**Lab 6 Exercise – 13 October 2023**

**Models with 2 Predictors**

The data we’ll be using today are ~real data~ from one of Mitchell Campbell’s (a former TA) classroom intervention studies. Classrooms participating in this study were randomly assigned to either receive a brief pro-diversity intervention on the first day of class or not. Then, two months later, students in these classes were invited by their instructors to participate in a climate survey, which comprised a number of outcome measures of interest.

Today, we’ll be looking at only one of these outcomes: concern about discrimination. It is argued that concern about discrimination is a good indicator of someone’s positivity toward and familiarity with members of different social groups, as well as their tendency to engage in inclusive behaviors. Concern was measured using a 4-item scale, and the items were written generally (i.e., they were not specific to one target of discrimination). Participants also indicated their gender identity (non-cisgender individuals have no score on the gender variable) and completed a simple two-item measure of political affiliation, already averaged for you.

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| **Variable name** | **Description** | **Values** |
| concern\_1-concern\_4 | Items of the concern scale. 1 = low concern, 7 = high | 1-7 |
| pol | Participant’s political orientation. 1 = very liberal, 5 = very conservative | 1-5 |
| gender\_c | Participant gender. -0.5 = men, 0.5 = women | -0.5, 0.5 |
| condition\_c | Whether the participant received the intervention or not -.5 = Control, .5 = Intervention | -0.5, 0.5 |

\*Note: One of the variables excluded here is the specific classroom ID of each participant. As you’ll learn in 710, it is hugely important to consider this information. For this exercise, we’ll just pretend we don’t need to worry about this.

Mitchell expects the intervention to have a positive effect on individuals’ concern about discrimination.

1. Read in data using this line of code, then inspect the data:

d <- read\_delim("lab\_06\_exercise\_data.dat", delim = "\t")

1. Check the reliability of the concern scale. Make a comment in your R script commenting on the reliability. Then, combine the items (all four) into a mean concern score. Check out this new variable (get stats and make a histogram). What general statements can you make about the sample based on the stats for this variable?  
   Note: There are missing data in this file, so how you compute this score matters!
2. Do people who received the intervention have higher concern scores than those who didn’t? Test this question using a linear model, then write a sentence in your script summarizing your conclusion.
3. Mitchell has learned that both gender and political orientation are strong predictors of certain outcomes in the prejudice domain. Get pairwise correlations. Examine the correlations and note whether they are positive or negative and weak, moderate, or strong.
4. Rerun the model from Question 3, this time statistically controlling for gender. Write a comment summarizing your conclusion.
5. Rerun the model from Question 3, this time statistically controlling for political orientation. Write a comment summarizing your conclusion.