



IQ Tests, IQ Augmenting Technologies & How To Join Mensa

Mark Ashton Smith, Ph.D.

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HRP Lab, UK



Chapter 1.

IQ Tests

General Intelligence (G)

The most general idea of cognitive performance is that of **general intelligence**, sometimes simply called 'G'. General intelligence has been defined in different ways by different scientists. [A compilation of definitions of general intelligence can be found here](#). Here are some of the better definitions:

“Intelligence is a very general mental capability that involves the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience.” L. S. Gottfredson

“Intelligence is the ability to solve problems, or to create products, that are valued within one or more cultural settings.” H. Gardner

IQ Tests

The most well-known measure of general intelligence is a standardized **IQ test**. 'IQ' stands for 'intelligence quotient'. *Standardized* means that scores can be compared in the general population and you know what score is needed to be in a certain percentile – for instance above average, or in the top 2% (Mensa standard). Examples of IQ tests include the Wechsler Adult Intelligence Scale, the Stanford-Binet, and the Cattell Culture Fair test, and Raven's Progressive Matrices.

There are many bogus IQ tests on the web that either don't accurately or reliably measure your general intelligence, or which give you an inflated score. Valid, reliable, standardized tests are difficult to locate and are usually professionally administered.

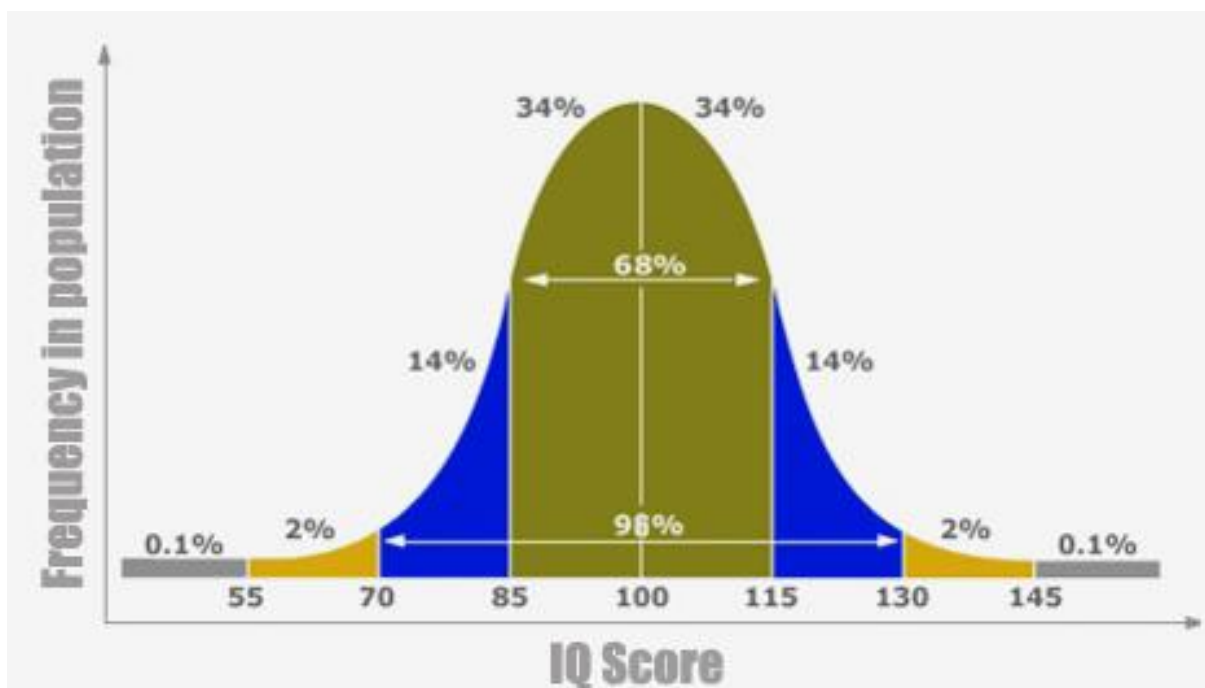
IQ test scores can be used to predict achievements in a wide range of abilities, including creativity, educational attainment, health, leadership, lifespan, professional achievement and income.

