**POLS 095**

**Methods in Politics**

**Spring 2022**

**Homework 1**

**Due February 18, 2021**

*Directions:* There are two separate components to this Worksheet. First, there are the questions located in this document. Second, there are questions that are to be completed in R. You will need to create an R script to submit along with this document. You can download the R script template on Blackboard. You can answer the questions directly in their appropriate documents and submit both via Blackboard. There are a total of 160 points on this homework. Your grade, as recorded in the gradebook, is the percentage of points earned out of 160.

When typing your answers, please use a different font or font color to distinguish your answers from the question.

**Part A: Conceptual Questions (90 pts.)**

1. Suppose that you are working with the National Alliance to End Homelessness, hoping to better understand the causes and consequences of homelessness. Several researchers have found that cities spending more on rent support programs (spending money to help people pay rent) also have higher rates of homelessness.
2. Does this mean that it is safe to infer a causal relationship between rent support programs and a higher rate of homelessness? In other words, can you assume that offering more rent support causes an increase in homelessness? Explain your answer. (10 pts.)
3. This line of research suggests a direct relationship between rent support and homelessness. Using this as a foundation, draw a conceptual map that indicates how other variables may play a role in explaining this relationship, adding at least three additional variables. (10 pts.)

Rent Support Programs Homelessness

2. Why is it important to control for alternative explanations when using an observational research design? (10 pts.)

3. In the landmark case of *Brown v. Board of Education of Topeka, Kansas*, the United States Supreme Court posed the following question:

“Does segregation of children in public schools solely based on race, even though the physical facilities and other ‘tangible’ factors may be equal, deprive the children of the minority group of equal educational opportunities? We believe that it does.”

Suppose that the Court asked you to provide some empirical research on this question to determine whether segregated schools have a negative causal effect on educational outcomes. Rephrase the court’s proposition as a hypothesis using the form introduced in class, focusing only on the independent and dependent variables. (5 pts.)

4. Third-party candidates are something of a puzzle for students of electoral behavior. In presidential elections, most voters cast their ballots for one of the major-party candidates, but many voters support candidates of minor parties, such as the Reform Party, the Green Party, the Constitution Party, the Libertarian Party, or the Natural Law Party, to name a few. What causes some people to vote for a minor-party candidate? Voters can be measured by one of two values on this dependent variable: major-party voter and minor-party voter.

1. Think up a plausible independent variable that may explain differences between voters on the dependent variable. Write a paragraph explaining why some voters support the major parties’ candidates and some support the minor parties’ candidates. Make sure you connect the causal variable to the dependent variable and be sure to describe the tendency of the relationship. (15 pts.)
2. Using the proper form, state a testable hypothesis for the relationship between the independent variable and the dependent variable. (5 pts.)

5. Suppose a researcher believes that party identification affects an individual’s vote choice. What other variables (at least three) might they wish to control for to determine the effect of partisanship on vote choice? (10 pts.)

6. Two scholars are hypothesizing about the relationship between educational attainment (independent variable) and economic conservatism (dependent variable). Economic conservatism is defined as the extent to which a person think that government spending and services should be curtailed. Economic liberals favor an expansion of government spending and services, whereas economic conservatives oppose these policies.

*Scholar 1:* “People’s beliefs about government spending and regulation depend on how much economic security they have. Less educated individuals are more vulnerable to economic downturns and thus will be opposed to cuts in government assistance. As education goes up, economic security goes up – and support for economic conservatism increases. Therefore, the relationship is linear and positive: In a comparison of individuals, those with higher educational attainment will be more economically conservative than those with lower levels of educational attainment.”

*Scholar 2:* “Yes, generally speaking, you are correct. As education increases, economic conservatism increases. But let’s not ignore the role of the liberal intelligentsia in political life. People at the highest level of educational attainment have been the guiding lights of economically liberal policies for many years and are staunch opponents of cuts in government spending. I think that people with the highest levels of education will be just as opposed to economically conservative policies as people as the lowest education level. Therefore, I hypothesize an inverted V-shaped pattern.”

Draw and label two axes like the one below, or draw on the figure below using your text editor tools. The horizontal axis records four levels of educational attainment, from less than high school to college degree or higher. The vertical axis records mean values on an economic conservatism scale. Scores toward the bottom of the scale denote less support for economic conservatism, whereas scores at the top of the scale denote more support for economic conservatism.

Graphical user interface, text, application, email

Description automatically generated

* 1. Draw a line that would fit Scholar 1’s hypothesis about the relationship between educational attainment and economic conservatism. (Do not worry too much about the exact economic conservatism scores, just draw a line that would be consistent with Scholar 1’s hypothesis.) You should label the line for Scholar 1 to differentiate it from Scholar 2 (b, below) and the data (c, below). (5 pts.)
  2. Now draw a line that would fit Scholar 2’s idea that the relationship fits an inverted V-shaped pattern. (5 pts.)
  3. For the third line, draw a line based on the following real-world information. Mean economic conservatism scores for each value of educational attainment are as follows: less than high school, 13.7; high school, 14.5, some college, 15.3, and college or higher, 16.7. (5 pts.)
  4. Which scholar, Scholar 1 or Scholar 2, is more correct? Explain how you know. (10 pts.)

**Part B: R Exercises (70 pts.)**

You should write your answers below, filling in the blanks where possible. Make sure to supply your R code by uploading your R script file along with this document (see #3). For this assignment, you will either create your own objects or use the ANES dataset. You will need to reference the ANES codebook. The example code and videos posted on Blackboard will be of great assistance on this portion of the homework. However, if you have specific questions, please reach out.

1. Create an object that is called your last name and has a value of your birth year.
   1. What type of data, or “class,” is this object? (5 pts.)
   2. Add your age to that object. What is the “answer” that R provides? (5 pts.)

2. The ANES dataset contains a variable for party identification, a seven-category variable that measures the extent to which individuals identify with one of the two major political parties in the United States. Decades of research demonstrates that Independents who lean towards Democrats or Republicans behave just as partisan as Democratic or Republican identifiers (e.g., Klar and Krupnikov 2016), so we will include leaners in the respective partisan category.

1. Create a variable called partyid from the ANES dataset variable V201231x. Add up the percentages of all Democrats. The percentage of respondents who are either “Strong Democrat,” “Not strong very Democrat,” or “Independent-Democrat” is \_\_\_\_ percent. (5 pts.)
2. The percentage of true “Independents” is \_\_\_\_ percent. (5 pts.)
3. Now add up the percentage of all Republicans. The percentage of respondents who are either “Independent-Republican,” “Not very strong Republican,” and “Strong Republican” is \_\_\_\_\_. (5 pts.)
4. Write code that creates a new variable, pid3, that combines the three Democratic categories, keeps Independents in their own category, and combines the three Republican categories. (20 pts.)
5. Create a bar chart that displays pid3. Copy and paste that chart below. (20 pts.)

3. Submitted R script file (lastname-hw1.R) submitted via Blackboard with correct code for questions 1 and 2 (15 pts.)