



PROJECT

Test a Perceptual Phenomenon

A part of the [Data Analyst Nanodegree Program](#)

PROJECT REVIEW

NOTES

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Meets Specifications

As a first submission it is almost flawless, quite impressive. Congratulations!

Question 1: Identify variables in the experiment

Question response correctly identifies the independent and dependent variables in the experiment.

Question 2: Establish a hypothesis and statistical test

An appropriate hypothesis test has been stated along with an appropriate statistical test to apply to collected data, with appropriate justification.

Well done providing a rationale for your test choices, thanks for investing your time on that. Ideally the null and alternative hypotheses would explicitly refer to the **population means of congruent/incongruent condition** rather than to a generic 'score' but that happens in 'Justification of test choices:' bullet point 3.

Optional: Your answer meets specifications when choosing a two-tailed test though, in this case, the most appropriate set of hypotheses are that the null hypothesis is that there is no difference in completion time between incongruent and congruent conditions, while the alternative hypothesis is

that the incongruent condition will take significantly longer than the congruent condition:

$H_0: \mu_C = \mu_I$ (or $\mu_C \geq \mu_I$);

$H_a: \mu_C < \mu_I$

This would be a one-tailed test as there are reasons to assume directionality beforehand.

Please refer to this link for more information on direction hypothesis: <http://support.minitab.com/en-us/minitab/17/topic-library/basic-statistics-and-graphs/hypothesis-tests/basics/directional-and-nondirectional-hypotheses/>
<http://support.minitab.com/en-us/minitab/17/topic-library/basic-statistics-and-graphs/hypothesis-tests/basics/what-is-a-hypothesis-test/>

Question 3: Report descriptive statistics

Descriptive statistics, including at least one measure of centrality and one measure of variability, have been computed for the dataset's groups.

Question 4: Plot the data

One or two visualizations have been created that show off the data, including comments on what can be observed in the plot or plots.

Question 5: Perform the statistical test and interpret your results

A statistical test has been correctly performed and reported, including test statistic, p-value, and test result. The test results are interpreted in terms of the experimental task performed.

Excellent: This is one of the most challenging sections of the submission, great job!

Question 6: Digging deeper and extending the investigation

Hypotheses regarding the reasons for the effect observed are presented. An extension or related experiment to the performed Stroop task is provided, that may produce similar effects.

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