

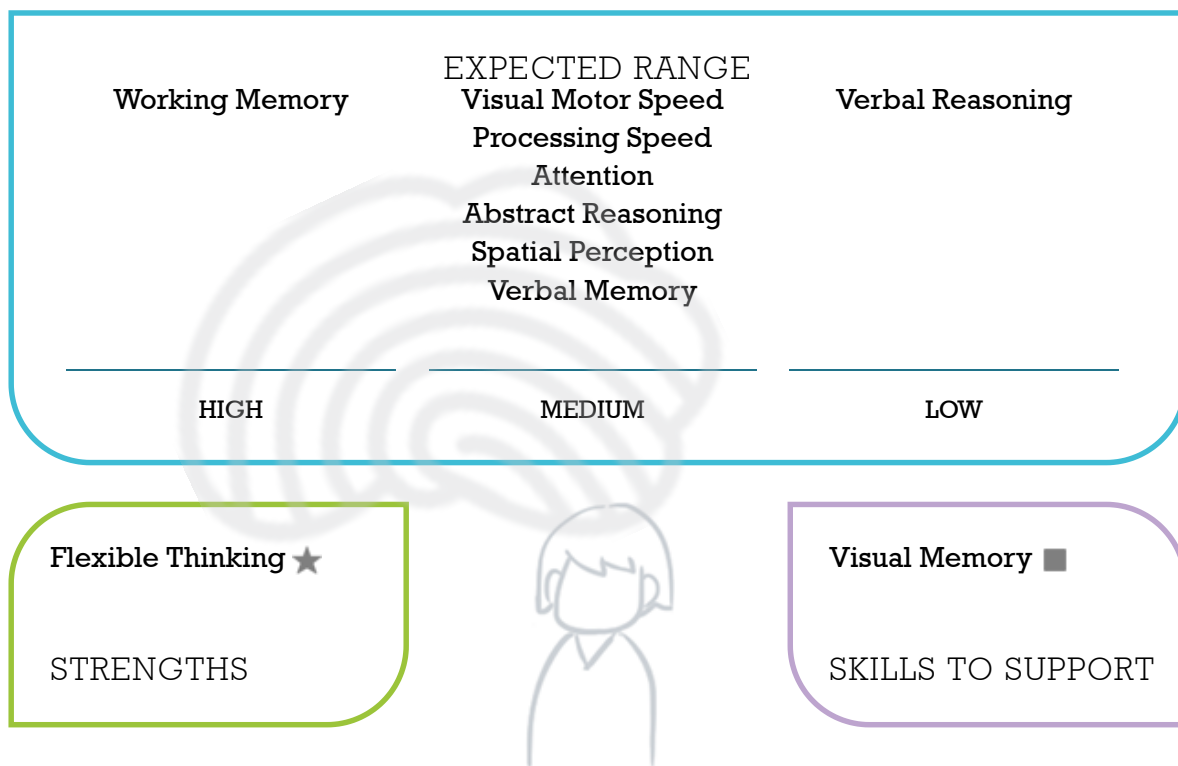
# Wes G.



17 year old male / Student ID: 00001 / Test Date: February 30, 2019

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## Summary Results



Based on standardized, normative data

- Ahead of peers, top 16% of peer group
  - Developing appropriately for peer group
  - Developing behind peer group, may require outside support, bottom 16% of peer group
  - ★ Wes performed in the top 5% of peer group
  - Wes performed in the bottom 5% of peer group
- |               |                        |
|---------------|------------------------|
| <b>High</b>   | 70th - 84th percentile |
| <b>Medium</b> | 32nd - 69th percentile |
| <b>Low</b>    | 17th - 31st percentile |

## Wes 's Stronger Skills

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- **Visual Reasoning:** Wes shows good capabilities with visual-spatial and abstract concepts. Wes 's good ability to make sense of non-language based information such as patterns, graphs, and imagery can be important across subjects, particularly in math and science.
- **Flexible Thinking:** Wes 's strong flexible thinking shows he can take feedback and shift his thinking. This is an important skill to support his complex problem solving, even in topics he finds challenging.
- **Working Memory:** Wes 's working memory enables him to hold on to information in short term memory, a key skill for multi-step problem solving, note taking, and organization.

## Wes 's Skills to Support

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- **Verbal Reasoning:** Wes had relative difficulty with the verbal reasoning task. Verbal reasoning, or the ability to understand what you read and hear, is central to academic learning.
- **Visual Memory:** Wes had difficulty with visual memory which could affect his ability to efficiently remember and recall visual information such as numbers, images, and charts.
- **Attention:** Wes 's attention was in the expected range, but he worked at a somewhat slower pace. You might notice that on longer tasks he sometimes has difficulty maintaining his focus or putting forth the needed effort.

