

Project 4: Media Portrayal and Public Opinion

Kavya Nair

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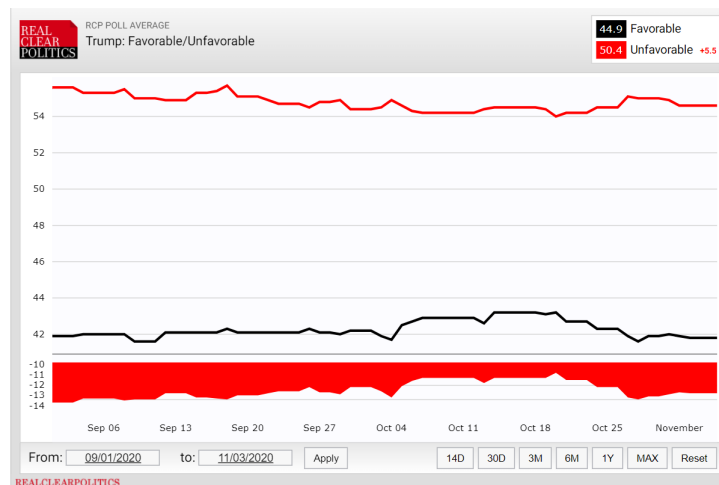
1 Introduction

A president's policies as well as behaviors are constantly represented in the media. Often, in this representation, we can see strong opinions either for or against these things. People get a majority of their information about what is happening in the country, and around the world, from the mass media. Whatever is told by the media is what the general public comes to know. This is why we can believe that when something is presented in a biased way, where the authors opinion comes through in the writing, it can influence what the reader thinks. Here, we will be examining whether media portrayals affect public view of our presidents. Donald Trump was a president that people had particularly strong opinions about. They either completely supported and agreed with him or were in complete opposition to all of his choices and policies. Because of this, Trump is a good starting point in the question of whether media portrayals affect public view. We will be looking at the popular news sources CNN, Fox, and NPR, all which have different political affiliations. In order to categorize these articles, we will be classifying these news sources by prevailing public opinion. After doing this assessment, we can classify CNN as liberal, Fox as conservative, and NPR as relatively neutral. We will be examining the types of articles from each of these sources each week and their correlation with Donald Trump's disapproval ratings. We will be asking the question: **From September 1st to election day, did Donald Trump's portrayal in the media affect his disapproval ratings?**

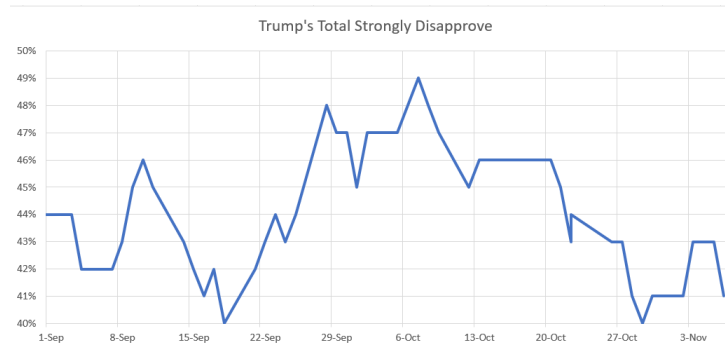
2 Data Gathering

To begin, we have graphs of Trump's disapproval ratings from two sources.

Below is the graph from www.realclearpolitics.com:



Below is the graph made in Excel with data from www.rasmussenreports.com:



We can split this total time up into 9 weeks, Sept. 1-7, Sept. 7-14, Sept. 14-21, Sept. 21-28, Sept. 28-October 5, Oct. 5-12, Oct. 12-19, Oct. 19-26, and Oct. 26-November 3.

From here, we can collect information on media articles released each week from CNN, NPR, and Fox News, to get a wide variety of political affiliations as well. In order to collect this data, we can set the search result dates to the specific week we are looking at and then type “[media source] Trump” into the search bar. We then take the first 4 news articles that come up and rate whether they say something about Trump in a negative way (+1), something about Trump in a positive way (-1), or something about him presented relatively neutrally (0).

