In this chapter, the Senior South African Individual Scales – Revised (SSAIS-R), which has played a central role in the intelligence testing of South African children since 1991, is reviewed. Despite its outdated norms it continues to be widely used, mainly because of a lack of alternatives in terms of locally normed tests. The SSAIS-R (1992) is a revised version of the Senior South African Individual Scales (SSAIS) published in 1964, and known initially as the New South African Individual Scale (NSAIS). It is based on the traditional Wechsler understanding of intelligence as a composite of related mental abilities that together represent general intelligence (g) and which can be divided into a verbal/nonverbal dichotomy (for example, Verbal Intelligence Quotient (VIQ) and Performance Intelligence Quotient (PIQ)). The purpose of the SSAIS-R is ‘to determine a testee’s level of general intelligence and to evaluate the testee’s relative strengths and weaknesses in certain important facets of intelligence. This differential picture of abilities is used in an educational context to predict future scholastic achievement and to obtain diagnostic and prognostic information’ (Van Eeden 1997b, p.34). It is noted in the SSAIS-R manual that the word ‘intelligence’ is used to imply ‘developed academic potential’ (Van Eeden 1997b, p.35). The test is a point scale (deviation IQ) and as such the IQ scores are scaled scores and not quotients. While this makes the term ‘IQ’ theoretically incorrect, it is generally used with reference to this test.

A key limitation of this test that needs to be acknowledged at the outset is that its standardisation sample did not include black children. Only coloured, Indian and white children were included in the original standardisation. Two later studies explored the validity of the test with a small set of black high school learners attending Model C and private schools (Van Eeden, 1993; 1997a). The findings from these studies are presented below in the discussion of the normative data for the SSAIS-R.

Description of the test

The test comprises nine core subtests (five verbal, four nonverbal) and two additional tests (one verbal, one nonverbal), which are described in Table 4.1. Reasonably generous time limits are set for the Number Problems, Block Designs,
Pattern Completion, Missing Parts and Form Board subtests of the Performance scale, enabling the measurement of both power and speed. The core subtests form the basis for the Full Scale IQ (FSIQ) and are used to derive the Verbal and Nonverbal IQs. The Memory for Digits and Coding subtests are additional subtests, to be used if further diagnostic information is required, and are not included in the composite scales. The reason for this is that their low factor analytic loadings suggest that they make a small contribution to general intelligence and they do not load clearly on the verbal or nonverbal factor.

Thurstone’s method was used to arrange the items within the subtests. Homogenous items that measured the same ability were added, in ascending order of difficulty, to each subtest (Van Eeden, 1997b).

Table 4.1 Description of subtests of the SSAIS-R and what they measure

<table>
<thead>
<tr>
<th>Subtest</th>
<th>Description and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Verbal scale</strong></td>
<td></td>
</tr>
<tr>
<td>Vocabulary</td>
<td>Five cards with four pictures per card. The testee must indicate the picture that is most relevant to a given word. There are 10 words for each card, with a total of 50 words. It measures receptive language skills, the ability to understand single words out of context, long-term memory, concept formation and verbal learning ability.</td>
</tr>
<tr>
<td>Comprehension</td>
<td>Fifteen questions about conventional social situations and everyday practices. It assesses social reasoning skills, long-term memory, logical reasoning and general knowledge.</td>
</tr>
<tr>
<td>Similarities</td>
<td>Fifteen pairs of concepts where the testee must determine the degree of similarity between each pair. It measures the quality of verbal reasoning (abstract, functional, concrete), verbal concept formation, long-term memory, ability to form associations, classification and deduction of rules.</td>
</tr>
<tr>
<td>Number Problems</td>
<td>Twenty arithmetical problems, of which 11 are presented only verbally and the remaining 9 are also presented on cards. It evaluates numerical reasoning, logical thinking, long-term and working memory and attention.</td>
</tr>
<tr>
<td>Story Memory</td>
<td>A short story containing 43 facts, which is read to the testee. It assesses short-term memory skills for contextualised auditory information, verbal learning and attention.</td>
</tr>
<tr>
<td><strong>Nonverbal scale</strong></td>
<td></td>
</tr>
<tr>
<td>Pattern Completion</td>
<td>Nineteen partially completed patterns which the testee must complete using a pencil. Three sections of each pattern are complete, requiring the testee to deduce the rule for completion of the fourth segment. This is a nonverbal measure of logical thinking, visual perception, concept formation and attention.</td>
</tr>
<tr>
<td>Block Designs</td>
<td>Fifteen items which require the re-creation of a model (either concrete or on cards) using between four and nine plastic cubes. It evaluates nonverbal problem-solving, visual-spatial analysis and synthesis, perceptual organisation, visual-motor coordination and attention.</td>
</tr>
</tbody>
</table>
### Subtest | Description and rationale
---|---
**Missing Parts** | Twenty pictures, each with an essential part missing, which the testee must identify, verbally or nonverbally. It measures contact with reality, ability to distinguish between essential and non-essential visual information, visual perception, long-term visual memory and the ability to understand the whole in relation to its parts.

