Early Spark

Cognitive Assessment Report

Overview

This report presents a cognitive assessment based on several digital tasks and speech/sentiment analysis. The aim is to provide an initial overview of cognitive function, identifying potential areas of concern that may warrant further clinical evaluation. This assessment is not a substitute for a comprehensive neurological examination.

Metrics Explanation

* Stroop Colour: Measures executive function, specifically the ability to inhibit cognitive interference. A lower score suggests difficulties in processing conflicting information.
* Memory Game: Evaluates short-term and working memory. A low score may indicate challenges in retaining and manipulating information.
* Image Recall: Assesses visual memory and recall capabilities. A low score may suggest difficulties encoding and retrieving visual information.
* Speech Metrics: Analyzes speech patterns for indicators of cognitive health. Pause time, filler words, lexical diversity, and speech fluency can reflect cognitive processing speed and language skills.
* Sentiment Analysis: Examines the emotional tone of speech, which can be associated with cognitive and emotional well-being.

Memory Game Analysis

The memory game score is 1. This indicates a significant difficulty in short-term memory and working memory. It could be a result of encoding problems, retention issues, or retrieval difficulties. Factors such as attention, motivation, and familiarity with the task can influence performance.

Image Recall Analysis

The image recall score is 0. This very low score suggests considerable difficulty with visual memory encoding or retrieval. Contributing factors could involve visual processing impairments, attentional deficits during encoding, or issues with long-term storage and retrieval.

Stroop Colour Analysis

The Stroop Colour score is 39. This score reflects performance on a task requiring cognitive inhibition and processing speed. This means the participant was able to complete 39 trials on the stroop task. Depending on the average performance scores available for the task, this result could signify potential difficulties in executive function, particularly in the ability to suppress automatic responses and manage cognitive interference. Further investigation of response times and error patterns would be beneficial in determining the specific nature of any executive dysfunction.

Speech Analysis

Early Spark

The speech analysis reveals the following:

* Total Time: 3.54 seconds. This is the total duration of the audio file.

* Total Pause Time: 3.54 seconds. This value is equal to the total time which is unusual and needs further consideration. It's possible that the analysis tool did not accurately measure the speaking time vs the pause time. This should be examined manually.

* Pause Density: 50.0%. This high percentage may indicate hesitations or difficulties in formulating thoughts. However, given that the total pause time and total time are the same, this number needs re-evaluation.

* Repeated Words: 0.0. There were no repeated words in the short audio sample.

* Filler Words: 2.0. The presence of two filler words ("so", "right") in a short utterance suggests possible hesitancy or effort in verbal expression.

* Filler Frequency: 25.0%. A relatively high filler frequency may indicate difficulties with fluency or word retrieval.

* Unique Words: 8.0.

* Lexical Diversity: 100.0%. A high Lexical Diversity means that all words are different.

* Speech Fluency: 70.0 words/sec. An unusually high speech fluency measure combined with other metrics. This is highly suspect and likely erroneous. Given that there appear to be some inaccuracies in the measurement of pause time, speech fluency, this entire file's speech metrics are questionable.

Sentiment Analysis

The sentiment analysis indicates a "neutral" sentiment with a weighted score of 56.495. The probability distribution across sentiment categories is as follows:

* Negative: 0.064
* Somewhat Negative: 0.185
* Neutral: 0.645
* Somewhat Positive: 0.074
* Positive: 0.032

The predominance of the neutral label suggests an emotionally balanced state or a lack of strong emotional expression in the speech sample.

Heuristic Cognitive Risk Assessment

Based on the available data, the individual demonstrates potential cognitive challenges, primarily in the domains of memory and executive function (as suggested by the Stroop score). The discrepancies noted in the speech metrics necessitate cautious interpretation and further investigation.

Integrated Interpretation

The combination of low scores in memory tasks and a Stroop score suggestive of executive function difficulties

Early Spark

raises concerns about possible cognitive impairment. The speech analysis, while potentially flawed in its measurements, hints at possible fluency and expressive language challenges. The neutral sentiment does not provide additional clarifying information. Overall, the pattern of results suggests the need for a more comprehensive cognitive evaluation.

Recommendations

1. Comprehensive Neuropsychological Assessment: A detailed neuropsychological evaluation is strongly recommended to assess cognitive functions across multiple domains, including memory, executive function, language, and visuospatial skills.

2. Neurological Consultation: A consultation with a neurologist is advised to rule out any underlying neurological conditions that may be contributing to the observed cognitive difficulties.

3. Speech-Language Evaluation: Given the indications of potential speech fluency issues, a speech-language evaluation may be beneficial.

4. Review of Medical History: A thorough review of the individual's medical history, including medications and any pre-existing conditions, is essential.

5. Repeat the Tasks: As some speech metrics appear erroneous, repeating the speech task in a controlled environment is recommended. Verify the accuracy of the tool being used.

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.

IMPORTANT DISCLAIMER

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.