

GIBSON TEST OF BRAIN SKILLS REPORT

Introduction

The Gibson Test should not be used to diagnose or label the learning capacity of an individual.

Results can be affected by various circumstances. It is critical that the date of birth be entered correctly as the results are calculated based upon the age of the student at the time the test was taken. Expected cognitive skill abilities change based upon age. If a student was stressed, did not understand the instructions, is not comfortable using a computer mouse, was distracted or the computer did not have satisfactory sound, the results may not accurately reflect the true cognitive skill abilities of that person.

The Gibson Test was designed to be used as an affordable screening tool to identify whether weak cognitive skills are likely an issue. More detailed testing may be necessary depending upon need and circumstances. For example, if a medical diagnosis of a learning disability is desired, you must obtain testing from a licensed practitioner.

Beyond IQ

The Gibson Test goes beyond traditional IQ testing. Standard IQ tests can be misleading. Most only report an average score which could hide one or more weak skills. It is similar to having a great car with a high-performance engine, great aerodynamic design but one flat tire. You need to know how each component is performing to identify what may be causing the lack of performance.

The Gibson Test is a compilation of seven subtests that measure eleven core cognitive skills critical for learning. It is not an average but a report on each skill area. It goes beyond IQ. This gives you the Power to Know™ if any weak skills may be holding anyone back from achieving their full potential.

We do provide a composite score at the bottom of the report which is intended to approximate overall IQ. The Gibson Test Composite Score differs from many IQ scores in three ways.

1. The Gibson Test Composite Score is a composite of six different cognitive processes whereas many IQ scores are weighted heavily and some totally weight on only one skill, logic and reasoning.
2. The authors of the Gibson Test believe that the measurement of a cognitive skill isn't solely based on correct response, but also how quickly the correct responses were made. Certainly someone who can solve a series of problems in half the time of another has better problem solving abilities. For this reason many of Gibson Test subtests are timed, including visual processing, and logic and reasoning which are seldom timed in other tests.
3. Many IQ scores are dependent on vocabulary and knowledge (such as allegories) which are measurements of achievement not cognitive processes. We have made a concerted effort to limit the need for advanced vocabulary and knowledge in the Gibson Test of Cognitive Skills.

The standard score for each skill category in our report is not equivalent to an IQ score. Along with percentile ranking, it is another way to show relative scores among the separate subtests.

How the test results are organized:

This report has four sections.

- **Section One** provides your test results by: Age equivalent, Percentile, and Standard Score (these are defined at the end of Section One)
- **Section Two** provides your test results in graph form
- **Section Three** provides the Performance Rating Scale results which show the comparison and correlation between performance activities and underlying cognitive skills.
- **Section Four** provides a comprehensive explanation of the cognitive skills tested and based on those results how your performance may be affected. Your test results are interspersed within these explanations.

Overview of what the test results mean:

The Gibson Test (GT) measures individual cognitive and decoding skills. These findings represent current cognitive abilities, not one's potential cognitive abilities - because cognitive skills are not fixed and can be enhanced. However, the current level of these cognitive skills will determine the current ease, speed, and quality of one's learning and performance.

The purpose of the test results is not to diagnose or label. It is intended to:

- 1) Indicate relative cognitive skill strengths and weaknesses,
- 2) Understand the reason/cause of a learning problem,
- 3) Compare change in cognitive skills over time,
- 4) Measure the effectiveness of skill intervention,
- 5) Determine the best intervention to bring weaker skills to productive levels,
- 6) Predict performance,
- 7) Guide future life choices.

The Gibson Test is a new test that was normed on 1,375 subjects and is currently undergoing further standardization and design to meet certification. Unlike many individual ability tests, the GT subtests are explicitly designed to assess a student's abilities on many specific Cattell-Horn-Carroll "cognitive factors," not just a total score or a few factors. Each of the 6 subtests in the Battery is designed to measure one factor. The subtests are also combined into a Composite Cognitive (CC) score similar to a General IQ.

We plan to have the test fully standardized by 2nd quarter 2009 or as soon thereafter as possible. Please check back then if you wish to see an updated version of the report for your scores.