IQ tests are widely used in our institutions and organisations because of their consistency and validity. Schools and universities use IQ tests (or 'aptitude tests') to select and stream students, companies use IQ tests to screen

applicants, with estimates of 80% of Fortune 500 companies' HR departments using these kinds of tests for recruitment.

The IQ Score Bell Curve – A 'Normal Distribution'

With standardized IQ tests, IQ tests are designed so that their scores have a 'bell curve' distribution in the general population with an average of 100. This curve has a peak in the middle where most people score and tapering ends where only a few people score. In statistics this is called a **normal distribution**. Many variables in nature (such as height and weight) have a distribution of the same shape.



The area under the curve between scores corresponds to the % in the population between those scores. The scores on this IQ bell curve are color-coded in 'standard deviation units'. A standard deviation is a measure of the spread of the distribution. 15 points is one standard deviation for most IQ tests. Nearly 70% of the population score between 85 and 115 – i.e. plus and minus one standard deviation. A very small percentage of the population (about 0.1% or 1 in 1000) have scores less than 55 or greater than 145 – that is, more than 3 standard deviations out!

A critical insight from research over the past decade is that IQ is not a fixed, genetically determined attribute. An individual's score on the bell curve is not static. Over time – weeks, months or years – an IQ level can change substantially.

What is an Average IQ Score?

Standardized IQ tests are designed so that the exact average (mean) IQ score in the general population is 100. An '**average IQ score**' or '**normal IQ score**' can be defined as a score between 85 and 115 – between plus and minus one standard deviation from the average (see the table below).

What is a High IQ Score?

What is Mensa Standard?

An IQ of 115 or more can be considered to be a high IQ score or level. Only 15% of the population have an IQ level of 115 or above. There is no magic bullet but in general it is thought that:

- An IQ of **110 or above** enables you to attain a college level education if you choose it.
- If you have an IQ of **115 or above** you are capable of the cognitive demands of almost any profession, and can attain the highest levels of education and training.
- The entry score for An IQ of 124 is needed to become a member of the [International High IQ Society](#). This is the first entry-point score into high IQ societies. This is another criterion for a high IQ score.
- Around 2% of the population has an **IQ greater than 130** which is 'gifted' intelligence. This is an IQ of 2 standard deviations from the average IQ. This is Mensa standard – the IQ score on a valid, standardized IQ test required to [become a member of Mensa](#).

IQ Level Scale

This table indicates how IQ levels can be classified. The IQ ranges are conventional ones.

| Classification | IQ Range | % |
|--|----------|------|
| highly gifted | 140+ | 0.4% |
| Mensa membership | 130+ | 2% |
| gifted | 130+ | 2% |
| International High IQ Society membership | 124 | 5% |
| high | 115-129 | 15% |
| high average | 110-115 | 25% |
| average | 90-109 | 50% |
| low average | 85-89 | 23% |
| borderline | 70-79 | 8% |

IQ Score Scale

Types of Intelligence Tests

There are two broad types of intelligence test:

1. 'Culture-fair' tests of **fluid intelligence (Gf)**, which is our ability to reason and problem solve, independently of training and practice.
2. 'Full-scale' IQ tests, made up of subtests for all five factors of IQ – fluid intelligence (Gf) as well as (typically) vocabulary and general knowledge, visuo-spatial ability, short term memory, and processing speed. Sometimes quantitative/mathematical reasoning is also tested in full scale tests.

Very popular among standard intelligence tests

- [Raven's Progressive Matrices Test](#) (fluid intelligence test)
- [Raven's Advanced Progressive Matrices Test](#) (fluid intelligence test)
- [Cattell Culture Fair Intelligence Test](#) (fluid intelligence test)
- [Wechsler Adult Intelligence Scale](#) (full scale test)
- [Wonderlic Cognitive Ability Test](#) (full scale test)

Mensa accepts scores from approximately 200 different standardized intelligence tests ([click for qualifying test information here](#)).

