



Reasons Cognitive Test Results may not always Match from one test to another.

Specifically comparing the Gibson Test results with the WJ-III Cognitive Test

1) Testing process

A student's ability to respond verbally, or using a pencil, or clicking a computer mouse may differ. For example, a student with a stuttering problem may do better with a pencil or mouse response and someone with little experience with a mouse may perform better with a pencil or verbal response.

2) Timed response constraints

The amount of time taken to complete a test question may impact results. For example, if student A averages 60 seconds to solve logic problems and student B averages 30 seconds, and they both got the same number right – you can't say their skill levels are identical – surely student B is more skilled. Most cognitive skill tests don't factor in the speed element whereas the Gibson Test does. The developers of the Gibson Test believe that including the element of time better measures the skill.

3) Different test designs.

Working memory can be measured by having the subject repeat backwards a series of numbers that were seen or heard. But it can also be measured by asking the subject questions about pictures or statements that were seen or heard a minute before. The developers of the Gibson Test believe that the second example is a truer measurement of real-world working memory.

Every test of a skill area, unless identical, measures slightly different skills. For example, remembering a series of numbers versus a series of pictured animals can result in different performance levels – because some subjects may find remembering objects easier than numbers. But both are measuring short-term memory.

These differences in test design may result in different scores.

4) Computer vs. human

There are advantages to taking a test on a computer and advantages in taking the test directly with a human. A human tester can hear and discern a verbal response whereas the computer may need to get a response by multiple choice (which introduces a greater factor of guessing). On the other hand, the computer is consistent which is an advantage over testers who may differ in attitude, encouragement, or possibly even re-phrasing or repeating questions.

5) Subject readiness, practice effect

Giving the identical test an hour apart may yield different results. At one session the subject may have been more tired, needed to use the bathroom, made more lucky guesses, was more in the zone, etc. We must always remember that a test only gives us a look at a skill in a 1 to 3 minute time frame and other factors, other than the skill being measured, can influence the response. Even though these tests are accurate about 85% of the time, a good case history and evaluation of symptoms are also needed to raise or confirm that accuracy.

If a student takes one type of cognitive skill test initially, the experience of taking that test may affect how well they do on the 2nd test. It is called the practice effect.

6) Sample size, norming

The Gibson Test results are normed based upon age using a diverse sample of over 6,000 subjects, which is sufficient to provide statistically valid results. Results (age equivalent and percentile) are based on how a student compared to the current database. Reliability and validity analysis was completed and adjustments to the test made as appropriate. A test/retest analysis was also performed.

Once we have about 20,000 results we'll update our tables to reflect the larger sample and also adjust for race, income level, education, sex and other demographic data. However, no significant changes in results are expected.

The current normed results are sufficient to identify if weak skills may be impeding a student from achieving their full potential. The test is not intended to be used to diagnose a learning disability. A more detailed clinical evaluation will need to be completed for that purpose.