

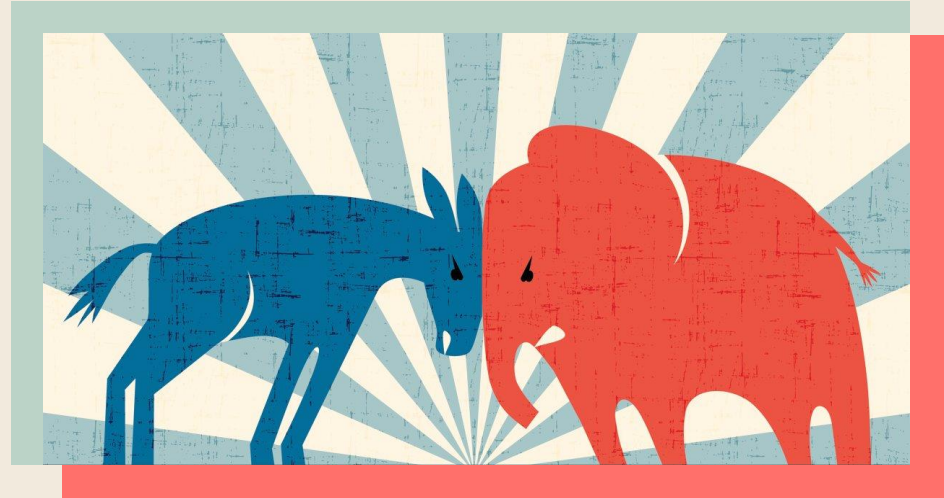

Social Media and Political Polarization

Ely Talbot

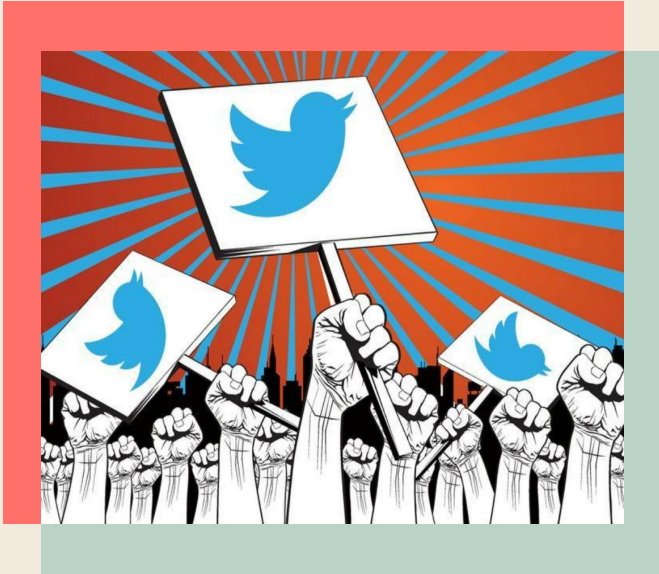


Background

- The United States is has become increasingly polarized since the 1960s (Carotheres, 2019)
- Explains extreme political divisions, homogenous party demographics, and a decline in compromise



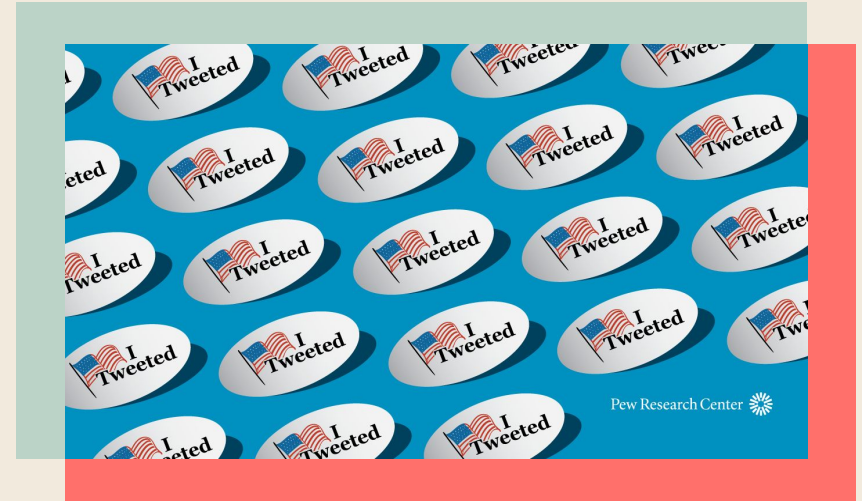
Background



- The impact of Twitter and all other social media sites cannot be understated (Mergel, 2012)
- On Twitter, personalization algorithms, echo chambers, anonymous users, and bots all contribute to polarized feeds