SECTION ONE

Name: **Example student**

Test date: **12/11/08**

		12/11/08, Age 14.19 years				
Skills Tests	Description	Raw Score	Total Possible	Age Equivalent	Percentile Rank	Standard Score
<u>Processing Speed:</u>	The ability to perform cognitive tasks, particularly when measured under pressure to maintain focused attention	16	50	6.4	1	65
<u>Working Memory:</u>	The ability to hold information in immediate awareness while performing a mental operation on it	13	18	13	40	97
<u>Auditory Memory:</u>	The ability to hold auditory information in immediate awareness while performing a mental operation on the information	10	13	16	59	103
<u>Visual Memory:</u>	The ability to hold visual information in immediate awareness while performing a mental operation on the information	5	13	6	3	72
<u>Long-Term Memory:</u>	The ability to store information and fluently retrieve it later in the process of thinking	5	14	9.9	9	80
<u>Visual Processing:</u>	The ability to perceive, analyze, synthesize visual patterns, including the ability to store and recall visual images	15	56	5.5	3	72
<u>Auditory Processing:</u>	Phonemic Awareness, the ability to analyze and manipulate speech sounds; crucial underlying skill for reading and spelling	18	26	12	34	94
<u>Logic & Reasoning:</u>	The ability to reason, form concepts, and solve problems using unfamiliar information or novel procedures	4	20	7.4	2	69
<u>Word Attack:</u>	The knowledge of and application of sound codes in order to pronounce unknown words	8	21	6.5	1	65
<u>Composite Cognitive:</u>	CC (An average of PS, WM, LTM, VP, AP, and LR (doubled weighted))			8	13	83

Definitions

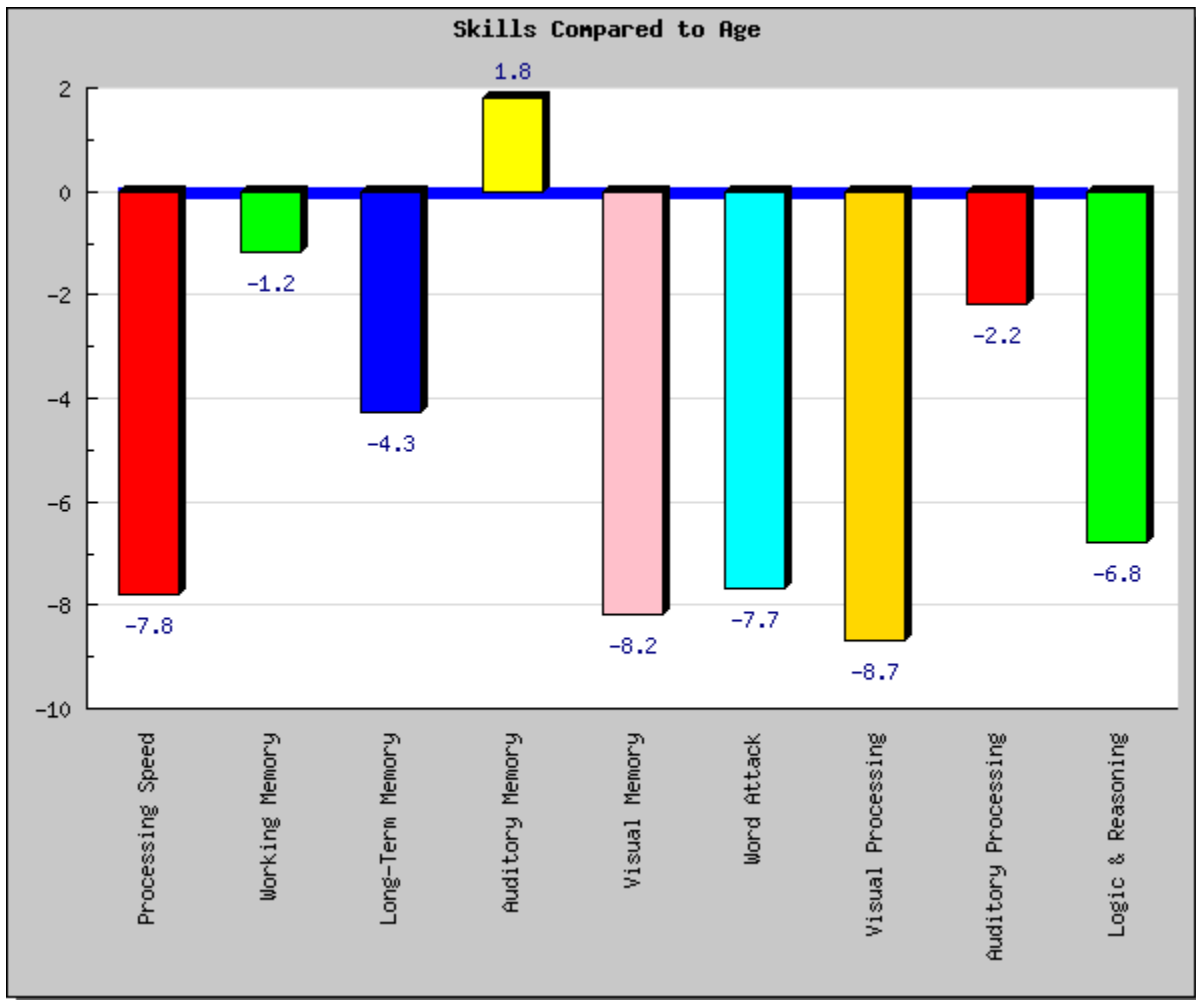
Age equivalent: the age level of the performance; if the subject's age is under 16 the maximum score is age 20; if the subject is above 16, no age equivalent is given.

