



A Historical Perspective on IQ tests and Underrepresentation of People of Color

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The Topics for Today

A Fundamental Weakness of Intelligence Tests

Historical Context

The American Psychological Association Apology

How to Interpret Intelligence Tests

Closing remarks

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The BIG picture

- Equitable Identification of gifted students is a critical issue
- Intelligence tests have played an important and significant role in gifted identification and led to exclusion of students of color
- Understanding WHY we measure intelligence the way we do helps us understand what makes a test equitable
- It is important to differentiate test BIAS from test EQUITY
- Test EQUITY is about the CONTENT of the test questions
- Tests can be evaluated based on EQUITY
- The most equitable tests measure how well a student can THINK in a way that is not influenced by EXPERIENCE AND EXPOSURE - what they KNOW

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Traditional IQ and Achievement Tests

- Working as a school psychologist in 1975 noticed that some of the questions on the Wechsler intelligence tests were VERY similar to questions on the achievement tests (e.g., Vocabulary et al.,)
- It seemed wrong to measure 'intelligence' using questions that clearly demanded knowledge and exposure/experience
- Shouldn't an intelligence test measure thinking rather than knowing?

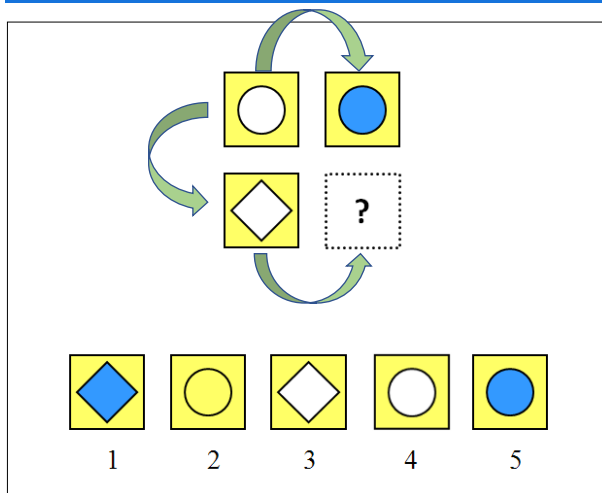


1975 Charles Champagne Elementary, Bethpage, NY

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Tests that Measure Thinking or Knowing?



Girl is woman as
boy is to _____?

3 is to 6 as
4 is to _____?

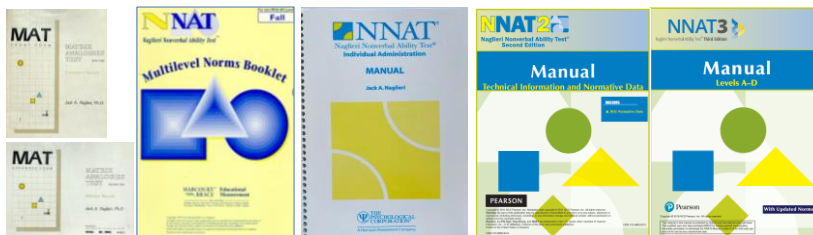
C⁷ is to F as
E⁷ is to _____?

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Naglieri's Nonverbal Tests: 1985 to Present

• Research on Six Versions of the Naglieri Nonverbal Tests



MAT Short and
Expanded Forms
1985

Naglieri Nonverbal
Ability Test 1997

NNAT -Individual,
2003

NNAT -2 2008

NNAT3 2016

Each of these versions
of the NNAT showed
similar scores by RACE,
ETHNICITY, & SEX and
had strong correlation
with achievement

This research convinced me that measuring intelligence using test questions that measured how well a student can think was a valid and equitable way to measure general intelligence 'g'.

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Tests with Equity as a Goal 1985-Present

Traditional Tests

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*. San Antonio, TX: Pearson.
5. Naglieri, J. A. (2003). *Naglieri Nonverbal Ability Test - Individual Form*. San Antonio, TX: Pearson.
6. Wechsler, D., & Naglieri, J. A. (2006). *Wechsler Nonverbal Scale of Ability*. San Antonio, TX: Pearson.
7. Naglieri, J. A. (2008). *Naglieri Nonverbal Ability Test – 2nd Edition*. San Antonio, TX: Pearson.
8. Naglieri, J. A. (2016). *Naglieri Nonverbal Ability Test – Third Edition*. San Antonio, TX: Pearson.

Second Generation

9. Naglieri, J. A., & Das, J. P. (1997). *Cognitive Assessment System*. Austin: ProEd
10. Naglieri, J. A., Das, J. P., Goldstein, S. (2014). *Cognitive Assessment System Second Edition*. Austin, ProEd.
11. Naglieri, J. A., Das, J. P., & Goldstein, S. (2014). *Cognitive Assessment System Second Edition - Brief*. Austin, ProEd.
12. Naglieri, J. A., Moreno, M. A., & Otero, T. M. (2017). *Cognitive Assessment System – Español*. Austin, ProEd.
13. Naglieri, J. A. (2022). *Naglieri General Ability Test: Nonverbal*. Markham, Canada: MHS.
14. Naglieri, J. A. & Brulles, D. (2022). *Naglieri Ability Test: Verbal*. Markham, Canada: MHS.
15. Naglieri, J. A. & Lansdowne, K. (2022). *Naglieri Ability Test: Quantitative*. Markham, Canada: MHS.

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Two Questions:

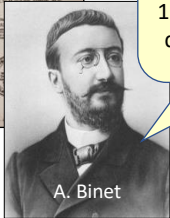
1. Why do we measure ability the way we do?
2. Do the tests measure thinking or knowing?

The early history of IQ tests provides the answers.

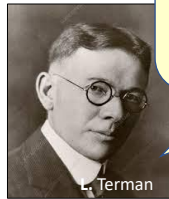


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Binet → Stanford-Binet → Army Mental Tests → WISC, CogAT, Olsat

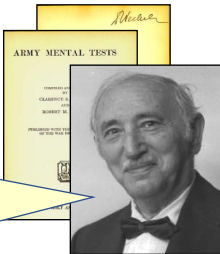


When working on the 1911 scale, Binet removed items from 1908 scale because 'they depended too much on school learning'



Terman added items dependent upon school learning in the 1916 Stanford-Binet because he believed 'intelligence at the verbal and abstract levels is the highest form of mental ability'.