## Recommendations for Wes

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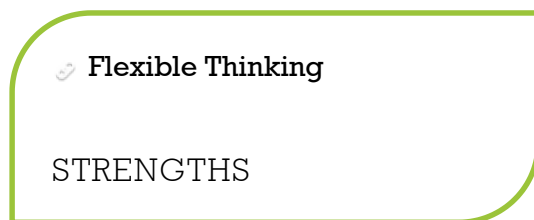
- **Develop Verbal Reasoning:** Wes can use his stronger abstract reasoning skills to support his understanding of what he reads or hears. Using imagery, visualization and drawing pictures can help. Reading and discussion will be key for developing verbal reasoning. Wes also can listen to audio books or watch movies, followed by discussion of meaning, themes, concepts, and metaphor.
- **Use Verbal Memory:** Encourage Wes to use his stronger verbal memory to help remember visual or numerical information. Describing what he sees or reading the descriptions in the text will help his recall of graphs, diagrams, patterns, and other visual information.
- **Monitor Attention:** If you think that Wes might be having difficulty sustaining his focus on longer tasks, he might benefit from reduced distractions and more frequent, scheduled breaks.
- **Nurture Visual Skills:** You might want to provide Wes with authentic opportunities to discover his true interests so he continues to build his self-confidence, enjoy learning and apply his excellent problem solving skills. Wes might prefer activities in the natural sciences, art or design.

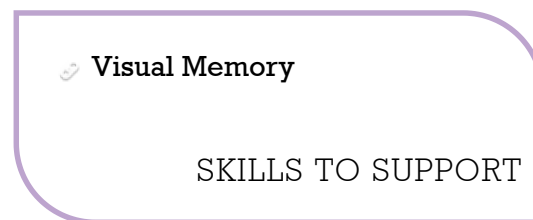
More recommendations can be found in [Wes 's Personalized Learning Plan](#)

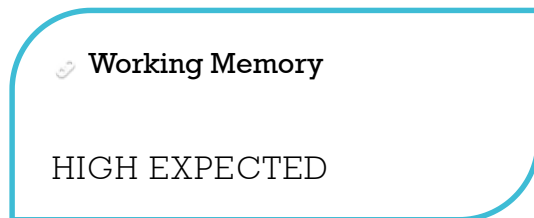
## Next Steps

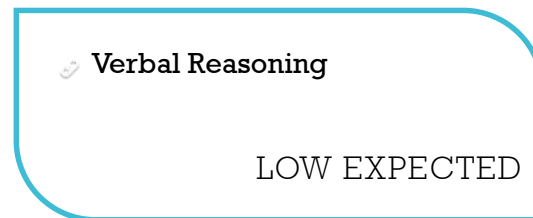
After you've had sufficient time to read and review this profile, we hope you make use of the extensive resources available to you on MindprintLearning.com. If you wish to read more about the Mindprint tests [click here](#). Our site also has more information on each of the skills we address in this report. You can learn how they might change over time, the importance of effort and attitude, and material on several other pertinent topics. We also have an ever-growing database of free professional-recommended learning strategies and product suggestions.

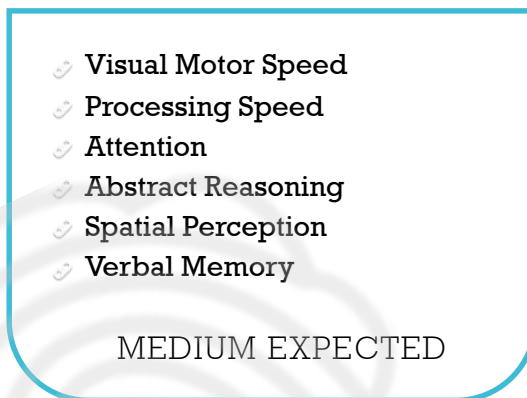
Wes 's Toolbox is now tailored to his Unique Learning Profile. Below are customized links to the Toolbox for Wes .

