PSYC 7014, Week 6 stats lab: Correlation and Regression

Run a regression analysis from start to finish using data from related to this article: Higher Rates Of Hate Crimes Are Tied To Income Inequality. The data set can be found in your homework folder (and also here online).

This data set has various social and economic indexes. A detailed explanation of each can be found on the GitHub repository here:

- median_household_income
- share_unemployed_seasonal
- share_population_in_metro_areas
- share_population_with_high_school_degree
- share_non_citizen
- share_white_poverty
- gini_index (see article for explanation)
- share_non_white
- share_voters_voted_trump

along with Hate Crimes per 100k as reported by the

- Southern Poverty Law Center (hate_crimes_per_100k_splc) as well as
- the FBI (hate_crimes_per_100k_fbi).

For your homework:

1. test the relationship (using linear regression `lm()` between any of the socio-economic predictors with **one** of the two indexes of hate crimes (choose either FBI or SPLC) and **report your findings** (use the template provided in the walkthrough).
2. choose another predictor and report your findings
3. using `psych::paired.r`, compare the two correlation values that you obtain from (1) and (2). *Note that you would input the square root of the observed R-squared from each model.*
4. Be sure in each of your analysis to include the appropriate assumption tests as well as a camera ready plot (i.e., use cowplot) of the regression data (see walkthrough on regression plots)