



Increasing Equity Using the **Naglieri General Ability Tests**

Research Overview



The CHALLENGE

Educators play an important role in the identification of students for gifted and talented programs across the U.S. They face an ongoing challenge of addressing inequities of access for students across diverse cultural, racial, ethnic, linguistic, or socioeconomic backgrounds, or those who have had limited or different educational experiences, as well as students with disabilities.

A critical issue educators must consider is what kind of tools and practices will most effectively identify gifted students with the potential to achieve even if they are **not yet** achieving at advanced levels. Intelligence tests that have verbal and quantitative content can pose an obstacle for underrepresented students who may not have had the opportunity to learn the knowledge required

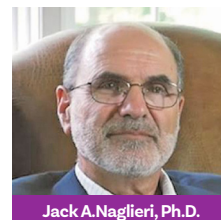


to answer the questions included in these tests and, therefore, they fail to earn high enough scores to be accepted into gifted programs (Hodges et al., 2018).

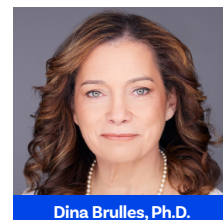
Our SOLUTION



Naglieri, Brulles, and Lansdowne (2021) developed the ***Naglieri General Ability Tests***; three separate tests that measure general ability using verbal, nonverbal, and quantitative content with the goal of identifying gifted students in a more equitable manner. To maximize fairness, verbal comprehension was removed from the test directions, test items were designed to be solvable using any language and require minimal prior knowledge, and verbal expression was removed from the response format.



Jack A. Naglieri, Ph.D.



Dina Brulles, Ph.D.



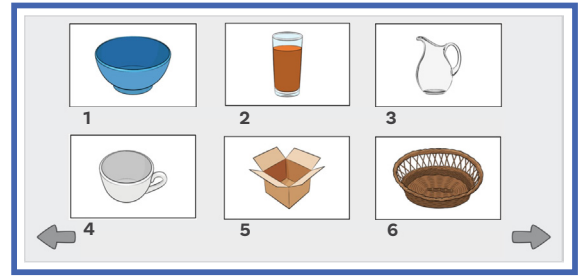
Kimberly Lansdowne, Ph.D.

The three tests can be used independently or in combination, providing students the opportunity to demonstrate their general ability across verbal, nonverbal, and quantitative content.

Authors: Jack A. Naglieri, PhD and Dina M. Brulles, PhD

In the **Naglieri General Ability Tests–Verbal (Naglieri–V)**, questions require students to understand the relationships among six pictures to determine which one does not represent the verbal concept shared by the other five.

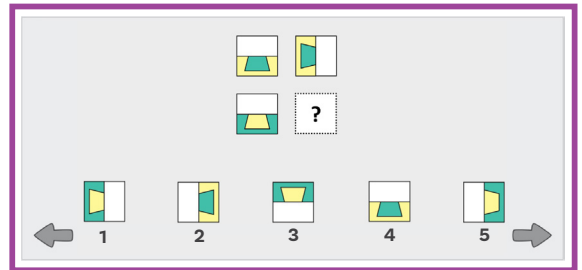
Grades: **K-9**
Format: **Online**
Administration Type: **Group**
Administration Time: **Approximately 30 minutes**



Author: Jack A. Naglieri, PhD

In the **Naglieri General Ability Tests–Nonverbal (Naglieri–NV)**, questions focus on visual relationships and patterns through color, sequence, and orientation, to determine which of the five multiple-choice options best answers each question.

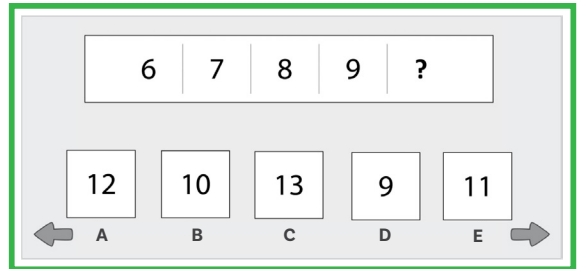
Grades: **K-9**
Format: **Online**
Administration Type: **Group**
Administration Time: **Approximately 30 minutes**



Authors: Jack A. Naglieri PhD and Kimberly Lansdowne, PhD

In the **Naglieri General Ability Tests–Quantitative (Naglieri–Q)**, questions require students to reason with mathematical relationships represented by numbers and shapes to determine which of the five multiple-choice options completes the pattern.