Background

- In today's political arena one's online presence plays an integral part of perception and electability (Carothers, 2019)
- Using the 2022 Midterms as a time frame to analyze online speech, variance in polarizing rhetoric can be measured





Research Question

Using VADER, a sentiment analysis tool, how did the polarity of tweets from the U.S. Representatives of both parties change before and after the 2022 midterm elections?



Data



- Data collected from every verified US Representative and Senator on Twitter every 8 hours
- Collection period lasted from September 8th 2022- January 8th 2022
- Process yielded 134,338 individual tweets



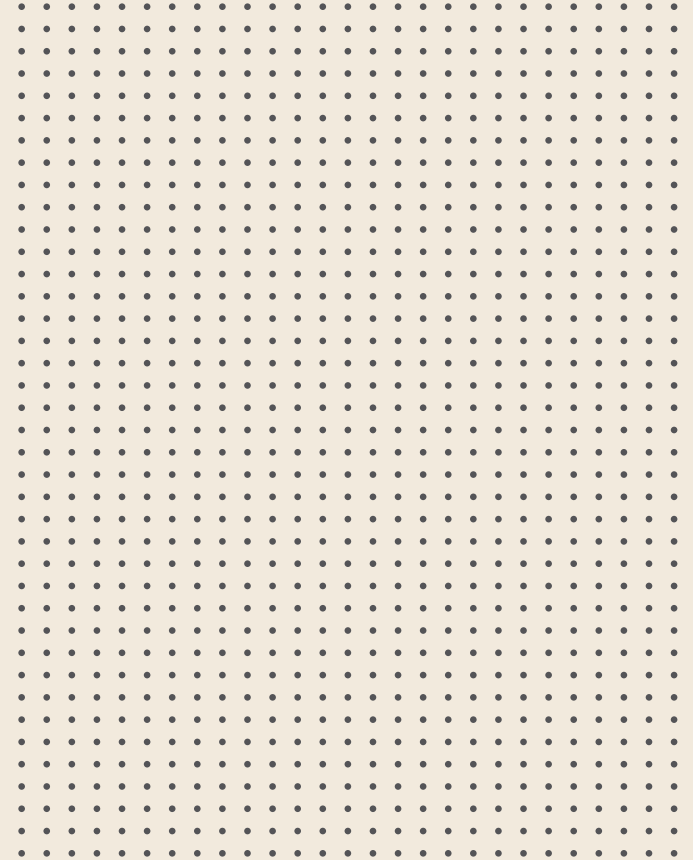
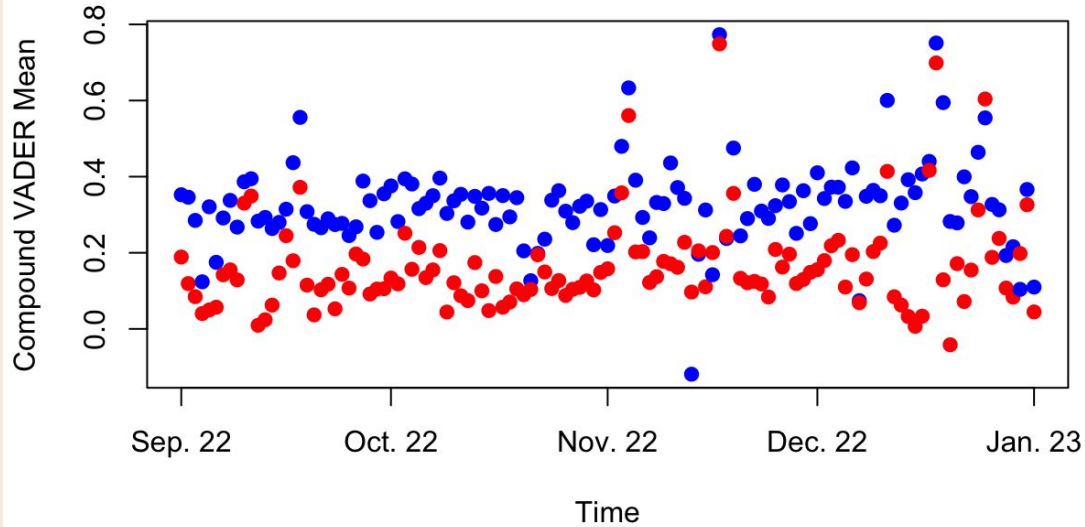
Methods



