Priming & Memory: Writing utensil effects of word lists retention

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INTRODUCTION

Research question:

Will writing with a permanent writing utensil have a greater outcome for the effects on memory?

Purpose:

To determine if the retention of memory on word lists, when using a permanent writing tool, is greater than writing in something erasable, like a pencil.

What influenced this?
INTRODUCTION

Background

- Molden, in 2014, discussed what social priming is and how it imprints stimuli within our brain to influence our actions.

- In 2010, Goldfarb, Aisenberg, and Heinik introduced a study outlining how social priming reduces the Stroop effect, and improves cognition abilities.

Hypothesis

Individuals who write with permanent writing tool will have higher rates of memory associated with words.
METHODOLOGY: “STUDY 1”

First Stimuli
- Genetic
- Chaos
- Vacuum
- Spell
- Snow
- Injection
- Knock
- Resource
- Fast
- Roll
- Call
- Exile
- Corruption
- Flexible
- Game

Degree
- Executrix
- Spite
- Recording
- Exposure
- Belief
- Process
- Compensation
- Provide
- Manual
- Pop
- Prejudice
- Modest
- Whole
- Nope

Example of Second Stimuli - Simple Addition Problems

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METHODOLOGY: “STUDY 2”

Word List Stimuli
- 35 words at 5 seconds each

Addition Problems
- 90 seconds

Memory Recognition Stimuli
- 70 words at 3 seconds each
There was not a significant difference in the score of pencil (M=5.89, SD=1.54) and pen (M=5.56, SD=1.88) true positive conditions; t(17)=.412, p=.686.

There was not a significant difference in the score of pencil (M=.153, SD=.157) and pen (M=.121, SD=.219) false positive conditions; t(17)=.354, p=.728.
RESULTS: “STUDY 1”

- There was a significant difference in the score of Zoom (M=6.60, SD=1.578) and in-person (M=4.63, SD=1.061) conditions; t(17)=3.027, p=.008

Figure 5: True Positive Rate through Process Done by
RESULTS: “STUDY 2”

- There was not a significant difference in the score of pen (M=56.00, SD=5.20) and pencil (M=57.64, SD=2.59) true positive conditions; t(27)=1.058, p=.300.

- There was not a significant difference in the score of pen (M=6.14, SD=3.96) and pencil (M=4.93, SD=2.53) false positive conditions; t(27)= -.968, p=.342.

- There was not a significant difference in the score of pen (M=7.86, SD=4.13) and pencil (M=7.43, SD=2.85) false negative conditions; t(27)= -.320, p=.752.
DISCUSSION

Findings

- In “Study 1,” there were no significant differences between pen or pencil in any conditions. However, those who performed over zoom showed a significant difference over those in-person.
- In “Study 2” there were no significant differences in any conditions.

Analysis

- My hypothesis was wrong in indicating that pen would show greater results in memory recall and recognition.

How can the research be improved?
DISCUSSION

Limitations

- Small convenience sample
- Gender is not evenly represented
- Class assignment

Future Studies

- Account for any disorders participants may have
- Understand why students performed better through zoom
- Control for the writing utensils that participants are already comfortable with