UDACITY

PROJECT

Test a Perceptual Phenomenon

A part of the Data Analyst Nanodegree Program

PROJECT REVIEW

NOTES

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Meets Specifications

Congratulations on finishing this difficult project! Good job! Your work definitely shows your strong statistical reasoning ability. Remember that all the hard work will pay back. Keep up your good work! :)

Responses to Project Questions

Q1: Question response correctly identifies the independent and dependent variables in the experiment.

Specifically, the independent variable is whether the words shown are congruent with the ink colors or if they are incongruent with ink colors. The dependent variable is the amount of time it takes to name, out loud, the color of the inks in which the words are displayed. Well done!

Q2a: Null and alternative hypotheses are clearly stated in words and mathematically. Symbols in the mathematical statement are defined.

Good job describing the null and alternative hypotheses. Note that the tricky part is that the hypotheses are used to make inferences about the population rather than the samples. So the mean values should be population means.

Q2b: A statistical test is proposed which will distinguish the proposed hypotheses. Any assumptions made by the statistical test are addressed.

Good job using the correct statistical test and addressing the corresponding assumptions. Well done!

Here is another reference that talks about why the paired t-test should be used. Hope you find it useful too.

Q3: Descriptive statistics, including at least one measure of centrality and one measure of variability, have been computed for the dataset's groups.

Q4: One or two visualizations have been created that show off the data, including comments on what can be observed in the plot or plots.

Q5: 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.

Good job doing the statistical test and interpret corresponding results. The tricky part is to note that the degree of freedom for this question is 23 rather than 24. Here are some references about degree of freedom and p-value. Hope you find them useful too :)

Q6: 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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