

# Democratic Primary 2020 Sentiment - Early Primary States

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# Research Question

- How well can Twitter predicate candidate favorability compared to traditional polling in early democratic primary states?

# Data Collection

- Sentiment of tweets over a 72 hr time period mentioning candidate's presidential twitter name

i.e. "I would love voting for @ewarren or @BernieSanders this spring" would be a positive sentiment for both these candidates

- Most recent "favorability" primary polls for in Iowa, New Hampshire, South Carolina, Nevada

i.e., 10/16 - 10/21 - Monmouth Poll - South Carolina - Favorable:Unfavorable - Joe Biden - 76:12 would be  $\frac{76}{76+12} * 100$  or 88% positive

- Will analyze twitter sentiment by looking at the non-stop words in the Harvard dictionary and giving these words a positive or negative sentiment and creating a score from this (Feuerriegel 2019)

# Comparison

- Test to see if there is a difference in tweets to congressional Twitter account or presidential campaign Twitter account
- When comparing these sentiments we look at the ratio of positive to negative sentiments for both the tweets and the corresponding survey
- Normally a correlation coefficient would be used (Cody 2016), but due to lack of data we could compare these results using plots and displaying any other interesting characteristics

# Strengths/Weaknesses

## Strengths

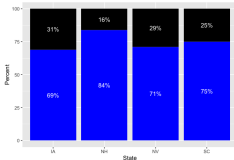
- There are well established methods for determining Twitter sentiment (Saif 2013)
- Election sentiment from Twitter has provided a workable model to prediction elections (Burnap 2016), candidate sentiment should be easier to forecast

## Weaknesses

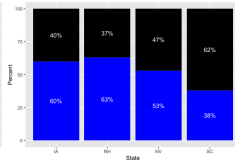
- Twitter data may not be representative of the population
- Different time periods for Twitter sentiment than the survey
- Different "favorability" methods for each state

# The minipage environment

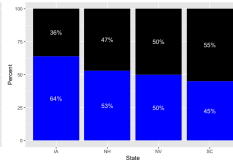
Twitter Sentiments of Bernie Sanders by State



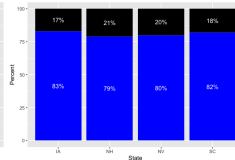
Twitter Sentiments of Elizabeth Warren by State



Twitter Sentiments of Joe Biden by State



Twitter Sentiments of Pete Buttigieg by State



# References

- Burnap, Pete, et al. "140 characters to victory?: Using Twitter to predict the UK 2015 General Election." *Electoral Studies* 41 (2016): 230-233.
- Cody, Emily M., et al. "Public opinion polling with Twitter." *arXiv preprint arXiv:1608.02024* (2016).
- Feuerriegel, Stefan, et al. "SentimentAnalysis R Package." (2019).
- Saif, Hassan, et al. "Evaluation datasets for Twitter sentiment analysis: a survey and a new dataset, the STS-Gold." (2013).