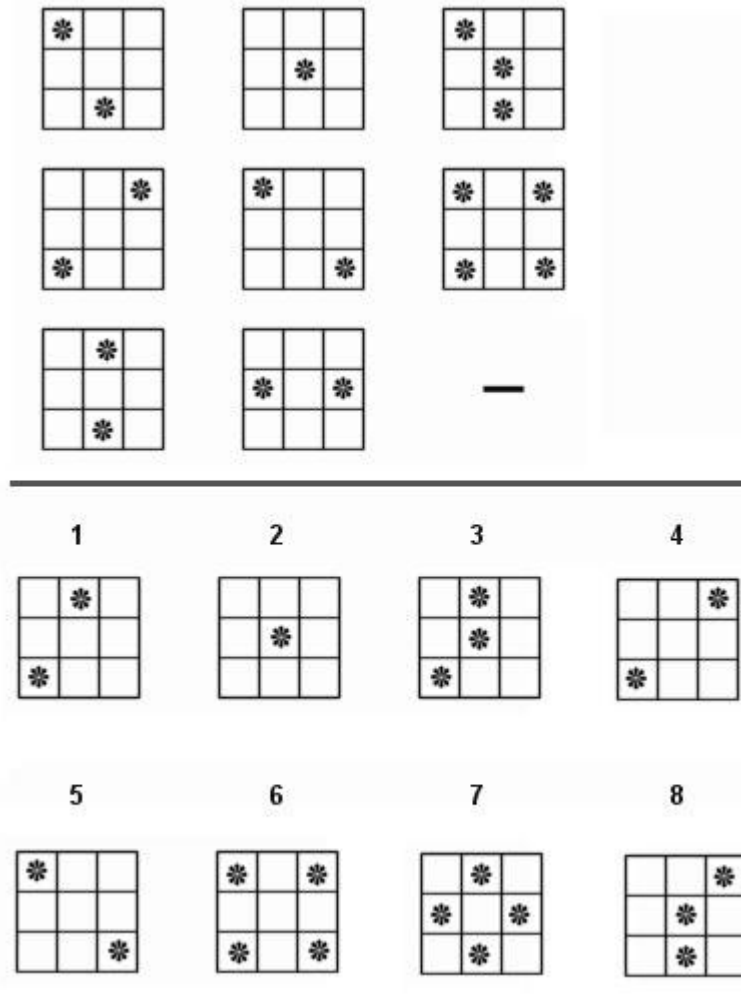
Raven's tests are popular career / job aptitude tests. As described by the publishers of the Raven's Advanced Progressive Matrices Test:

The APM score can be used as an indication of a candidate's potential for success in high-level technical, professional, and executive positions that require high levels of clear and accurate thinking, problem identification, holistic situation assessment, and monitoring of tentative solutions for consistency with all available information. The APM score also can be used for developmental purposes in occupational and advanced educational settings. The nonverbal aspect of the test minimizes the impact of cultural or language bias.

Progressive Matrices Tests

The Ravens IQ tests are ***progressive matrices tests***. Performance on matrices tests can be [improved with IQ training](#).

Here is an example of a progressive matrix problem:



Matrix reasoning IQ problem

This kind of test has proved to be an excellent measure of *fluid intelligence* – your ability to problem solve and reason in novel situations – without prior practice.

How To Test IQ?

How Do You Find Out Your IQ?

Knowing that most IQ tests on the internet are not standardized tests, if you want to test your own IQ level, how do you go about it?

One approach is to take a professional IQ test administered by a qualified test-administrator, such as a private psychologist or a Mensa test official.

