

PREPARING TO READ

Examining graphic material

1► Study the diagram in Figure B, which shows the components of a well-known intelligence test, the Stanford-Binet. A subject's general intelligence score is determined by testing his or her crystallized abilities (verbal and quantitative reasoning); fluid-analytic abilities (abstract/visual reasoning) and short-term memory. These abilities are tested on fifteen subtests.

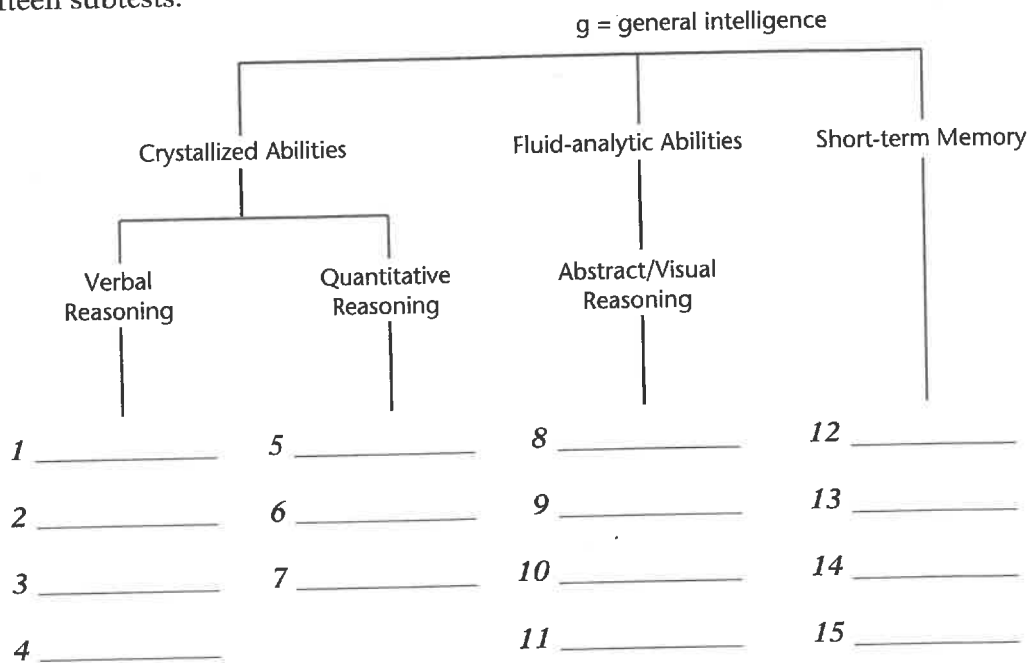


Figure B The factors tested by the Stanford-Binet, Fourth Edition

2► Look at Figure 5.1 on page 99 and carefully read the descriptions of the fifteen subtests. With a partner work out answers to the following, and write your answers into the diagram above.

- 1 Which four subtests test verbal reasoning?
- 2 Which three subtests test quantitative reasoning?
- 3 Which four subtests test abstract/visual reasoning?
- 4 Which four subtests test short-term memory?

NOW READ

Now read the text "The Stanford-Binet Intelligence Test." When you finish, turn to the tasks on page 101.

2 THE STANFORD-BINET INTELLIGENCE TEST

Alfred Binet (1857–1911) was the leading psychologist in France at the turn of the century. Binet worked at the psychology laboratory at the Sorbonne. He studied hypnosis, abnormal behaviors, optical illusions, and thinking processes, but by far his major concern was with individual differences. In particular, Binet was curious about how people differed in their ability to solve problems.

It was not surprising then that Binet was asked in 1900 to investigate why it was that some children in the Paris school system were unable to benefit from the educational experiences that they were given. What was the problem? Were the children uninterested? Did they have emotional problems? Or were they just intellectually incapable of grasping and making use of the educational material with which they were presented? In studying this problem, Binet decided to try to construct a test to measure the intellectual abilities of children.

Binet's first test appeared in 1905 and was revised in 1908. The test was an immediate success, and it caught the attention of Lewis M. Terman at Stanford University, who translated it into English and supervised a revision in 1916. It then became known as the Stanford-Binet test. Since then, it has undergone a number of revisions, the most recent of which was published in 1986.