Wechsler based his intelligence test on the U.S. Army Mental Tests (Verbal, Quantitative & Nonverbal)

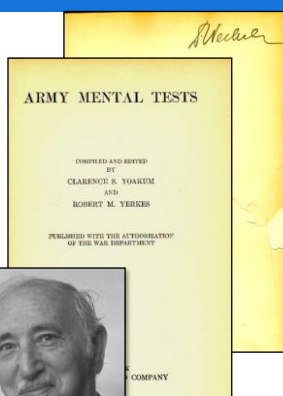


Arthur Otis (Terman's student) was instrumental in the development of the U.S. Army Alpha (Verbal & Quantitative) and Beta (Nonverbal) and the Otis-Lennon Ability Test



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Alpha & Beta → Wechsler Included Knowledge



• Army Alpha

- Synonym- Antonym
- Disarranged Sentences
- Number Series
- Arithmetic Problems
- Analogies
- Information

Verbal & Quant IQ
(Knowledge)

• Army Beta

- Maze
- Cube Imitation
- Cube Construction
- Digit Symbol
- Pictorial Completion
- Geometrical Construction

Nonverbal IQ
(Thinking)

WISC,
WJ
CogAT &
Otis-Lennon

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Including *Knowledge* in “Ability” Tests & Equity

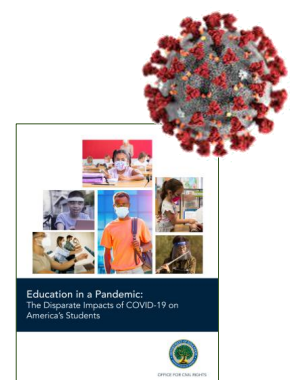
Stanford-Binet-5	WISC-V	WJ-IV	KABC-II	OLSAT	CogAT
<ul style="list-style-type: none"> • Verbal • Knowledge • Quantitative Reasoning • Vocabulary • Verbal Analogies 	<ul style="list-style-type: none"> • Verbal Comprehension • Vocabulary, Similarities, Information & Comprehension • Fluid Reasoning • Figure Weights, Arithmetic 	<ul style="list-style-type: none"> • Comprehension • Knowledge: Vocabulary & General Information • Fluid Reasoning: Number Series & Concept Formation • Auditory Processing: Phonological Processing 	<ul style="list-style-type: none"> • Knowledge / GC • Riddles, • Expressive Vocabulary, • Verbal Knowledge 	<ul style="list-style-type: none"> • Verbal • Following directions • Verbal Reasoning • Quantitative • Verbal Arithmetic Reasoning 	<ul style="list-style-type: none"> • Verbal Scale • Analogies • Sentence Completion • Verbal Classification • Quantitative • 45 pages of oral instructions

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Academic Learning Loss & COVID

- COVID-19 has increased the impact of disparities in access and opportunity for students of color and they are even further behind than they were before.
- Their **scores on traditional intelligence tests** which demand knowledge **are even more inaccurate**.
- **Solutions:**
 - For traditional tests, use post-COVID norms only.
 - Use intelligence tests that are not dependent upon knowledge



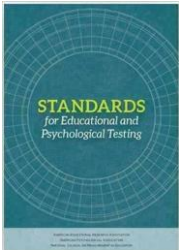
Education in a Pandemic: The Disparate Impacts of COVID-19 on America's Students. US Dept. of Ed- Office of Civil Rights. June, 21, 2021. <https://www2.ed.gov/about/offices/list/ocr/docs/20210608-impacts-of-covid19.p>

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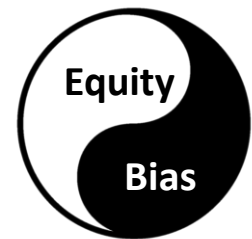
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Test Content, Test Bias, and Test Equity

According to the *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 2014) Psychometric TEST BIAS and EQUITY are two different ways of measuring test fairness.



- ... if a person has had limited opportunities to learn the content in a test of intelligence, *that test may be considered unfair* ... even if there is no evidence of psychometric test bias.
- Evidence of EQUITY is examined by test content and mean score differences.



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HIGH STAKES:

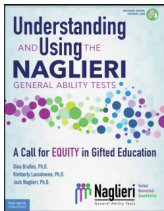
The you choose determines the results you receive, the decisions you make, *and the future of that student.*

That is the *Practical Impact* of test selection.

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Race and Ethnic Differences for Traditional and Second-Generation Intelligence Tests



Note: The results summarized here were reported for the Otis-Lennon School Ability Test by Avant and O'Neal (1986); Stanford-Binet IV by Wasserman (2000); Woodcock-Johnson III race differences by Edwards and Oakland (2006) and ethnic differences by Sotelo-Dynega, Ortiz, Flanagan, and Chaplin (2013); CogAT7 by Carman, Walther and Bartsch (2018) and Lohman (2016); WISC-V by Kaufman, Ralford, and Coalson (2016); Kaufman Assessment Battery for Children-II by Lichtenberger, Volkmer, Kaufman & Kaufman, (2006) and Scheiber, C., Kaufman, A.S. Which of the Three KABC-II Global Scores is the Least Biased? Journal of Pediatric Neuropsychology 1, 21-35 (2015); CAS by Naglieri, Rojahn, Matto, and Aquilino (2005); CAS-2 and CAS2-Brief by Naglieri, Das, and Goldstein (2014a and 2014b); Naglieri Nonverbal Ability Test by Naglieri and Ronning (2000), Naglieri General Ability Tests by Naglieri, Brulter, and Lansdowne (2022 & 2024) and Selvamannan et al., 2024 (in press).
UPDATED 3.6.24

