

New Ways of Identifying Diverse Populations of Students for Gifted Educational Programs

AN INTERVIEW WITH DR. JACK A. NAGLIERI



Interviewer: Dr. Naglieri, how did you get interested in equitable assessment and especially the identification of gifted students?

JN: In 1979 I accepted my first faculty position at Northern Arizona University which is located in Flagstaff not far from Second Mesa, the home to members of the Hopi Tribe. It was my first exposure to the complexities of measuring intelligence for these students who have unique linguistic and socio-cultural experiences. What stood out to me was the absurdity of measuring intelligence using test questions that required knowledge of English, arithmetic word problems, comprehension of verbal instructions and verbal expression. This led to my first publication on fair assessment (Naglieri, 1982) entitled “Does the WISC-R Measure Verbal Intelligence for non-English Speaking Children?” The answer: Definitely not! Since that time, I have published many research papers and tests that aim to address equity issues. The most important of which are the *Cognitive Assessment System* and the *Naglieri Nonverbal Ability Test* intended for individual and group testing formats, respectively.

Interviewer: What did your research on the *Naglieri Nonverbal Ability Test* reveal?

JN: The *Naglieri Nonverbal Ability Test*, now in its third edition (NNAT3) has been shown to be a tool that can provide equity across race, ethnicity and gender. I have published several research papers showing that males and females get remarkably similar scores on the NNAT. In addition, Donna Ford and I found that similar proportions of Black, White and Hispanic students earned scores high enough to be considered for gifted educational programs, which could address the problem of under-representation of Blacks and Hispanics. I have also found that NNAT scores are strongly correlated with achievement. Although the NNAT is the third most widely used tool for identification of gifted students, professionals in the field have also asked for verbal and quantitative tests.

Interviewer: So, what did you do to address this concern?

JN: I had the great fortune to partner with two extraordinary experts in the field of gifted education to write the book entitled *Helping All Gifted Children Learn: A Teacher’s Guide to Using the NNAT2* (Naglieri, J. A., Brulles, D., & Lansdowne, K., 2009). Our joint work on that book and subsequent efforts led to the development of three tests designed to measure general ability using questions with verbal, nonverbal and quantitative content.

Interviewer: What is the name of the new suite of tests you have developed for identification of gifted students?

JN: The suite of tests is referred to as the *Naglieri General Ability Tests: Verbal, Nonverbal, and Quantitative*.

Interviewer: Why were these tests developed?

JN: Researchers have found that the students of color are under-identified by 50% in gifted programs throughout the country. To quantify that percentage, I analyzed the total number of students in public education and the number of students in gifted education programs by race and ethnicity (grades K-12). The results revealed that 873,129 Black, Hispanic, Native American and students of two or more races who are smart enough to be considered gifted (92nd percentile and above in ability) were not identified as such. This is a problem that could be addressed using ability tests that were designed and validated to be equitable for all students. The *Naglieri General Ability Tests* were developed to address the need for equitable assessment of gifted students from diverse cultural, linguistic, and socioeconomic background, and those who have had limited educational experiences.

Interviewer: How were these tests developed?

JN: We developed tests that we thought would be equitable if we did three things. First, devise a way to show, rather than use verbal directions, students what they need to do to complete the test. Second, present test questions that could be solved in any language the student desires. Third, eliminate the need for students to answer the questions verbally by using the multiple-choice format.

Interviewer: What are some of the innovative aspects of these three tests?

JN: What is, perhaps the most innovative aspect of the *Naglieri General Ability Tests*, is the way we have structured the interaction of the student and the test. For example, we asked the question, “How can we inform the student about the demands of the test without using oral or written directions?” The answer was to *show* the student what to do using an animated video of a ‘student’ in front of a computer. As the video plays, the avatar moves the mouse and cursor moves accordingly. The video illustrates how to respond to the item and then how to advance to the next item. This format is used when the test is administered online and a four-frame pictorial version of the video is used when the test is administered on paper. Making the test questions for all three tests accessible regardless of what language the student speaks was accomplished by using pictures and diagrams to measure general ability within verbal, nonverbal and quantitative contexts. To eliminate the need for the student to verbally explain the answers (as is typically done on traditional measures of IQ), the student selects a picture that indicates their response. These procedures allow students to solve the test questions regardless of what language(s) they know.

Interviewer: Please describe the three tests a bit more.

JN: The three *Naglieri General Ability Tests* have different content: one is verbal, another nonverbal and the third quantitative. The verbal test which Dr. Dina Brulles and I created (*Naglieri-V*; Naglieri & Brulles, 2021) measures general ability with questions that require a child to recognize a verbal concept when that concept is represented by pictures rather than words. This test was modeled after the neuropsychological work of A. R. Luria. The nonverbal test (*Naglieri-NV*; Naglieri, 2021) is like those I have published in the past, but with new kinds of items. The *Naglieri-NV* measures general ability using questions which require a student to

carefully examine shapes presented in a matrix where sequences, spatial orientations, and other distinguishing characteristics must be analyzed to determine the answer. The Quantitative test which Dr. Kim Lansdowne and I created (*Naglieri-Q*; Naglieri & Lansdowne, 2021) measures general ability using questions which require a student to closely examine the relationships among the numbers and/or symbols using basic math concepts. All three of these tests measure what is referred to as general ability, which is sometimes designated by the letter *g*.

Interviewer: Is there any evidence that your goal of equitable assessment was achieved?

JN: That is a great question. The answer is yes. Based on a research paper currently under review for publication entitled, “Achieving Equity: Race, Ethnic, Gender, and Parental Education Level Differences on Verbal, Nonverbal, and Quantitative Naglieri General Ability Tests” by Selvamenan, Paolozza, Solomon, Naglieri, and Schmidt (2020). In this publication we reported little to no differences across race, ethnicity, gender, and parental education on the Verbal (N = 2,482), Nonverbal (N = 3,488) and Quantitative (N = 2,440) tests for public and private school students in Pre-K through Grade 12. The results support our expectation that the confounding impact of language and knowledge, particularly in the directions, test content, and response format, can be minimized to achieve an equitable way of assessing diverse populations of students for gifted educational programs.

Interviewer: How is this test administered?

JN: The *Naglieri General Ability Tests* are group or individually administered using online (2021) or paper (estimated publication date 2022) formats for students aged 4 to 18 years. Initial release will be based on local norms to identify students for gifted educational services using the *Verbal*, *Nonverbal* and *Quantitative* versions of the *Naglieri General Ability Tests* (Naglieri, Brulles & Lansdowne, 2021).

Interviewer: Who is the publisher?

JN: The *Naglieri General Ability Tests* will be published by Multi-Health Systems Inc (mhs.com) in the summer of 2021. This company is a leading publisher of scientifically validated measures for use in educational, clinical, corporate, public safety, government, military, and pharmaceutical settings. I have had worked with this excellent publisher for many years. They published my *Autism Spectrum Rating Scale*, *Comprehensive Executive Functional Inventory* child/adolescent and adult versions, *Rating Scale of Impairment*, and the forthcoming *Naglieri General Ability Tests: Verbal, Nonverbal and Quantitative* as well as the *Kaufman Multidimensional Assessment of Creativity*.

Interviewer: How can I learn more about this new product?

JN: Webinars and handouts about *The Naglieri General Ability Tests* are available on my web site (www.JackNaglieri.com). These resources describe why the tests were developed, the need that they address, what the items look like, how the tests can be used to identify a wide variety of gifted students and how to interpret the scores.