

## Final Assignment

Spring 2021 Semester

Political Science 300

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### Directions

Using the National Election Studies 2016 dataset in R, please complete all of the questions in each section using the relevant portions of your output documentation.

Submission Requirements: This assignment is worth 200 points, and is due absolutely no later than Sunday, May 2, 2021 at 11:59 p.m. You must upload your assignment to Blackboard, using the Turnitin tool. More information about using this tool is available at <http://www.siue.edu/its/turnitin/index.shtml>. I do ***NOT*** accept late final assignments, except for university-authorized reasons. Students who submit late final assignments without such a reason will receive a zero.

Assignment Requirements: To receive full credit, you must type in all tables using the table feature in a word processing program. **These tables must be labeled completely and in easily understandable ways. Please do not copy and paste statistical output or tables directly from another source into the document, as this does not professionally present your analyses.**

In addition, please legibly **type your assignment with a 12-point, double-spaced, Times New Roman font with normal margins. By normal margins, I mean one-inch top, bottom, left and right margins.**

Please use proper grammar, syntax and punctuation when writing your assignment as doing so creates a much better document. Up to forty points can be deducted from your paper grade for an excessive number of citation style errors, punctuation errors, grammatical errors, syntactical errors, or other issues with respect to abiding by the assignment requirements.

Academic Honesty: To be fair to those who have honestly completed the assignment, I have zero tolerance for plagiarism. Normally, this means that someone who I catch plagiarizing will fail the course and be reported to the Provost for additional disciplinary action. Please refer to the course syllabus and the Plagiarism Frequently Asked Questions handout for a more detailed discussion of academic integrity.

Style: Please use the *Style Manual for Political Science* that I will distribute via the course website. I do not accept the use of any other style. Please reference your sources accordingly and use parenthetical cites to document your sources within your assignment. Do ***NOT*** use footnotes or endnotes in your paper as a form of documenting your sources.

Statistical Code: Finally, the code provided in Section Three *must* generate the answers provided in your submission. Failure to comply with this requirement will result in a loss of ½ of the points possible for this assignment.

## Section One

The Libertarian Party has hired you as a consultant to advise them on how to improve their image among the public. The Libertarian Party recently acquired the 2016 National Election Studies dataset and has asked you to use it to learn who is more likely to have positive perceptions of the Libertarian Party's presidential candidates. They have come up with three possible explanations and has asked you to query each of them by analyzing the data and answering the following questions.

- 1) Please generate a line graph that shows the relationship between feelings about Gary Johnson (the Libertarian Party's presidential candidate in 2016) (V161088) and whether one self-identifies strongly with either the Democratic or Republican parties (strongpartisan). This graph must be made with the following parameters:
  - a. Vertical axis is feelings about Gary Johnson; and the horizontal axis is whether one self-identifies as a strong partisan;
  - b. A descriptive title for the graph;
  - c. Vertical axis should be on a 100-point scale, with tick marks every 10 points;
  - d. Vertical and horizontal axis labels;
  - e. Horizontal axis labels that correspond to the respective labels;
  - f. Green line showing the relationship between these variables,

At first glance, what does this tell us about the link between feelings about the Gary Johnson and whether one self-identifies as a strong partisan in the 2016 election (10 points)?

- 2) Many have proposed varying explanations to explain the variance in feelings about the Gary Johnson, the Libertarian Party's presidential candidate in 2016. These include whether one self-identifies as a strong partisan (strongpartisan), one's educational attainment (education), and the frequency with which one attends religious services (religioussvcattend)

Please generate and interpret the appropriate bivariate correlation statistic between the following combinations of variables:

- a. Feelings about Gary Johnson (V161088) and whether one self-identifies as a strong partisan (strongpartisan).
- b. Feelings about Gary Johnson (V161088) and educational attainment (education).
- c. Feelings about Gary Johnson (V161088) and the frequency with which one attends religious services (religioussvcattend).

To receive full credit on this question, you must state the correlation statistic that was run. Individually and collectively, what do these correlation statistics tell us about attitudes about feelings about Gary Johnson (30 points)?

- 3) Please generate and interpret the results of a regression between the following combinations of variables (10 points each; 30 points total):
- Feelings about Gary Johnson (V161088) and whether one self-identifies as a strong partisan (strongpartisan);
  - Feelings about Gary Johnson (V161088) and whether one self-identifies as a strong partisan (strongpartisan) and educational attainment (education); and
  - Feelings about Gary Johnson (V161088) and whether one self-identifies as a strong partisan (strongpartisan) and educational attainment (education), and the frequency with which one attends religious services (religioussvcattend);

Please note that the variable listed first is the dependent variable, while the variables listed second and thereafter are the independent variables.

- 4) Based on these results from questions one through three, what do you conclude about who is more likely to support presidential candidates from the Libertarian Party like Gary Johnson? What results support the conclusions that you have? How would you use these results to advise the Libertarian Party to support their goal of having people think more positively of their party and candidates? What implications do your recommendations have for future elections? What limitations exist if one solely uses these analyses to draw conclusions (20 points)?

## Section Two

The National Science Foundation (NSF) has hired you as a consultant to advise them on how to best improve the image of scientists, given that science has become more politicized over time. This organization has recently acquired the 2016 National Election Studies dataset, and has asked you to use it to learn what factors affect public attitudes toward scientists. The NSF has advanced three possible explanations, and has asked you to investigate each of them by analyzing data and answering the following questions.

