

Donald Trump's Twitter Use

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Research Question

How does Donald Trump's sentiment in his tweets vary across his "in-groups" and "out-groups?"



Hypothesis

We believe that Trump will be significantly more positive towards people and topics in his “in groups” than towards the people and things that fall outside of it.



Our Data Set

Our data comes from a website called [TrumpTwitterArchive.com](https://trumptwitterarchive.com), a cache of all Trump's tweets scraped directly from the web.

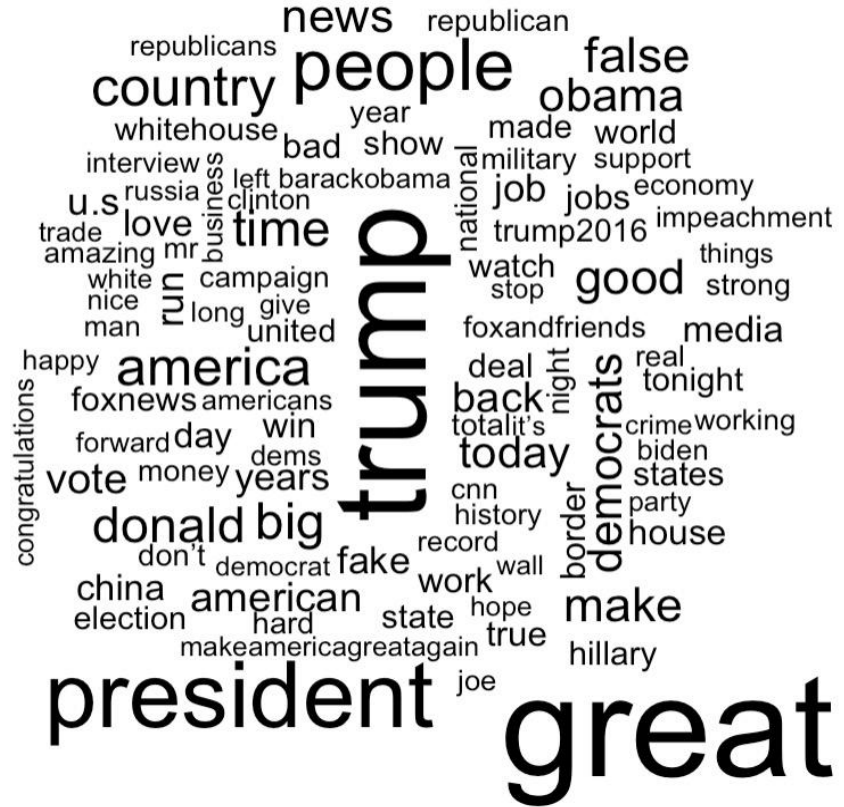


Sentiment Analysis

The bulk of our project relies on a package called *SentimentR* which produces sentiment scores for the general tone of a body of text.