- VADER, Valence Aware Dictionary for sEntiment Reasoning, was the software programming used to measure the polarity of Tweets (Hutto & Gilbert, 2014)
- R, a programming language, organized and sorted the data from VADER into coherent graphs and plots

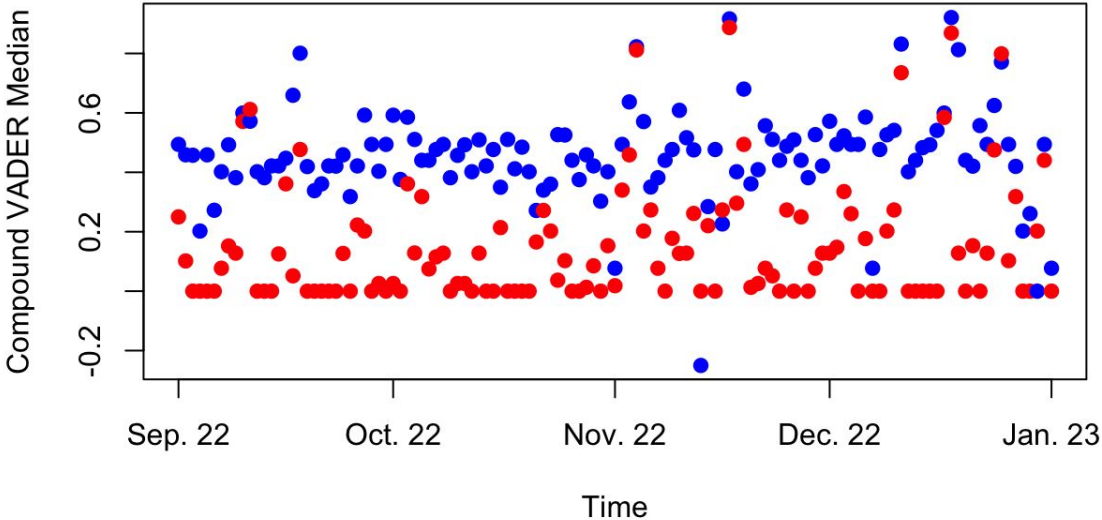
Results

Daily Compound VADER Mean by Party



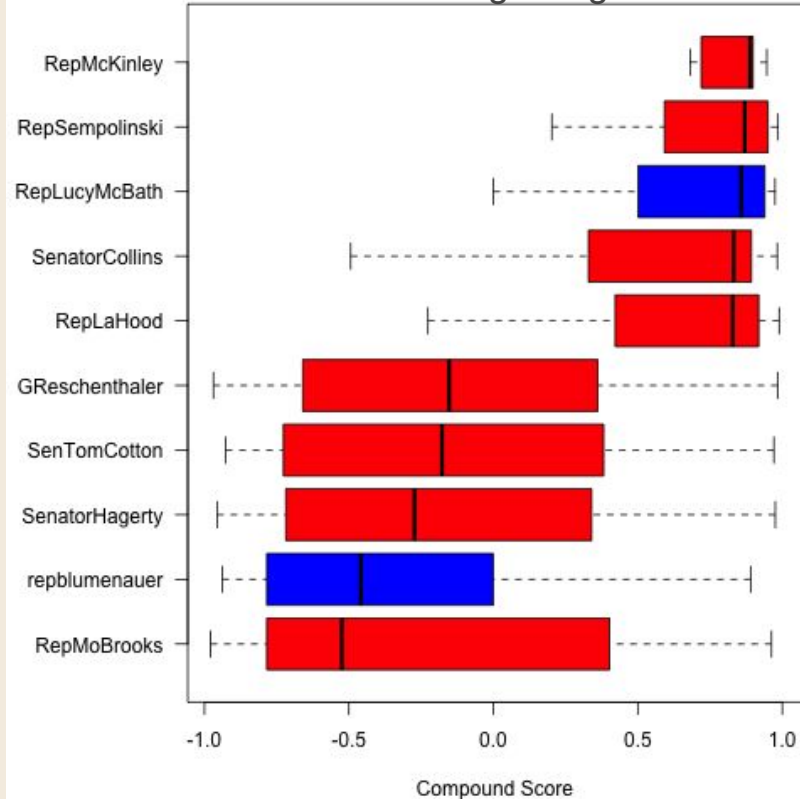
Results

Daily Compound VADER Median by Party



Results

Top 5 Highest and Lowest Median Compound VADER scores among Congress





Importance



- Scatter plots Display significant gaps in the sentiments of online discourse between Democrats and Republicans
- Using the Midterms as the case study, the lack of change in the period after the election reveals party wide opinions on the elections and current Presidential administration
- Lastly, this study could not be conducted today as Twitter CEO, Elon Musk, altered Twitter's API (application program interface) to restrict data collection to a statistically insignificant amounts of data for a price



Bibliographical references

- Almog Simchon, B., Brady, W. J., Van Bavel, J. J. (2022). Troll and divide: The language of online polarization. PNAS Nexus, 1(1), pgac019. <https://doi.org/10.1093/pnasnexus/pgac019>
- Aral, Sinan. *The Hype Machine*. Random House US, 2021.
- Brubaker, D. R., Hauser, C., Lubold, G. W., & Yelvington, K. A. (2019). Understanding polarization. In *When the Center Does Not Hold: Leading in an Age of Polarization* (pp. 13–30). 1517 Media. <https://doi.org/10.2307/j.ctvcv5bsq.6>
- Carothers, T. (2019). The long path of polarization in the United States. In T. Carothers & A. O'Donohue (Eds.), *Democracies Divided: The Global Challenge of Political Polarization* (pp. 65–92). Brookings Institution Press. <http://www.jstor.org/stable/10.7864/j.ctvbd8j2p.6>
