Early Spark

Cognitive Assessment Report

Overview

This report presents a cognitive assessment based on several tasks and metrics, including a Stroop colour test, memory recall game, image recall task, speech analysis, and sentiment analysis. The aim is to provide insights into various cognitive domains and identify potential areas of concern. This assessment relies on quantitative data derived from the completed tasks.

Metrics Explanation

* Stroop Colour: Measures cognitive processing speed and selective attention. It reflects the ability to inhibit cognitive interference, which can be influenced by conditions like cognitive decline or ADHD.
* Memory Game: Assesses short-term memory and the capacity to retain and recall sequences.
* Image Recall: Tests visual memory and the ability to encode, store, and retrieve visual information.
* Speech Metrics: Analyzes various aspects of speech, including pause time, filler words, lexical diversity, and fluency, to identify potential indicators of cognitive or linguistic difficulties.
* Sentiment Analysis: Evaluates the emotional tone expressed in speech to discern mood patterns and potential emotional dysregulation.
* Combined Sentiment: Aggregate sentiment from all files.

Memory Game Analysis

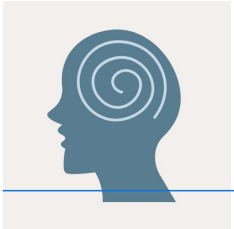
The memory game score is 5. This score represents the participant's ability to remember and recall sequences in the memory game. A score of 5 suggests relatively low short-term memory performance based on the data provided.

Image Recall

The image recall score is 32. This score indicates the number of images successfully recalled by the participant. It reflects visual memory capabilities, and higher scores typically correlate with better visual memory function.

Stroop Colour

The Stroop Colour score is 350. This score indicates the time taken (presumably in milliseconds) to complete the Stroop test. A higher time suggests slower cognitive processing speed and potentially greater difficulty in inhibiting cognitive interference.



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Speech Analysis

The speech analysis comprises metrics from four audio files. Key indicators and their potential implications are outlined below:

* Total Time: Ranges from 11.92 to 17.62 seconds per file.

* Total Pause Time: Substantial pause times (ranging from 11.52 to 17.62 seconds) across all files. Elevated pause times can indicate word-finding difficulties or cognitive processing delays.

* Pause Density (%): Consistently high pause densities (45.03% to 50.0%) suggest frequent and prolonged pauses during speech, which may be indicative of cognitive effort or uncertainty.

* Repeated Words: The number of repeated words varies (2.0 to 10.0). Frequent repetition can be a sign of memory retrieval issues or difficulty formulating thoughts.

* Filler Words: The frequency of filler words ranges from 0.0% to 10.81%. Increased filler word usage can suggest hesitations and potential difficulties in speech fluency.

* Unique Words: Ranges from 15.0 to 23.0, reflecting variations in vocabulary usage across different speech samples.

* Lexical Diversity (%): Varies from 50.0% to 85.19%. Lower lexical diversity may indicate a restricted vocabulary or difficulty accessing a wide range of words.

* Speech Fluency (words/sec): Ranges from 60.7 to 79.95 words per second. Fluency measures the speed and continuity of speech; lower fluency may suggest speech-related difficulties.

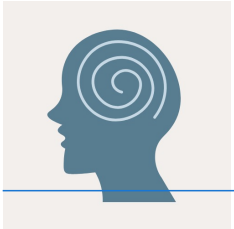
Across the audio files, there are consistently high pause densities, along with variability in lexical diversity and fluency. These metrics collectively suggest potential cognitive processing and speech-related challenges.

Sentiment Analysis

The sentiment analysis reveals varying emotional tones across the audio files:

* File 1: Negative sentiment, with a weighted score of 40.725.
* File 2: Positive sentiment, with a weighted score of 76.523.
* File 3: Negative sentiment, with a weighted score of 40.695.
* File 4: Neutral sentiment, with a weighted score of 64.844.

The combined sentiment is negative, with a weighted score of 54.722. This suggests an overall tendency towards negative emotional expressions in the speech samples. The verbatim transcript does have elements of this, with reference to sadness about old memories, concern about a cold.



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Heuristic Cognitive Risk Assessment

Based on the provided data:

* Memory: The memory game score (5) suggests a potential concern.
* Visual Memory: The image recall score (32) suggests reasonable visual memory.
* Processing Speed: The Stroop Colour score (350) indicates slower processing speed, which may reflect cognitive interference.
* Speech Patterns: High pause densities, variable lexical diversity, and filler word usage suggest possible cognitive or linguistic challenges.
* Sentiment: The combined negative sentiment might indicate a prevailing negative mood.

Integrated Interpretation

The assessment reveals a mixed profile. While the image recall score is within a reasonable range, the low memory game score, slower Stroop processing speed, and speech analysis metrics (high pause densities, variable lexical diversity, and filler words) suggest potential cognitive concerns. The negative sentiment adds another layer, indicating a possible negative mood or emotional state.

Recommendations

1. Comprehensive Cognitive Evaluation: Given the identified concerns, a thorough cognitive evaluation by a qualified healthcare professional is recommended. This evaluation should include standardized cognitive tests to assess memory, attention, executive functions, and language skills.

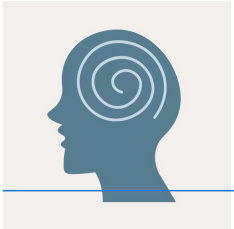
2. Speech and Language Assessment: Consider a speech and language assessment to further investigate the observed speech patterns, including pause times, lexical diversity, and fluency.

3. Mood Assessment: Evaluate the participant's mood and emotional state to determine if there are underlying emotional factors contributing to the negative sentiment and potentially impacting cognitive function.

4. Follow-Up: Based on the results of the comprehensive evaluation, implement appropriate interventions or strategies to address any identified cognitive or linguistic deficits. This might involve cognitive training, speech therapy, or psychological support.

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



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