

# **Early Spark**

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### Cognitive Assessment Report

#### Overview:

This report presents a cognitive assessment based on a series of digital tasks and speech analysis. The assessment aims to evaluate various cognitive domains, including executive function, memory, and language. The results are preliminary and should be interpreted in the context of a comprehensive clinical evaluation.

### Metrics Explanation:

- \* Stroop Colour: Measures executive function, specifically the ability to inhibit cognitive interference. A higher score generally indicates better performance.
- \* Memory Game: Assesses short-term memory and working memory. A higher score reflects better memory performance.
- \* Image Recall: Evaluates visual memory and recall abilities. A higher score indicates better visual memory.
- \* Speech Metrics: Quantify aspects of speech, such as pause time, filler words, lexical diversity, and fluency. These metrics can provide insights into cognitive processing speed and language skills.
- \* Sentiment Analysis: Detects the emotional tone of speech. Negative sentiment may be associated with various cognitive and emotional states.

### Memory Game Analysis:

The Memory Game score is 0. This could indicate a failure to complete the task, significant difficulty with short-term memory, or a technical issue preventing data capture. Further investigation is warranted to determine the cause.

### Image Recall:

The Image Recall score is also 0, similar to the Memory game. This might suggest problems related to visual memory, attention, or task comprehension. As with the memory game, the reason for the zero score could stem from test incompletion or data error.

### Stroop Colour:

The Stroop Colour score is 29. While interpreting this score requires consideration of age and normative data, a score of 29 suggests potential challenges with cognitive interference and executive function. Without further context, it's difficult to definitively determine the severity.

### Speech Analysis:

The speech metrics reveal the following:

\* Total time: 1.2 seconds

\* Total pause time: 0.0 seconds

\* Pause density (%): 0.0%

\* Repeated words: 0.0



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\* Filler words: 0.0

\* Filler frequency (%): 0.0%

\* Unique words: 6

\* Lexical diversity (%): 100.0%

\* Speech fluency (words/sec): 120.0

The very short speech sample (1.2 seconds) limits the meaningfulness of these metrics. The absence of pauses, filler words, and repeated words, along with 100% lexical diversity, are difficult to interpret due to the brevity of the sample and the single phrase. A larger speech sample would provide a more reliable assessment of speech patterns. The speech fluency appears extremely high.

### Sentiment Analysis:

The sentiment analysis indicates a "negative" sentiment. The weighted score is 40.654. The transcript "Think they're good just to?" clearly expresses a negative sentiment that contributes to the overall negative rating. Negative sentiment can impact cognitive processes by narrowing focus and potentially impairing executive functions. Further investigation into the source and context of this negativity is recommended.

### Heuristic Cognitive Risk Assessment:

Based on the available data, there are indicators warranting further investigation. The low Stroop score, combined with zero scores on the memory tasks, raises concern. The negative sentiment expressed in the speech sample also adds to the potential risk. It is important to note that this assessment is based on limited data and should not be considered a diagnosis.

### Integrated Interpretation:

The combination of cognitive task performance and speech analysis suggests potential cognitive challenges. The zero scores in the memory tasks are concerning and need further investigation. The Stroop score indicates some difficulty with cognitive interference. The negative sentiment expressed in the speech sample requires further exploration to determine its impact on cognitive function and overall well-being. However, the short utterance available for speech analysis and sentiment means it can't be conclusive.

### Recommendations:

- 1. Comprehensive Neurological Evaluation: A thorough neurological examination is recommended to assess cognitive function in greater detail.
- 2. Neuropsychological Testing: Consider a full neuropsychological assessment to evaluate various cognitive domains, including memory, attention, executive function, and language.
- 3. Speech and Language Evaluation: A more extensive speech sample should be collected and analyzed to provide a more reliable assessment of speech patterns and language skills.
- 4. Mental Health Assessment: Evaluate for potential mood disorders or other factors that may be contributing to the negative sentiment.
- 5. Repeat Testing: Repeat the digital cognitive tasks to rule out technical errors or lack of comprehension of instructions.



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It is a test done by AI; if the score is too high it is suggested to consult a doctor immediately, if not then also it is better to meet a doctor.

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