**Form Board** | A board containing six coloured shapes which the testee must re-create using three to four loose parts. It assesses visual perception, visual concept formation, visual-spatial analysis and synthesis and visual motor coordination.

### Additional subtests

**Memory for Digits** | A series of digits are read out by the examiner and the testee must repeat them in the same sequence for the Forwards section and in reverse sequence for the Backwards section. It determines the testee’s working memory, auditory sequencing and auditory attention.

**Coding** | Digits from one to nine, each with an accompanying symbol, are provided in a key at the top of the page. The testee must complete the accompanying symbol for a random array of 91 digits within 120 minutes. This measures visual-associative learning, psychomotor speed, visual-motor integration and coordination, as well as attention.

The time required to administer the SSAIS-R is approximately 90 minutes, and it has instructions and scoring in both English and Afrikaans. There is no evidence that the English and Afrikaans versions of the SSAIS-R are equivalent. Despite this, separate norms are only provided for each language for the Vocabulary subtest. In terms of scoring the test, subtest standard scores range from 0 to 20 and it is possible that the test may not be sufficiently sensitive for very low-functioning children. Tables are provided to convert raw scores to scaled scores, which have a mean of 10 and a standard deviation of 3. Confidence intervals based on standard errors of estimate (SEE) and true scores are provided in the manual for each age range for both the environmentally disadvantaged (that is, English- and Afrikaans-speaking coloured and Indian children from socio-economically deprived backgrounds) and non-disadvantaged (that is, English and Afrikaans first-language white children from advantaged backgrounds) normative samples. The SEE gives an indication of the probable limits of a child's true test score (IQ in this case). A confidence interval of 2 SEE should provide a sufficient range within which a true score is likely to fall (Van Eeden, 1997b).

Information necessary for calculating the significance and frequency of discrepancies for an individual’s subtest profile are provided in the *Background and Standardisation* manual (Van Eeden, 1997b). It is important to note that the nonverbal subtests for children aged 12 years and older are less suitable for profile analysis in the case of more intelligent learners (two standard deviations or more above the mean for 12- and 13-year-olds, and one standard deviation above the mean for 14–16-year-olds) (Van Eeden, 1997b). In these cases statistically significant deviations do not necessarily point to a weakness in the learner’s profile, as the scores may still fall well within (or above) the average range of functioning. Although
significant differences should be investigated further, in these cases it is important to base hypotheses on additional information and not just on a single score.

The statistical significance of Verbal versus Nonverbal scale differences is provided in the Background and Standardisation manual (Van Eeden, 1997b). Differences between the Verbal and Nonverbal scales should be interpreted with caution, as they may in certain instances be statistically significant, but may not have practical significance. Thus, a difference between the Verbal and Nonverbal scales may be calculated as statistically significant, when in practice such differences occur relatively frequently in the general population and are consequently not practically significant. It is also important to remember that the FSIQ score cannot be interpreted meaningfully if there is a significant difference between the VIQ and the PIQ. Tables for prorating are not provided, which is appropriate, since prorating introduces unknown measurement error and violates standard administration procedures.

Demographic variables

A limited set of demographic influences has been examined in respect of the SSAIS-R – namely, home language and gender. According to Van Eeden (1997b), there was a significant difference in performance on both the Verbal and Nonverbal scales of the SSAIS-R between English- and Afrikaans-speaking children (p < .05), in favour of the former group. Claassen (1987) cites the higher socio-economic status of the English-speaking learners as a possible reason for this difference.

