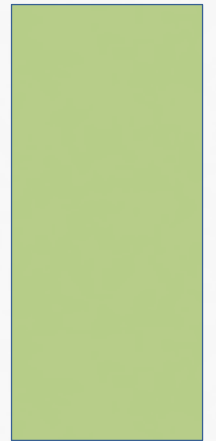


IN CLASS EXPERIMENT

STROOP TASK



AUTOMATED PROCESSES

- When you first learn anything, you will need to think carefully through each step of the process before it becomes automatic (i.e., Automatic Process).
 - For example, if you were tying your shoes for the very first time, you would need to think of each of the steps. Now, you hardly think about each step as you tie your shoe laces.
- Many behaviors can become automatic: typing, reading, writing, bicycling, piano playing, driving, etc.
- To explore the properties of automatized behaviors in cognitive psychology, cognitive psychologists often put observers in a situation in which an automatized response is in conflict with the desired behavior.

STROOP (1935)

- The **Stroop Effect** demonstration explores a well-known example of this type of influence.
- Stroop (1935) noted that observers were slower to properly identify color of ink when the ink was used to write the color of another word.
 - For example, using red ink to spell the word GREEN.
 - Observers are told to not pay any attention to the word names and simply report the color of the ink.
 - However, this seems to be a nearly impossible task, as the name of the word seems to interfere with the observer's ability to report the color of the ink.

STROOP EFFECT

- A common explanation for the Stroop effect is that observers (especially college undergraduates) have automatized the process of reading.
- The color names of the words are always processed very quickly, regardless of the color of the ink.
- On the other hand, identifying colors is not a task that observers have to report on very often, and because it is not automatized it is slower.
- The fast and automatic processing of the color name of the word interferes with the reporting of the ink color.

STROOP TASK

- We will be conducting the Stroop experiment.
- Using the following website:
 - <http://faculty.washington.edu/chudler/words.html>
- Step 1: Gather raw data
 - **Remember, try to name the color of the lettering and try NOT to read the words.**
 - Obtain reaction time for all words in the control condition (blue written in blue)
 - Obtain reaction time for all words in the experimental condition (“blue” written in red lettering)

STROOP TASK

- Step 2: Find the Means for Each Condition
- Step 3: Answer the questions on your handouts about the variables used in your experiment.
- Step 4: Begin the APA write-up for your experiment (each group must complete one write-up)
 - Title Page
 - Abstract
 - Introduction
 - Methods
 - Discussion
 - References



APA WRITE-UP

- Title Page
 - What's included?
- Abstract
 - Word limit?
- Introduction & References
 - Read and briefly summarize the article provided
 - What did the author's study do and what did he find?
 - Use your own words and make it precise and concise
 - State the purpose of the study
 - State your hypothesis
- Methods
 - What's included?
 - Participants
 - Measures (Materials)
 - Design (See Example APA Format paper [Example Final Research Paper w/o Notes](#))
 - Procedure

RESULTS

- **Use Handouts to Aid in Writing Statistical Results:**
 - (See APA Format/Example Papers on the Handouts page)
- The following article is recommended for this assignment:
[Reporting Statistics in Psychology](#)
- **Example Results Write-up:** “A paired-samples t-test indicated that scores were significantly higher for the Interfering Color Test ($M = 26.4$, $SD = 7.41$) than for the Non-interfering Color Test ($M = 18.0$, $SD = 9.49$), $t(721) = 23.3$, $p < .001$, $d = 0.87$.”
- Open **IBM SPSS Statistics** on your computers
- Perform a **Paired Samples T-test**
 - (a.k.a. Repeated Measures T-test, Dependent Measures T-test)

SPSS: PAIRED SAMPLES T-TEST

- **Paired Samples T-test** (a.k.a. repeated measures)
 - **Analyze > Compare Means > Paired-Samples T-Test**
 - Select Time 1 and Time 2, and click the right-arrow to move them to the Paired Variables box
 - Click OK
 - Is there significance?

Effect Size in Paired Samples T-Test Using SPSS

Cohen's *d*

Small, Medium, Large Effects: .20, .50, .80

$$d = \frac{\text{Mean difference}}{\text{Standard deviation of the difference in scores}}$$

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	JUMP1 - JUMP2	-.03400	.03185	.00712	-.04891	-.01909	-4.773	19	.000

DISCUSSION & REFERENCES

- Discussion
 - Did the result support your hypothesis?
 - Were the results consistent with past research?
 - What other variables should be examined or controlled?
 - Any limitations in terms of external validity?
- References
 - Should include only the references cited in the Introduction and/or Method sections.
 - Article to cite in your papers (**Use proper APA Format!**).
 - Stroop (1935) journal article
 - http://http://loraconnor.com/psych280/psych_280/handout-docs/week4/Stroop%201935.pdf

HAVE FUN!

1. Form groups of **6**
2. To get started visit Stroop Website and gather data
<http://faculty.washington.edu/chudler/words.html>
3. Answer questions on Stroop Effect Lab Assignment: **In-Class Experiment Worksheet**
 - i. See Lab Webpage (Week 5)
 - i. Begin writing APA Paper for your experiments
 - i. **1 Paper per group**
 - ii. See **Handouts Webpage** for the following aids (Week 5)
 - i. Stroop 1935
 - ii. Reporting Statistics in Psychology
 - iii. Finding Effect Size in SPSS for T-tests
 - iv. Choosing Your Analyses
 - v. Example Final Research Paper w/o Notes
 - vi. Writing a Psychology Literature Review