

PORTFOLIO 3

Deadline: november 13th, 2019

In this portfolio assignment, you will be conducting analyses of data from your reading experiment. Instead of being provided with a pre-made .Rmd file as in the previous portfolios, you will have to build one up from scratch.

The portfolio has two overall sections asking different questions:

- 1) a correlational section investigating which aspects of words correlate with reading times;
- 2) an experimental section in which you will investigate how semantic-contextual expectations predict reading times for specific, semantically unexpected words.

For each of the two analyses, remember to make qualified choices of statistical test based on assumption testing (you are welcome to report on how you tested the assumptions as well as how you transformed the data to match those assumptions, if relevant). Furthermore, please provide a written report for each analysis with your (empirically corroborated) interpretation of the results, together with at least one plot illustrating the results (feel free to use more than plots as well as to use tables).

Part 1: Which properties of words correlate with word-by-word reading times?

Please conduct three iterations of correlation analysis, each addressing one of the following three word properties: word length, word frequency, and word number.

Part 2: How do semantic-contextual expectations affect reading times?

Please conduct a contrastive analysis of the two conditions in your reading experiment (where condition #2 corresponds to the text with the semantically surprising word). Single out the specific reading time for the target word (i.e., the words that differ between the two versions of your text/story) as well as the following word. Compare the means of the reading times for those words (independently) across conditions using the appropriate type of t-test.