Percentile: compared to 100 subjects; percentile indicates the percent of subjects that are equal to or below. For example, a 45 percentile would mean that out of 100 subjects, 45 scored at or below this subject.

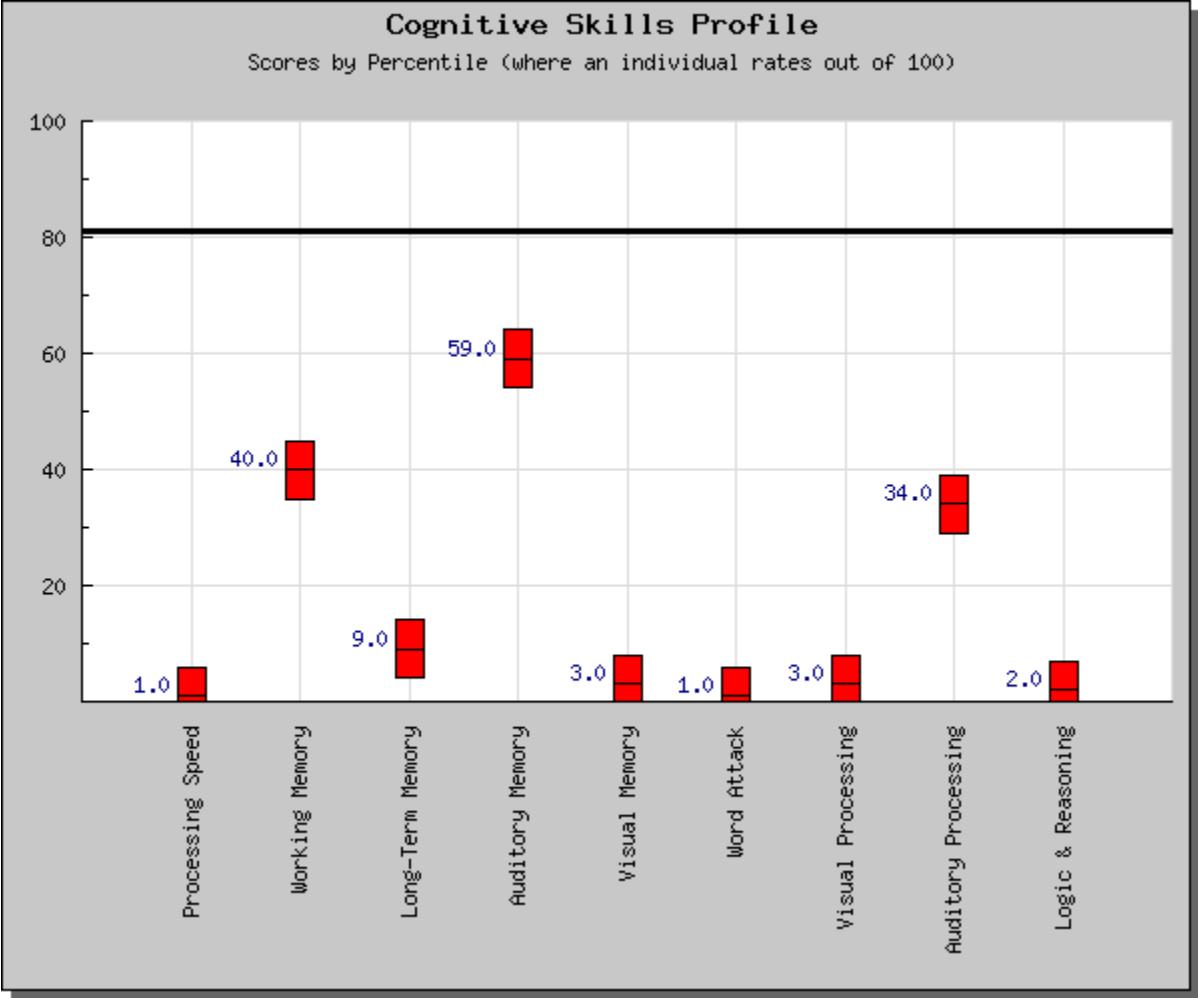
Standard score: based on a projection of the subject's rank on the bell curve with a center value (average) of 100, and a standard deviation of 15.

