Lilia Sanchez

PHYSIOLOGY- INDEPENDENT PROJECT

NOVEMBER 28, 2023

PURPOSE: STROOP EFFECT- Can visual-cognitive processing improve through long term utilization of the Stroop Effect?

INTRODUCTION:

The famous "Stroop Effect" is named after J. Ridley Stroop who discovered this strange phenomenon in the 1930s. According to the theory, our brain saves resources and "automatically" reads familiar words. In this experiment, participants were assessed utilizing this form of assessment.

Stroop Effect: The participant is presented with a list of color words, with each word displayed in an ink color. The participant's task is to say out loud the ink color in which the word is printed and is required to say the color of the word, not what the word says.

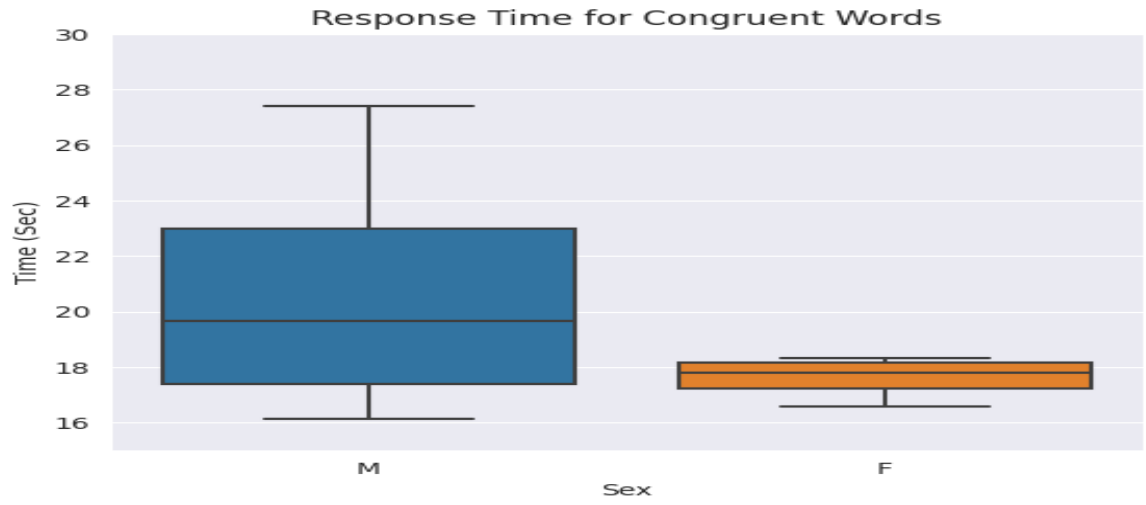
Link: Stroop Effect Test (unt.edu)

(For example, for the word, RED, you should say "Blue.") -The examination has two conditions: (Congruent) where the word matches the color and (Incongruent) where the word and color doesn't match.

In each case, we measure the total time it takes to name all the ink colors for all words in the list. Each participant goes through and records the times from each condition. (Male and female were assessed separately.)

This process was then repeated several times to determine the final results.

METHOD/RESULTS:



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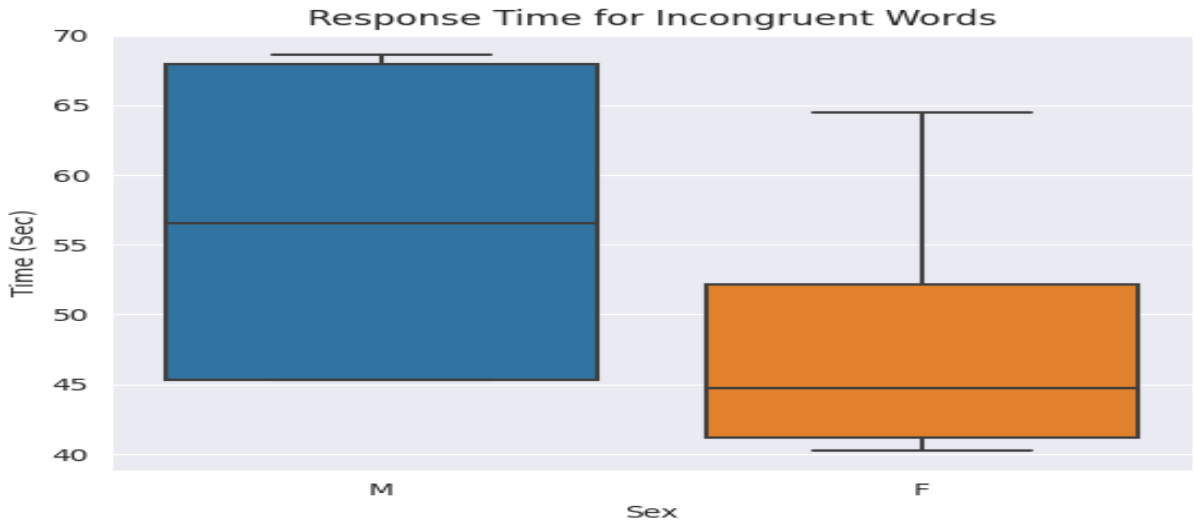

DISCUSSION:

Through this experiment, the results reflect the congruent response ranging from 16.126-27.399 for males and 16.591-18.331 for females, which is a significantly different to the incongruent response. With incongruent responses, the assessment revealed a response time of 45.321-68.616 for males and 40.247-48.062 for females. In review of these results, I noted a significant amount of variation from male to female, but also a variation in the congruent response for males from start to finish. For males, the responses revealed the visual cognitive response to have a decreasing automated process for interpreting information. For female, the results on a congruent response, seemed to vary slightly, but overall seemed to hold a consistent pattern.

As to male vs female, on incongruent patterns, we see that for the male, the repetition of the assessment revealed again a decreasing effect on the response time. For females, it seemed to have an opposite effect which revealed an improvement in response time.

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CONCLUSION:

In conclusion, the results revealed visual-cognitive processing to vary between males and females, with males reflecting an inhibitory effect on congruent (starting- 16.126 and ending- 21.492) and females improving (started-17.436 ended-16.591). With incongruent, males continued to be again more inhibitory and females improving (males- started- 45.321, ended- 68.616 and females- started- 64.463 ended- 40.247).

Although, I cannot conclusively confirm that this theory is definitive as more information/evaluation, over a longer and extended period of time may provide more accurate findings.