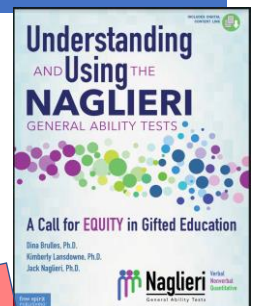
	By Race	By Ethnicity
TRADITIONAL Tests that require knowledge	9.4	6.4
Otis-Lennon School Ability Test (district wide)	13.6	-
Stanford-Binet IV (normative sample)	12.6	-
CogAT7 Nonverbal	11.8	7.6
WISC-V (normative sample)	11.6	-
WJ- III (normative sample)	10.9	10.7
K-ABC II Fluid-Crystallized Index	9.4	9.8
WISC-V (statistical controls normative sample)	8.7	5.4
K-ABC II Mental Processing Index	8.1	8.2
CogAT-Total (V, Q & NV)	7.0	4.5
CogAT7 - Verbal	6.6	5.3
CogAT- Nonverbal	6.4	2.9
CogAT7-Quantitative	5.6	3.6
SECOND GENERATION Tests that require minimal knowledge	4.5	2.5
CAS-2 (normative sample)	6.3	4.5
Naglieri General Ability Test-Verbal (Ns= 392 & 709)	6.2	1.0
Naglieri General Ability Test-Quantitative (Ns= 392 & 709)	5.5	4.4
CAS (statistical controls normative sample)	4.8	4.8
Naglieri General Ability Test-Nonverbal (Ns= 392 & 709)	4.4	0.3
CAS-2 (statistical controls normative sample)	4.3	1.8
Naglieri General Ability Test-Quantitative (N = 6,098)	4.3	2.9
NNAT (matched samples)	4.2	2.8
Naglieri General Ability Test-Verbal (N= 5,739)	4.2	1.3
Naglieri General Ability Test-Nonverbal (N=6,887)	3.5	0.9
CAS-2 Brief (normative samples)	2.0	2.8

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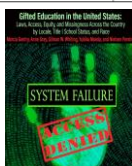
Numbers of Gifted Students Missed = 1,235,434

Total Enrollments by Race and Ethnicity as of 2020.

	N in Public Education K-12 in 2020	N Potentially Gifted (8%; 92 %tile)	N Students in gifted programs	Difference Between Potential and Identified
White	23,834,458	1,906,757	1,937,350	30,593
Black	7,754,506	620,360	330,774	-289,586
Hispanic	14,337,467	1,146,997	600,498	-546,499
Native American/ Alaska Native	484,766	38,781	27,712	-11,069
Two or More Races	1,641,817	131,345	105,371	-25,974
Total Non-Whites	24,218,556	1,937,484	1,064,355	-873,129



873,129 +



Percent of Schools that do not Identify	41.5%
Additional non-white gifted students = 41.5% of 873,129	N = 362,305
Total non-white gifted students missed	N = 1,235,434

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1,266,708 Students Missed Would Connect Denver to San Francisco !



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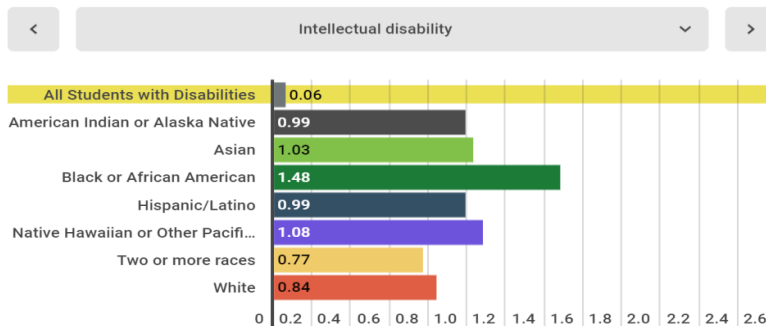
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OSEP Fast Facts: Race and Ethnicity of Children with Disabilities Served under IDEA Part B

For the purposes of this fact sheet, racial ethnic groups are defined in the IDEA Part B Child Count and Educational Environments for School Year 2019-2020, OSEP Data Documentation. <https://www2.ed.gov/programs/osepidea/618-data/collection-documentation/data-documentation-files/part-b/child-count-and-educational-environment/idea-partb-childcountandedenvironment-2019-20.pdf>

Risk Ratio of Students with Disabilities by Disability Category and by Specific Race and Ethnicity, Ages 5 (in kindergarten) through 21: SY 2019-20



The relative risk ratio of students with disabilities under IDEA by race and Ethnicity is the probability of a student with a disability being identified for intellectual disability. The higher the number, the larger the probability. Nationally, **Black Students are 1.48 times more likely to be identified with intellectual disability** compared to all students with disabilities.

<https://sites.ed.gov/idea/osep-fast-facts-race-and-ethnicity-of-children-with-disabilities-served-under-idea-part-b/>

https://idaamerica.org/Ida_today/disproportionate-identification-of-students-of-color-in-special-education/

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IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

DANIEL, DINAH and DEANNA MCFADDEN,)
minors, by their parent and next friend, Tracy)
McFadden; KAREN, RODOLFO and KIARA)
TAPIA, minors, by their parent and next friend,)
Mariela Montoya; JOCELYN BURCIAGA, minor,)
by her parent and next friend, Griselda Burciaga;)
and KASHMIR IVY, minors, by their parent)
and next friend, Beverly Ivy; KRISTIANNE)
SIFUENTES, minors, by her parent and next)
friend, Irma Sifuentes,))
)
Plaintiffs,) No. 05 C 0760
v.)
)
BOARD OF EDUCATION FOR ILLINOIS)
SCHOOL DISTRICT U-46,)
)
Defendant.))

Illinois
School
District U-
46

Slides by Jack A. Naglieri, Ph.D. jnaglieri@gmail.com

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Are There Any Questions
or Thoughts?

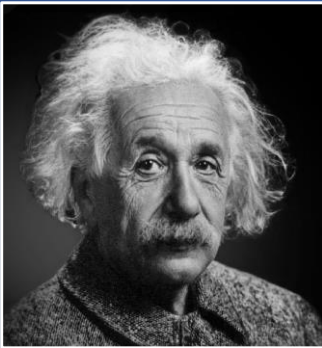


We do the best we can with what we know, and when we know better, we do better.