After completing this for the first 4 articles from each media source for all 9 weeks we are observing, we reach the results shown below. Computing the total lets us know whether a week had mainly positive (total is less than 0), negative (total is greater than 0), or neutral (total is 0) articles. The total is what we will call the “neutrality rating” of each media source.

| | | | | | | | | |
|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Week 1 (CNN) | Week 1 (NPR) | Week 1 (FOX) | Week 2 (CNN) | Week 2 (NPR) | Week 2 (FOX) | Week 3 (CNN) | Week 3 (NPR) | Week 3 (FOX) |
| +1,0,0,+1 | +1,+1,+1,+1 | -1,+1 | +1,+1,+1,+1 | 0,+1,+1,+1 | -1,-1,+1,+1 | +1,+1,-1,+1 | +1,+1,-1,0 | -1,-1,-1,+1 |
| TOTAL: 2 | TOTAL: 4 | TOTAL: 0 | TOTAL: 4 | TOTAL: 1 | TOTAL: 0 | TOTAL: 2 | TOTAL: 1 | TOTAL: -2 |
| Week 4 (CNN) | Week 4 (NPR) | Week 4 (FOX) | Week 5 (CNN) | Week 5 (NPR) | Week 5 (FOX) | Week 6 (CNN) | Week 6 (NPR) | Week 6 (FOX) |
| +1,+1,+1,0 | -1,0,+1,+1 | -1,-1,-1,0 | 0,+1,+1,0 | +1,0,+1,-1 | 0,0,0,-1 | +1,0,+1,+1 | 0,+1,0,0 | -1,-1,0,0 |
| TOTAL: 3 | TOTAL: 1 | TOTAL: -3 | TOTAL: 2 | TOTAL: 1 | TOTAL: -1 | TOTAL: 3 | TOTAL: 1 | TOTAL: -2 |
| Week 7 (CNN) | Week 7 (NPR) | Week 7 (FOX) | Week 8 (CNN) | Week 8 (NPR) | Week 8 (FOX) | Week 9 (CNN) | Week 9 (NPR) | Week 9 (FOX) |
| +1,+1,+1,0 | 0,0,0,0 | -1,-1 | +1,0,+1,+1 | -1,0,+1,0 | 0,-1,-1,-1 | -1,+1,+1,0 | +1,+1,+1,0 | -1,+1,0,-1 |
| TOTAL: 3 | TOTAL: 0 | TOTAL: -2 | TOTAL: 3 | TOTAL: 0 | TOTAL: -3 | TOTAL: 1 | TOTAL: 3 | TOTAL: -1 |

We can also look at each week and the disapproval rating changes between each week to see if they have risen or dropped.

Using RealClearPolitics, we have the following information of the percentage of disapproval ratings by the end of the week:

September 1-7: 55.3%
September 7-14: 54.9%
September 14-21: 55.1%
September 21-28: 54.8%
September 28-October 5: 54.6%
October 5-12: 54.2%
October 12-19: 54.4%
October 19-26: 54.5%

October 26-November 3: 54.6%

Using RasmussenReports, we have the following information of the percentage of disapproval ratings by the end of the week:

September 1-7: 42%
September 7-14: 43%
September 14-21: 42%
September 21-28: 48%
September 28-October 5: 47%
October 5-12: 45%
October 12-19: 46%
October 19-26: 43%
October 26-November 3: 41%

Now, we have the data of whether the news articles by each of our 3 media sources were mainly positive, negative, or neutral articles each week, and we also know what the disapproval rating was each week from two polling sources.

3 Solving

We can use this data to compute a correlation and R^2 between RasmussenReports and CNN neutrality ratings, RasmussenReports and NPR, RasmussenReports and Fox, RealClearPolitics and CNN, RealClearPolitics and NPR, and RealClearPolitics and Fox.

Below is the table with CNN's neutrality ratings and Rasmussen's disapproval ratings.

| CNN Articles Neutrality Rating | Disapproval Ratings |
|--------------------------------------|------------------------|
| 2 | 55.3 |
| 4 | 54.9 |
| 2 | 55.1 |
| 3 | 54.8 |
| 2 | 54.6 |
| 3 | 54.2 |
| 3 | 54.4 |
| 3 | 54.5 |
| 1 | 54.6 |

Calculating the correlation between Rasmussen and CNN's neutrality rating per week gives us -0.1855374 . This indicates that there is not a strong correlation in the data.