In terms of gender effects, there was no significant difference between boys and girls in their performance on any of the composite scales of the SSAIS-R, despite the popular belief that girls are more verbally orientated, while boys are regarded as more mathematically and spatially adept. There is, however, some empirical support for such beliefs. For example, Bee and Boyd (2004) found that American primary school boys scored significantly higher on numerical reasoning tasks than matched girls, whereas the girls scored significantly higher on verbally related tasks. That such differences did not emerge on the SSAIS-R is advantageous, as it eliminates the need for gender-specific normative data.

While comparisons between the environmentally disadvantaged and non-disadvantaged groups are noticeably absent, the means and standard deviations are provided for each group so that these comparisons can be made. When calculated, there were significant differences across all age groups and subtests (p < .0001) in favour of the non-disadvantaged group, which increased with age. Strauss, Sherman and Spreen (2006) attribute such increases to the fact that adverse environmental influences exert a cumulative effect on cognitive abilities, and these increases may be more evident within disadvantaged groups.

No data are provided in respect of parental education, although this would be expected to influence performance on the SSAIS-R, since parents who have a tertiary education are likely to enter professional occupations, and subsequently to belong to middle-to-high socio-economic groups. This in turn influences access to financial resources, diet, health care, quality of education, exposure
to books and technology, parent-to-child ratio, parental knowledge of child development and familiarity with Western cultural mores, which are all likely to have an effect on child development and psychological functioning (Brislin, 1990; Flynn & Weiss, 2007; Nell, 1997; Owen, 1991). While no local data exist to support this, the mean FSIQ of children of US parents who had completed college was found to be 22 points higher than that of children whose parents had less than nine years of education (Sattler & Dumont, 2004).

**Normative data**

When the SSAIS was revised in 1985, a proportionally stratified sample of 500 learners (100 per age group, for ages 7, 9, 12, 14 and 16 years) was drawn from each of the legacy education departments (i.e. the Houses of Delegates (Indians), Representatives (coloureds) and Assembly (whites); black Africans had no parliamentary representation and were thus not included in the standardisation sample), using a method of controlled selection. Stratification variables included province, medium of instruction and area. Items were eliminated which favoured one or more race groups over the others. For inclusion, an item had to discriminate between learners within the different age groups and the distribution of difficulty values had to be as wide as possible. Items were then arranged in ascending order of difficulty in each subtest (Van Eeden, 1997b).

The original test norms were based on a sample of 2 000 children, with 200 at each year from ages 7 years to 16 years 11 months. The children were drawn from white, Indian and coloured racial groups, and spoke either Afrikaans or English as their home language. Because of their low representation, children attending private and special needs schools were not included. Norms were stratified again according to province, medium of instruction and area (Van Eeden, 1997b).

Since the SSAIS-R content is based on Western cultural knowledge, environmentally disadvantaged children would be handicapped in terms of knowledge of and familiarity with the cultural content of the test. A positive correlation was found between socio-economic status, particularly socio-economic deprivation, and performance on the SSAIS-R (Van Eeden, 1997b). Consequently, a separate sample of 4 767 coloured and Indian children was also drawn up. Thus, the norms in Part III: Tables of Norms represent norms for English and Afrikaans first-language children who can be considered non-environmentally disadvantaged. A second set of norms exists for the proportional or environmentally disadvantaged sample, in an appendix to the manual.

Two additional studies explored the validity of the SSAIS-R with 14- and 15-year-old high school learners who had an African language as their mother tongue and were attending private schools (Van Eeden, 1993), and 14- and 15-year-old learners attending Model C schools who had an African language as their mother tongue (Van Eeden, 1997a). These studies were motivated by the growing need to use the SSAIS-R with children who did not have English as their mother tongue and because ‘differences in the quality of education cause substantial variations of proficiency in English among children of the same age’ (Van Eeden, 1993, p.1).
In terms of the first study, the sample comprised 105 learners who were attending private schools in Johannesburg and Pretoria. Of this group, 35 children had English as their home language and 70 spoke an African language at home. The former group formed a comparison group for the latter group. They were all said to be reasonably proficient in English, as determined by performance on a Scholastic Achievement Test in English. When their performances were compared, the English first-language group showed significantly higher levels of performance. The performance of the children who spoke an African language at home was comparable to that of the non-environmentally disadvantaged group. The relatively small sample size may have influenced these results. It was concluded from the study that the norms for the proportional (environmentally disadvantaged) norm group should be used if a child is not tested in his or her mother tongue. Further, the SSAIS-R was shown to be reasonably reliable for use with children who did not speak English at home, but who had some proficiency in English. However, it was advised that confidence intervals based on the standard errors of measurement (SEM) be used to indicate the possible range of a child’s true score.