- Please compute and interpret the mean, median, mode, range, and standard deviation about the feeling thermometer toward scientists (V162112). What does this tell us on a preliminary basis about public attitudes toward scientists among the public (10 points)?
- There have been a variety of explanations that have been proposed to explain individual-level variance in the answers that respondents give about their attitudes toward scientists. These include the frequency with which one attends religious services (religioussvcattend), educational attainment (education), and ideology (ideologicalattachment).

Please generate and interpret the appropriate bivariate correlation statistic between the following combinations of variables:

- Feeling thermometer about scientists (V162112) and religious service attendance (religioussvcattend);

- b. Feeling thermometer about scientists (V162112) and educational attainment (education);
- c. Feeling thermometer about scientists (V162112) and ideology (ideologicalattachment).

To receive full credit on this question, you must state the correlation statistic that was run for each question. Individually and collectively, what do these correlation statistics tell us about public attitudes toward scientists (30 points)?

- 3) Please generate and interpret the results of a regression between the following combinations of variables (10 points each; 30 points total):
  - a. Feeling thermometer about scientists (V162112) and religious service attendance (religioussvcattend);
  - b. Feeling thermometer about scientists (V162112) and religious service attendance (religioussvcattend) and educational attainment (education); and
  - c. Feeling thermometer about scientists (V162112) and religious service attendance (religioussvcattend), educational attainment (education), and ideology (ideologicalattachment);

Please note that the variable listed first is the dependent variable, while the variables listed second and thereafter are the independent variables.

- 4) Based on these results from questions one through three, what do you conclude about the public's attitudes toward scientists and why? What results support the conclusions that you have? How would you use these results to advise the NSF and its efforts to create a more positive impression of scientists? What limitations exist if one solely uses these analyses to make conclusions about public attitudes toward scientists (20 points)?

### **Section Three**

- 1) Please provide all of the R code for each of the answers that you generated in Sections One and Two. This code should clearly indicate: a) the problem to which each section of code corresponds; and b) each step along the way to generate your answer, including a brief explanation of that step (20 points).

## Final Assignment Appendix

This section contains two items that will prove helpful to you in completing this assignment. The first section describes how each variable that you will analyze here is coded. The second section provides an example of a table that reports a regression model. I strongly encourage you to follow this example when reporting your own regression results.

### *Variable Coding*

Feeling Thermometer about Gary Johnson (V161088): Feeling thermometer coded from zero to 100, with zero indicating the strongest possible negative feelings about Gary Johnson (the Libertarian Party's presidential candidate), 100 indicating the strongest possible feelings about Gary Johnson, and 50 indicating neither positive nor negative feelings about Gary Johnson.

Feeling Thermometer about Scientists (V162112): Feeling thermometer coded from zero to 100, with zero indicating the strongest possible negative feelings about Scientists, 100 indicating the strongest possible feelings about Scientists, and 50 indicating neither positive nor negative feelings about Scientists.

Educational Attainment (education): This is coded on a five-point scale. This scale operates as follows:

1: Less than High School; 2: High School Graduate; 3: Some College; 4: College Graduate; 5: Graduate School Degree

Strong Partisan (strongpartisan): This variable is coded 0 for those who do not strongly self-identify with either the Republican or Democratic parties, and 1 for those who strongly self-identify with either the Democratic or Republican parties.

Religious Service Attendance (religioussvcattendance): This variable is the extent to which one attends religious services. This variable is coded as follows:

1: Never; 2: A few Times a Year; 3: A Few Times a Month; 4: Almost Every Week; and 5: Every Week

Ideological Attachment (ideologicalattachment): This is coded on a seven-point scale. This scale operates as follows:

1: Very Liberal; 2: Moderately Liberal; 3: Slightly Liberal; 4: Moderate, Middle of the Road; 5: Slightly Conservative; 6: Moderately Conservative; 7: Very Conservative

*Example Table*

This table using a regression-based analysis comes from the following publication:

Moffett, Kenneth W. and Laurie L. Rice 2018. "College Students and Online Political Expression during the 2016 Election." *Social Science Computer Review* 36(4): 422-439.

Table One: Online Political Expression and Persuading Others Offline in the 2016 Election

	Online Political Expression	Persuade Others Offline
Social Media Activity	0.325 *** (0.028)	0.080 *** (0.014)
Blog Readership	0.609 *** (0.105)	0.138** (0.058)
Interest in Politics	0.470 * (0.202)	0.550 *** (0.120)
Strong Partisanship	0.522 * (0.296)	0.290 * (0.170)
Peer Civic Engagement	0.002 (0.052)	0.017 (0.033)
Political Science Major	1.628 ** (0.605)	1.165 *** (0.351)
Campaign Attention	0.030 (0.142)	0.381 *** (0.087)
Liberal	1.279 *** (0.300)	0.389 * (0.179)
Conservative	0.144 (0.315)	-0.229 (0.194)
Cut Point One		1.678 *** (0.334)
Cut Point Two		2.844 *** (0.343)
Cut Point Three		4.169 *** (0.368)
Constant	-0.736 (0.461)	5.368 *** (0.388)
N	688	690
R <sup>2</sup>	0.471	-
F-Statistic	65.49	-
Prob>F	<.0001	-
Standard Error of the Estimate	3.221	-
Pseudo R <sup>2</sup>		.140
Chi-Squared		242.01
Prob>Chi-Squared		<.0001

First, \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ; all one-tailed tests. Second, the values in parenthesis are standard errors.