Stanford Binet, 4th Edition

The Stanford Binet 4th edition, published in 1986 is a major revision of the 1970 Binet form L-M. This in turn traces it's history back to Alfred Binet and Theodore Simon's original test battery of 1905. The purpose of the original Binet - Simon test was to discriminate between those children who were educable in the mainstream and those who were not. The basis of the tests were a series of items appropriate for a given mental age. These increased in difficulty at each level, and from the ceiling score an overall mental age is developed.

The major work in English translation and refinement of Binet and Simon's original test was conducted at Stanford University by Lewis Terman in the period 1910 to 1916. In this time Terman also developed the now familiar concept of the intelligence quotient.

The fourth edition utilises a format completely different to that of any previous version. The presentation of stimulus items uses easel books similar to the current generation of Wechsler scales, the Kaufman ability scale, and others.

In addition, the format is entirely different with 15 subtests, each administered completely before proceeding to the next. In addition, not all of the subtests are administered to any one subject. The age range of the SBIIV is from two years of age to adult. It has the advantage over the Wechsler tests that one need purchase on instrument, as well as avoiding ceiling/floor effects associated with the overlapping age groups of the WPPSI, WISC, and WAIS.

The basal and ceiling establishment procedure is the same for each subtest, being two consecutive levels (four items) correct for the basal, and three or four consecutive errors (two levels) for the ceiling.

The starting point for each subtest is derived through the use of the first subtest, Vocabulary, which is then cross referenced with the subject's age on the chart located on the back page of the protocol.

Prepared by Mark Bivens

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The scale is divided into four broad areas: **Verbal Reasoning**, **Abstract/Visual Reasoning**, **Quantitative Reasoning**, and **Short Term Memory**. The theoretical model on which the scale is based derives originally from the Horn-Cattell model of intelligence, positing a structure of intelligence with an overall intelligence ($g$) at the first level, **Crystalline Intelligence**, **Fluid Intelligence**, and **Short Term Memory** at the second level, with **Verbal Reasoning**, **Quantitative Reasoning**, **Abstract/Visual Reasoning**, and **Short Term Memory** at the third level. The relationships between these is shown in the diagram.
The purpose of the Stanford Binet 4th edition is stated on the second page of the manual. I would particularly note the first and second purposes, since these are in effect the reasons why a school psychologist would invest the time and effort in administering, scoring, and interpreting such an instrument.

The Australianisation of the SBIV was conducted by ACER, based on trials in Victoria in 1988 and. In general the changes are appropriate and I have experienced no difficulties with them. The same study also examined the norms provided for the US edition. On the basis of the check sample, it appears that there was no advantage to be gained from renorming the scale.

Validity studies have focussed upon the concurrent validity with other measures, principally the WISC-R and the WISC-III, as well as predictive validity and correlation with achievement test, such as the WRAT-R and the Woodcock - Johnson, results. Interestingly, the WISC III manual makes no mention, let alone comparisons with the SBIV. *Quod ipso loquitur*.

The results of the correlation between the SBIV and the WISC-R can be found on pages 61 to 62 of the Technical Manual:

<table>
<thead>
<tr>
<th>Scale</th>
<th>WISC-R Verbal</th>
<th>WISC-R Performance</th>
<th>WISC-R Full Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal reasoning</td>
<td>0.72</td>
<td>0.60</td>
<td>0.73</td>
</tr>
<tr>
<td>Abstract/Visual Reasoning</td>
<td>0.68</td>
<td>0.67</td>
<td>0.73</td>
</tr>
<tr>
<td>Quantitative Reasoning</td>
<td>0.64</td>
<td>0.63</td>
<td>0.69</td>
</tr>
<tr>
<td>Short Term Memory</td>
<td>0.64</td>
<td>0.63</td>
<td>0.70</td>
</tr>
<tr>
<td>Composite</td>
<td>0.78</td>
<td>0.73</td>
<td>0.83</td>
</tr>
</tbody>
</table>

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With regard to the WISC-III, as yet I have not seen an article making comparisons which are sufficiently detailed so as to make direct comparisons and so assist in choosing which of the two tests is more appropriate for a given set of circumstances.

The important correlations, between the verbal scales, the performance scales, and the overall scores vary between 0.67 and 0.83, which is statistically significant and robust enough to allow direct comparisons to be made.

The examiner's handbook provide further details of this as does Jerome Sattler's *Assessment of Children* (1988). Sattler's comments and criticisms are especially interesting considering that he is one of the authors of the SBIV.

Sattler's major criticism revolves around the test – retest reliability of the SBIV, given that at different ages the subtests administered may be different. For the average child aged eight to twelve, this is not a problem, as the battery is most likely to be static in that period. However, average children and an interval of four years are not the sort of circumstances that are likely to be encountered in the field.

Thus it is appropriate to examine both sets of results for changes and only make direct comparisons of subtests.

The Examiner’s handbook, which is not provided as a part of the test kit, contains a number of valuable resources. There are strategies for testing special populations, such as sight – impaired, or motor – impaired. An abbreviated battery is given, along with information scoring and interpreting results. These are illustrated with complete examples. The abilities and influences section is especially valuable in making educational recommendations. The handbook is an extremely valuable adjunct to the SBIV.
The effort required to master the SBIV is no greater than that associated with any of the other major tests, such as the WISC III. It's comprehensive nature and the quality of information it provides place it in the forefront of the current generation of major cognitive tests.

The administration is generally straightforward, with materials that are logically organised, attractive to the subject, functional, and durable. The strengths of the test are such that the results can be regarded with confidence in most situations. As with any such test, the usual degree of caution regarding the interpretation and use of results hold true.

None of the criticisms which have been made seriously undermine the SBIV's use by school psychologists in assessing the intellectual ability of children.