The second study, which explored the validity of the SSAIS-R for 14- and 15-year-old learners at Model C schools who had an African language as their mother tongue, was published in 1997 (Van Eeden, 1997a). This employed a similar methodology and sample sizes to the 1993 study and reached the same conclusions as the 1993 study had done.

It is no longer valid to compare South African children along language (or ethnic) lines in order to determine performance. It is now apparent that quality of schooling plays a critical role in determining the outcome of IQ testing (Shuttleworth-Edwards, Kemp, Rust, Muirhead, Hartman & Radloff, 2004). In South Africa, schools are still living with the legacy of apartheid and although they are now racially desegregated, there are still marked inequalities between independent (privately funded) schools, former Model C government schools and schools located within townships and rural areas. The former two types of schools are far better resourced than the latter, in which learning is hampered by poorly trained teachers, high teacher–learner ratios and lack of educational resources, to name but a few of the problems these schools experience (Fleisch, 2007). Shuttleworth-Edwards et al. (2004) note this issue, and in the preliminary normative data that they have collected for white English first-language and black African first-language South Africans on the Wechsler Intelligence Scale for Children (Fourth Edition) (WISC-IV), they have stratified their sample for quality of education (advantaged versus disadvantaged).

Psychometric properties

In order to determine scaled and standard scores from the standardisation data, raw scores from the normative sample were normalised for each age group. Scaled scores were then derived from these distributions. This resulted in 16 six-month age bands, with scaled scores ranging from 1 to 19 for each age group. Composite Verbal and Nonverbal, as well as Full Scale scores, can also be derived, which are based on sums of scaled scores.
Internal reliability and standard error of measurement

Within the non-environmentally disadvantaged group, internal consistency reliability coefficients using the Kuder-Richardson Formula 8 for subtests 1 to 10 and the Kuder-Richardson Formula 12 for subtest 11 range from 0.59 (Missing Parts, ages 13 and 14 years) to 0.91 (Block Designs, 8-, 10- and 12-year-olds) for the subtest scores. The reliability coefficients for the composite scales were calculated using Mosier's formula and range from 0.86 (Nonverbal scale, 12-year-olds) to 0.95 (Full Scale, 9-, 10-, 11-, 13- and 15-year-olds). It is important to consider the reliability coefficients and the SEM when interpreting subtest and composite scale scores. The average SEM across age for the FSIQ is 3.51 IQ points; others range from .83 to 1.90 scaled score units (subtests) and from 3.29 to 5.43 IQ points (composite scores). The Background and Standardisation manual (Van Eeden, 1997a) provides more detail on this, and on SEM by age.

Content validity

The development of the SSAIS-R, as well as its predecessors, the SSAIS and NSAIS (which both had good content validity), was based on the Wechsler model of intelligence. The process of development included bias analyses on the standardisation sample results. Quality assurance procedures were carried out by employing psychologists and counselling psychology students from the University of Stellenbosch for administration and scoring, and researchers from the Human Sciences Research Council (HSRC) for data entry and analysis. It should be noted that the standardisation version of the test included more items than the final published version; a maximum of 20 per cent of a subtest was dropped following standardisation (Van Eeden, 1997b).

Construct validity

Overall, the Verbal subtests are significantly intercorrelated at p < .01 or .05, supporting the construct validity of this scale. The Nonverbal subtests are similarly intercorrelated. The correlations are in no instance so high that a particular subtest does not also have specific variance. (If the specific variance exceeds the error variance and can account for a minimum of 25 per cent of the variance, a test has adequate variance). In particular, Form Board, Memory for Digits and Coding have considerable specific variance. On the other hand, the Comprehension and Similarities subtests do not have adequate variance, and nor does the Block Designs subtest for learners between the ages of 13 and 15 years. The Comprehension and Similarities probably measure a composite verbal reasoning factor, while Block Designs is likely to measure a composite nonverbal reasoning factor for the mentioned age groups, rather than other specific abilities. Although the Missing Parts subtest has adequate specific variance for certain age groups (8-, 10-, 12-, 13-, 14- and 16-year-olds), it is smaller than the error variance, particularly in the non-environmentally disadvantaged sample. Thus, the specificity of a subtest for a particular age group needs to be taken into account when interpreting scaled score deviations from the learner's scaled score averages (Van Eeden, 1997b).

