

# Twitter Sentiment Analysis on Overturning of Roe V Wade

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# Abstract

- **Objective:** The aim of the study is to understand the public sentiment on the overturning of Roe V Wade (Reversal of Abortion Law). As part of this project, we harvest data from Twitter and analyze whether the sentiment is mostly positive, negative or neutral.
- **Methods:** Twitter data is obtained on the hashtags relevant to our topic and sentiment analysis is performed on the same using Python packages.
- **Findings:** The analysis of the cleaned tweets indicate that the sentiment around the topic is very mixed with nearly 37% positive, 35% negative and 29% neutral comments. And some of the most common words seen around these tweets are abortion, nif, women, want, right, child and believe

## Motivation

- The conversation about abortion rights exploded in Twitter promptly following the overturning of Roe V Wade by the Supreme Court
- Reversing Roe V Wade means the constitutional right to abortion upheld for nearly half a century does not exist any longer
- Understanding public opinion and response to major news and announcements is important for states and policy makers in deciding their next steps
- Sentiment analysis of people in a social media application could reveal information on the public sentiment that otherwise could go unnoticed
- The focus of this study is in identifying whether the sentiment in Twitter is predominantly positive, negative or neutral surrounding this topic



# Dataset

- Data for this project is extracted from Twitter for the most used hashtags related to the topic with the use of Python Tweepy library.
- Attempt was made to retrieve 3200 tweets (which is the maximum for a single run) but the resultant data for the hashtags after removing duplicates was a little more than 1300

# Data Preparation and Cleaning

- Tweets were retrieved by utilizing Tweepy library and saved to a csv file. The tweets thus obtained were cleaned using regular expression and nltk package.
- `SentimentIntensityAnalyzer()` from nltk was used to find the polarity score and the tweets were added to different dataframes based on the score

## Problems with Data Retrieval:

- Additional license is required for retrieving twitter data older than a week and hence is impossible for most users to access older data
- A maximum of only 3200 tweets can be retrieved from twitter in one run and multiple runs could return error.
- There is a large amount of spam and link-baiting when data for popular tags is extracted

# Research Questions

- How is the sentiment in Twitter surrounding the topic of Roe V Wade overturned? Is it mostly positive, negative or neutral?
- What are some of the common words that are seen as part of the tweets posted relevant to this topic?





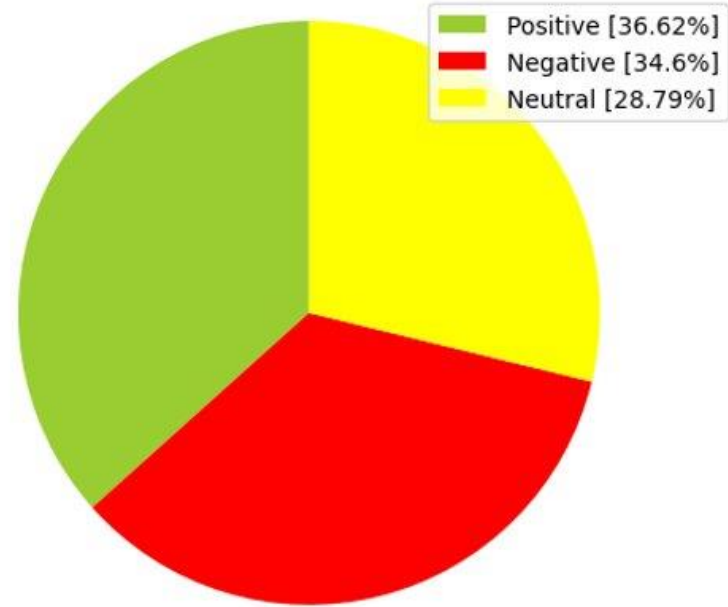
# Methods

- To carry out this research, we make use of Tweepy library to get the required tweets based on most used hashtags relevant to this topic and perform sentiment analysis using Python nltk (Natural Language ToolKit) package.
- With the help of Python wordcloud package, we also display some of the most common words used in the extracted tweets.