SECTION TWO

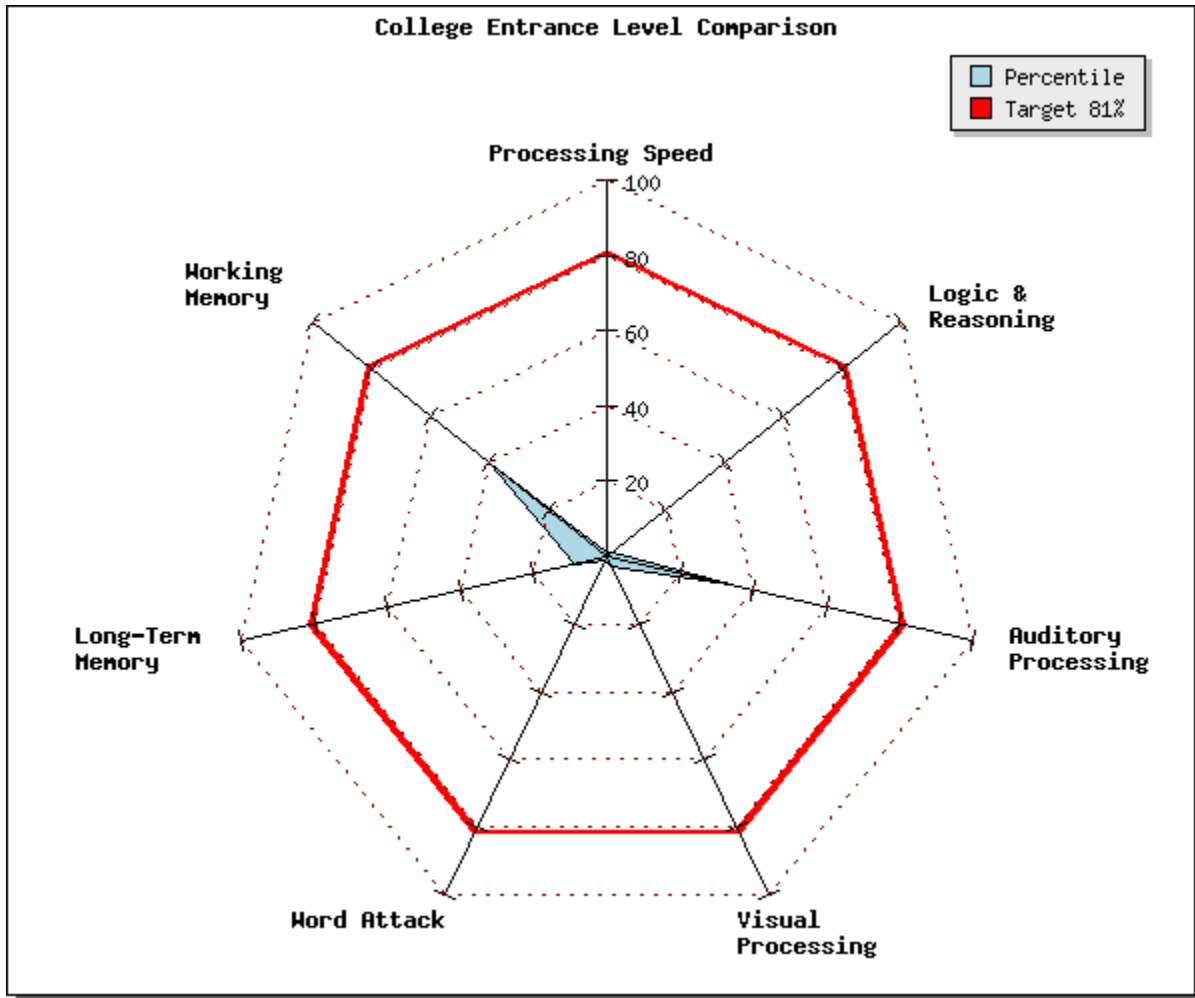
The Age Equivalency graph below compares the student's scores as they relate to norms for other ages up to age 18. Bars above the blue age line show skills that are more advanced than the norm for the student's age, whereas below the blue age line show skill weakness as compared to the student's norm for their current age. For example, if a student is age 12 and their score is equivalent to the norm for an 18-year old student, the graph will show six years above the 12 year-old norm. If the score is equivalent to the norm for a 10-year old student, the graph will show two years below the line. This graph is only comparing the student's scores with the average for students of other ages up to age 18.