Grades: **K-9**
Format: **Online**
Administration Type: **Group**
Administration Time: **Approximately 30 minutes**



Our Research Studies

The main goal of the three research studies detailed here was to address the question: “Will students from different demographic groups (i.e., race/ethnicity, gender, or parental education level) score differently on these tests?” To answer this question, three studies were conducted in which a total 6,518 students across the U.S. completed one of the **Naglieri General Ability Tests** on a computer. Each student’s score was calculated by taking the sum of the questions answered correctly on each test.

Comparisons across the student groups were conducted using a statistical method that controls for other demographics that may change or affect the scores. For example, to look at whether students from different racial and ethnic groups scored differently, other factors need to be controlled for that may affect their performance, such as the student’s region, household income, parental education level, and gender.

The Results

STUDY 1: Naglieri-V



Naglieri
General Ability Tests

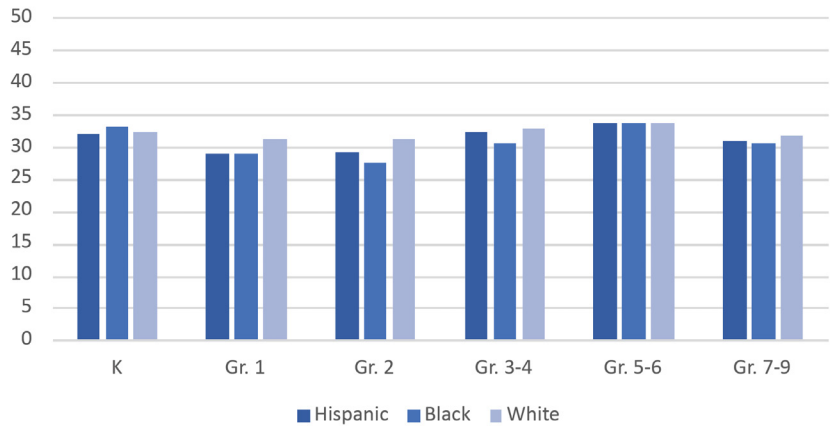
Verbal

Number of Students: **2,126**

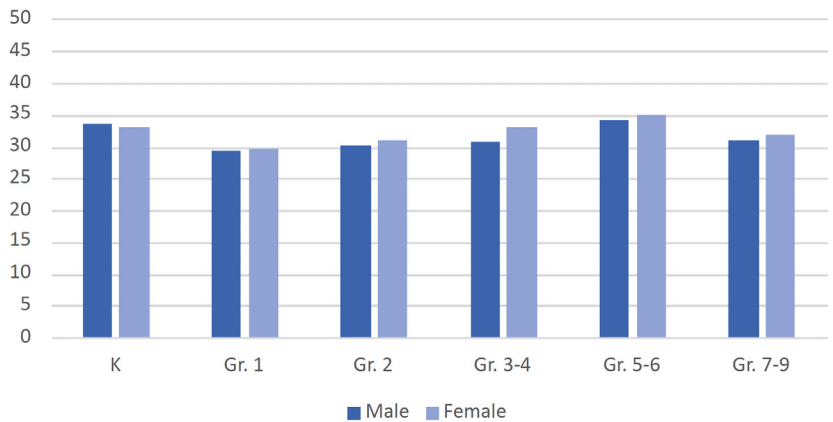
Tests included 50 items distributed across different grade-forms.

The average scores were very similar and there were no significant differences between Hispanic, Black, and White students on the **Naglieri-V** test.