# Findings

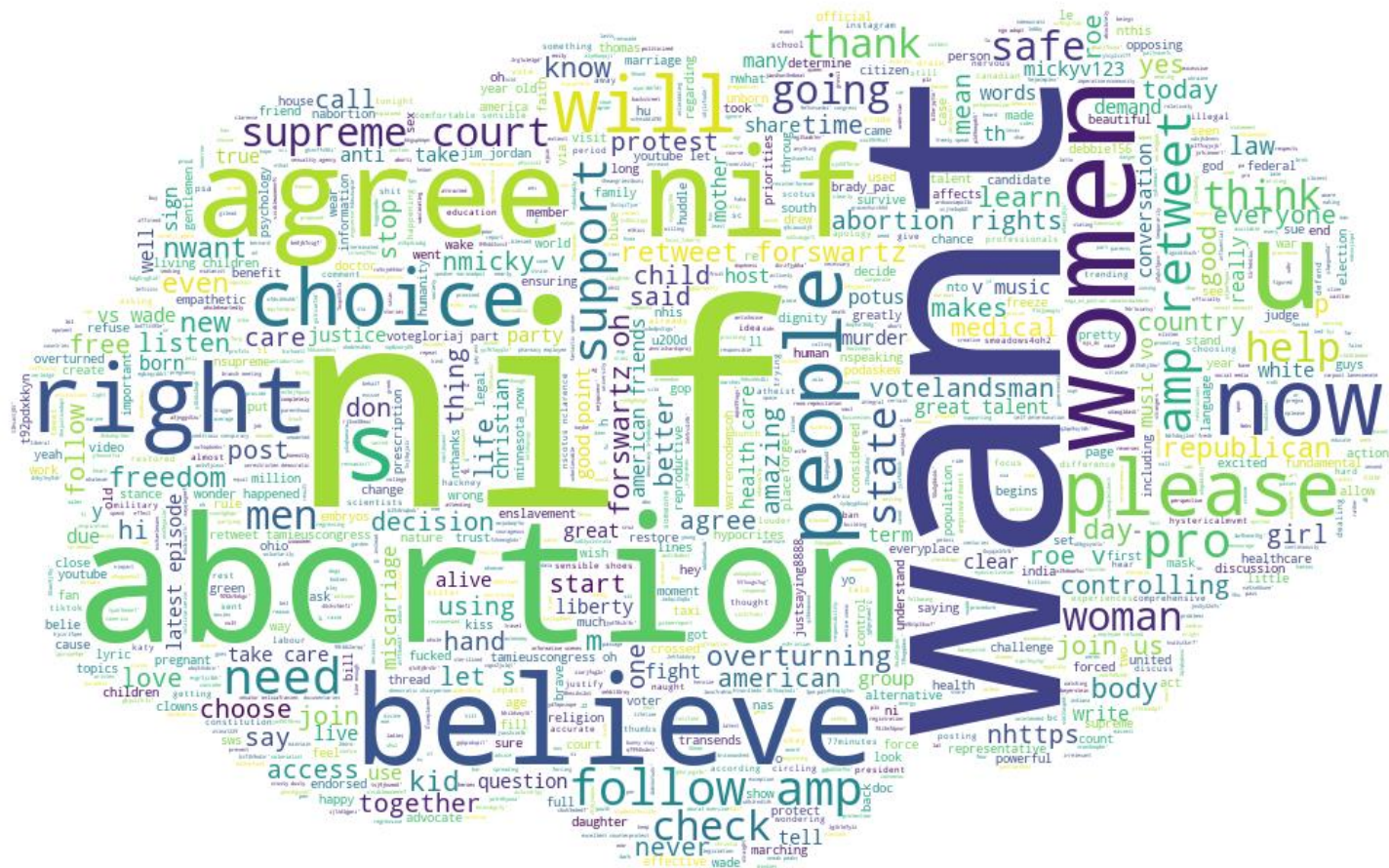
On removing duplicates and cleaning the data, we find that the sentiment surrounding the Overturning of Roe V Wade is nearly 37% positive, 35% negative and 29% neutral