The Percentile Graph below shows how your skills rank as compared to others your age on average. Given 100 individuals your age that represent a diversified norm group, if you have a skill score of 60, this means that there are 40 individuals your age that are stronger in that skill set than you and 60 that are weaker than you in that particular skill set. The 81 percentile line is shown to represent the average percentile of college-bound students. If you plan to attend college, this is the minimum target percentile you should strive to obtain at any age.



The Radar Graph below shows a comparison of your current skill set (in blue) to the average skill set of those entering college. The red line shows the average skill set needed to enter college.



SECTION THREE

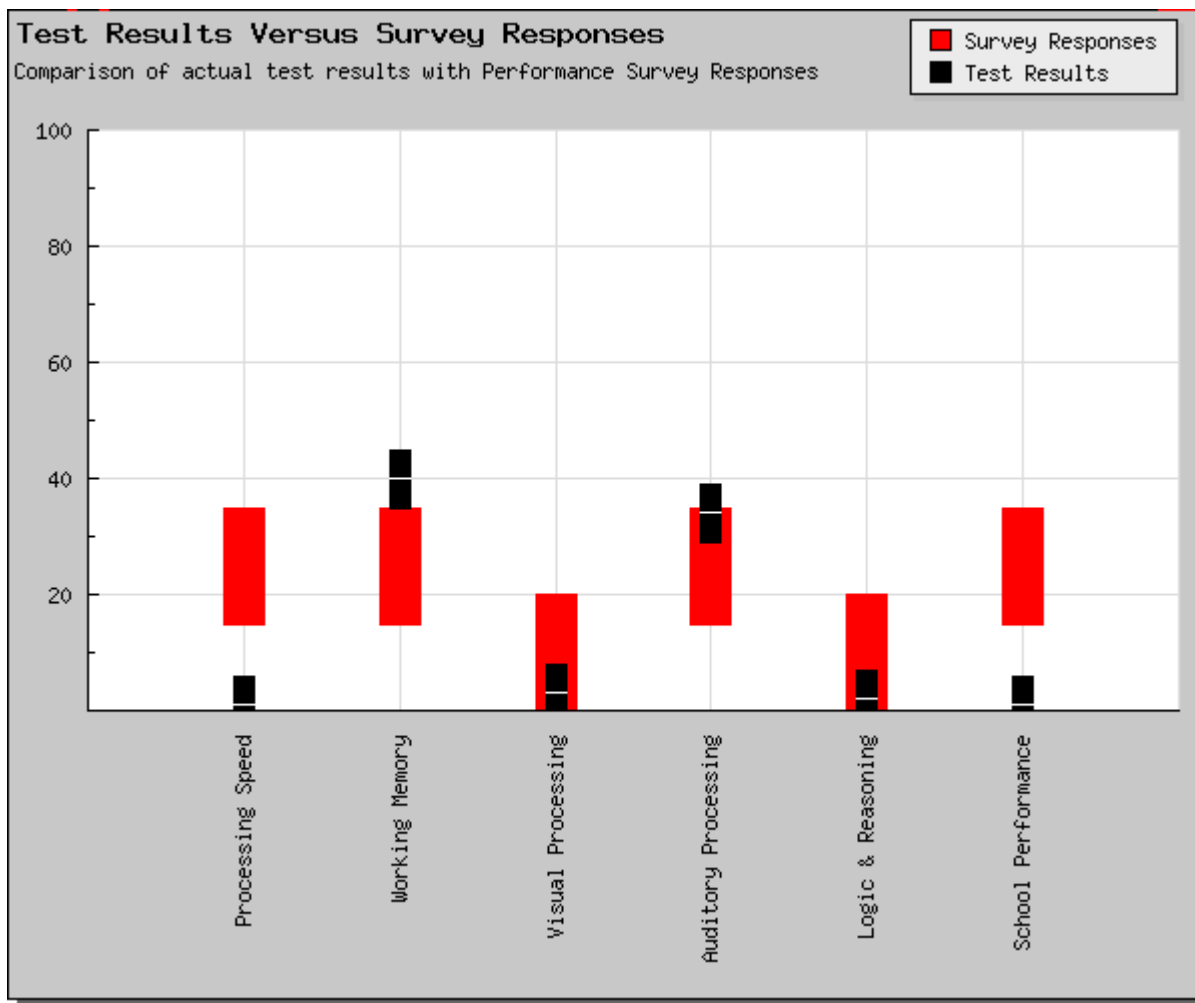
The Performance Rating Scale was completed by a teacher or other individual close to the subject.

