Lab: November 13, 2024

**Reproducibility exercise:** Practice using R to reproduce analyses from another paper—this will be useful for both replication groups and computational reproducibility groups

**Step 0 [Optional]: Make a copy of this document**

* File > Make a copy to save this in your drive
* Check off items as you go for some dopamine

**Step 1a (recommended, more efficient—ask teaching team for help if needed):** If you already have the **problem\_sets** GitHub repository cloned to your computer

* [Do not skip this step—we have modified this repo since PS2] Pull the most recent version using either the Desktop app or “git pull” in the terminal
* Go to **reproducibility\_exercise**
* Click the .Rproj file in the directory: this will open RStudio and automatically set your working directory to the reproducibility\_exercise folder

**Step 1b (less efficient, but do what you need to do!):** If the thought of using GitHub makes you want to throw something across the room

* Ask the teaching team for help with Step 1a
* If you still would prefer to just use a zip file, download the zip file for the most recent [problem\_sets directory](https://github.com/ucsd-psych201a/problem_sets) (do not skip this step—we have modified this repo since PS2)
* CAUTION: You may have already saved an older version of problem\_sets elsewhere
* Navigate to **reproducibility\_exercise**
* Without opening RStudio first, click the reproducibility\_exercise.Rproj file—this will open RStudio and set your working directory automatically

**Step 2: Choose your journey.** There are two versions of the exercise. The **bumper rails** version gives you the functions to use and requires you to figure out the inputs. Like bumper rails in bowling, it keeps you from getting off-track. It is designed for those newer to using statistics with R, but our goal is to help you learn and practice, so don’t be discouraged if the bumper rails version is still challenging—this is our goal!!The **minimal** version has no prompts and is a good challenge for people with more statistics and R experience.

**Step 3: Work through the exercise!**

* Download any R packages that you do not have already and load data
* Attempt the first analysis of variance
* Attempt the follow-up planned comparisons
* Bonus: attempt to reproduce Fig 1 from the paper

A note: These exercises involve some statistical tools that you will learn in PSYC201B. You are *not* expected to master them or understand them deeply. If you would like to discuss them in more detail, we are happy to do so in office hours.

**Step 4: Submit your .Rmd file to Canvas (no need to render)**

* Submit your .Rmd file to [Canvas](https://canvas.ucsd.edu/courses/58741/assignments/873374). The goal is to practice—do not worry if you do not finish the entire exercise. We are grading based on effort.

**If you finish the exercise early, work on group projects**