# Stroop Effect experiment data analysis

## Project description

This project analysed a dataset from a Stroop Effect experiment.
Detailed information about this experiment:
https://faculty.washington.edu/chudler/words.html#seffect
The dataset :
https://drive.google.com/file/d/0B9Yf01UaIbUgQXpYb2NhZ29yX1U/view

## Independent variable and Dependent variable

The independent variable is the wordset used in the test
The dependent variable is the total time that participants used for a wordset.

## Hypotheses

Null Hypotheses($H_0$): $M_D = 0$
Time difference for Congruent wordset and Incongruent wordset is 0.

Aterlative Hypotheses($H_1$) : $M_D \neq 0$
Time difference for Congruent wordset and Incongruent wordset is not 0.

## Statistical test

This is a two-tailed dependent test (no direction is predicted)

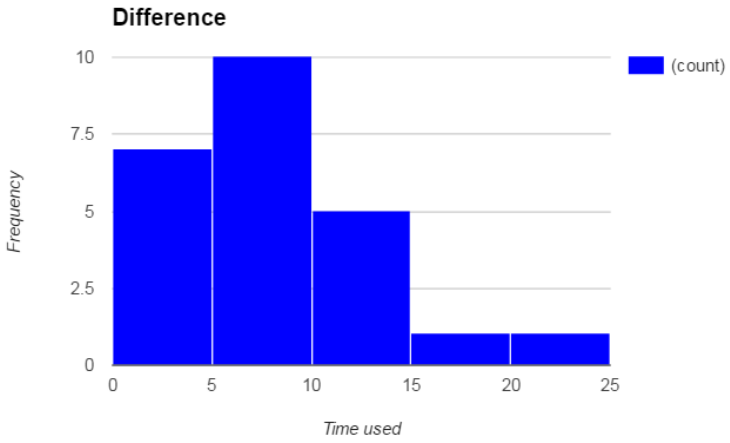
## Descriptive statistics

Table 1
*Results of Descriptive Statistics for Stroop Effect Experiment.*

| Congruent | | | Incongruent | | | Difference | | |
|---|---|---|---|---|---|---|---|---|
| M | SD | n | M | SD | n | $M_D$ | SD | n |
| 14.05 | 3.56 | 24 | 22.02 | 4.8 | 24 | 7.96 | 4.86 | 24 |

Figure 1

*Histogram of time difference between Congruent test and Incongruent test.*




This is a positive skewed distribution

## T-test

Table 1

*Results of T test for Stroop Effect Experiment.*

| Mean of Difference | | | | |
|---|---|---|---|---|
| M | SE | t-value | t-critical | df |
| 7.96 | 0.99 | 8.02 | 2.064* | 23 |

*p< .05

Results of the t-test show a statistically significant mean difference between Congruent test and Incongruent test, null hypothese rejected, participants tend to spend more time in naming colors for Incongruent wordset.