- Carothers, Thomas, and Andrew O'Donohue. *Democracies Divided: The Global Challenge of Political Polarization*. Brookings Institution Press, 2019.
- Chetcuti, L. (2022, December 7). Understanding the outcome of the 2022 US midterms. Institut Montaigne. <https://www.institutmontaigne.org/en/analysis/understanding-outcome-2022-us-midterms>
- Geiger, A. B. (2014, June 12). Political polarization in the American public. Pew Research Center. <https://www.pewresearch.org/politics/2014/06/12/political-polarization-in-the-american-public/>
- Hutto, C., & Gilbert, E. (2014). VADER: A parsimonious rule-based model for sentiment analysis of social media text. *Proceedings of the International AAAI Conference on Web and Social Media*, 8(1), 216–225. <https://doi.org/10.1609/icwsm.v8i1.14550>
- Mergel, I. (2012). "Connecting to Congress": The use of Twitter by Members of Congress. *Zeitschrift für Politikberatung (ZPB) / Policy Advice and Political Consulting*, 5(3), 108–114. <http://www.jstor.org/stable>
- Pariser, Eli. *The Filter Bubble: What the Internet Is Hiding from You*. Penguin Books, 2012.
- Silver, N. (2023, March 7). How popular is Joe Biden? FiveThirtyEight. https://projects.fivethirtyeight.com/biden-approval-rating/?ex_cid=rrpromo
- Strahan, R., & Palazzolo, D. J. (2004). The Gingrich Effect. *Political Science Quarterly*, 119(1), 89–114. <https://doi.org/10.2307/20202306>
- U.S. Senate. (2021, June 3). About filibusters and cloture: Historical overview. U.S. Senate. <https://www.senate.gov/about/powers-procedures/filibusters-cloture/overview.htm>