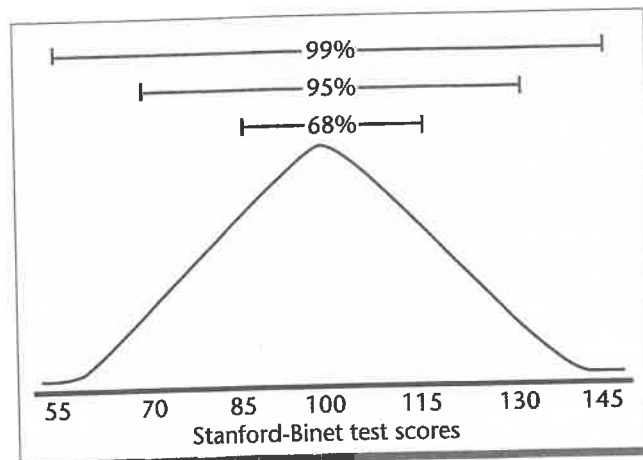


Alfred Binet

1. **Vocabulary.** For ages 2–6, provide name and definition of picture of object; for older subjects, define words increasing in difficulty
2. **Bead memory.** String a series of multicolored beads after seeing a picture of the required string
3. **Quantitative.** Complete a series of arithmetic problems, from simple counting to complex word problems
4. **Memory for sentences.** Repeat a series of sentences of increasing complexity
5. **Pattern analysis.** At young ages, match shapes to holes; at older levels, use blocks of different designs to copy patterns of increasing complexity
6. **Comprehension.** Answer questions like, "Why does the government regulate radio and television broadcasts?"
7. **Absurdities.** Identify what is wrong with picture: for example, a wagon with triangular wheels
8. **Memory for digits.** Repeat a list of digits of increasing length; forwards or backwards
9. **Copying.** Draw (duplicate) a series of geometric line drawings of increasing complexity
10. **Memory for objects.** Recognize a series of pictures of simple objects presented one at a time from a larger picture displaying many objects
11. **Matrices.** Shown a series of pictures, determine which of a number of alternatives comes next in the series
12. **Number series.** Presented with a series of numbers, determine what number comes next
13. **Paper folding and cutting.** Fold and/or cut a sheet of paper according to a prescribed pattern
14. **Verbal relations.** Given three words that are alike and a fourth that is different, explain why the three are alike and the fourth is different
15. **Equation building.** Given a series of digits and algebraic signs (+, x, -), create a balanced equation

Figure 5.1 The fifteen subtests of the 1986 edition of the Stanford-Binet Intelligence Scale

Figure 5.2 An idealized curve showing the distribution of scores on the Stanford-Binet if it were taken by a large sample of the general population. The numbers at the top of the curve indicate the percentage of the population expected to score within the indicated range (i.e., 68 percent score between 85 and 115; 95 percent between 70 and 130; and 99 percent between 55 and 145).



crystallized abilities

abilities needed to acquire and use information; thought to be fostered by formal education

fluid-analytic abilities

abilities that enable an individual to gain insight into complex problems, especially figural and nonverbal problems; thought to develop independently of formal schooling

standard age score (SAS)

a score on an intelligence test, by which one's performance is compared to others of the same age; a score of 100 is average

So what is this test like? The 1986 edition of the Stanford-Binet is quite different from its predecessors. Subjects are tested on three different types of abilities (see Figure B in "Preparing to Read"). **Crystallized abilities** are defined as those needed to acquire and use verbal and quantitative concepts to solve problems. They are influenced by schooling and could be called "an academic ability" factor. **Fluid-analytic abilities** are skills needed to solve problems that involve figural or nonverbal types of information. These skills are thought to be not so influenced by formal schooling. Essentially, they involve the ability to see things in new and different ways. The third factor is *short-term memory*.

There are 15 subtests that test the three abilities (see Figure 5.1). Within each of these subtests, the items are arranged by difficulty, which is determined by appropriate age level. Age levels vary from 2 years old to adult (18+). This means that if you were giving the test to an eight-year-old, you would probably start by giving items for a six-year-old and then continue to more difficult test items, until the child consistently fails to answer questions.

In interpreting an individual's scores, one compares the scores to those earned by children of the same age. The resulting score is called a **standard age score** or SAS. Standard age scores are always computed so that an average SAS always comes out to be 100. People who do better than average have standard age scores above 100 and those who perform less well than others their age have standard age scores below 100. Figure 5.2 shows the way that SASs on the Stanford-Binet are distributed for the general population.

The Stanford-Binet has been in use for a long time. There is much to be said for it. It is a well-recognized measure of those behaviors that we commonly label intelligent, at least in an educational or academic sense – and is in this way, at least, a valid instrument. The test does have some drawbacks. It is an individual test (one subject and one examiner) and should be administered and interpreted by trained professionals. The test may take longer than an hour to administer, and hence it is quite expensive.

AFTER YOU READ

Task 1 Effective note-taking

Here are some guidelines for effective note-taking in a notebook:

- Use abbreviations and symbols, but make sure you will know what they mean when you look at them later.
- Do not crowd your notes. Make them easy to read by leaving plenty of space around them.
- Make sure main points stand out by: 1) underlining and numbering them; 2) indenting lower-level details, as in an outline; 3) leaving space between each main point.
- Write legibly.

1► Look at these notes for the first four paragraphs of the text. The two main points are numbered. Work with a partner. Without looking back at the text, and working from these notes only, summarize orally one main point each.

THE STANFORD-BINET INTELLIGENCE TEST

1. History of S-B

Alfred Binet (1857–1911) Fr. psych.

int. in individ diffs

esp how people solve probs

investigated Paris sch. syst.

why some studs do well, others not

constructed test to measure intell.

1st test – 1905. Revised 1908

Lewis Terman – Stanford U. prof.

trans. t. into Eng.

revised t. in 1916

known as Stanford-Binet

latest revision 1986

2. Factors tested in 1986 S-B

Crystallized abilities

verbal + quantitative skills

influenced by schooling

∴ academic skill factor

Fluid-analytic abils

figural + nonverbal skills

not so influenced by schooling

Short-term memory

2► Take your own notes for the rest of the text.

3► Looking at your notes only, work with a partner and summarize orally one main point each.

Task 2 Test-taking: Preparing for a short-answer quiz

1► Look at your notes and write down four short-answer questions a professor might ask about this text. (See Task 3 on page 8 in Chapter 1 for information about different types of short-answer questions.)

2► Ask a classmate to answer these questions orally.