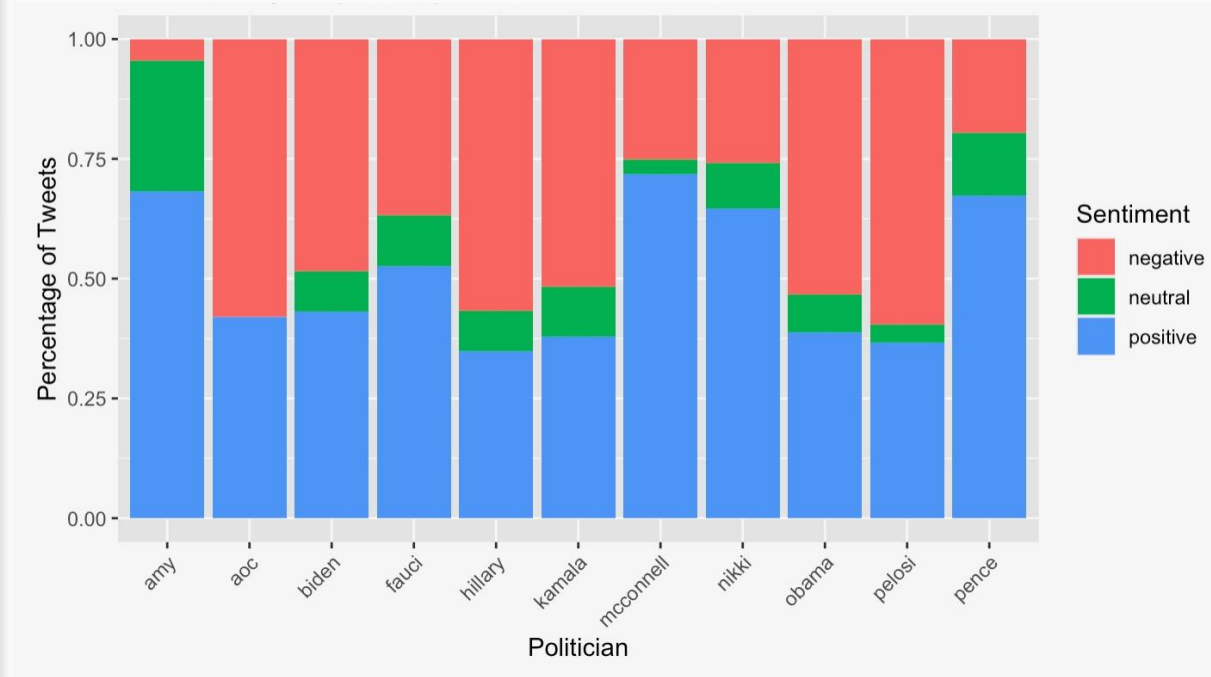


The words used most frequently by President Donald Trump on Twitter are “great,” “Trump,” and “president.”



Sentiment Towards People

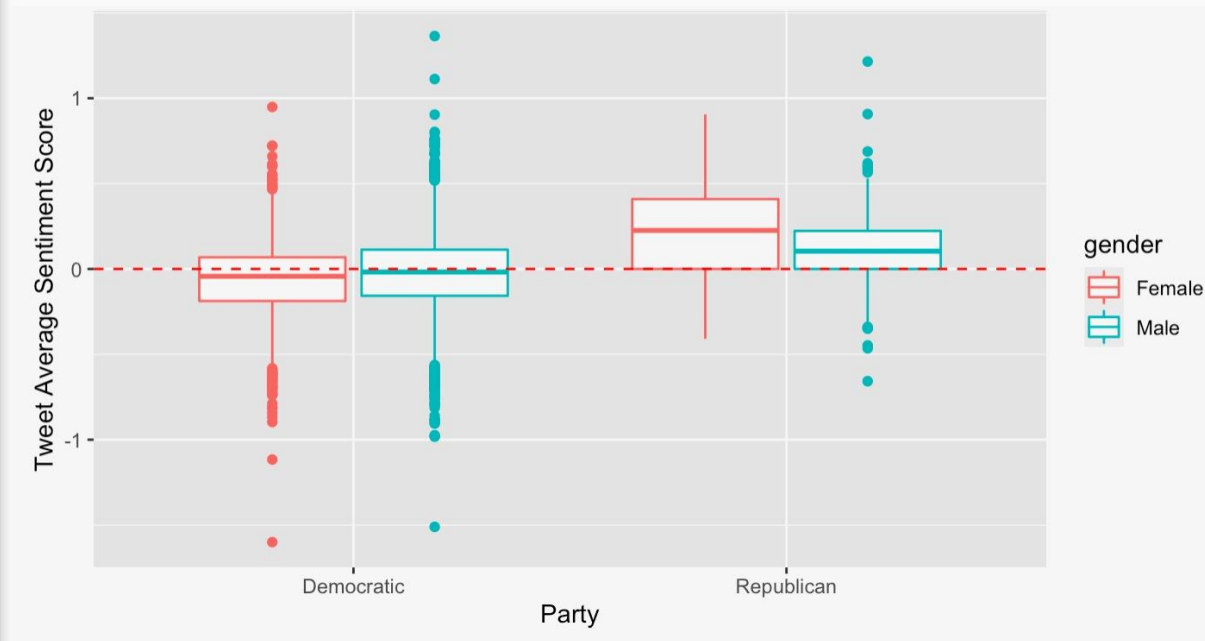
In general, Trump speaks most positively about Amy Coney Barrett, and most negatively about AOC and Nancy Pelosi.



Sentiment Towards People

Cont'd

Trump is generally more positive towards Republicans than Democrats.



