

Understanding COVID Political Dialogue on Twitter

The pandemic is no longer solely about the virus. Since January 2020, the portrayal of COVID-19 within the US has been heavily politicized by news outlets across various social media platforms. As college students who engage with COVID discussion on social media, we wanted to analyze the differences in the portrayal of COVID-19 between CNN, a liberal news outlet, and Fox News, a conservative news outlet. We also wanted to determine whether the sentiment of the replies to COVID news tweets changes between these two news outlets.

Using **Twitter's official API and the snsrape library**, we gathered the following **COVID tweets and replies**, which were posted from Jan. 2020 - Dec. 2021:

- CNN - 2274 COVID tweets
- CNN Replies - 57,966 replies to CNN COVID tweets
- Fox News- 1496 COVID tweets
- Fox News Replies - 48,519 replies to Fox COVID tweet

Using this data, **we tested the following 3 hypotheses and obtained the following results:**

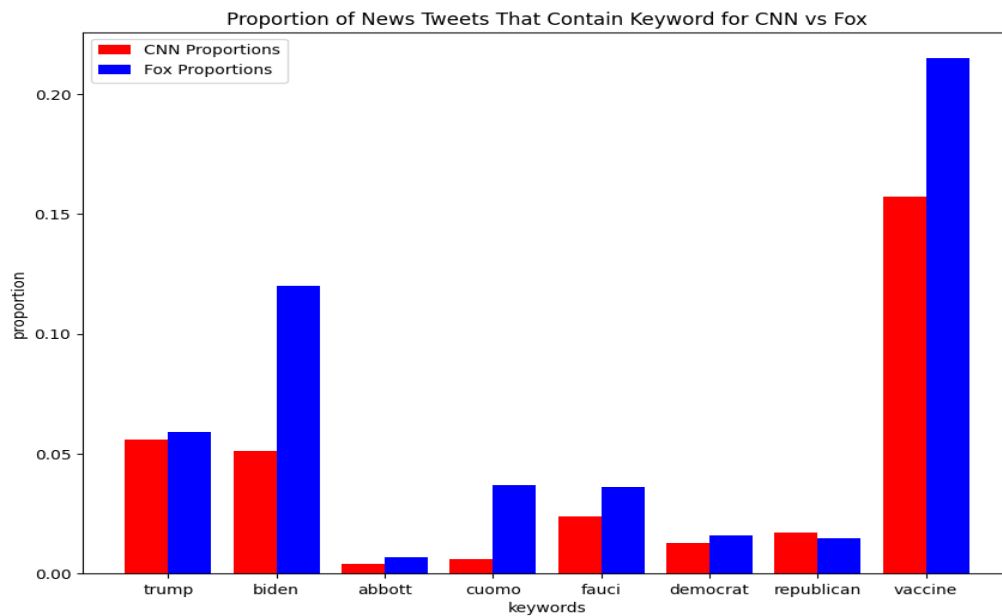
- Null Hypothesis 1 - the proportion of COVID news tweets that contain a particular COVID related keyword is the same between Fox and CNN.
 - Rejected the Null Hypothesis when the COVID news tweet contained words such as "Biden" and "Vaccine". Fox seems to tweet about these subjects at a higher proportion than CNN.
- Null Hypothesis 2 - for COVID news tweets that contain a certain keyword, the average sentiment of the replies to those tweets is the same between Fox and CNN.

- Rejected the Null Hypothesis for keywords such as "Trump" and "Biden".

However, the sentiment across the board for both news outlets is fairly negative.

- Null Hypothesis 3 - the categorical variables, is_viral and contains_keyword, are independent.
 - Rejected the Null Hypothesis. COVID tweets that contained political figures, such as Biden or Trump, seem to be associated with higher virality.

Various graphs and charts were created for our poster. An example bar chart for hypothesis one is shown below:



The completed poster can be seen here: [CSCI 1951A Final Project Poster](#)