Professionally Administered IQ Tests

Professionally administered IQ tests (e.g. WAIS-IV or Cattell III B) give you an accurate measure of your IQ level. They are typically administered by a certified psychologist, educationalist or clinician. They cost to you will be in the region of **\$300-\$500** for an assessment. The test kits can be purchased independently – at a high cost: **\$1,110.00** for the test battery ([link](#)).



A cost-effective method of measuring your true IQ level is to take a **Mensa Supervised Test**. Mensa offers supervised IQ tests (**\$40.00** in the US / **£17.50** in the UK). This fee includes:

- A reserved place at the centre of your choice.
- The opportunity to take two IQ test papers. The Cattell III B and the Cattell Culture Fair III A.

- The marking of your IQ test papers and your results returned to you in confidence.
- Mensa Supervised test sessions are held at centres throughout your home country. [Click here for details](#) from **International Mensa**. For those in the US click [here](#). For those in the UK click [here](#).

Free Online IQ Tests With Instant Results

There are many so-called 'IQ tests' online. The vast majority these or more are ***not scientifically valid or standardized***. They may be fun, they may even be good for training purposes, but they are worthless as a measure of your true IQ.

Free Online Culture-Free Fluid Intelligence (Gf) Tests

Here is a culture-free progressive matrices tests based on the Raven's standard and advanced matrices tests. The methodology used by the test makers for standardizing the scores for this test are not made explicit, and its validity is not guaranteed. This is an example of a test that may inflate your IQ score in a way that is not accurate. However, it is a useful test for gaining practice in matrix IQ tests.

>> [Take the Matrices Test](#)

[IQ-Brain.com](#) offers 3 realistic fluid IQ tests based on Cattell, RPM and the Mensa-administered Figure Reasoning Test (FRT). The IQ score estimates are comparable what users have been able to achieve on proctor-administered tests. The tests have a similar number of questions and time pressure as both FRT and the Cattell culture fair IIIa tests which are often administered by Mensa to test fluid intelligence. This test-developer recruited a cohort of test takers from all walks of life, but more importantly several test takers who had taken a Mensa-administered IQ test. The test developer calibrated the test

to ensure that the raw score required to achieve a passing score of 132 was in line with the Mensa threshold of difficulty. The test developer believes that if you can achieve an IQ score of 132 on his tests, that you stand a good chance of achieving a similar result with a Mensa-administered test.

The cost of 1 test result is \$9.00, 2 test results for \$12.00 and 3 test results for \$15.00. The tests measure IQs up to 148.

>>[Take the Matrices Test](#)

Raven's Progressive Matrices Test (standard)

The classic Raven's Progressive Matrices Test can be found at this link below. Note that at the end of the 60 questions, you will be asked for a fee of 19.99 Euros for the standardized results. This is a valid IQ test for your fluid intelligence, and since fluid intelligence is highly correlated with other factors of IQ, this test provides a valid measure of overall IQ score. Practicing on this test may help you with a job aptitude test, since Raven's tests are popular here.

>>[Take the Raven's Test](#)

The GIQ 'Full Scale' Test

The GIQ test will give you a valid estimate of your IQ. This is a good general IQ test, combining non-verbal (spatial) and verbal problems, providing a valid measure of your full-scale IQ.

The fee is **\$10**.

According to the test-makers:

The GIQ Test is an online analog for the most common clinically proctored IQ tests. In our internal study, the GIQTest correlated within about 4% of an individual's full scale score on a clinically proctored IQ test. The GIQ Test's sections are modeled after clinical IQ test sections.

The GIQ has the following features

- Time required: 25-45 minutes estimated. No time limit.
- Components of intelligence measured: full scale intelligence, 'verbal', 'spatial' and 'quantitative' intelligence. Your performance sub-score on this test can substitute as a measure of your fluid intelligence.
- Culture fair IQ test? No. Vocabulary, similarities and arithmetic subtests are culture-dependent.
- Repeat testing: No
- Fee: **\$10**

[Take the GIQ Test](#)



[To find out more about the i3 Mindware cognitive training app for increasing IQ click here.](#)