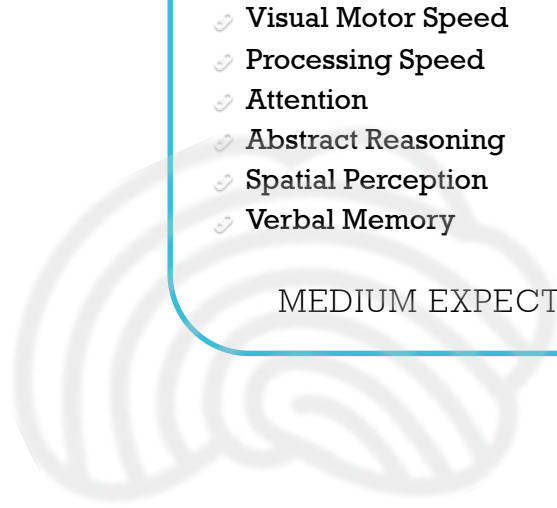
 **Flexible Thinking**  
STRENGTHS

 **Visual Memory**  
SKILLS TO SUPPORT

 **Working Memory**  
HIGH EXPECTED

 **Verbal Reasoning**  
LOW EXPECTED

 **Visual Motor Speed**  
**Processing Speed**  
**Attention**  
**Abstract Reasoning**  
**Spatial Perception**  
**Verbal Memory**  
MEDIUM EXPECTED



## Performance by Skill

This report is organized by the four major domains of learning: speed, executive functions, complex reasoning, and memory. Across the domains, 10 cognitive skills were assessed. You will find descriptions of these 10 cognitive skills grouped by domain, followed by a description of how Wes performed on a test of each skill. This description of how Wes learns will help you recognize which activities will come more easily to him and anticipate which may require more support. Mindprint uses the information from this report to tailor recommendations for supporting strategies and follow-up activities that you will find in Wes's Toolbox. You will find these recommendations when you log in to your Mindprint Learning account.

### SPEED



How fast students work can have a large impact on school performance. Students who work efficiently are able to complete thoughtful work within the expected time. They can use any extra time to check their work, take on more challenges, or relax before the next task.

Students who work at a slower pace might find that they sometimes cannot get all their work done in the allotted time. These students might not be able to finish tests or they might take a long time to complete homework.

Some students accept the slower pace. Others rush through their work too quickly, however, in an effort to finish on time, which can have an impact on accuracy.

There are two types of **speed** that affect performance: **visual motor speed** and **processing speed**.

#### Visual Motor Speed

**Visual motor speed** is the rate at which a student can see and physically respond. Athletes usually have excellent visual motor speed. In school, students with strong **visual motor speed** might be fast at typing, copying assignments from the board, or efficiently handling procedures in the science lab.

On a test of **visual motor speed**, Wes was shown one square on the screen and asked to click on it as quickly as possible each time it reappeared. The square changed locations and became smaller as the test progressed. This simple task was Wes's first test, designed to make him comfortable with the testing environment and to create a baseline for how quickly he can react when he does not need to think about his answers.

Wes performed in the **expected range** on our test of visual motor speed. Visual motor speed supports activities that require good visual motor speed or reaction time, such as note taking, art, and other hands-on activities. If you would like recommendations for Wes to practice visual motor speed, you can click on the link for visual motor speed in the Next Steps section of this report.

EXPECTED RANGE

#### Processing Speed

**Processing speed** is the rate at which a student takes in and analyzes information. Speed is a global process impacting all other learning. Students with efficient processing speed work quickly and accurately. Working quickly is not the same as working efficiently, however, as a fast pace but scattered errors can indicate that a student is processing information with insufficient depth. Students who work too quickly often have grades that do not reflect the student's best ability.

Conversely, students with slower **processing speed** take longer to read with full comprehension, finish assignments, or respond to questions. Sometimes a slower, more deliberative approach can be beneficial, especially for complex tasks. Other times, slower pace can be inefficient and interfere with the student's ability to keep up with the class or finish in an appropriate amount of time.

All the Mindprint tests assess both accuracy and speed. One of the advantages of computerized testing is that it provides precise measurements of the student's working speed. We compare speed on fast-thinking tasks such as attention and memory to more deliberative tasks such as complex reasoning. This comparison enables us to assess if the student is efficiently working at an appropriate pace for the type of task.

Wes performed in the **expected range** on our measure of processing speed. Wes demonstrated a fine ability to absorb, interpret, and respond to information. If you would like suggestions on how to help further develop processing speed, you can click on the link for processing speed in the Next Steps section of this report.