AVERAGE SCORE BY RACE/ETHNIC GROUPS

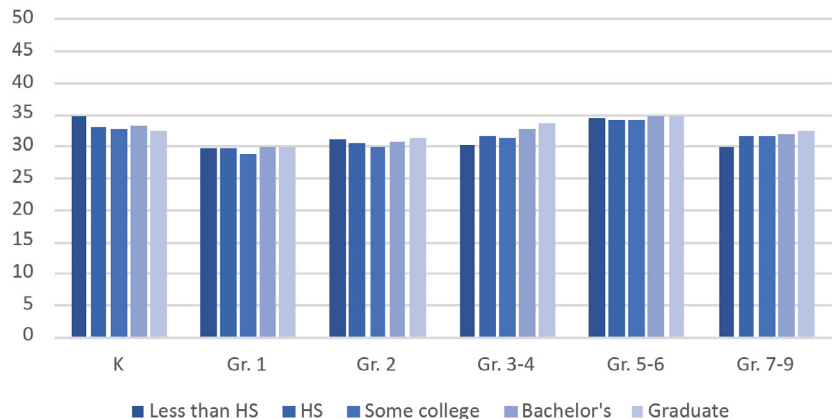


AVERAGE SCORE BY GENDER



The average scores were remarkably similar across grades with only one significant, but small, difference for the Grade 3-4 group between male and female students on the **Naglieri-V** test.

AVERAGE SCORE BY PARENTAL EDUCATION LEVELS



The average scores were remarkably similar and there were no significant differences found between any of the parental education levels on the **Naglieri-V** test.

Note: Less than high school diploma (Less than HS), high school graduate (HS), some college or associate's degree (Some college), bachelor's degree (Bachelor's), and graduate or professional degree (Graduate).

The Results

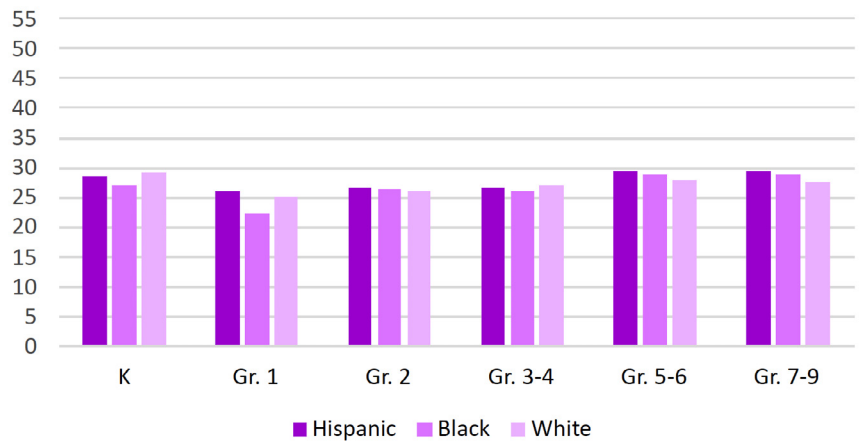
STUDY 2: Naglieri-NV

Number of Students: **2,356**

Tests included 55 items distributed across different grade-forms.

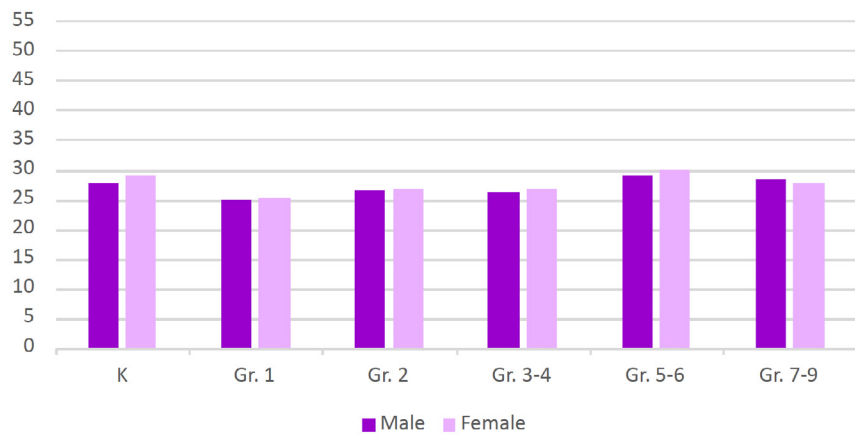
The average scores were very similar and there were no significant differences between Hispanic, Black, and White students on the **Naglieri-NV** test.