Calculating the R^2 between Rasmussen and CNN's neutrality rating per week gives us 0.034424148 .

We can calculate the F value of $\frac{0.034424148}{1-0.034424148}(9-2) = 0.2496$, which is not above the 90% threshold for 9 data points.

This means that there is no strong trend in the data.

Below is the table with NPR's neutrality ratings and Rasmussen's disapproval ratings.

| NPR Articles Neutrality Rating | Disapproval Ratings |
|--------------------------------------|------------------------|
| 4 | 55.3 |
| 1 | 54.9 |
| 1 | 55.1 |
| 1 | 54.8 |
| 1 | 54.6 |
| 1 | 54.2 |
| 0 | 54.4 |
| 0 | 54.5 |
| 3 | 54.6 |

Calculating the correlation between Rasmussen and NPR's neutrality rating per week articles gives us 0.561137676.

This indicates that there is not a strong correlation in the data.

Calculating the R^2 between Rasmussen and NPR's neutrality rating per week articles gives us 0.3148754.

We can calculate the F value of $\frac{0.3148754}{1-0.3148754}(9-2) = 3.2171$, which is not above the 90% threshold for 9 data points.

This means that there is no strong trend in the data.

Below is the table with Fox's neutrality ratings and Rasmussen's disapproval ratings.

| Fox Articles Neutrality Rating | Disapproval Rating |
|--------------------------------------|-----------------------|
| 0 | 55.3 |
| 0 | 54.9 |
| -2 | 55.1 |
| -3 | 54.8 |
| -1 | 54.6 |
| -2 | 54.2 |
| -2 | 54.4 |
| -3 | 54.5 |
| -1 | 54.6 |

Calculating the correlation between Rasmussen and Fox's neutrality rating per week articles gives us 0.462507883.

This indicates that there is not a strong correlation in the data.

Calculating the R^2 between Rasmussen and Fox's neutrality rating per week articles gives us 0.213913542.

We can calculate the F value of $\frac{0.213913542}{1-0.213913542}(9-2) = 1.90487$, which is not above the 90% threshold for 9 data points.

This means that there is no strong trend in the data.

Below is the table with CNN's neutrality ratings and RealClearPolitics' disapproval ratings.

| CNN Articles Neutrality Rating | Disapproval Rating |
|--------------------------------------|-----------------------|
| 2 | 42 |
| 4 | 43 |
| 2 | 42 |
| 3 | 48 |
| 2 | 47 |
| 3 | 45 |
| 3 | 46 |
| 3 | 43 |
| 1 | 41 |

Calculating the correlation between RealClearPolitics and CNN's neutrality rating per week articles gives us 0.369494214.

This indicates that there is not a strong correlation in the data.

Calculating the R^2 between RealClearPolitics and CNN's neutrality rating per week articles gives us 0.136525974.

We can calculate the F value of $\frac{0.136525974}{1-0.136525974}(9-2) = 1.1068$, which is not above the 90% threshold for 9 data points.

This means that there is no strong trend in the data.

Below is the table with NPR's neutrality ratings and RealClearPolitics' disapproval ratings.

| NPR Articles Neutrality Rating | Disapproval Rating |
|--------------------------------------|-----------------------|
| 4 | 42 |
| 1 | 43 |
| 1 | 42 |
| 1 | 48 |
| 1 | 47 |
| 1 | 45 |
| 0 | 46 |
| 0 | 43 |
| 3 | 41 |

Calculating the correlation between RealClearPolitics and NPR's neutrality rating per week articles gives us -0.509647191.

This indicates that there is not a strong correlation in the data.

Calculating the R^2 between RealClearPolitics and NPR's neutrality rating per week articles gives us 0.25974026.

We can calculate the F value of $\frac{0.25974026}{1-0.25974026}(9-2) = 2.4561$, which is not above the 90% threshold for 9 data points.

This means that there is no strong trend in the data.

Below is the table with Fox's neutrality ratings and RealClearPolitics' disapproval ratings.

| Fox Articles Neutrality Rating | Disapproval Ratings |
|--------------------------------------|------------------------|
| 0 | 42 |
| 0 | 43 |
| -2 | 42 |
| -3 | 48 |
| -1 | 47 |
| -2 | 45 |
| -2 | 46 |
| -3 | 43 |
| -1 | 41 |

Calculating the correlation between RealClearPolitics and Fox’s neutrality rating per week articles gives us -0.422472723 .