The Performance Rating Scale results portray the subject's real world performance levels as subjectively determined by the observer. When the cognitive skills and performance observations are similar, a strong "cause" and "effect" relationship is shown - in other words - the weak or strong cognitive skill is the cause for the low or high performance. This means that if there is a performance area that you would like to increase - it can be achieved by improving the underlying cognitive skill. If the performance and skills finding seem unrelated, more testing and/or a better case history should be considered to determine the "if" and "why" there is a discrepancy.

Based upon the observations of the person completing the Performance Rating Scale, the subject shows the following performance abilities.

12/11/08	
Attention:	Considerably poorer than average
Processing Speed:	Considerably poorer than average
Working Memory:	Considerably poorer than average
Visual Processing:	Significantly poorer than average
Auditory Processing:	Considerably poorer than average
Logic & Reasoning:	Significantly poorer than average
School Performance:	Considerably poorer than average

The graph below plots six values from the Gibson test compared to the results of the student performance survey. The purpose is to compare whether the test results support observed behavior. The red rectangles represent the range of values for the survey. The smaller black rectangles represent that range of values from the Gibson Test.



SECTION FOUR

Professionals understand that the brain's functions are very complex, but most agree that the 70 known mental skills can be grouped into 7 major types of skills. These skills are the foundation to fast, efficient learning and performance.

The Gibson Test includes subtests of the six major skill groups and a rating survey for Attention. The six skill group subtests cover Processing Speed, Working Memory, Long Term Memory, Visual Processing, Auditory Processing, and Logic & Reasoning. The Attention skill is measured via a survey rather than a subtest because the survey method is more accurate than any one test when dealing with Attention issues.

Our Working Memory subtest is further divided into Visual Memory and Auditory Memory, but because of the limited number of test questions (for Visual & Auditory Memory) these sub-test scores should be considered as slightly less reliable than other skill sets tested.

It's important to understand that cognitive skills are not fixed but can be modified with mentally challenging activities and/or appropriate targeted intervention. Included in each skill explanation below is 2007 data from LearningRx as to the average gains achieved after intense training of weak cognitive skills.

Below are explanations, affects if weak (how a skill weakness affects learning), past history of average gains made by intervention, and your subtest scores for the cognitive skills tested.

Skill Type--Attention:

Your attention score of 24 indicates attention is **considerably poorer than average**. The performance Rating Scale was completed by **a teacher or other individual close to the subject**.

The ability to attend with focus, clarity, and purpose. Attention skills include sustained attention (staying on task), selective attention (ignoring distractions), and divided attention (attending to more than one task at a time). To measure attention, we have used an attention survey because of the difficulty of separating attention from other cognitive skills in testing.

Weakness in Attention often results in: needing things repeated; poor listening; difficulty in following a conversation in a crowd; easily distracted, mind-wandering; missing important information; unable to keep things tidy; impulsive; and often has trouble getting started.

Skill Type--Processing Speed:

Your Processing Speed standard score of 65 is in the **very low** range. This score is better than **1%** of all persons taking this test.

This test measures cognitive efficiency, more specifically the speed of processing simple concepts. The subject is asked to locate and click on one of two identical numbers/letters in a row of six targets. This task increases in difficulty from single digit/letter to triple digit/letter combinations.