AVERAGE SCORE BY RACE/ETHNIC GROUPS



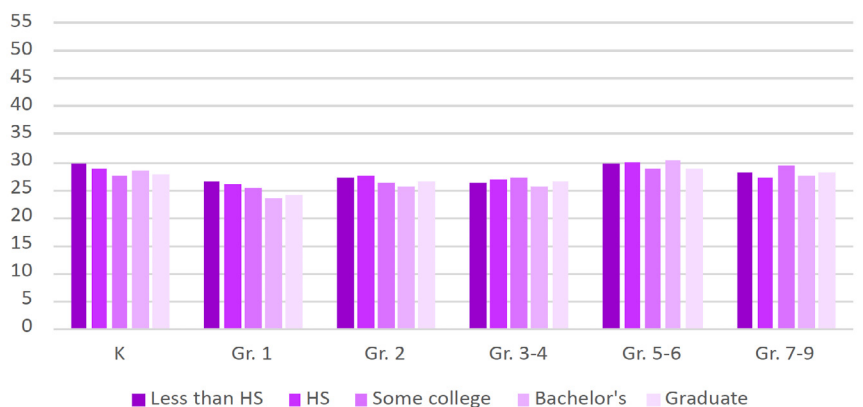
The average scores were remarkably similar across grades between male and female students on the **Naglieri-NV** test.

AVERAGE SCORE BY GENDER



The average scores were remarkably similar and there were no significant differences found between any of the parental education levels on the **Naglieri-NV** test.

AVERAGE SCORE BY PARENTAL EDUCATION LEVELS



Note: Less than high school diploma (Less than HS), high school graduate (HS), some college or associate's degree (Some college), bachelor's degree (Bachelor's), and graduate or professional degree (Graduate).

The Results

STUDY 3: Naglieri-Q



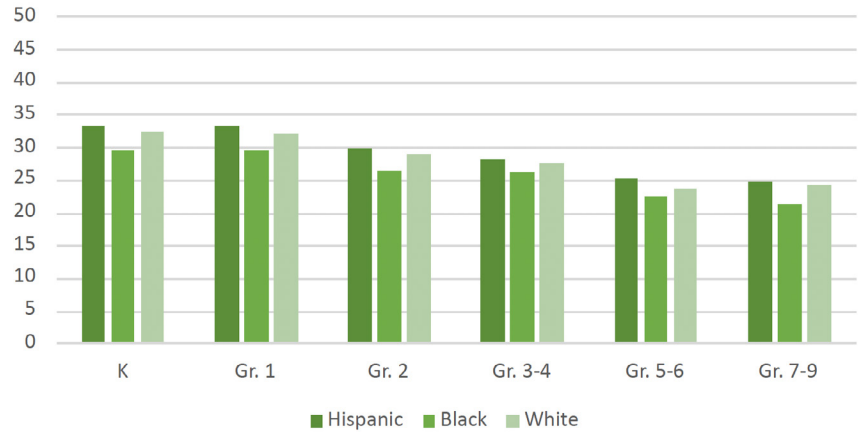
Quantitative

Number of Students: **2,036**

Tests included 50 items distributed across different grade-forms.

