

This is an **team** graded event. While receiving help from outside your team is permitted with proper documentation, over-reliance on the assistance from others may result in grade deduction.

Answer the questions in complete sentences on a separate document. Submit all code using the “Compile Report Document” button found at the top of your script in RStudio, ensure you select “MS Word”. Ensure each section of code has a committed label with its corresponding problem, example “#Problem1”.

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The American Trends Panel (ATP) is a national, probability-based online panel of adults living in households in the United States. On behalf of the Pew Research Center, GfK Custom Research, LLC (GfK) conducted the 35th wave of the panel survey from May 29 to June 11, 2018. In total, 4,594 ATP members (both English and Spanish language survey-takers) completed the Wave 35 survey. The overall target population for Wave 35 was non-institutionalized persons age 18 and over, living in the US, including Alaska and Hawaii. ATP panelists have been recruited from three large national, overlapping, dual-frame landline and cellphone random-digit-dial (RDD).

The data set used for this lab is `SIL_3_Data.csv`. The word document titled “ATP W35 questionnaire.doc” provides the survey questions and key to responses for the survey. The word document titled “ATP W35 methodology.doc” contains a summary of the methods used to conduct the survey.

1. Was the sample taken by Pew Research a random sample?
2. Was the sampling method unbiased? Explain.

**STEP 1: Ask a research question.**

3. In no more than one or two sentences state a broad research question (or related questions) you could investigate with this data as it pertains to American’s beliefs about social media censoring political ideologies.
4. Identify at least one reason you believe it is important to analyze Americans’ beliefs about social media censoring political ideologies.

**STEP 2: Design a study and collect data.**

In the survey Pew Research asked “How likely, if at all, do you think it is that social media sites intentionally censor political viewpoints that they find objectionable?” Additionally, the survey recorded each person political party affiliation and education level.

5. What are the observational units?
6. What is(are) the variable(s) measured/recorded on each observational unit? Additionally classify each variable as quantitative or categorical.
7. What is the sample size?

## Statistical Investigation Lab 3

Name: \_\_\_\_\_

8. In reference to “How likely, if at all, do you think it is that social media sites intentionally censor political viewpoints that they find objectionable?” In words describe the parameter of interest for each of the following political affiliations: Republican, Democrat, and Independent. Additionally, assign each parameter of interest an appropriate mathematical symbol.

### STEP 3: Explore the data.

In the data set the column **F\_PARTY\_FINAL** contains the respondents political affiliation. The following table contains a key for the responses.

1 - Republican	2 - Democrat	3 - Independent	4 - Other	99 - Refused
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9. Provide the number of respondents that are affiliated with the following political parties: Republican, Democrat, and Independent.

In the data set the column **SM7\_W35** contains the responses to the following question: “How likely, if at all, do you think it is that social media sites intentionally censor political viewpoints that they find objectionable?” The following table contains a key for the responses.

1 - Very Likely	2 - Somewhat	3 - Not very likely	4 - Not at all likely	99 - Refused
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For the purposes of this lab we will combine responses **1 and 2 into - “Yes it is likely”** and responses **3 and 4 into - “No it is not likely.”**

10. How many Republicans, Democrats and Independents believe it is likely that social media sites intentionally censor political viewpoints that they find objectionable.

### STEP 4: Draw Inferences.

11. Provide the sample statistic used to summarize the data collected in the study to analyze the parameters of interest you described in **question 8**.

#### Size of the Effect

12. Using the **Theory-Based Method**, calculate the 95% confidence interval for the population proportion of Republican, Democrat and Independents who believe it is likely that social media sites intentionally censor political viewpoints that they find objectionable.
13. Interpret each confidence interval calculated in **question 12**.
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### Statistical Investigation Lab 3

Name: \_\_\_\_\_

In investigating the relationship between party affiliation and this question, we might be concerned with how other variables might affect the relationships between variables. One such variable is education level, which may influence a person's party affiliation and belief about social media sites censorship.

In the data set the column **F\_EDUCCAT\_FINAL** contains the respondents education level. The following table contains a key for the responses.

1 - College graduate +	2 - Some College	3 - H.S. graduate or less	9 - Don't know/Refused
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14. Fill out the following table for the proportion (percentage) of people by education level that belong to each political party (Note: the row percentages should sum to approximately 100% due to rounding).

Education Level	Republican	Democrat	Independent
College Graduate +			
Some College			
H.S graduate or less			
Don't know/Refused			

15. Does it appear a person's education level influences their political party affiliation? Explain.
16. Fill out the following table for the proportion (percentage) of people by education level that believe it is likely that social media sites censor political viewpoints that they find objectionable. Again, combine responses **1 and 2 into - "Yes it is likely"** and responses **3 and 4 into - "No it is not likely."** (Note the row percentages should sum to 100%).

Education Level	Yes it is likely	No it is not likely
College Graduate +		
Some College		
H.S graduate or less		
Don't know/Refused		

17. Does it appear a person's education level influences their belief about how likely it is that social media sites censor political viewpoints that they find objectionable? Explain.

## Statistical Investigation Lab 3

Name: \_\_\_\_\_

The following table contains the percentage of people that believe it is likely that social media sites censor political viewpoints that they find objectionable by political party affiliation and education level. For example, 87.0% of people that are affiliated with the Republican Party and are a College Graduate + believe it is likely that social media sites censor political viewpoints that they find objectionable.

Education level	Republican	Democrat	Independent
College Graduate +	87.0%	52.8%	69.9%
Some College	89.1%	65.9%	80.4%
HS graduate or less	90.7%	69.9%	76.4%
Dont'know/Refused	100.0%	60.0%	100.0%

18. What do your results and the above table tell you about the relationship between a person's party affiliation and their belief that social media sites censoring political viewpoints that they find objectionable after adjusting for education level?

### STEP 5: Formulate Conclusions.

19. Based on your analysis do you believe a person's political affiliation and/or education level impact their beliefs on whether or not it is likely that social media sites intentionally censor political viewpoints that they find objectionable? Provide your reasoning to support your answer.
20. Based on your analysis are you able to conclude it is likely that social media sites intentionally censor political viewpoints that they find objectionable. Provide your reasoning to support your answer.
21. Do you feel comfortable generalizing your conclusions to all Americans? If not, is there a population (broader than the sample) you feel you can generalize your conclusions to? Provide your reasoning to support your answer.

### STEP 6: Look back and ahead.

22. When looking at the survey, what additional variables would you like to analyze to see if they impact a person's belief on whether or not it is likely that social media sites intentionally censor political viewpoints that they find objectionable? Are there other questions you would have liked to ask the respondents? Provide your reasoning to support your answer.