

POLI 502 FA20: Homework 3

Due date October 14, 2020

Directions. Answer each question completely. Include a \LaTeX -typeset .pdf file and annotated R script file. No need to re-upload the ANES data; but otherwise submit a full replication package such that I can change the working directory in the script file and then reproduce all results. You might want to consider using knitr to integrate R code into \LaTeX -typeset answers.

Exercise 1

Download the American National Election Studies 2012 time series data from the class Blackboard website, and load it as an R data frame called “anes.”

The ANES has over 2,200 variables—a prime example of data for which you need to use a codebook. Even with the (included) user guide/codebook, it takes quite a while to familiarize oneself with the available ANES variables.

A. Recode the variable for post-election liberal/conservative self placement (a 7-point scale), such that middle of the road is set at 0, most (extremely) liberal is -3, most (extremely) conservative is 3, with intermediate values coded accordingly. All other values (haven’t thought/don’t know/refused) should be set as missing values. Example using party ID:

```
setwd("/users/tim/downloads")
library(haven)
anes <- read_dta("anes_timeseries_2012_Stata12.dta")
# Check the levels of the party ID variable
table(anes$pid_x)

##
##  -2   1   2   3   4   5   6   7
##  24 1485  871  747  792  610  623  762

# Code to create a 7-point party ID variable
library(tidyverse)
# Note: there is a more elegant way to do this, for those inclined to search
anes <- anes %>%
  mutate(pid_recode = ifelse(pid_x == 1, -3,
                             ifelse(pid_x == 2, -2,
                                     ifelse(pid_x == 3, -1,
                                             ifelse(pid_x == 4, 0,
                                                    ifelse(pid_x == 5, 1,
                                                            ifelse(pid_x == 6, 2,
                                                                    ifelse(pid_x == 7, 3,
                                                                           NA)))))))
  )
```

B. Plot a histogram of the newly-created variable, with proper labels, etc.

C. Create more histograms of ideology, this time subset by race (specifically using the variable for summary respondent race and ethnicity group).

Hint: ANES summary variables tend to end with “.x” (underscore x).

D. Are all/any of the results you have produced representative of the population of interest? Explain why or why not.

Hint: The ANES does use a random sampling technique, but with a caveat. Search the user guide/codebook for the term “oversample” and read a bit of what you find before you answer this question.

E. Using your recoded ideology variable, and (for the sake of the exercise) assuming the variable is representative of the US population, estimate the probability that you would find exactly 20 “most conservative” people in a sample 100 US citizens.

F. Again using your recoded ideology variable, and again assuming the variable is representative of the US population, estimate the probability that you would find the 20th “most conservative” person when observing the 100th US citizen.

Exercise 2

Download Voeten's UN voting ideal point data V27 and the COW National Material Capabilities version 5.0 and load them into two R data frames. Note: be sure to download the codebooks as well.

A. Merge these data frames to create a new data frame at the state-year level of analysis, keeping only the ID variables, the ideal point, and the CINC score.

B. Using the state-year data, produce a scatterplot with CINC score on the x-axis and ideal point on the y-axis (add labels and caption).

C. Explain what this figure suggests about the relationship between capabilities and UN voting.

D. Produce a second scatterplot that replicates the first while identifying Cold War (1946-1992) and Post-Cold War (1993 or later) observations (add labels and caption).

E. Explain what this figure suggests about the relationship between capabilities and UN voting conditional on time period.

From the text

Note: Do all math in R and submit the (annotated) code. Show all your work!

Diez et al.: Chapter 4 Exercises: 4.16, 4.40.