



GAI Utility

Introduction to the General Ability Index (GAI) Utility

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This tool allows the user to derive scores relevant to the General Ability Index (GAI). The GAI is a composite score that is based on 3 Verbal Comprehension and 3 Perceptual Reasoning subtests, and does not include the Working Memory or Processing Speed subtests included in the Full Scale IQ (FSIQ). Detailed information about the GAI is available in the WISC–IV Technical Report #4 (Raiford, Weiss, Rolfhus, & Coalson, 2005). It is recommended that practitioners read the technical report thoroughly before using this tool.

The WISC–IV FSIQ includes (to a greater extent than the WISC–III FSIQ) the influence of working memory and processing speed, to reflect research that suggests both working memory and processing speed are important factors that contribute to overall intellectual functioning. Recent research continues to confirm the importance of working memory and processing speed to cognitive ability and to refine knowledge about the nature of these relations.

The WISC–IV GAI provides the practitioner a summary score that is less sensitive to the influence of working memory and processing speed. For some children with learning disabilities, attentional problems, or other neuropsychological issues, concomitant working memory and processing speed deficiencies lower the FSIQ. While potentially clinically meaningful, this reduction in the FSIQ may decrease the magnitude of the ability–achievement discrepancy for some children with learning disabilities and make them less likely to be found eligible for special education services in educational systems that do not allow consideration of other methods of eligibility determination. In children with intact neuropsychological functioning, the GAI may provide a comparable approximation of overall intellectual ability as represented by the FSIQ.

Presently, most school district policies continue to require evidence of an ability–achievement discrepancy in order to obtain special education services, and it was largely for this reason that the GAI was first developed. The GAI can be used as a substitute for the FSIQ to determine eligibility for special education services and placement classification. The GAI increases flexibility in this respect, because it is sensitive to cases in which working memory performance is discrepant from verbal comprehension performance and/or processing speed performance is discrepant from perceptual reasoning performance at an unusual level. It can also be compared to the FSIQ to assess the effects of working memory and processing speed on the expression of cognitive ability.

It also may be clinically informative in a number of additional situations to compare the FSIQ and the GAI, to assess the impact of reducing the emphasis on working memory and processing speed on the estimate

of general cognitive ability for children with difficulty in those areas due to traumatic brain injury or other neuropsychological difficulties. This comparison may inform rehabilitation programs and/or educational intervention planning.

It is important for practitioners to recognize that the GAI is not necessarily a more valid estimate of overall cognitive ability than the FSIQ. Working memory and processing speed are vital to the comprehensive evaluation of cognitive ability, and excluding these abilities from the evaluation can be misleading. The classroom performance of two children with the same GAI score but very different Working Memory Index (WMI)/ Processing Speed Index (PSI) scores will likely be quite different. In educational situations where evidence of a significant ability–achievement discrepancy is required to obtain services, the GAI may be used as the ability score; however, the WMI and PSI should still be reported and interpreted.

The practitioner may wish to consider using the GAI in a number of clinical situations, not limited to, but including the following:

- a significant and unusual discrepancy exists between VCI and WMI;
- a significant and unusual discrepancy exists between PRI and PSI;
- a significant and unusual discrepancy exists between WMI and PSI; or
- significant and unusual intersubtest scatter exists within WMI and/or PSI.