— Maya Angelou —

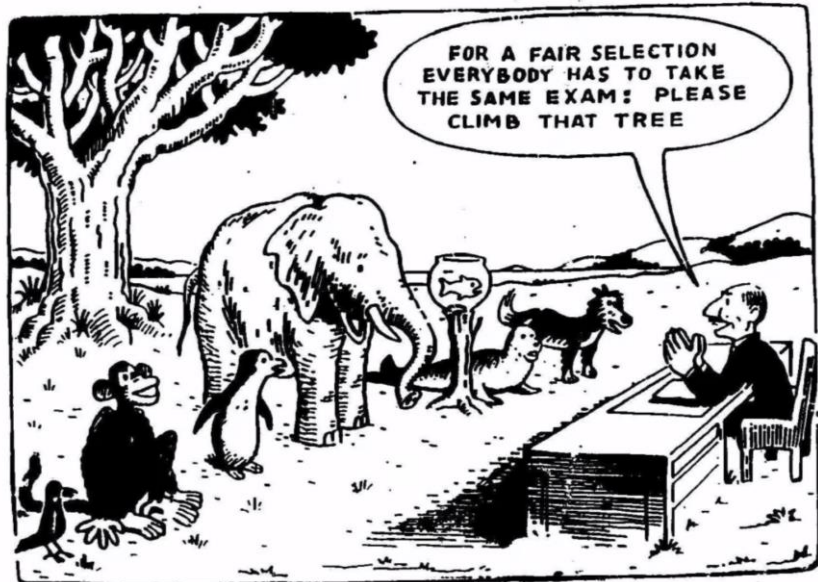
Change
Demands
Courage to
Think Differently

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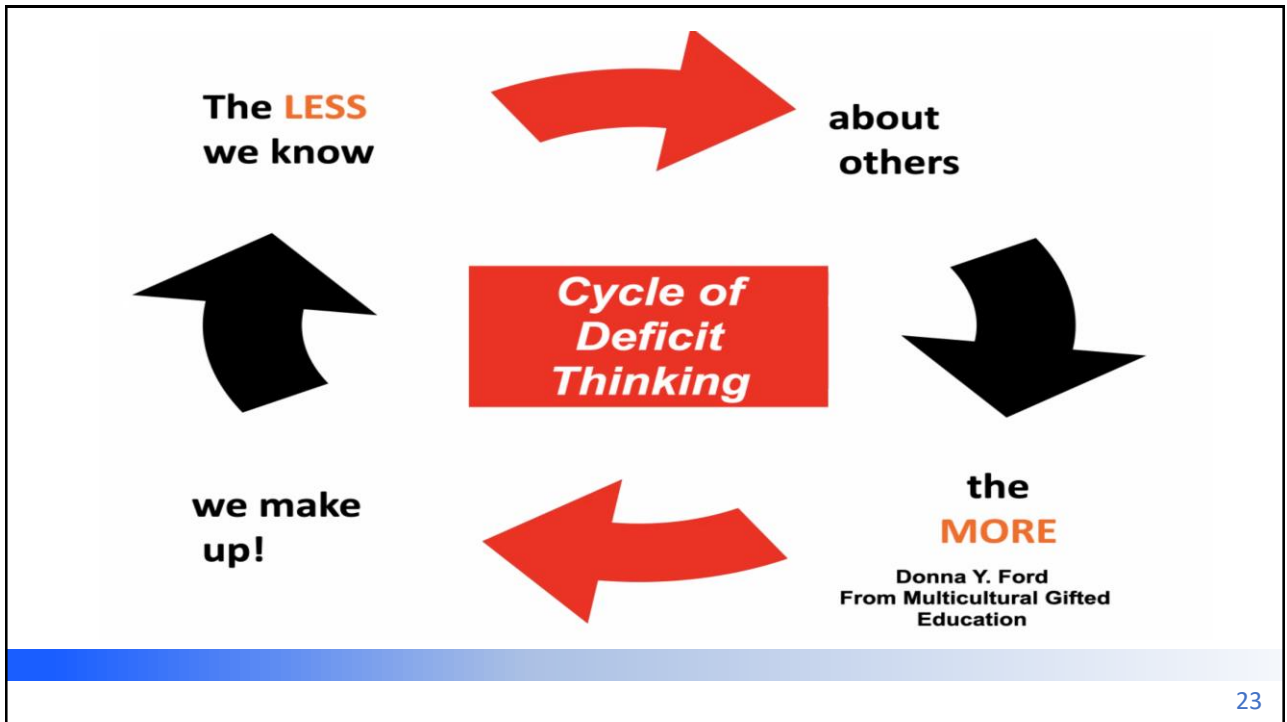
If you ask a fish to climb a tree, it will spend its entire life thinking it is stupid.