Factor analysis was also used to examine the intercorrelations between the subtests and to obtain more information about the structure of underlying abilities.
on the SSAIS-R. The results, which are presented in detail in the *Background and Standardisation* manual, indicate which subtests share variance and thus measure the same construct. The first unrotated factor of a principal components analysis was, with two exceptions, .30 or greater for all age groups, supporting the construct validity of the subtests as measures of intelligence. However, it is preferable that loadings of .50 or higher be used for including subtests to evaluate general intelligence. Neither Story Memory (for ages 11, 13, 15 and 16 years) nor Missing Parts (for ages 7, 11, 13 and 15 years) meets this criterion. In most cases, Form Board, Memory for Digits and Coding do not satisfy this criterion for the non-environmentally disadvantaged sample (Van Eeden, 1997b), suggesting that they do not load on a common ‘intelligence’ construct.

Exploratory factor analysis, using a three-factor structure, based on the expectation of verbal, nonverbal and freedom from distractibility factors, was initially used, but the factor loadings could not be meaningfully interpreted and a two-factor structure was thus specified. This represented a verbal and a nonverbal factor. The correlations between the two rotated factors indicate a single, higher-order factor ($g$). However, the rotated factors also have specific variance. Thus, there is confirmation of the theoretical structure of the SSAIS-R: namely, that the subtests measure a general intelligence factor as well as verbal and nonverbal intelligence. Four of the five Verbal scale tests load on the verbal factor – namely, Vocabulary, Comprehension, Similarities and Story Memory. The fifth subtest, Number Problems, loads on both the verbal and nonverbal factors and is likely to also measure freedom from distractibility as it taps working memory. All of the Performance scale subtests load on the nonverbal factor – namely, Pattern Completion, Block Designs, Missing Parts and Form Board, although Form Board shares a low correlation with the other subtests, has low communalities and a relatively low loading on $g$ and thus also measures more specific abilities (Van Eeden, 1997b).

Memory for Digits and Coding both showed low loadings on $g$ and thus make a very small contribution to general intelligence. In addition, they do not load clearly on a verbal or nonverbal factor. Consequently, they are not included in the calculation of the FSIQ. Despite the fact that a freedom from distractibility factor could not be extracted, information on this ability can be obtained from the latter subtests, particularly the Digit Span subtest, as well as Number Problems (Van Eeden, 1997b).

There are no reported studies that determine the factor structure of the SSAIS-R in clinical populations.

**Correlations with other intelligence tests**
The Verbal, Nonverbal and Full Scale scores of the SSAIS-R correlated significantly ($p < .01$) with the New South African Group Test (NSAGT) and the Group Test for Indian South Africans (GTISA) for both the non-environmentally disadvantaged and the disadvantaged norm groups (Van Eeden, 1997b). This suggests that the SSAIS-R was measuring the same construct as these group measures of cognitive ability.

While many published studies use the SSAIS-R to gauge South African children’s intellectual abilities as part of a larger investigation, very few have
examined its psychometric properties. Cockcroft and Blackburn (2008) investigated how effectively the subtests of the SSAIS-R were able to predict reading ability, as assessed by performance on the Neale Analysis of Reading Ability – Revised (NARA) (Neale, 1989). The findings were consistent with literature that had identified a correlation between the Vocabulary subtest of the Wechsler Intelligence Scale for Children – Revised (WISC-R) and reading ability generally (Muter, Hulme, Snowling & Stevenson, 2004). Cockcroft and Blackburn also found gender differences in this regard, with the ability to reason abstractly, deduce rules and form associations appearing to be particularly important for boys’ reading comprehension. Auditory memory for text appeared to impact on girls’ reading, but not boys’, while visual sequencing abilities did not appear to be as important as the aforementioned skills for reading in the early stages of development (the children in the study were in Grade 2).