This indicates that there is not a strong correlation in the data.

Calculating the R^2 between RealClearPolitics and Fox’s neutrality rating per week articles gives us 0.178483202 .

We can calculate the F value of $\frac{0.178483202}{1-0.178483202}(9-2) = 1.52082$, which is not above the 90% threshold for 9 data points.

This means that there is no strong trend in the data.

4 Analysis

As we can see from the previous section, all 6 of these data sets do not have a strong correlation and they do not show a trend in the data.

But this does not mean that we can say conclusively that Trump’s media portrayal is unrelated to his disapproval rates. There are a couple reasons for this. First of all, our neutrality rating system does not take into account the fact that a neutral article probably still will cause someone’s opinion to sway, just in a direction that cannot be predicted because it is related to how an article is presented. When a media article is written in a relatively “unbiased” way, it leaves a lot of room for people to make their own decisions on how to feel about the information. The opinion of the writer of the article is no longer a big influence. It also does not account for the fact that even strongly positive articles on Trump could cause more people to dislike him, or strongly negative articles could cause people to like him. The way people think or make their decisions is not simple or clear, and is definitely not entirely predictable. Another factor is the polling organizations, which only take a small sample of a much larger population. There could also be bias in polling organizations in the way that they collect their information. If a polling organization has a political affiliation themselves, then they would have a motive in seeing certain results. For example, if one polling organization supports Trump, they would want to see him have higher approval rates and lower disapproval rates. Because polling organizations reach out to people in order to get their opinions, they could be putting many of their ads on news sources that are biased in the same way, getting their desired results. This would mean that the polling service’s sample is not accurate in representing the general population.

Assuming that our results were no correlation due to the factors stated previously, we can relate this to how information flow actually does affect public view. In the novel *Station Eleven*, by Emily St. John Mandel, medical officials withheld information from the public, so people only knew that the Georgia Flu was in another country, they did not know it directly affected them. The portrayal of the Georgia Flu’s location and its affecting areas had a big impact on how Laura received Jeevan’s phone call. If the media had kept the public informed and medical professionals had been giving information to the media for distribution, Laura’s opinion of the Georgia Flu would have changed and she would have felt the need to protect herself. She would have believed Jeevan’s warning and changed her mind about the virus. This disbelief on Laura’s

part is caused by how the media was portraying the Georgia Flu, as a far away problem, which then affected how she viewed the virus. This situation also has differences to our question about Trump and the media because *Station Eleven* is looking more at an example of withholding information from the public rather than conveying it in a biased form. Laura does not believe the Jeevan because the information about the virus was never conveyed to the public. This contrasts from Trump's portrayal in the media because Trump's portrayal has to do with the opinions of news sources that come through in their writing which then influences the opinion of those reading it. In *Station Eleven*, they are unaware of the virus as a whole. Even with these differences, both the perception of the virus and the perception of Trump can be amounted to the way that the information or lack thereof, was presented to the public through the mass media. This supports the point that media portrayal, of a virus in this case, affects the public opinion/view, and this can be related to media portrayals of Trump.

5 Conclusion

Overall, we cannot form a solid conclusion about the relationship between media representation and Trump's disapproval ratings. Although our data shows that there is no direct correlation between these two things, we previously explained why we could have gotten these results and why the representation and disapproval ratings could still be correlated. We also saw from *Station Eleven* that media portrayals affect the public opinion. In order to get data in a more accurate way to support the idea that media portrayals of Trump affect his disapproval rates, we must propose an alternate, possibly more effective, further study.

6 Further Inquiry

As a path of further inquiry, a more accurate way to prove that media portrayals affect disapproval ratings of Trump would be by first sending out a survey to a random sample of people with two questions, the first being *do you approve or disapprove of Donald Trump?* and the second being *which of the following news sources do you follow mainly?* and let them write in an answer. We can then take the news sources, see if they are mainly right, left, or neutral, and if they correlate with Trump's approval and disapproval. From this study, we may be able to get a more accurate sense of the media's influence on approval and disapproval.