-Albert Einstein

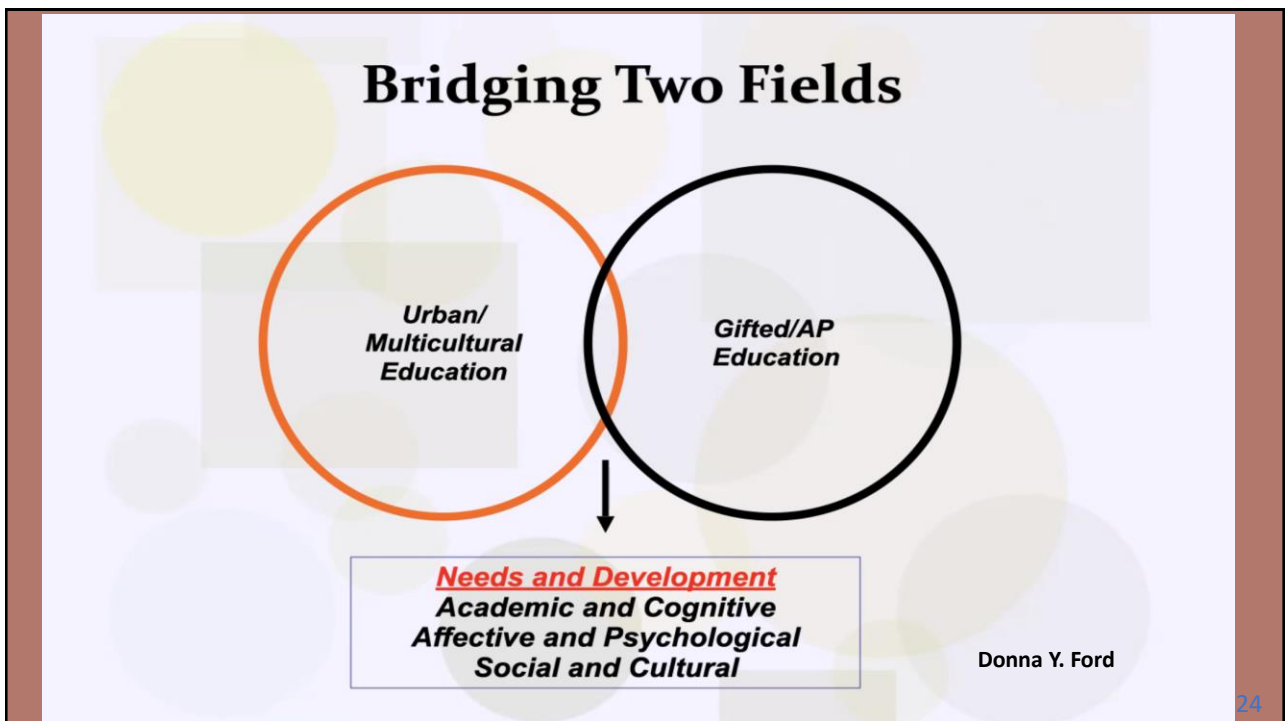


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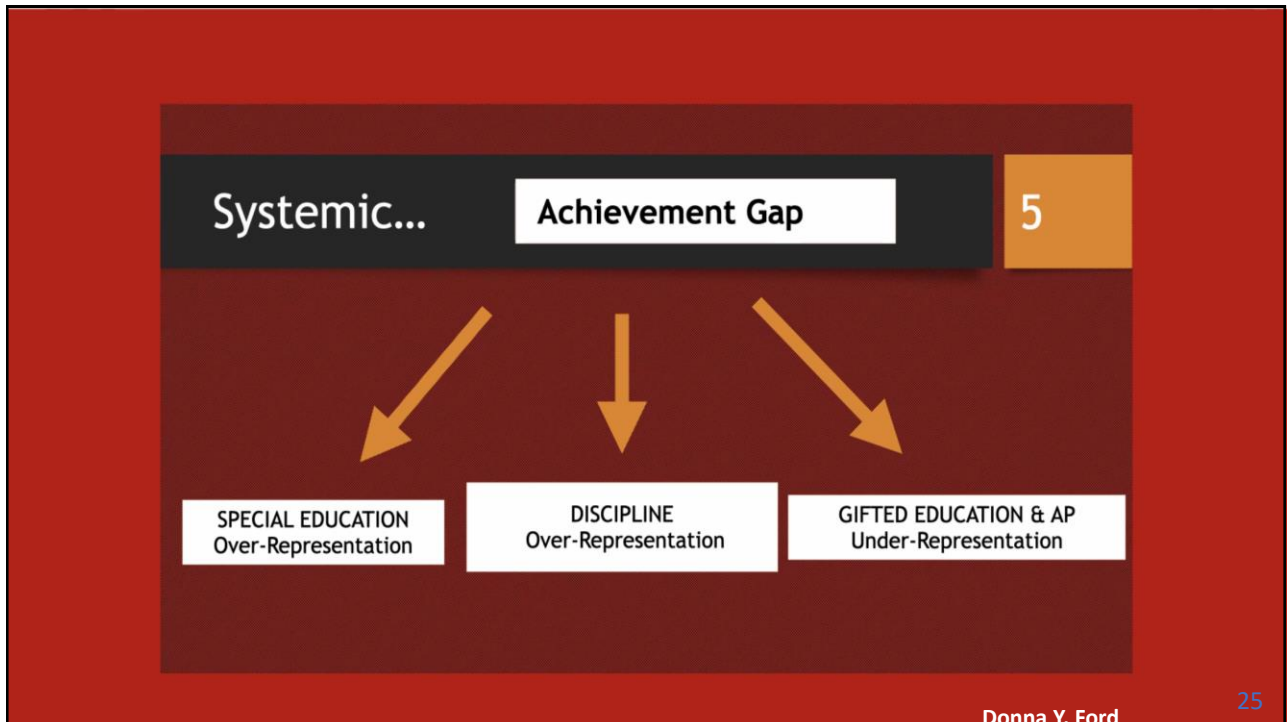
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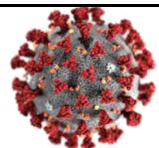


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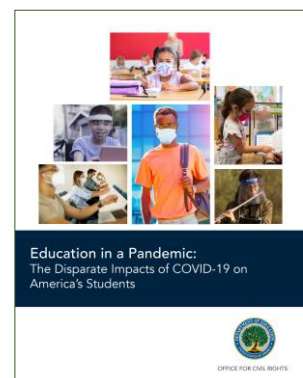


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Academic Learning Loss & COVID



- COVID-19 has increased the impact of disparities in access and opportunity for students of color and they are even further behind than they were before.
- Their **scores on traditional intelligence tests** which demand knowledge **are even more inaccurate.**
- **Solutions:**
 - For traditional tests, **use post-COVID norms only.**
 - Use intelligence tests that are not dependent upon knowledge



Education in a Pandemic: The Disparate Impacts of COVID-19 on America's Students. US Dept. of Ed- Office of Civil Rights. June, 21, 2021. <https://www2.ed.gov/about/offices/list/ocr/docs/20210608-impacts-of-covid19.p>

