**Test a Perceptual Phenomenon – The Stroop Effect**

Udacity Data Analyst Nanodegree: Inferential Statistics Project

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Background Information

In a Stroop task, participants are presented with a list of words, with each word displayed in a color of ink. The participant’s task is to say out loud the *color of the ink* in which the word is printed. The task has two conditions: a congruent words condition, and an incongruent words condition. In the *congruent words* condition, the words being displayed are color words whose names match the colors in which they are printed: for example, RED, BLUE. In the *incongruent words* condition, the words displayed are color words whose names do not match the colors in which they are printed: for example, PURPLE, ORANGE. In each case, we measure the time it takes to name the ink colors in equally-sized lists. Each participant will go through and record a time from each condition. To try out the Stroop task or learn more about it, go to [this link](https://faculty.washington.edu/chudler/java/ready.html), which has a Java-based applet for performing the Stroop task and record the time you received on the task.

Project Overview

In this project, I have investigated a classic phenomenon from experimental psychology called the Stroop Effect. I have learned a little bit about the experiment, created a hypothesis regarding the outcome of the task, then have gone through the task. I have looked at the data collected from others who have performed the same task and have computed some statistics describing the results. Finally, I have interpreted the results in terms of hypotheses.

Data download: [The Stroop Data](https://github.com/jubins/DAND-Nanodegree/blob/master/dandp6-inferentialstatistics/stroopdata.csv)

Why this Project is useful?

Statistics is a major component of data analysis, it allows us to investigate data and make inferences based on our observations. In this project, I have learned:

* How to identify components of an experiment.
* How to use descriptive and inferential statistics to describe qualities of a sample.
* How to perform P-tests, set up a hypothesis test, make inferences from a sample, and draw conclusions based on the results.

Exploring the dataset

Questions Answered during the Investigation