EXPECTED RANGE

## EXECUTIVE FUNCTIONS

### What are Executive Functions?

**Executive functions** refers to a set of skills that involve the organization system for thinking. Just as the person in charge of a business has the powers of an executive, each person is in charge of his or her own thinking and actions. We consider abilities such as purposeful goal-directed activity, paying attention, evaluating, decision-making, planning, organizing, implementing, and following through. Succeeding in school, pursuing a hobby, learning athletic strategy and teamwork all require **executive functions**. Mindprint focuses on the **executive functions** of **attention**, **working memory**, and **flexible thinking**.

### Attention

If executive function is the commander at the top of the system, **attention** controls the flow of information in and out of the mind. If a student is actively focusing, the quality of work will likely be consistent. If a student tunes in and tunes out, he will miss details in the information and have more inconsistent results. A capable student whose attention is inconsistent is working with spotty information and therefore likely to produce inconsistent work. While it is easier to pay attention for tasks that we enjoy, such as a television show or a game, it is harder to maintain consistent focus for tasks that we might not find fun or interesting.

Mindprint considers two aspects of performance in our measure of attention. We measure how accurate a student is on the task and also the working speed the student maintains to achieve that level of accuracy. The amount of time a student spends in order to maintain accuracy is important, as it indicates if the student is lagging in processing information, slowing down efforts in order to compensate for difficulty, or impulsively responding.

Wes performed in the expected range on efficiency for this task. Wes was able to maintain an age-appropriate level of attention. If you are interested in further developing Wes's attention skills, you can click on the link for attention in the Next Steps section of this report.

EXPECTED RANGE

On the test for attention, Wes was shown a seven segment display which changed every second. Wes had to press the space bar whenever the display formed a complete digit or a letter. This admittedly dull task challenges a student to control his attention by continuing to focus as long as needed even if bored. This task creates a demand for sustained **attention** similar to that needed to follow through on a frustrating homework assignment, listen to a presentation by a teacher, or complete an extended reading task.

## Working Memory

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A second area of **executive function** tested was **working memory**. **Working memory** is the ability to hold information long enough to use it for completing a task. Remembering a phone number long enough to dial is a simple example of **working memory**. This type of memory is used for following multi-step directions, completing mental arithmetic, listening to a complex story, or answering reading comprehension questions.

On the **working memory test**, Wes was asked to do three conditions of a simple task. The test displays sequences of uppercase letters. In the first condition, Wes responded when he saw the letter X. In the second condition, he needed to respond if the letter in front of him was identical to that preceding it. In the final condition, he was asked to respond if the letter in front of him was identical to that presented two letters previously. This is seemingly simple, but it is actually a quite challenging task. Wes had to pay attention to constantly changing information, remember and mentally refresh relevant information, and simultaneously remember the instructions. Some students find that their minds start to get overloaded with the combination of letters and instructions, while other students complete this task more easily.

Wes performed in the **high end of the expected range** on this task. Wes has a good ability to hold information in working memory and juggle an age-appropriate amount of information to solve a problem. Working memory can be an important asset across all subjects, particularly as students reach higher grades and need to handle a larger amount and variety of information to understand and complete any given task. If you would like to help Wes further develop this skill, you can do a customized search for working memory in his Mindprint Toolbox.

EXPECTED RANGE

## Flexible Thinking

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**Flexible thinking**, the ability to shift gears or change direction to adjust to unexpected changes, is a key problem solving skill. While working on a solution, a student must recognize when it may be necessary to try a new approach. Shifting is central to handling transitions, tolerating change, problem solving, and changing from one topic to the next. **Flexible thinking** relies on abstraction, or the ability to develop meaning, structure and order from complex information. Making connections, seeing the relationship between different events or topics, and meaningfully interpreting stories, are all experiences that help abstraction skills develop. Students strong in this skill will probably be good at changing tactics if their first attempt is unsuccessful. In contrast, students who get stuck often have trouble taking a new point of view, trying a new solution, or accepting redirection.

On the test of **flexible thinking**, Wes was presented with four objects at a time. Wes needed to select the object that did not belong with the others based on one of three sorting principles. Sorting principles changed, and feedback was given to guide his correct identification of the principle. Wes

had to take feedback about being incorrect, shift gears, and find a new strategy. This test looks at whether Wes can think flexibly, impose order on new information, and efficiently problem solve.

### What is Complex Reasoning?

**Complex reasoning** is the ability to analyze information and solve complicated problems. When students use reasoning skills, they are thinking through ideas in a logical way to arrive at a conclusion. This is often referred to as “higher order thinking.” **Complex reasoning** skills become increasingly important as students progress through grades at school. The complex reasoning skills assessed were **verbal reasoning, abstract reasoning, and spatial perception.**

Wes performed ***well above the expected range*** on this task. You might find that Wes has an exceptional ability to adapt to new situations, and that he is readily willing to try and find new problem solving techniques. This skill will be a great asset as he confronts problems that require adaptive thinking and do not have a single correct answer. You will want to continue to cultivate this strength. You can find recommendations to practice this skill by clicking on the link in the Next Steps section of this report.