Hypothesis Tests for People

Chi-Squared Test: **Person** and **PosNeg**

$$\chi^2 = 240.26$$

$$p < 2.2\text{e-}16$$

1

Chi-Squared Test: **Party** and **PosNeg**

$$\chi^2 = 173.34$$

$$p < 2.2\text{e-}16$$

2

T-Test: **Difference between Democrat and Republican Average Sentiment**

$$t = -14.678$$

$$p < 2.2\text{e-}16$$

3

Hypothesis Tests for People Cont'd

Chi-Squared Test: **Gender** and **PosNeg**

$$\chi^2 = 27.151$$

$$p = 1.271\text{e-}06$$

4

T-Test: **Difference between Male and Female Average Sentiment**

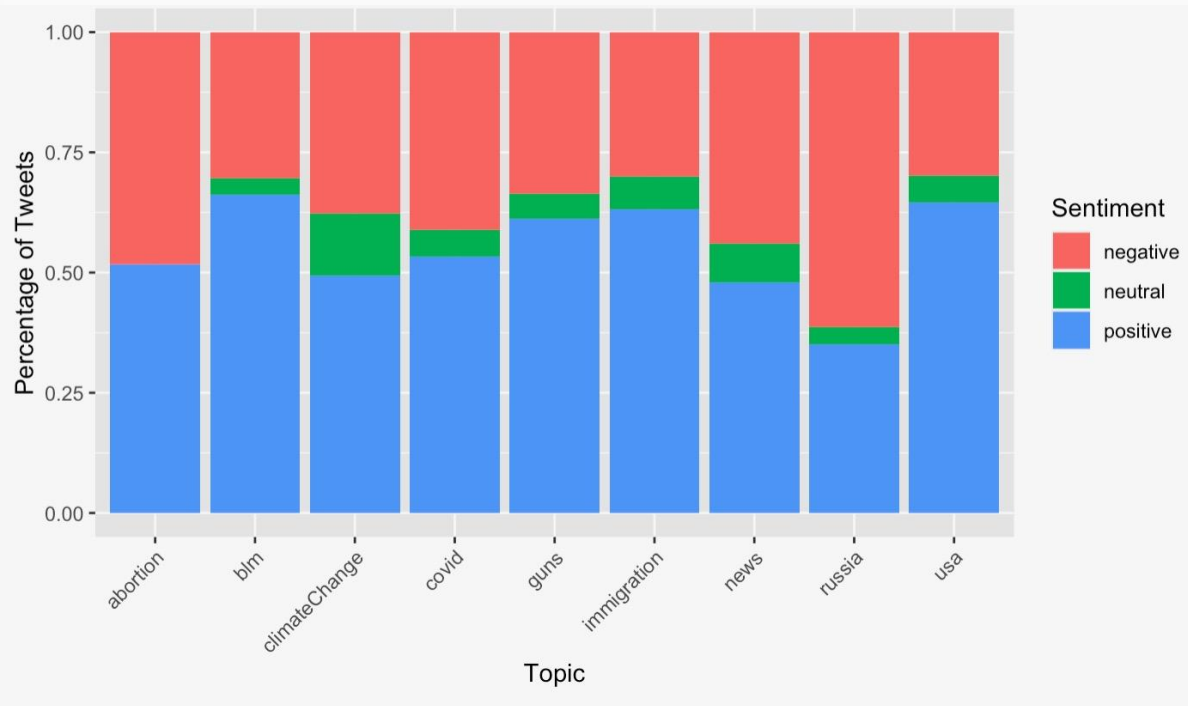
$$t = 6.6948$$

$$p = 1.234\text{e-}11$$

5

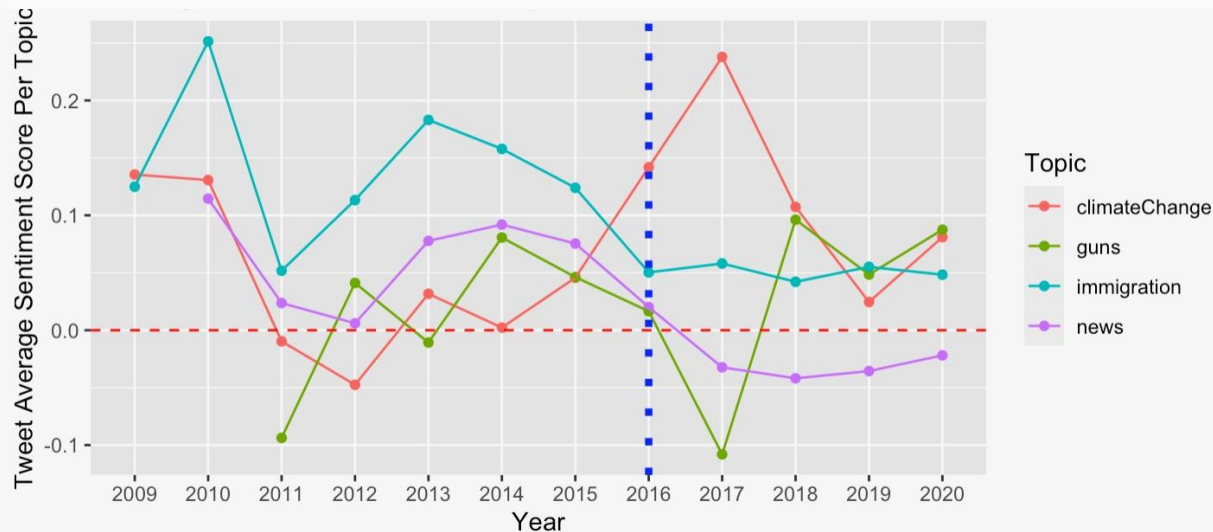
Sentiment Towards Topics

Trump is very positive towards the USA and, surprisingly, the BLM movement and immigration.



