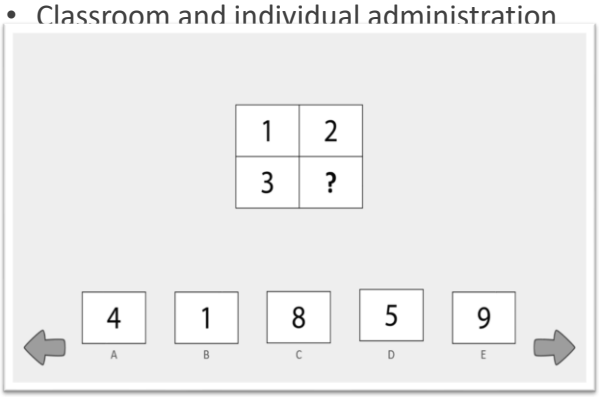
Naglieri Ability Test - Quantitative

- These items demand analysis of sequences of numbers or relationships among a group of numbers. For example, 1 is to 2 (a difference of 1) as 3 is to … 4. Alternatively, the items can be solved by simply recognizing that the when analyzed vertically, 1 becomes 3, so 2 should become 4.
- These items test a person's ability to understand relationships and patterns involving numbers, just as understanding relationships among shapes in the NAT-Nonverbal or verbal categories in the NAT-Verbal.

Authors: Jack Naglieri & Kim Lansdowne

- Online and paper version
- Classroom and individual administration



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Quantitative Pilot Study Results (2019)

- **SAMPLE**
  - 2,841 That closely matches the US population on key demographics
- **GENDER**
  - No difference between **males** and **females** for raw score across all forms
- **RACE/ETHNICITY**
  - No differences among **White, Black, & Hispanic** for raw score across all forms
- **PARENTAL EDUCATION LEVEL**
  - No differences among five education levels (**No high school diploma; High School graduate; Some college/Associate's degree; Bachelor's degree; Graduate/professional degree**) for raw score across all forms

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What do Verbal, Nonverbal and Quantitative tests measure?

General Ability…

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What a Nonverbal Test Measures

- nonverbal assessment describes the content of the tests used to measure *general intelligence* not a theoretical construct of "nonverbal ability" (Bracken & McCallun, 1998)
- There is no assumption that nonverbal nor verbal or quantitative *abilities* are being measured
  - Current research on the WISC-V, WJ IV and similar tests firmly refute the notion that these tests measure anything other than general ability. See Canivez, Watkins, & Dombrowski. (2017) and Dombrowski, McGill, & Canivez, (2017)

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Measuring Ability Equitably

- Dina Brulles, Kim Lansdowne and I have constructed three new tests that will be used for identification of gifted students
- The focus of these tests is EQUITABLE ASSESSMENT of all students
- The tests are currently in norming phase
- The tests measure general ability using three types of content: Verbal, Nonverbal and Quantitative
  - Naglieri **Nonverbal** (Naglieri, 2021)
  - Naglieri **Verbal** (Naglieri & Brulles, 2021)
  - Naglieri **Quantitative** (Naglieri & Lansdowne, 2021)

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Goals in Making the General Ability Test Battery

- Taking English out of the testing environment
- Present test instructions using either pictorial or animated formats

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Goals in Making the General Ability Test Battery

- Taking English out of the testing environment
- Present test instructions using either pictorial or animated formats
- Create a new version of nonverbal matrices
  - New ways of constructing progressive matrices have been developed which demand understanding the relationships among graphical stimuli
- Create a Verbal test that can be solved using any language
  - The test is based on a neuropsychological concept from A. R. Luria which demand identification of verbal concepts
- Create a Quantitative test that does not require language
  - Several types of items are used to evaluate how well a student understands quantitative relationships

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Ideas to Consider

- Introduction
- Measurement of General Ability
- Three New Tests
- How to Identify Gifted Students

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How to Equitably Identify Gifted

- Do **universal screening** with ability tests that do not require knowledge of English
- Naglieri nonverbal has been shown to be an efficient way to test a large number of students for gifted programs
- Adding Verbal and Quantitative tests that do not demand knowledge of English will increase participation of under-served populations
- These tests will also be useful when using a matrix to avoid problems illustrated in the U-46 court case

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Naglieri General Ability Tests Release

- The three tests will be released in 2021 for application using local norms
- Data collection for generation of national reference group will resume as soon as it is possible
- We know we have highly reliable measures that work well across ages