STRENGTH

## COMPLEX REASONING ✨

### ✨ Verbal Reasoning

**Verbal reasoning** requires students to make connections, identify relationships, predict potential events, read between the lines, and make inferences when concepts are presented in words. Students with stronger **verbal reasoning** skills are often quick to make connections between prior knowledge and experiences and new information. When learning in class, reading a book, or going on an excursion they are quick to figure things out. Conversely, students with weaker skills might need to ask more questions and receive more guidance before they develop a full understanding of a concept or situation.

On the test for verbal reasoning, Wes was presented with two words that relate to each other in a specific way and then asked to find another pair of words that relate to each other in the same way. For example, cat and kitten have the same relationship as dog and puppy.

Wes performed in the ***low end of the expected range*** on this task. You might find that he sometimes has difficulty when he must comprehend a story, read and understand written materials, or respond to questions. If you would like recommendations on how to help develop Wes 's verbal reasoning, you can click on the link for verbal reasoning in the Next Steps section of this report.

EXPECTED RANGE

### ✨ Abstract Reasoning

A second area of **complex reasoning** tested was **abstract reasoning.** **Abstract reasoning** is the use of critical thinking to solve problems that offer information in visual (or non-concrete) form. Students with a strength in this area can analyze novel problems and identify patterns and principles. They might readily understand new math concepts, come up with an insightful hypothesis in science, or understand a complex plot in a novel. Conversely, other students might shy away from tasks that require visualizing ideas they cannot see or touch.

On the **abstract reasoning** test, Wes was asked to identify the missing piece of a pattern. To figure out which answers fit best, Wes had to reason by analyzing and contrasting geometric and spatial principles.

Wes performed in the **expected range** on this task. Wes did a fine job of using good reasoning skills to understand the pattern. This skill will be important when he is asked to consider complex tasks that require him to analyze information, come up with solutions, or draw logical conclusions. If you are interested in finding products or strategies to further develop Wes 's abstract reasoning, you will find links in the Next Steps section of this report.

EXPECTED RANGE

## ✦ Spatial Perception

**Spatial perception** includes an understanding of direction, orientation, scale, and relationship between objects in space. People rely on spatial skills in art, maps, use of space on a page for writing, navigating screens on a computer, or planning a three-dimensional project, among other possibilities.

On the test of **spatial perception**, Wes was asked to view two lines at an angle. Wes had to make one line rotate until it had the same angle as the other. The relative location of the lines and their sizes differed in each example. This is a purely spatial task that does not involve thinking in words.

Wes performed in the **expected range** on this task. Wes was able to handle this visual task well. If you would like recommendations to help Wes practice this skill, you can click on the link for spatial perception in the Next Steps section of this report.

EXPECTED RANGE

## MEMORY

How is **memory** like the library? If books were shelved in no particular order, it would be nearly impossible to find a specific book when we need it. The library's filing system of subject area, Dewey decimal number and author's name, makes it straight-forward to efficiently find the book we need. But when someone replaces a book in the wrong spot, it is a frustrating and difficult process to locate it.

**Memory** is the mind's storage and retrieval system. Like the library, **memory** is efficient if information is entered in an organized manner so we can find the data we need when we need it. How a student takes in and organizes information in **memory** has a big impact on how easily that student is able to recall information under specific circumstances.

Mindprint tested Wes in two areas of **memory** central to learning, **verbal memory** and **visual memory**.

### 📖 Verbal Memory

**Verbal memory** is the ability to acquire information through words. School emphasizes **verbal memory**, including remembering information read in a text book, written on a board, or discussed in class. Students with strong **verbal memory** often require less time to remember vocabulary words or



study for a test. They are better at retaining and retrieving the information long after the test is over. Conversely, students with weaker **verbal memory** often take longer to prepare for tests requiring memorization and are more likely to forget the information once the test is over.

On a test of **verbal memory**, Wes was asked to memorize 20 target words. Those words were then mixed with 20 similar but different words. Wes was asked to indicate whether a word presented was included in the original target list.

Wes performed in the **expected range** on this task. Verbal memory is important for tasks requiring him to remember definitions, stories, or other text-based information. If you would like specific recommendations on how to further develop Wes's verbal memory, you can click on the link for verbal memory in the Next Steps section of this report.