**Concurrent validity**

When the SSAIS-R was normed, teachers were asked to rate each child on a five-point scale which assessed their language skills and general intellectual ability. This was used as the criterion for determining whether the SSAIS-R was able to differentiate between children of differing intellectual abilities. There was no separation by age. The correlations between this criterion and the composite and scaled scores on the SSAIS-R were, with a few exceptions, significant (p < .01), indicating that the SSAIS-R has the ability to differentiate between children in terms of their intellectual ability (Van Eeden, 1997b).

**Predictive validity**

The main role of children’s intelligence tests has been to identify students at risk of academic failure. The early diagnosis of potential school failure can alert teachers and parents to the need for preventative intervention, tailored to the strengths and weaknesses revealed by an intelligence test. However, the capacity of derivatives of the original Wechsler tests, such as the SSAIS-R, to predict academic achievement (and especially academic failure) has been the subject of some controversy (De Bruin, De Bruin, Dercksen & Cilliers-Hartslief, 2005; Van Eeden & Visser, 1992). The extent to which a Full Scale intelligence test score is a useful predictor of academic success depends partly on the age of the person being tested. For example, Jensen (1980) reviewed the voluminous literature and found that the typical range of correlations between intelligence test scores and school grades in the USA was 0.6 to 0.7 for the elementary grades, 0.5 to 0.6 for high school, 0.4 to 0.5 for college and 0.3 to 0.4 for graduate school, while Kaufman (1990) cites an overall correlation of 0.5 between intelligence test scores and school performance for US children. The predictive validity of the SSAIS-R for school achievement is similar, with correlations ranging between 0.24 and 0.51 (for the NonVerbal scale) and between 0.20 and 0.63 (for the Verbal scale) depending on the grade and subject (Van Eeden, 1997b). The Verbal scale of the SSAIS-R similarly appears to be slightly more strongly correlated with academic success than the NonVerbal scale (Van Eeden, 1997b). This is probably a result of the highly verbal nature of much of the school curriculum. When the predictive
validity of the SSAIS-R was calculated, in some instances the numbers within a grade were small (less than 100), which is problematic and may have resulted in non-significant or low correlations. Since the South African school curriculum has changed considerably since the 1990s, these statistics are no longer valid.

Conclusion

Although psychometrically sound, the SSAIS-R is based on a dated theoretical model, with newer IQ tests (for example, WISC-IV) subscribing to the more recent Cattell-Horn-Carroll (CHC) framework (Flanagan, McGrew & Ortiz, 2000), which is more comprehensive. This framework is a synthesis of the factor analytic work of Carroll (1993; 1997) and Horn and Noll (1997) and emphasises several broad classes of abilities at the higher level (for example, fluid ability (Gf), crystallised intelligence (Gc), short-term memory, long-term storage and retrieval, processing speed) and a number of primary factors at the lower level (for example, quantitative reasoning, spelling ability, free recall, simple reaction time). However, the IQ tests based on the latter theory have been criticised for the fact that there are as yet relatively few studies of the validity of CHC theory with regard to diagnosis and intervention in clinical populations, while considerable empirical data exist on the clinical validity and diagnostic utility of the Wechsler scales. The demographics of South African children and the educational curriculum have changed so substantially since the original development of the SSAIS-R that restandardisation and renorming of the test are critically overdue.

A further issue in IQ test use is the finding that the developed world has demonstrated substantial IQ gains in the 20th century (see Flynn & Weiss, 2007) and these increases are also being evidenced in less developed parts of the world, such as Kenya (Daley, Whaley, Sigman, Espinosa & Neumann, 2003). It is consequently not unreasonable to assume that South African children may demonstrate similar increases in IQ. These gains illustrate what is happening in educational settings and suggest that certain of children’s cognitive skills are being enhanced over time. Gains have been particularly prominent on those WISC subtests that assess processing speed and abstract classification, skills which appear to have developed because of their social and educational significance. This finding, known as the Flynn effect, indicates that intelligence is dynamic, and further corroborates the need to redevelop and renorm tests of intelligence on a regular basis (Flynn & Weiss, 2007).

While Shuttleworth-Jordan (1996) has proposed that the South African psychometric community focus on norming commonly employed cognitive tests for use in the South African context, rather than ‘reinventing the wheel’ with the development of new tests, she qualifies this statement by adding that the focus be on internationally based intellectual tests. This proposal is already being acted upon with Shuttleworth-Edwards et al.’s investigations into the WISC-IV, reported on in chapter 3 of this volume.
References