Reliability Coefficients of Naglieri General Ability Tests (July 2020)

Quantitative	Kindergarten	.89
	Grade 1	.90
	Grade 2	.92
	Grades 3 and 4	.94
	Grades 5 and 6	.94
	Grades 7 - 9	.95
	Grade 10 - 12	.93
	Median	**.93**
Nonverbal	PreK	.92
	Kindergarten	.87
	Grade 1	.90
	Grade 2	.86
	Grades 3 and 4	.92
	Grades 5 and 6	.93
	Grades 7 - 9	.95
	Grade 10 - 12	.94
	Median	**.92**
Verbal	K - grade 2	.92
	Grades 3 - 6	.90
	Grades 7 - 12	.89
	Median	**.90**

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Local Norming Procedure for V, NV, & Q

- Obtain scores for **ALL** students (not only referred students) in the grades for which the GT decisions is needed
- Decide how the information obtained for each student is to be evaluated (i.e., average, and or logic) and if it is to be weighted
- Rank order the students' raw scores on the V, NV & Q tests
  - Raw scores can be converted to percentile or standard scores as desired
- Determine a cut-score based on the number of students the GT program can accommodate
- Evaluate the outcome

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Participate in Standardization of New Tests

- MHS is looking for standardization sites to finalize the development of these three tests.
- Raw score data (like normed standard scores) could be used as part of the process to identify students for gifted and talented educational programs
- Contact: **Sydney Scanlan, Data Collection Coordinator at MHS: sydney.scanlan@mhs.com**

800-456-3003 ext. 447

Help Shape the Future of Fair and Equitable

Gifted Identification

Multi-Health Systems (MHS) is developing an exciting new gifted battery to assess student giftedness across multiple domains. We are looking for participants to help shape this new assessment and its impact on the identification of giftedness.

Why Participate?

In addition to receiving compensation for your participation, you will gain access to a groundbreaking gifted battery prior to publication. You will have the opportunity to provide valuable feedback which will help us understand how the final product will better meet the needs of students and teachers alike.

Who Can Participate and How?

MHS is looking to administer the Gifted Battery to students from Pre-Kindergarten to Grade 12, school wide or class wide for data collection purposes. Students will be completing the gifted battery using a computer or tablet.

When?

The study is scheduled for early fall 2019.

How Do I Sign Up?

To request more information or to sign up for this study, please contact **Sydney Scanlan, Data Collection Coordinator at MHS., at: sydney.scanlan@mhs.com or +1 416 492 2627 ext. 447**

Who is MHS?

MHS is a leading developer of scientifically validated tools and solutions for children and adults.

MHS ASSESSMENTS Helping you Help others

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Final thoughts and questions please

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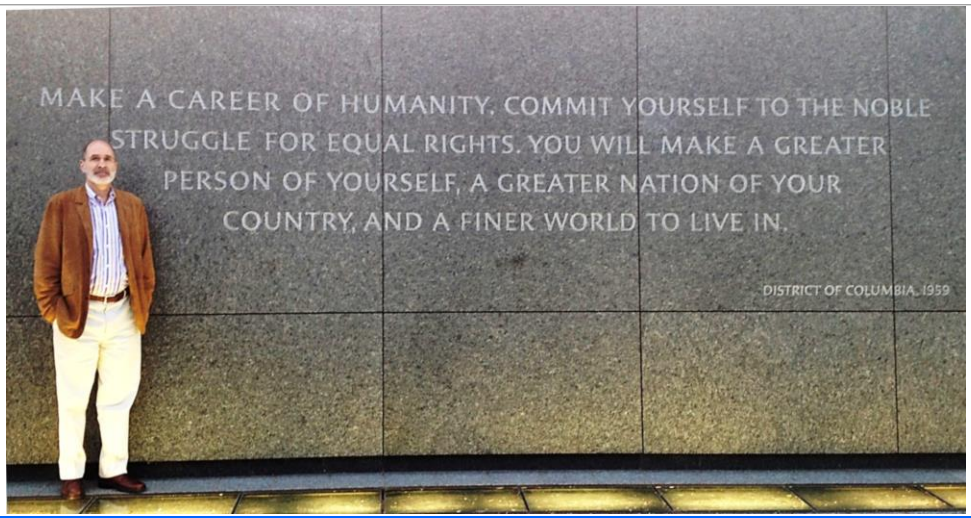
Gifted Identification is a Social Justice Issue



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