03/11/2023: 13:00-16:00

Nikesh Bajaj

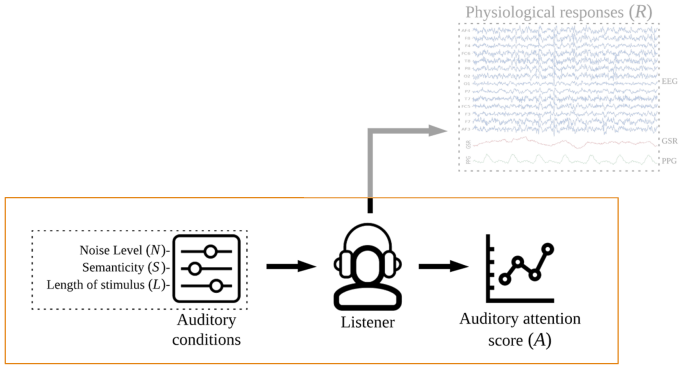
Using SPSS

SPSS can be access using Imperial Software Hub, we will be using **SPSS 29 or SPSS 28**. After logging-in to Imperial software hub, search for SPSS, and click to install or launch (if already installed).

SPSS comes with massive range of options and analysis techniques; however, we will only focus on a very few useful features. For exploring more detail on tutorials, please refer to https://www.spss-tutorials.com/basics/

Data

For this work session, we will be using PhyAAt (Physiology of Auditory Attention) dataset, which is a dataset during an auditory experiment, from 25 subjects. Dataset includes physiological measurements, however, for this session, we will use part of data – attention level under different auditory conditions. Full detail of experiment and dataset is available here https://phyaat.github.io/.



Download following two datasets (csv files)

1. Dataset-1: Auditory attention level with different conditions - https://nikeshbajaj.github.io/PhyaatDataset/PhyAAt_AttentionScoreData_v1.csv
2. Dataset-2: Demographics and self-ratings of subjects for their language skills - https://nikeshbajaj.github.io/PhyaatDataset/PhyAAt_Demographic_Rating_v1.csv

One of the articles including statistical analysis using same dataset is published and can be found here - https://academic-publishing.org/index.php/ejel/article/view/2296. Though,

this article goes in little more details, however some ideas of describing the datasets can be found useful.

Descriptive Statistics

First, we will use SPSS to describe the datasets with figures and tables.

- Descriptive statists
- Box plot
- Bar plot

Comparing Groups

- Independent tests (parametric, non-parametric)
- Dependent tests (parametric, non-parametric)
- Normality test, Equal variance test

Correlation

- Pearson Correlation, Spearman Rank Correlation
- Scatter plot