

PSYC 626 – Bayesian Statistics Student Projects

Students should conduct a Bayesian analysis similar to the analyses we've discussed in class, on a data set of their choosing. Preferably, students will apply this analysis to their own data, but data sets are available upon request if you don't have data that would be appropriate. Students will analyze their data, and then present their findings to the class during a 30 minute presentation. Please sign up for one of the dates at

https://docs.google.com/spreadsheets/d/1n7y2VGpBhTocCVAoSZIAPawCY_4LLFelumVsbhEpK2k/edit?usp=sharing

Each presentation should include the following elements:

- Provide context for the research question(s), and the data that you'll be analyzing.
- Explain the model(s) you'll be considering.
 - Model structure
 - Characterization of the distribution (e.g., exgaussian, binomial, etc.)
 - Justify priors
- Walk us through your results (you can focus on different types of model characteristics; you do not have to do all of the following).
 - Model fit
 - Model comparison
 - Data prediction
 - Information pulled from posterior distributions
- Conclusions/interpretations of your analyses

I recommend building your model with the *rethinking* package and Stan, but you could meet the requirements using the Bayes Factor package or something similar.