Weakness in Processing Speed often results in: difficulty with basic reading skills, written expression, and math calculation; difficulty handling complex problems; slower performance; and frequently needing to have instructions repeated.

The following average gains (in percentile) have been achieved in the clinical program: Average Pre-Intervention (18.1), Post-Intervention (47.2), and Net Gain (29.1) in Processing Speed with 12 weeks of intense targeted brain training. Significant gains are possible for most students if they diligently work on the brain training exercises.

Skill Type--Working Memory:

Your Working Memory standard score of 97 is in the **low average** range. This score is better than **40%** of all persons taking this test.

This test measures the ease and capacity to hold data in memory while processing it. The test requires the individual to hold pictures and verbal statements in immediate awareness (memory) while performing other mental tasks before being required to respond.

Weakness in Working Memory often results in: difficulty remembering names, telephone numbers; difficulty completing problem solving operations; needing instructions repeated. It may seem that students "just don't get it."

The following average gains (in percentile) have been achieved in the clinical program: Average Pre-Intervention (18.6), Post-Intervention (52.4), and Net Gain (33.8) in Working Memory with 12 weeks of intense targeted brain training.

Skill Type--Long-Term Memory:

Your Long-Term Memory standard score of 80 is in the **low** range. This score is better than **9%** of all persons taking this test.

This test measures long-term storage and retrieval ability. The test requires the subject to store and retrieve a series of pictures and statements after time and numerous activities have intervened.

Weakness in Long-Term Memory often results in: difficulty retrieving content for tests; a need for more practice and repetition than most; difficulty recalling math facts and blending sounds in reading; difficulty recalling names and facts; frequent use of general descriptors/words in written language rather than specific; showing inconsistent performance (A's and F's); "It's on the tip of my tongue but I can't quite remember it"

The following average gains (in percentile) have been achieved in the clinical program: Average Pre-Intervention (26), Post-Intervention (52.7), and Net Gain (26.7) in Long-Term Memory with 12 weeks of intense targeted brain training.

Helpful but less reliable test results indicate:

Your Visual Memory score of 72 is in the **very low** range. This score is better than **3%** of all persons taking this test.

Your Auditory Memory score of 103 is in the **average** range. This score is better than **59%** of all persons taking this test.

Skill Type-- Visual Processing:

Your Visual Processing standard score of 72 is in the **very low** range. This score is better than **3%** of all persons taking this test.

This test measures visual spatial relationships as well as recognition and manipulation of visual images - the ability to perceive, analyze, synthesize, and think using visual patterns. The subject is shown a complete puzzle and pieces and then is asked to select the piece that best matches a highlighted part of the puzzle.

Weakness in Visual Processing often results in: difficulty with rapid sound/symbol processing and copying tasks; not rapidly recognizing "whole" words; reading slowly; reduced creativity; problems understanding information from graphics.

The following average gains (in percentile) have been achieved in the clinical program: Average Pre-Intervention (23.8), Post-Intervention (43.1), and Net Gain (19.3) in Visual Processing with 12 weeks of intense targeted brain training.

Skill Type-- Auditory Processing (phonological awareness):

Your Auditory Processing standard score of 94 is in the **low average** range. This score is better than **34%** of all persons taking this test.

This test measures the ability to manipulate and understand spoken sounds - which is the crucial underlying skill for reading and spelling. The test consists of a segmenting subtest which asks the subject to unglue the individual sound in a word and a drop subtest requiring the subject to identify a word after one of its sounds is removed.

Weakness in Auditory Processing often results in: difficulty with phonetic reading activities and beginning spelling skills development; poor listening and reading comprehension/language and vocabulary acquisition.

The following average gains (in percentile) have been achieved in the clinical program: Average Pre-Intervention (17.1), Post-Intervention (43.7), and Net Gain (26.2) in Auditory Processing with 12 weeks of intense targeted brain training.

Skill Type--Logic and Reasoning:

Your Logical & Reasoning standard score of 69 is in the **very low** range. This score is better than **2%** of all persons taking this test.

This test measures the ability to reason and draw conclusions from given conditions - the ability to reason, form concepts, and solve problems using unfamiliar information or novel procedures. The subject is presented with a set of patterns with one pattern missing and is to select from a set of five choices the pattern that best completes the set.

