**Lab 6: Data Modeling**

**Instructions**

* Create a Quarto file called “Lab 6: Data Modeling”
* Copy the questions/prompts with the numbers/letters into the markdown file as text (i.e., in between code chunks, without any #). Use a header for each question #.
* Provide the code responses into code chunks directly beneath the questions (or beneath the text if the question requires both verbal and code answers).
* Submit both a knitted HTML file and your .qmd file to ELMS before 11:59pm.
* *See ‘lab assignment demo’ file (.qmd) on ELMS or Jupyter for an example.* *Do not directly edit this file, instead create your own markdown file, copy the content from the demo and edit that.*

**Question 1**Read in the dataset and obtain descriptives (means, standard deviations for numeric variables and counts for categorical variables).

**Question 2**What is the research question? Write out the null and alternative hypotheses pertaining to that question. Frame these in terms of parameters (e.g., ). (Hint: Recall that these are about *population parameters* and not *sample estimates*.)

**Question 3**Visualize your data (predictor, outcome) in ggplot2. Consider whether your predictor is categorical and numeric and what the best visualization for that would be (e.g., boxplot, scatterplot). What trend(s), if any, do you see in this plot? Can you check any model assumptions from this?

**Question 4**Fit a GLM and obtain a summary of the model that allows you to conduct inference about your parameters (i.e., coefficients/*p*-values). What did you find? Write out the results in APA format.

**Question 5**What conclusions can you draw from this study? Given the study design and analysis results, what can you say about the relationship in your sample?

**Quick refresher** (only do the one assigned)

1.) Self-compassion and mental well-being (**predictor**: self-compassion (continuous, standardized), **outcome**: satisfaction with life (continuous, standardized)).

2.) Protesting discrimination and interpersonal evaluations (**predictor**: protest condition (multicategorical, three categories), **outcome**: person evaluation (continuous, unstandardized)).

3.) Chocolate wrapper weight and intensity of flavor (**predictor**: heavy or light condition (dichotomous), **outcome**: flavor intensity (continuous, unstandardized)).

4.) Trauma on the Gaza strip (**predictor**: traumatic experiences (continuous, unstandardized), **outcome**: PTSD symptoms (continuous, unstandardized)).