### EXPECTED RANGE

## Visual Memory

**Visual memory** is the ability to acquire information through images. In school, visual learning can include looking at demonstrations, diagrams, and illustrations. Books, posters, charts, and computers in the classroom all offer an abundance of visual information.

On a test of **visual memory**, Wes was shown 20 target complex geometric shapes. Those shapes were then mixed with 20 similar but different shapes. Wes was asked to indicate whether a shape presented was included in the original target list. Unlike many of the other tasks, there was little opportunity to use verbal mediation to talk through a solution. Visual memory is a strictly visual task.

Now that you understand how Wes learns, you probably want to know how he can be more efficient and productive in school and learning. We suggest approaching this process from different perspectives depending on whether your focus is on specific academic subjects or his overall approach to life long learning.

Wes performed **well below the expected range** on this task. You might find that he struggles with assignments that require remembering mostly visual information, perhaps in subjects like geometry and science. Try to use supplemental text-based descriptions whenever practical for visual information, as a multi-modal approach can help.

The Next Steps sections at the end of the report will provide you with links to learn more about the role of visual memory in learning as well as strategies on how you might help Wes study when he is asked to remember mostly visual information.

### SKILL TO SUPPORT

## Improving Academic Performance

If you want to supplement Wes's schoolwork, we suggest that you look for academic products that do not require him to rely heavily on his weaker skills to be successful. We also recommend that you choose products that are a natural fit with Wes's interests and hobbies to increase the likelihood that he will find them engaging. When you go to your Mindprint Toolbox, you will see that we prioritize products that will be a good fit for Wes. For each product we review, we also highlight cognitive concerns, characteristics of a product that could create difficulties given a weaker skill.

Translating the Results into Successful Learning: The Mindprint Toolbox

## Bolstering Cognitive Skills

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In addition to product recommendations, you will find evidence-based learning strategies in Wes 's Mindprint Toolbox. These offer guidance on specific approaches for working with Wes on learning approaches and metacognition. We also recommend a broad variety of games and activities that can be an enjoyable way to practice and develop particular skills. Be sure you update Wes 's interests on your account to ensure that you see the products that he is most likely to find enjoyable.

## Understanding the Impact of Anxiety and Mood Disorders

Anxiety, depression and other mood disorders can have an impact on cognitive and academic performance. Fortunately, students struggling with emotional difficulties can often demonstrate their true capabilities on the Mindprint assessment given the test is relatively brief, low stakes relative to other standardized tests, and is often taken in a comfortable, familiar environment which minimizes stress.

If emotional difficulties do present, they are most likely to impact performance on the tests of working memory, attention and processing speed since mood can have an impact on the mind's ability to think efficiently. However, emotional difficulties can affect performance on any skill if a student is unable to maintain focus for even short periods of time or stops trying. If a student has taken the Mindprint assessment in the past and you see a significant decline in performance in one or more skills, you might want to consider if emotions could be the cause.

At school, students struggling with anxiety or depression might show declines or inconsistencies in academic performance. Given the direct impact emotions can have on executive functions, these difficulties might be confused with signs of executive dysfunction.

In addition, students with unaddressed learning difficulties might develop anxiety and depression as they struggle to understand why they are not doing well in school, feel pressure to keep up with their peers, or simply feel misunderstood. Without a clear understanding and acceptance of the reasons for their struggles, it could affect self-esteem. It is one of several important reasons that experts recommend early identification and intervention for any type of learning problem.

We urge parents to investigate suspected anxiety and depression. The sooner any difficulties are understood and are addressed, the greater the likelihood for a happier, more productive, and self-confident child. An anonymous, free first step can be the Child Mind Institute's symptom checker located [here](#). Alternatively, parents can consult a pediatrician for referral to a child psychologist or psychiatrist.

## Sharing Results with Your Child

Many parents wonder if they should share this profile with their children. Our experience, and much research, shows that children are more successful when they have a good understanding of how they learn, or metacognition. With this understanding, they generally have more confidence and are more comfortable asking for help. We have many articles on metacognition available on our website if you would like to learn more.

The question of how and when to share the results of this assessment depends on when you think Wes is ready to use the information productively. Children develop this type of maturity at different ages. When you feel Wes is ready, you can share and discuss this report with him. Give him plenty of opportunity to ask questions. Alternatively, you might want to discuss some of the results over time.

There is no right way to approach this. It very much depends on your personal preferences and which strategy you believe will most likely benefit Wes .