Sentiment Analysis Result on Roe v. Wade

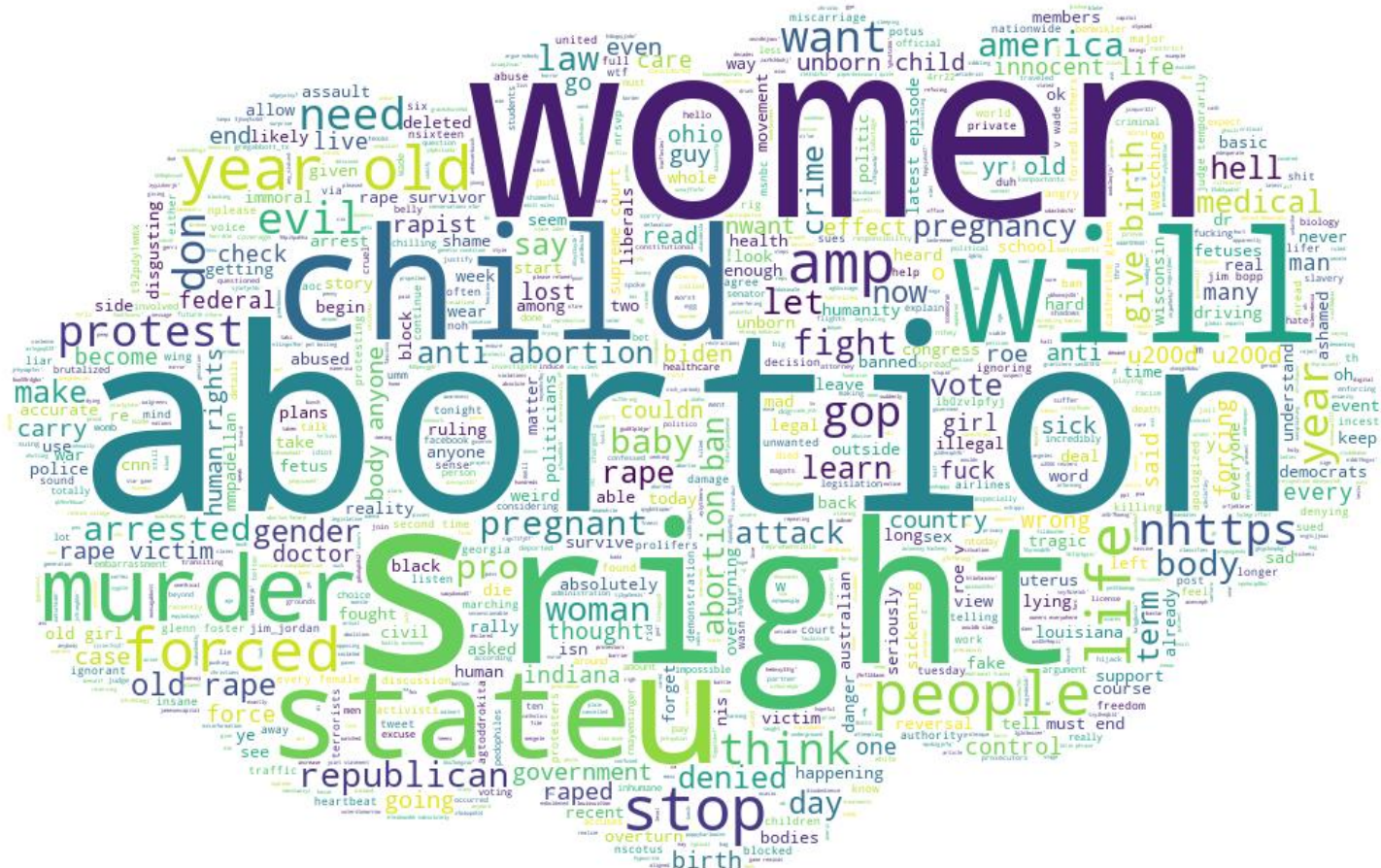




## Word Cloud – Positive Tweets

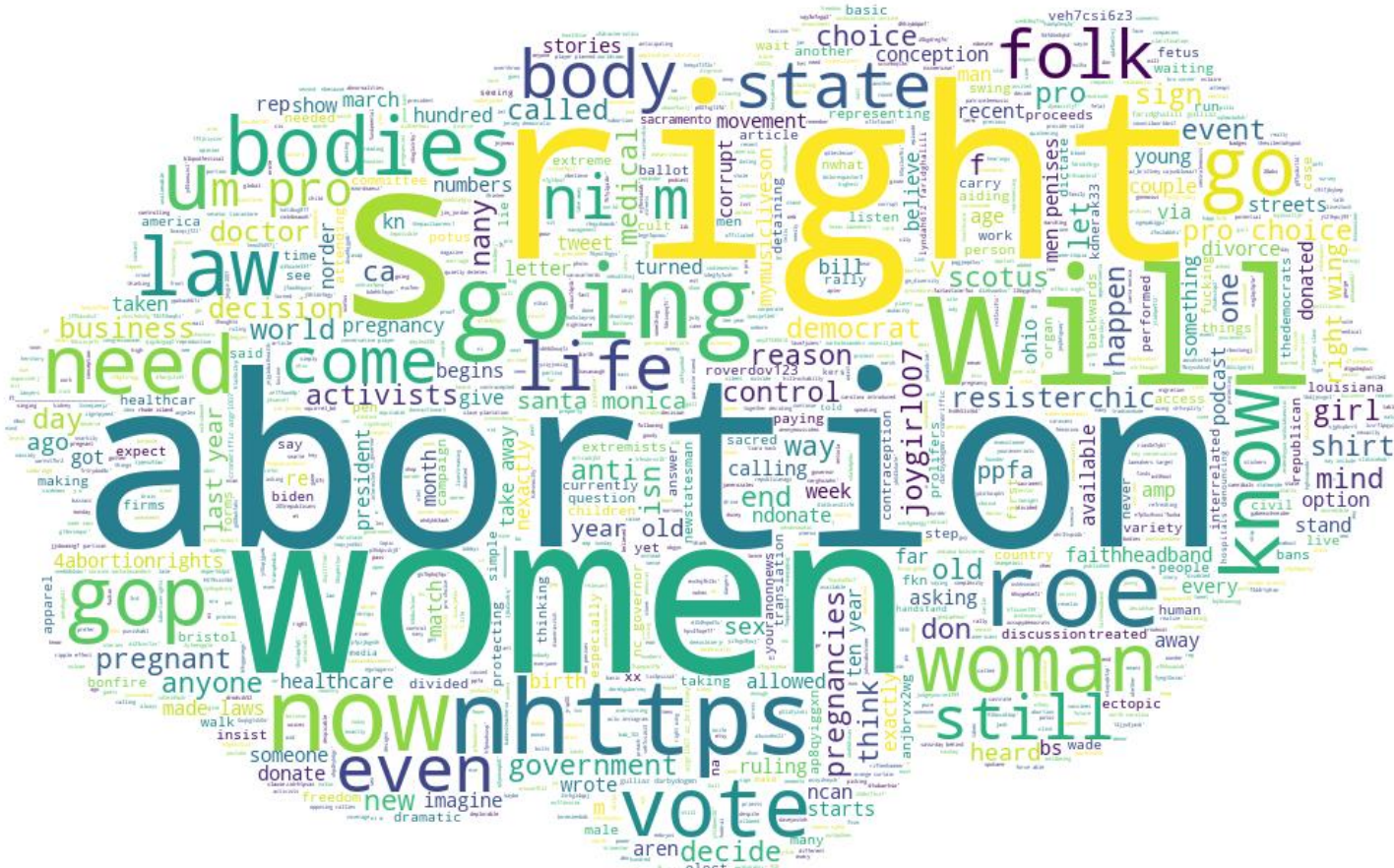


## Word Cloud – Negative Tweets





## Word Cloud – Neutral Tweets



# Limitations

- The tweets retrieved are small in number when compared to the overall tweets that are posted and the study does not cover posts in any other social media or offline population. Hence the data may not be a perfect representation of the general public.
- Emotions of people fade away over time and the user is not given access to get the data that are older than 7 days making it impossible to extract twitter data on the day of the news announcement(which was a month before the date of data retrieval)
- Also, as part of this project, we have only analyzed tweets retrieved in a single run , in order to find the polarity scores and understand the overall sentiment from the tweets.
- Future studies could work on retrieving data with multiple runs and find information on the retweet counts, number of followers spreading the sentiment by their influence, tweets on this topic in different languages and how the sentiment is among political leaders, non-English speakers and so on

# Conclusions

The study indicates that the sentiment around Overturning of Roe V Wade in Twitter is very polarized with nearly 37% positive tweets, 35% negative tweets and 29% neutral tweets.

Although positive tweets are a little more than the negative and neutral ones, this still is a very small difference and therefore we cannot conclude that the posts are mostly positive.

Some of the most common words seen around these tweets are abortion, nif, women, want, right, child and believe.

- Data for this project was collected from Twitter
- No feedback has been received from anyone yet

Acknowledgements

# References

- [Twitter Sentiment Analysis using Python - GeeksforGeeks](#)
- [How to build a dataset from Twitter using Python tweepy | by Angelica Lo Duca | Towards Data Science](#)
- [Creating Twitter Sentiment Analyzer using Python to gather insights on Stocks \(tradewithpython.com\)](#)
- [How to Create Pie Chart from Pandas DataFrame? - GeeksforGeeks](#)