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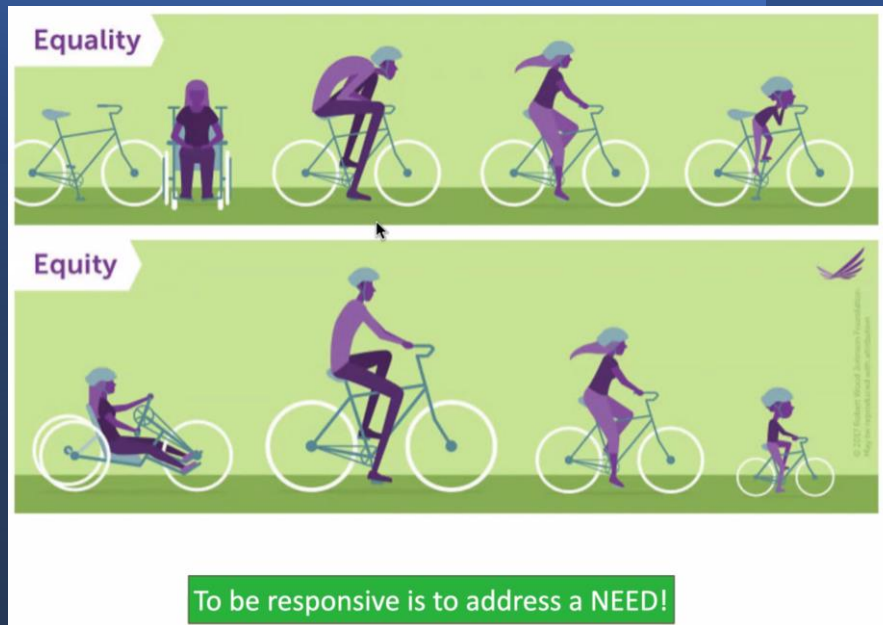


Psychologists who studied race and ethnic differences attributed IQ test results to the **people** instead of the tests.

That is the Practical Impact of flawed intelligence tests.

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National and Local Norms

- The Naglieri General Ability Tests: V, NV & Q yield scores based on the NATIONAL and LOCAL comparison
 - National norms provide the comparison to students from the entire country
 - IF your school district has different characteristics than the country then LOCAL norms make sense
 - LOCAL norms provide a way to compare the students to others with the same backgrounds (e.g., Social economic status, culture, life experiences, etc.)
 - Using universal testing give ALL STUDENTS the opportunity to demonstrate how well they can THINK to LEARN regardless of their current academic skills

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Can a Traditional Intelligence Test of General Ability be Equitable?

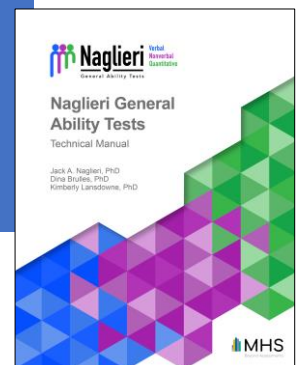
Measure 'Thinking' with minimal influence of 'Knowing'.

The Naglieri General Ability Tests: Verbal, Nonverbal and Quantitative

VERBAL - Dina Brulles, Ph.D. dbrulles@gmail.com

NONVEBAL - Jack A. Naglieri, Ph.D. jnaglieri@gmail.com

QUANTITATIVE - Kim Lansdowne, Ph.D. Kimberly.Lansdowne@asu.edu



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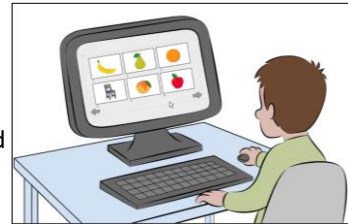
Naglieri General Ability Tests



Jack A. Naglieri, Dina Brulles & Kim Lansdowne (2022)

- We **explicitly made tests for equitable identification** of students from diverse cultural, linguistic, or socioeconomic backgrounds using the traditional Verbal, Nonverbal and Quantitative formats to **measure general ability**:

- Animated instructions remove the need for verbal comprehension of directions,
- Test questions that do not require academic knowledge,
- Verbal and Quantitative test questions that can be solved using any language,
- A multiple-choice response removes the need for verbal expression.



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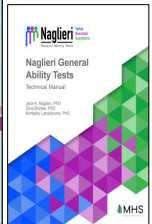
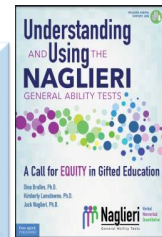


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Naglieri General Ability Tests

Three tests of general ability that measure how well a student can **think** to arrive at the answer rather than what they **know**.

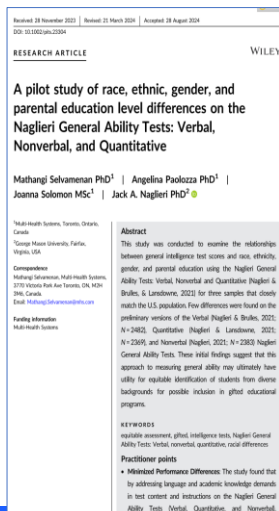


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Research Evidence of Equity

Selvamenan, M., Paolozza, A., Solomon, J., Naglieri, J. A., & Schmidt, M. T. (Psychology in the Schools, 2004). Race, Ethnic, Gender, and Parental Education Level Differences on Verbal, Nonverbal, and Quantitative Naglieri General Ability Tests: Achieving Equity.



NONVERBAL TEST



- N= 3,630 Sample closely matches the US population on key demographics
- **No GENDER differences** found between **males and females** for raw score across all forms
- **No RACE/ETHNICITY differences** among **White, Black, & Hispanic** for raw score across all forms
- **No PARENTIAL EDUCATIONAL 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

VERBAL TEST



- N= 2,482 Sample closely matches the US population on key demographics
- **No GENDER differences** found between **males and females** for raw score across all forms
- **No RACE/ETHNICITY differences** among **White, Black, & Hispanic** for raw score across all forms
- **No PARENTIAL EDUCATIONAL 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

QUANTITATIVE TEST



- N= 2,841 Sample closely matches the US population on key demographics
- **No GENDER differences** found between **males and females** for raw score across all forms
- **No RACE/ETHNICITY differences** among **White, Black, & Hispanic** for raw score across all forms
- **No PARENTIAL EDUCATIONAL 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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Group Differences by Primary Language Spoken

