Political Science 202
Introduction to Political Analysis
Spring 2023: Problem Set #7

Due in Turnitin (Blackboard) on Friday, March 31 at 9:30 AM. 5 points in total. Late submissions are penalized with 1 point per 24 hours. MAKE SURE THAT YOU RECEIVE AN UPLOAD CONFIRMATION and SAVE THE CONFIRMATION (submission date and confirmation number). If you have trouble uploading to Blackboard, email as an attachment to your TA before the deadline. If you don't get a reply confirming that you handed it in, send it again.

One argument that is often made in favor of more people getting college degrees is that a well-educated population leads to greater overall wealth, because people with a college degree have better skills that lead to more high-paying jobs. Here, we examine the bivariate relation between education levels and wealth using data from the 50 US states. We have two variables. The percentage of state residents with a college degree (which can go from 0 to 100 percent), and per capita income (which is the average annual earning a person in state has).

a) What is the independent variable in the argument made in the previous paragraph? What is the dependent variable?

b) What is the level of measurement of these two variables?

c) What is the unit of analysis?

d) The relation between the two variables is described by the following linear regression equation:

Per capita income = 11,520 + 1,029 * percentage with college degree

Interpret the slope and the intercept of this regression line in plain English.

e) What does this suggest about the argument in favor of college education made in the opening paragraph?

f) The state with the lowest percentage with a college degree is West Virginia (24 percent) What is the state's predicted per capita income? The state with the highest percentage with a college degree is Massachusetts (47 percent) What is the state's predicted per capita income?

g) The R-squared measure for the regression line is 0.7. What does this mean?