Weakness in Logic and Reasoning often results in: difficulty with math including algebra, statistics, and geometry; difficulty with transfer and generalization of learning; trouble with rule-bound systems of reading; being "slower on his/her feet" when required to cope with a new situation; and poor creative writing.

The following average gains (in percentile) have been achieved in the clinical program: Average Pre-Intervention (14.6), Post-Intervention (53.7), and Net Gain (39.2) in Logic and Reasoning with 12 weeks of intense targeted brain training.

Skill Type--Word Attack:

Your Word Attack standard score of 65 is in the **very low** range. This score is better than **1%** of all persons taking this test.

This test measures the ability to sound out unfamiliar words and accurately recognize letter combinations. The subject hears a made-up-word and then selects one of four different letter combinations that best represents the made-up-word. (Note: "Word Attack" is not a cognitive skill but a measure of the subject's knowledge of phonic and structural analysis to read words. Normally poor word attack ability is related to poor auditory processing, however good word attack when auditory processing is poor reflects that the subject has likely had extensive phonetics instruction. It has been included in this test battery because of its importance in reading and spelling).

Weakness in Word Attack often results in: not knowing the sound-letter relationships required to read and spell resulting in poor reading fluidity (choppy reading) which then reduces comprehension.

The following average gains (in percentile) have been achieved in the clinical program: Average Pre-Intervention (16.3), Post-Intervention (48.9), and Net Gain (32.6) in Work Attack with 24 or less weeks of intense targeted brain training.

Composite Cognitive Score:

Composite Cognitive standard score of **83** is in the **low** range. This score is better than **13%** of all persons taking this test. This score is **68** percentiles **lower** than the average student entering college which is 81. The Composite Cognitive Score tends to remain relatively unchanged throughout life **unless there are activities or special intervention** that challenge or stretch your mental abilities.

The Composite Cognitive Score is not a measure of any single cognitive skill but a composite score of six separate cognitive skills and is comparable to General IQ.

Warning of misuse of this score: The Composite Cognitive Score (General IQ) has very limited use. It is similar to the meaning one can derive from getting the different measures of shoe size, blood pressure, and age and then averaging them together. Whereas individual cognitive scores can predict performance on different specific tasks (such as reading, test taking, reading maps, ability to stay on a task), the composite score can only predict general success in broad areas such as college success and lifetime earning.

Common misinterpretation of this score: The danger of a General IQ is that it hides individual low and high scores often leading to false assumptions and poor recommendations. For example, if skill A had a score of 160, skill B a score of 120, and skill C a score of 50, averaging them would result in 110 - above average. The assumption could be made that since the General IQ is above average that this subject has all the skills needed to perform above average. However, if the skill needed to do a specific task was dependent on skill C; the performance would be below average on that task. In fact this is often the case with students that have problems learning to read.

Twenty percent of the population has a significant weakness in the most important cognitive skill needed in learning to read: phonemic awareness. But because their General IQ is often higher than average it is assumed the student has the "mental skills needed to read" and therefore is provided re-medial reading rather than the needed phonemic awareness training. (Phonemic Awareness training has been shown to reduce dyslexia by almost 90%)

General Observation and Prediction based on Your Composite Cognitive Score:

Research shows that general intelligence plays an important role in many valued life outcomes. In addition to academic success, IQ correlates (to some degree) with job performance, socioeconomic advancement (e.g., level of education, occupation, and income), and "social pathology" (e.g., adult criminality, poverty, unemployment, dependence on welfare, children outside of marriage).

Recent work has demonstrated links between general intelligence and health, longevity, and functional literacy. Correlations between IQ and life outcomes are pervasive, though IQ does not correlate with subjective self-reports of happiness. IQ correlates highly with school performance and job performance, less so with occupational prestige, moderately with income, and to a small degree with law-abiding behavior. (see the Wikipedia article "[Intelligence quotient](#)", for references)

Ranking by Percentile	College Graduates	Average Salary at 30
100 to 95	82%	\$82,900
95 to 75	59%	\$59,900
75 to 25	19%	\$44,600
25 to 0	Less than 3%	\$11,000 - \$28,000

The following average gains (in percentile) have been achieved in the clinical program: Average Pre-Intervention (19.0), Post-Intervention (49.5), and Net Gain (30.5) in Composite Cognitive Score with 12 weeks of intense targeted brain training. Reported by Standard Score: Pre (84.6), Post (100.1), Gain (15.5).