Sentiment Towards Topics Over Time

Trump's sentiment towards each of the topics has varied over time. Notably, tweets about immigration and news have followed a similar pattern in terms of sentiment.



Hypothesis Tests for Topics

T-Test: *Pre and Post Presidency* **Climate Change**

$t = -3.5886$

$p = 0.0005017$

1

T-Test: *Pre and Post Presidency* **Immigration**

$t = 14.158$

$p < 2.2e-16$

3

T-Test: *Pre and Post Presidency* **Guns**

$t = -1.4058$

$p = 0.1614$

2

T-Test: *Pre and Post Presidency* **News**

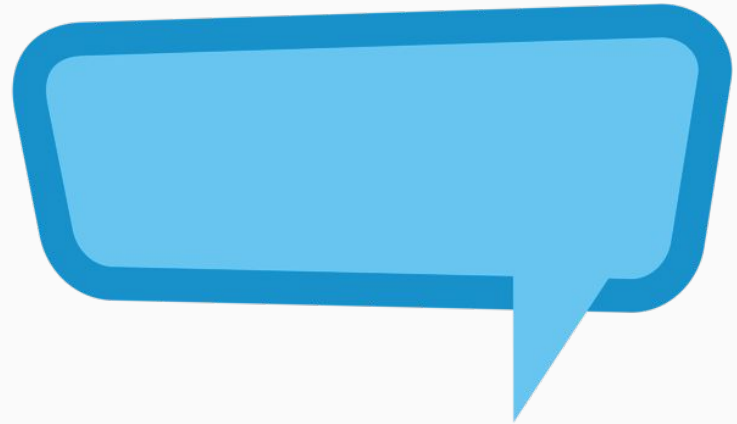
$t = 14.018$

$p < 2.2e-16$

4

Discussion

It does seem that Trump speaks more positively about people in his in-groups (males and Republicans) than those in his out groups. However, the same does not appear to be true about topics.



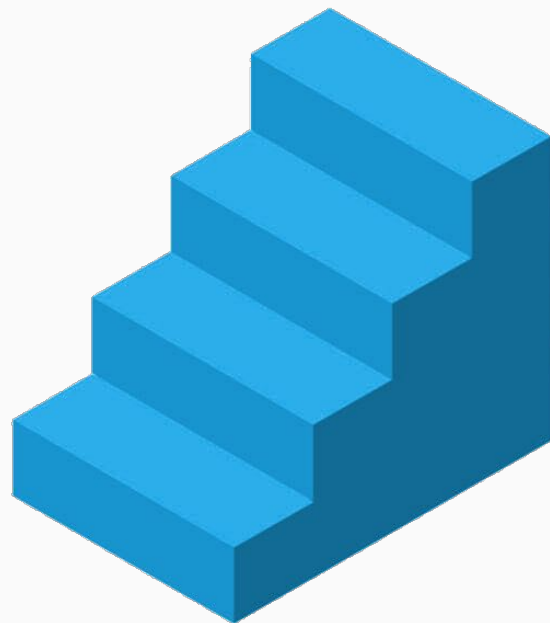
Limitations and Improvements

Limitations:

- Difficulties identifying tweet subjects.
- Limited scope of people/topics.
- Sentiment analysis imperfections.

Improvements:

- Spend more time choosing people/topics and defining subject keywords.
- Use a politically-focused sentiment analysis lexicon rather than a generic one.



1. **Twitter Logo:**
<https://image.flaticon.com/icons/png/512/23/23931.png>
2. **Magnifying Glass:**
<https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcRFZrUiBxJlqfHNvHxaLMtThOfzRzcAcocYq&usqp=CAU>
3. **Donald Trump:**
<https://radio.foxnews.com/wp-content/uploads/2020/06/TRUMP-resize.jpg>
4. **R Logo:**
<https://www.r-project.org/logo/Rlogo.svg>
5. **Speech Bubble:**
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6. **Staircase:**
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