

i SNE4231 - Extraordinary home assignment in statistical principles and analysis 8th of January - Autumn 2020

Information about the exam

- This exam is composed of two parts, namely Exercise 1 and Exercise 2. Upload one file (doc or pdf) with your answer to each part. All components of the answer must be in the same document.
- All answers must be as brief as possible, including justifications. Avoid lengthy explanations and be very succinct. Most questions will be answered with one or very few words (or number(s) or other item(s)).
- Make sure you answer both parts of the exam. You must pass both exercises to receive a final passing grade.

Questions/technical problems during the exam

For questions regarding Inspira:

Contact: master@isp.uio.no

We will answer immediately

For questions regarding the exam excercises :

Contact [Athanasios Protopapas](#) at athanasios.protopapas@isp.uio.no

1 **Exercise 1**

- 1. Visit [this web site](#) and enter your full candidate number for this exam. Click ‘OK’ to produce your personal dataset for the exam. Then click on “Download your data” and a .csv file will be downloaded to your computer.

NOTE: If clicking on the link above does not work, then copy and paste the following URL directly into your browser: <https://shinyibv02.uio.no/connect/#/apps/18/access>

- 2. Load this csv file into Jamovi. There will be 4 variables in this dataset, namely Group, Reg, ScoreA, and ScoreB. These are simulated data for 32 participants. "Group" codes whether they are assigned to Group G1 or Group G2. "Reg" codes whether they are registered for an activity (YES or NO). "ScoreA" and "ScoreB" are their scores in two different aptitude tests.
- 3. Check and correct, if necessary, the definitions and measurement scales for the variables.
- 4. For each one of the 4 variables:
 - a) Present an appropriate graph or table to illustrate its contents.
 - b) Calculate and list appropriate descriptive statistics, including full normality check when relevant.
- 5. For each pair of variables (i.e., each variable paired with every other variable):
 - a) Present an appropriate graph of the two variables.
 - b) Run an appropriate inferential statistical analysis to test whether there exists a statistical association between the two variables. Briefly justify your choice of analysis and state the associated null hypothesis.
 - c) Report the results of the analysis.
 - d) State your conclusion regarding the null hypothesis and your conclusion regarding whether or not a relationship exists.
- 6. Determine if there is a difference between the scores of the two aptitude tests for these participants:
 - a) Present an appropriate graph for the comparison of the two test scores.
 - b) Run an appropriate inferential statistical analysis to test whether there exists a difference. Briefly justify your choice of analysis and state the associated null hypothesis.
 - c) Report the results of the analysis.
 - d) State your conclusion regarding the null hypothesis and your conclusion regarding whether or not a difference exists.
- 7. Paste the necessary element(s) from the Jamovi output (not the entire analyses!) into a document along with your answers.

Note: You are required to use the methods and criteria taught in this course for making the necessary decisions and running the analyses.



Upload your file here. Maximum one file.

The following file types are allowed: **.pdf,.doc,.docx** Maximum file size is **2 GB**

Select file to upload

Maximum marks: 0

2 **Exercise 2**

1. Consider the article by Dimitrellou & Hurry published in 2019 in the *European Journal of Special Needs Education*.
- [Click on this link to see and download the article](#)
2. Choose one inferential statistical analysis reported in the article. (That is, choose only a single result, even if it is presented in a group along with other results.)
3. State what kind of analysis this is.
4. Describe the variables used in this analysis: State their name, measuring scale, values/units, dependent/independent.
5. State the statistical finding as reported in the article.
6. Briefly interpret the finding in the context of the paper, that is, state what the finding is in substantial terms and what it means with respect to the authors' aims/hypotheses. Note any important weaknesses or missing information that may threaten the statistical validity of the analysis.



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Maximum marks: 0