

Lab 3 Activity

PSYC 7804 - Spring 2026

Let's look at the `attitude` dataset, which we used in the activity for Lab 1. This dataset is always loaded into R.

1. Create a dataset called `dat` that only includes the `rating`, `privileges`, and `complaints` variables.
- 2 Use the `ggpairs()` function from `GGally` to visualize the relation and distribution of the 3 variables in the `dat` object. Do these variables seem linearly related? If so, do they seem positively or negatively related?
4. Run two individual regressions, with one regression having the variable `privileges` predicting `rating` and the other having the `complaints` variable predicting `rating`. What are the values of the two regression slopes? Do they match your expectations? Are the values of the slopes significant?
5. Run a multiple linear regression where both `privileges` and `complaints` predict `rating`. What are the values of the slopes now? Is there anything that you find surprising?
6. what are the R^2 values for the individual regressions and the multiple regression? Do the R^2 values from the two individual regression sum up to that of the multiple regression? If not, why do you think that is the case?
7. Visualize your regression model with an interactive 3D plot that includes a regression plane. Note that this plot will not be visible in a PDF once you knit (why? PDFs are not interactive). If you are wondering why the slope of `privileges` is now negative, looking at the plot from a specific angle may give you some insight.
 - What are some of the points with the highest residuals? Try finding them in the interactive plot by hovering over the dots (HINT: if the residuals are large, they should be far away from the plane, and the sign indicates whether they will be above or below the plane!)