Psychological Test and Assessment Modeling, Volume 55, 2013 (3), 247-249

Special Topic: Current perspectives on the assessment of giftedness – Part I

Guest editorial

Wilma Vialle[1]

The terms 'giftedness' and 'intelligence' are widely used in everyday parlance. But as psychological terms both have been embroiled in heated debate, at times, as to their definition and their measurement. In the early part of the twentieth century, giftedness was equated with intelligence, strongly influenced by Lewis Terman's work in the development of the Stanford-Binet Intelligence Test and the longitudinal study published as *Genetic Studies of Genius* (Burks, Jensen, & Terman, 1930; Cox, 1926; Terman, 1926; Terman & Oden, 1947, 1959). It is not surprising, therefore, that the IQ test became the default means for identifying giftedness.

IQ tests, themselves, have engendered polarised viewpoints ranging from the laudatory to the denigratory. For example, the field of psychology has long regarded the IQ test as a success story and the American Academy for the Advancement of Science included it as one of the twenty most significant scientific discoveries of the twentieth century (Benson, 2003). At the other end of the spectrum, Stephen Jay Gould (1981) argued that the tests promoted racist agendas derived from their underlying principle of 'biological determinism'. Gould described biological determinism as "the abstraction of intelligence as a single entity, its location within the brain, its quantification as one number for each individual, and the use of these numbers to rank people in a single series of worthiness, invariably to find that oppressed and disadvantaged groups – races, classes, or sexes – are innately inferior and deserve their status" (pp. 24-25).

While debate about the validity of IQ tests – their value and limitations – continued throughout the twentieth century, the conceptualisations of intelligence were steadily expanding as researchers concluded that the richness and complexity of intelligence was not adequately captured by such tests. By the middle of the twentieth century, theorists

[1] *Correspondence concerning this article should be addressed to:* Professor Wilma Vialle, Faculty of Social Sciences, University of Wollongong, NSW 2522, Australia; email: wvialle@uow.edu.au

were defining intelligence more broadly (see, e.g., Gardner, 1983; Guilford, 1967: Sternberg, 1984).

Given the link between intelligence and giftedness, it is not surprising that the concept of giftedness was also broadening during the twentieth century. The expanded notions of giftedness demanded means of identification that went beyond IQ tests, largely so that children from disadvantaged backgrounds could be more readily identified for gifted programs.

It is beyond the scope of this editorial to comment on the ongoing issues related to the definitions of intelligence and giftedness, respectively. Suffice it to observe that both concepts have expanded in the last few decades and, as a result, research effort has been directed at developing assessments that capture the complexity of the concepts. The papers in this special issue share the aim of assessing – and, indeed, understanding – giftedness in some of its manifestations.

The first paper in the issue is entitled "Measurement of mental attention: Assessing a cognitive component underlying performance on standardized intelligence tests" and was contributed by Howard, Johnson, and Pascual-Leone (2013). The researchers address one of the limitations of IQ tests, which is that related to cultural 'fairness'. They focus, instead, on mental attentional capacity, which they examine by comparing this capacity to intelligence in a sample of gifted and mainstream school students.

The second paper, "Identifying the causes of underachievement: A plea for the inclusion of fine motor skills", by Stoeger, Suggate, and Ziegler (2013) considers the issue of discrepancies between a child's potential, as might be measured by an IQ test, and his or her school achievement. Where such discrepancies exist, the term 'underachievement' has been widely adopted in the giftedness literature (see, e.g., McCoach & Siegle, 2003). Stoeger and her colleagues explore the role of fine motor skills and attention in such under-performance.

The third paper entitled "Integrating mathematical abilities and creativity in the assessment of mathematical giftedness" by Kontoyianni, Kattou, Pitta-Pantazi, and Christou (2013) builds on the premise of the domain specificity of giftedness. They argue that intelligence measures need to be supplemented by domain-specific measures in order to adequately measure children's giftedness in the domain of mathematics. Their domain-specific approach incorporates mathematical ability along with mathematical creativity.

The fourth paper, "Creative Scientific Ability Test (C-SAT): A new measure of scientific creativity", by Sak and Ayas (2013) also concerns itself with a specific domain on giftedness. In this paper, the researchers examine giftedness in the scientific domain, with creativity again a significant element in the measurement process. Sak and Ayas report the development and validation of their instrument, the Creative Scientific Ability Test, as an objective measure for the recognition of giftedness as it pertains to scientific creativity.

In the next issue of the journal, the remaining five papers that constitute this special focus on current perspectives in the assessment of giftedness will be published.

References

Benson, E. (2003). Intelligent intelligence testing. Retrieved from http://www.apa.org/monitor/feb03/intelligent.aspx on 15 July, 2013.

Burks, B. S., Jensen, D. W. & Terman, L. M. (1930). *The promise of youth: Follow-up studies of a thousand gifted children. Vol. 3. Genetic studies of genius.* Stanford, CA: Stanford University Press.

Cox, C. M. (1926). *The early mental traits of 300 geniuses. Vol 2. Genetic studies of genius.* Stanford, CA: Stanford University Press.

Gardner, H. (1983). *Frames of mind.* New York: Basic Books.

Gould, S. J. (1981). *The mismeasure of man*. New York: W. W. Norton & Company.

Guilford, J.P. (1967). *The nature of human intelligence*. New York: McGraw-Hill.

Howard, S. J., Johnson, J., Pascual-Leone, J. (2013). Measurement of mental attention: Assessing a cognitive component underlying performance on standardized intelligence tests. *Psychological Test and Assessment Modeling, 55,* 250-272.

Kontoyianni, K., Kattou, M., Pitta-Pantazi, D., & Christou, C. (2013). Integrating mathematical abilities and creativity in the assessment of mathematical giftedness. *Psychological Test and Assessment Modeling, 55,* 288-314.

McCoach, D. B., & Siegle, D. (2003). Factors that differentiate underachieving students from achieving students. *Gifted Child Quarterly, 47*, 144–154.

Sak, U. & Ayas, M. B. (2013). Creative Scientific Ability Test (C-SAT): A new measure of scientific creativity. *Psychological Test and Assessment Modeling, 55,* 315-328.

Sternberg, R.J. (1984). Toward a triarchic theory of human intelligence. *Brain and Behavior Sciences, 7*, 269-287.

Stoeger, H., Suggate, S., & Ziegler, A. (2013). Identifying the causes of underachievement: A plea for the inclusion of fine motor skills. *Psychological Test and Assessment Modeling, 55, 273-287.*

Terman, L. M. (1926). *Mental and physical traits of a thousand gifted children. Vol. 1. Genetic studies of genius* (2nd ed.). Stanford, CA: Stanford University Press.

Terman, L. M., & Oden, M. H. (1947). *The gifted child grows up. Vol 4. Genetic studies of genius.* Stanford, CA: Stanford University Press.

Terman, L. M., & Oden, M. H. (1959). *The gifted group at mid-life. Vol 5. Genetic studies of genius.* Stanford, CA: Stanford University Press.