

POS 3713: Assignment 6

Assigned: Monday, 4/3/2000

Due date: In class, Monday, 4/10/2000

Tutorial Session: Thursday, 4/6/2000, 9am-10:45am; and Friday, 4/7/2000, 9am-10:45am

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The purpose of this assignment is to introduce you to measures of association for nominal, ordinal, and interval level variables. We will be using the 1996 National Election Study. To begin the assignment, open your saved NES file from your previous assignments. Remember to fully answer all questions (typed) and include all relevant output in your final product.

Part A: Measures of Association for Nominal Variables (Lambda and Phi)

We want to determine the extent to which a person's approval of Congress is influenced by his/her party identification. We will examine the relationship between V960417 (which was renamed PartyId in previous assignments) and V960270 (Congressional approval). Both of these variables are measured at the nominal level.

- Rename V960270 as *Congapp*, and change the Variable Label to "Congress Approval". Also, recode values 8-9 as system missing for V960270. Produce a frequency distribution for both variables. *PartyID* should have three valid responses (Democrat, Republican, or Independent), while *Congapp* should have two valid responses (Approve, Disapprove).
- Click on "Analyze", "Descriptive Statistics", and "Crosstabs". Select the variable "*Congapp*" and move it into the Row(s) box. Select the variable "*PartyId*" and move it into the Column(s) box. Click on the Statistics bar at the bottom of the window. Click on the boxes for Phi and Cramer's V and Lambda, and then click on Continue. Next, click on the Cells bar at the bottom of the window, and select Row and Column percentages, and then click continue. Finally, click on OK.

Exercise A: Use the information calculated above to answer the following questions:

1. Examine the relationship between party identification and approval of Congress by comparing the basic percentages of approval and disapproval for each category of party ID (make sure you refer to the percentages in your discussion). Are people who affiliate with certain parties more likely to support Congress than people who affiliate with other parties? Knowing that this survey was conducted in 1996 (hint: Which party controlled Congress in 1996?), do these results make sense to you?
2. Next we want to determine the size and statistical significance of the relationship between party ID and approval of Congress. What is the value for lambda (use the value labeled "Congress Approval Dependent", which tells you *Congapp* is the dependent variable); how can you interpret this statistic? Is lambda significantly different from zero? Conduct a hypothesis test by comparing the p-value (Approx. Sig.) to the value of $\alpha = .05$. What conclusions can you draw about the relationship between party identification and approval of Congress?
3. Finally, examine the value of phi. Is phi statistically significant? Is this result consistent with what you found in questions 1 and 2?

Part B: Measures of Association for Ordinal Variables (Gamma and Kendall's tau-b)

Next, we are going to analyze the relationship between ideology and issue positions. In particular, we want to determine how a person's ideology influences their attitudes regarding the importance of defense spending.

- For this exercise, we will be using V960465 (how important is the defense spending issue to R) and V960368 (summary of R's self placement on liberal-conservative ideological spectrum). Rename V960465 as *ImpDef* and V960368 as *Lcsum*. Change the variable labels

to "Importance of Defense Spending" and "Summary of Liberal-Conservative Spectrum". For *ImpDef*, recode 0, 8, and 9 as system missing. For *Lcsum*, recode 7, 8, and 9 as system missing. If you have done this procedure correctly, you will have three valid responses for *Lcsum* and five valid responses for *ImpDef*.

- Follow the same procedure for crosstabs described in Part A above (replacing the variable in the Row(s) box with *ImpDef* and the variable in the Column(s) box with *Lcsum*). When you click on the Statistics box, unclick the lambda and phi options. Then select Gamma and Kendall's tau-b.

Exercise B: Use the information calculated above to answer the following questions:

1. Examine the relationship between ideology and attitudes about defense spending by comparing the basic percentages of importance of defense spending for each category of ideology. Are people who identify as liberals more or less likely to believe that defense spending is important (refer to percentages in the tables for your response)? Are these results consistent with what you expected to find?
2. Next we want to determine the size and statistical significance of the relationship between these variables. What is the value for gamma; how can you interpret this statistic? Is gamma significantly different from zero? Conduct a hypothesis test by comparing the p-value (Approx. Sig.) to the value of $\alpha = .05$.
3. What is the value of tau-b? Is tau-b statistically significant? What conclusions can you draw about the relationship between ideology and attitudes about the importance of defense spending?

Part C: Measures of Association for Interval Variables (Pearson's *r* correlation)

Finally, we want to examine the relationship between respondents' feelings for Bill and Hillary Clinton. To what extent is someone more/less likely to evaluate Hillary Clinton favorably if they evaluate Bill Clinton favorably? In this case, we have two interval measures (the feeling thermometers. Remember, we can at least *assume* these are measured at the interval level), so we can examine the correlation (Pearson's *r*) between them.

- Click on "Analyze", "Correlate", "Bivariate". Move the variables "Clinther" and "Hillther" into the Variables box and then click OK. You should have already renamed and recoded these variables in previous assignments.
- The output will contain a correlation matrix listing both variables in the rows and columns of the table. Thus the correlation between Clinther and Hillther will be listed twice in the table, once below and once above the diagonal of the matrix, which is where the same-variable correlations equal 1.

Exercise C: Use the information calculated above to answer the following questions:

1. What is the correlation between the feeling thermometer scores for Bill and Hillary Clinton? Is this relationship positive or negative? Explain how to interpret the sign of this correlation in terms of these variables. Is the size of the correlation between these feeling thermometers small or large?
2. Is the correlation statistically significant? Conduct a hypothesis test by comparing the p-value (Approx. Sig.) to the value of $\alpha = .05$.