Does age affect the 'Stroop Effect'?

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Aim: To test if different age groups are impacted differently by the stroop effect.

Hypothesis: If the stroop effect is tested on different age groups, then the older participants(41+) will the most impacted by the stroop effect as their cognitive automatic response has declined.

Background Information: The stroop effect was first published in an article in 1935 by John Ridley stroop. The effect is where you must say the colour of a word, but not the name. It test your delayed reaction when the colour of the word, does not match the word. Most people tend to recognise the word faster than the colour. Through the test, we see that our brains are more trained to read the word.He found that when our brains are instructed to do the opposite, our brains had to intentionally adjust to the response. This is called interference.

Method:

1- Record the age of the participant.

2- Use a stopwatch to time how long it takes the participant to complete the initial easy test.

3- Record the time for the initial test.

4- Repeat steps 2-3 with the same participant but this time use the final hard test.

5- Figure out the time difference between the two tests, and record this information

6- Repeat steps 1-5 with numerous different participants.

	Initial/Easy Test Average(Seconds)	Final/Hard Test Average(seconds)	Time Difference Average(Seconds)
10-20 Years Old	19.25	45	25.75
21-30 Years Old	18.88	39	22.12
31-40 Years Old	18.75	45.5	26.75
41+ Years Old	26.25	59.6	74.1
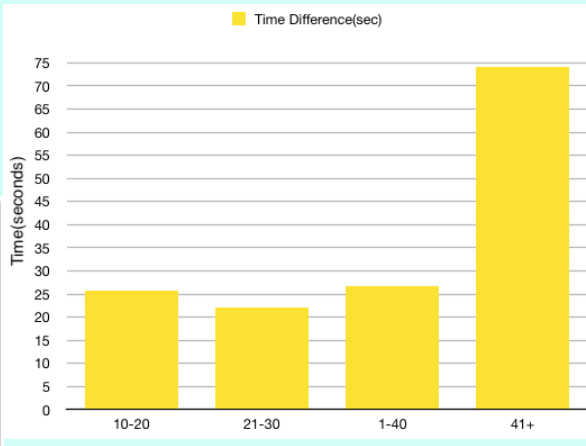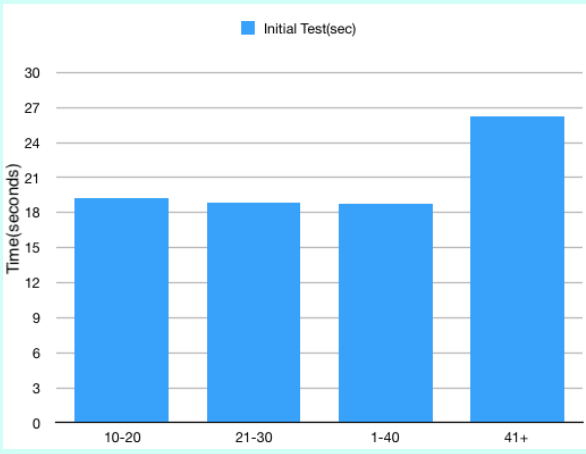
Analysis: Through this experiment we were able to determine that age does in fact play a role in determining how deeply the participants were affected by the stroop effect. Through this experiment we are able to conclude that the oldest participants 41+ were in fact the most affected by the stroop effect due to a variety of possible reasons with the most likely one been that the difference did in fact increase with age because the cognitive capacities required to suppress the more automatic response begin to decline. However, the age group least affected by the stroop effect were not the youngest participants(10-20) as the younger participants brought down the time difference average, because their concentration skills and automatic response systems were not fully developed yet. The participants aged 21-31 were the least affected by the stroop effect as their average time difference was only 22.12 seconds, in comparison to that of the participants aged 10-20 with an average of 25.75 seconds, the participants aged 31-40's average been 26.75 seconds and the oldest participants 41+'s average was 74.1 seconds. Possible reasons as to why participants aged 21-30 were the least impacted by the stroop effect are that their concentration are fully developed, but their cognitive capacities that are required to suppress the more automatic response have not yet began to decline.

The results gathered were as valid and accurate as possible, however there are still a number of different strategies and improvements that can be made to increase the validity and accuracy of the experiment. This includes using numerous different examples of the stroop effect test, rather than just one in order to collect more diverse data to make the results for valid. We could also test more people with a bigger variety for ages, and finally we could test to see whether different factors such as gender or eye colour also impact the stroop effect.

Therefor this experiment is as valid and accurate as possible, but with room for improvement and age did impact the stroop effect.

Conclusion: In conclusion, through this experiment we were able to determine that age does in fact impact the stroop effect, with older participants ageing 41+ having a disadvantage as their cognitive capacities that are required to suppress the more automatic response have began to decline. The younger participants however also had a disadvantage as their concentration skills have not yet fully developed, thus making participants aged 21-30 the least impacted by the stroop effect.

RED	YELLOW	BLUE
PINK	ORANGE	BROWN
GREEN	GRAY	BLACK