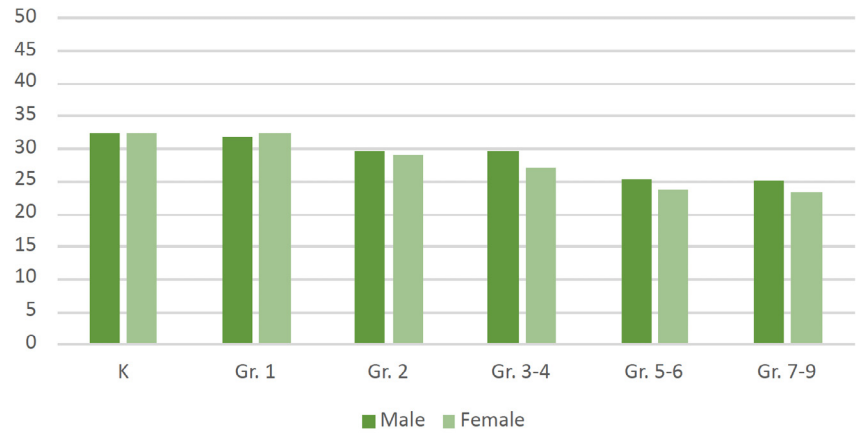
AVERAGE SCORE BY RACE/ETHNIC GROUPS

The average scores were very similar and there were no significant differences between Hispanic, Black, and White students on the **Naglieri-Q** test.



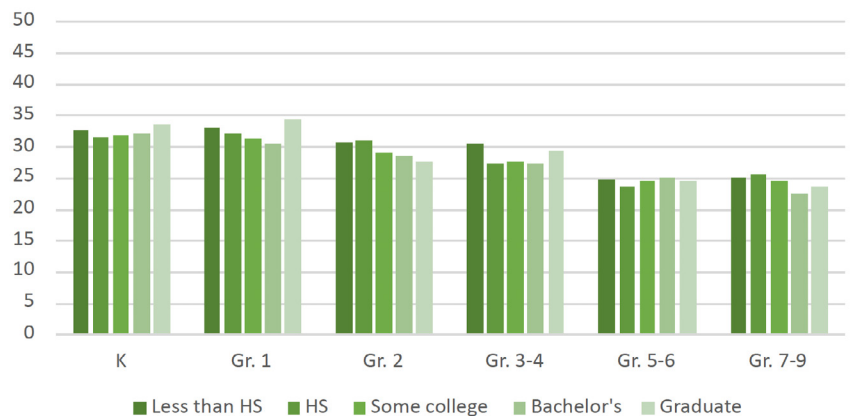
AVERAGE SCORE BY GENDER

The average scores were remarkably similar across grades between male and female students on the **Naglieri-Q** test.



AVERAGE SCORE BY PARENTAL EDUCATION LEVELS

The average scores were remarkably similar and there were no significant differences found between any of the parental education levels on the **Naglieri-Q** test.



Note: Less than high school diploma (Less than HS), high school graduate (HS), some college or associate's degree (Some college), bachelor's degree (Bachelor's), and graduate or professional degree (Graduate).

Conclusion

The three studies of the **Naglieri General Ability Tests** aimed to answer a critical question: “Will students from different demographic groups (i.e., race/ethnicity, gender, or parental education level) score differently on these tests?”

The research studies revealed little to no differences in student scores across race, ethnicity, gender, and parental education level on all three tests: Naglieri–V, Naglieri–NV, and Naglieri–Q. That is, students from different racial and ethnic backgrounds, both males and females, and students with different parental education levels, performed similarly to each other.

These findings were consistent across all three tests and across all grades ranging from Kindergarten to Grade 9. The results suggest that when direct attempts are made to minimize the confounding impact of prior knowledge and language, particularly in the instructions, test content, and response format of ability tests, a more equitable method of assessing diverse populations for gifted programs can be achieved.

For more information on the *Naglieri General Ability Tests*, please visit: NaglieriGiftedTests.com

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With over 40 years of experience in developing assessments for the education market, MHS is honored to collaborate with educators, researchers, and practitioners to improve the identification of high potential students across increasingly diverse communities. We are excited to join professionals in the field of gifted and talented education in the effort to eliminate underrepresentation in these diverse communities.

The *Naglieri General Ability Tests* is just one suite of new assessments in our portfolio.



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Beyond Assessments