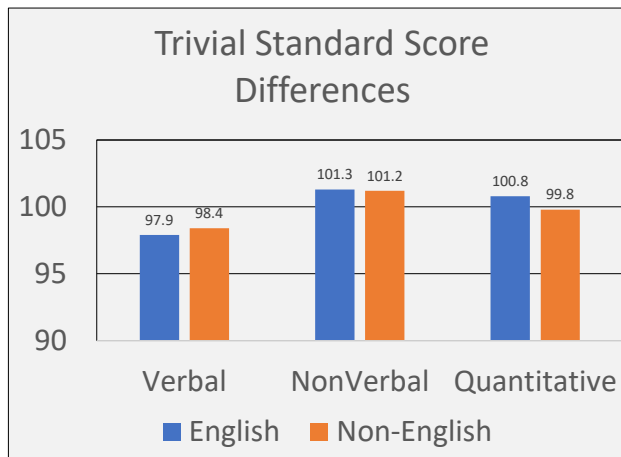


Table 6.31. Group Differences by Primary Language Spoken: Naglieri General Ability Tests

Test	Language Spoken	Descriptives		Differences		
		M	SD	Cohen's d	95% CI	t
Naglieri-V	English	97.9	14.5	-0.04	-0.07, 0.13	-0.32
	Non-English	98.4	14.8			
Naglieri-NV	English	101.3	14.1	0.00	-0.17, 0.02	0.04
	Non-English	101.2	13.5			
Naglieri-Q	English	100.8	14.1	0.07	-0.07, 0.13	0.65
	Non-English	99.8	12.9			

Note. N = 161 for each English and Non-English group. t statistic produced from a Welch Two Sample test. Cohen's d: small effect size = 0.20 to 0.49; medium effect size = 0.50 to 0.79; large effect size ≥ 0.80. Positive d values indicate higher scores for English Primary students. Naglieri-V = Naglieri General Ability Tests-Verbal; Naglieri-NV = Naglieri General Ability Tests-Nonverbal; Naglieri-Q = Naglieri General Ability Tests-Quantitative.

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Female (N = 3,000) Male (N = 2,999) Differences

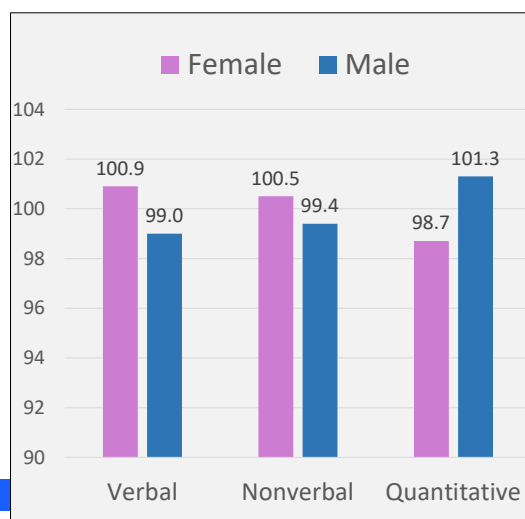


Table 7.9. Group Differences by Gender: Naglieri General Ability Tests

Test		Gender		Cohen's d
		Female	Male	
Naglieri-V	M	100.9	99.0	0.13
	SD	14.7	15.2	
Naglieri-NV	M	100.5	99.4	0.08
	SD	14.7	15.3	
Naglieri-Q	M	98.7	101.3	-0.17
	SD	14.4	15.4	
Total Score	M	100.1	99.9	0.01
	SD	14.7	15.3	

Note. Female N = 3,000 and Male N = 2,999. Guidelines for interpreting Cohen's d: small effect size = 0.20 to 0.49; medium effect size = 0.50 to 0.79; large effect size ≥ 0.80. Positive Cohen's d values imply higher scores for females. Naglieri-V = Naglieri General Ability Tests-Verbal; Naglieri-NV = Naglieri General Ability Tests-Nonverbal; Naglieri-Q = Naglieri General Ability Tests-Quantitative. Naglieri-V = Naglieri General Ability Tests-Verbal; Naglieri-NV = Naglieri General Ability Tests-Nonverbal; Naglieri-Q = Naglieri General Ability Tests-Quantitative; Total Score = Naglieri General Ability Tests-Total Standard Score.

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POST COVID National Norms

Grade-based National Norms 1,000 students pre grade (K to grade 5).


Table 1. National Norm Sample Characteristics.

Demographic		N	%	U.S. Census (%)	Difference (%)
Race/Ethnicity	Asian	235	3.9	4.7	-0.8
	Black	919	15.3	12.9	2.4
	Hispanic	1,261	21.0	23.3	-2.3
	White	2,914	48.6	46.1	2.5
	Other	671	11.2	12.9	-1.7
U.S. Region	Northeast	804	13.4	15.9	-2.5
	Midwest	1,270	21.2	20.2	1.0
	South	2,328	38.8	38.1	0.7
	West	1,598	26.6	25.7	0.9
Total National Norm Sample		6,000	100.0		

Note. U.S. population derived from the 2019 American Community Survey.⁴

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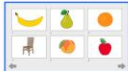
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About the Tests

The verbal, nonverbal, and quantitative content on each of the Naglieri General Ability Tests™ gives students multiple opportunities to show their ability. The tests were developed to allow students to answer the questions using any language.


The Naglieri General Ability Tests-Verbal uses pictures that represent verbal concepts. The student needs to figure out what verbal concept is shared by five of the pictures to select which picture does not represent the concept.




The Naglieri General Ability Tests-Nonverbal uses questions that are presented using shapes and diagrams. The student needs to find the relationships among shapes, their color and other features to figure out which answer completes the pattern.




The Naglieri General Ability Tests-Quantitative uses numbers and shapes that are arranged in a pattern. The student needs to identify patterns and sequences of basic math concepts.



Score Type	Description
National Percentile Rank	A score that compares a student to a national sample of students in the same grade using scores that range from 1st (low) to 99th (high). For example, a 90th percentile rank would mean that the student earned a score that was equal to or greater than 90% of students in the national sample.
National Stanine	A score that compares a student to a national sample of students in the same grade using scores that range from 1 (low) to 9 (high).
National Standard Score	A score that compares a student to a national sample of students in the same grade using scores that range from 55 (low) to 145 (high).
Total Score	A score that compares a student to a national sample of students in the same grade based on any combination of the tests.

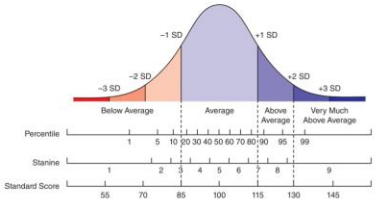
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Individual Report

Student Name: John Tigerwood
Student ID: 123456
Grade: 3
School: Manhattan Public School
School District: Dovercourt Public District School Board


John recently took the Naglieri General Ability Tests™. The tests measure general ability using verbal, nonverbal, and quantitative questions that were created to provide students an equal opportunity to show their ability. The Naglieri General Ability Tests compare each student to their peers. The figure below shows how most students in the sample score. Scores that are within the "Average" category (middle of the graph) occur most often. Scores above or below this range occur less often. Above Average scores indicate high general ability. The score profile is found in the table below. Note that if only one test was administered, a Total Score cannot be calculated.




Note. SD= Standard Deviation.

Test	Date Tested (YYYY-MM-DD)	National Percentile Rank	National Stanine	National Standard Score
Naglieri-Verbal	2024-01-01	85th	7	118
Naglieri-Nonverbal	2024-01-10	90th	8	121
Naglieri-Quantitative	2024-01-03	92nd	8	126
Total Score		91st	8	122

For more information on the Naglieri General Ability Tests™, scan the QR code or view: [URL: _____](#)



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What is the Practical Impact?

Verbal, Nonverbal, and Quantitative scales are NOT different types of intelligence; these terms describe the *content of the test questions*

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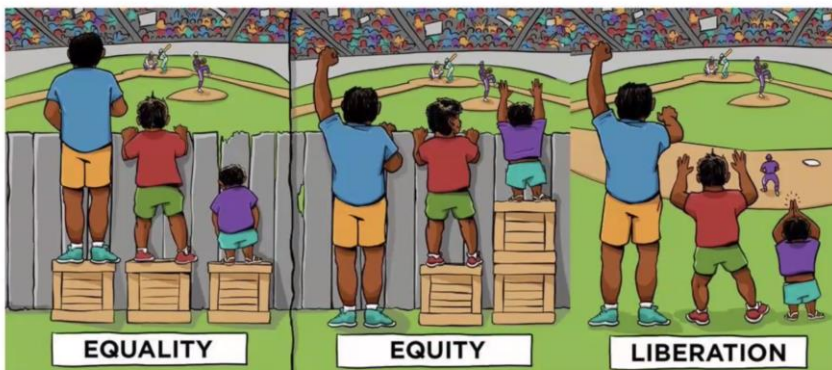
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CENTER FOR
STORY-BASED
STRATEGY



Don't just tell a different version of the same story.
Change The Story!



EQUALITY

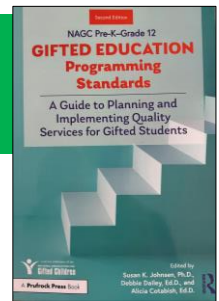
EQUITY

LIBERATION

40

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NAGC Professional Standards



2.3. Identification. Students with identified gifts and talents represent diverse backgrounds.

2.2. Identification. Students with gifts and talents are identified for services that match their interests, strengths, and needs.

2.2.5. Educators select assessments that minimize bias by including information in the technical manual that describes content in terms of potential bias, includes norms that match national census information or local populations, shows how items discriminate equally well for each group, and provides separate reliability and validity information for each group.

2.3.1. Educators select and use equitable approaches and assessments that minimize bias for referring and identifying students with gifts and talents, attending to segments of the population that are frequently hidden or underidentified. Approaches and tools may include front-loading talent development activities, universal screening, using locally developed norms, assuring assessment tools are in the child's preferred language for communication, or nonverbal formats.

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Summary: Equitable Assessment of Intelligence

- **Equitable evaluation of intelligence** demands test questions that can be solved regardless of the amount of academic knowledge and facility with language a student has
- We have shown that
 - General ability (*g*) **can be measured equitably** across Verbal, Quantitative and Nonverbal content if the tests do not require academic knowledge
- Verbal, Quantitative and Nonverbal are **a description of the content of the tests'** questions **NOT** different types of intelligence
- Equitable tests measure THINKING in a manner that is minimally influenced by KNOWING

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WE CAN DO

BETTER!

We Must do Better!

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To repeat...

We do the best we can with what we know, and when we know better, we do better.

— Maya Angelou —

Change
Demands
Courage to
Think
Differently!

Socially just identification of gifted and talented students requires self-reflection and self-correction in response to current research.

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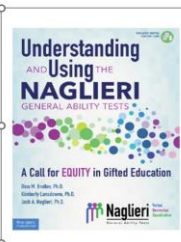
FINAL THOUGHTS!

dreamstime



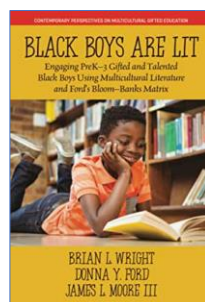
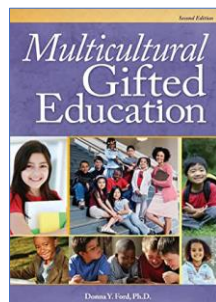
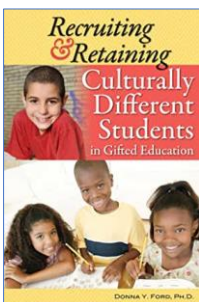
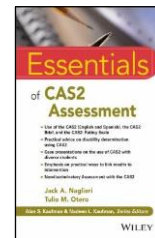
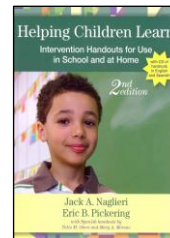
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Understanding and Using the Naglieri General Ability Tests
Dina Brulles, Ph.D. / Kimberly Lansdowne, Ph.D. / Jack A. Naglieri, Ph.D.

An accessible guide to identifying gifted students and creating equity and inclusion within gifted programs.



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