Analyzing Online User Reactions to the Overturning Decision of Roe vs. Wade

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Introduction

Abortion Protest
Review Source: Unsplash.com from Jack Prommel

Abortion has always been a hot topic in the United States. The question of whether abortion should be legal or not has led to the creation of two main groups: pro-choice and pro-life. However, just recently, **the Supreme Court of the United States (SCOTUS) officially overturned the Roe vs. Wade case on June 24, 2022.** Leaks of this decision had already been leaked in early May.

The Roe vs. Wade case first appeared in court in 1973 and was a landmark decision that stated that the Constitution of the United States **granted citizens the right to an abortion**. However, with the recent overturning, abortion rights are now decided by each individual state on whether it is right or not.

Because of this decision, the United States has been divided significantly. **Half the country supports** the decision while the **other half is protesting** and speaking out against such a decision. Many people are voicing their opinion online through various social media outlets, such as Instagram, Facebook, and Twitter.

Research Question

With so many opinions being posted daily, crucial questions arise: **How are people reacting to this abortion ban online, and what are the geospatial trends in where posts are sent from?**

To answer these questions, we conducted a data analysis and ran an emotion detection algorithm on a given dataset.

Methodology

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1. Data Crawling  →  2. Data Pre-processing  →  3. Sentiment Analysis  →  4. Creating Graphs
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1. Using a **Twitter Search API** and the keywords **"SCOTUS decision"** and **"abortion ban"**, we were able to crawl our own Twitter dataset. This dataset consisted of **2,412,205** tweets and each tweet was sent on a date between **May 1, 2022**, and **July 1, 2022.**

2. We extracted all **4,636 geotagged tweets** within the dataset. In addition, I extracted all texts from each individual tweet and created an entire **text dataset** that would be used for sentiment analysis.
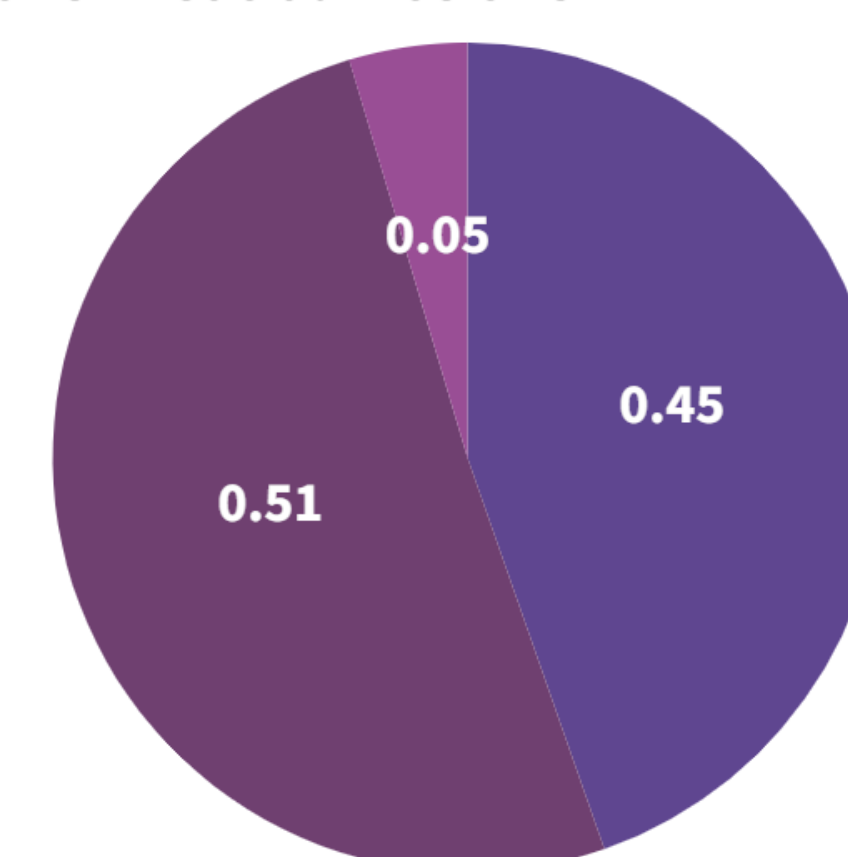
3. In order to conduct sentiment analysis, we used a **pre-trained RoBERTa-Base Model**. This transformer-based model was trained on **roughly 124 million tweets** from January 2018 to December 2021 and specifically finetuned for sentiment analysis.

4. We used **Flourish Studio** to create the graphs from the geotagged tweets.

Results

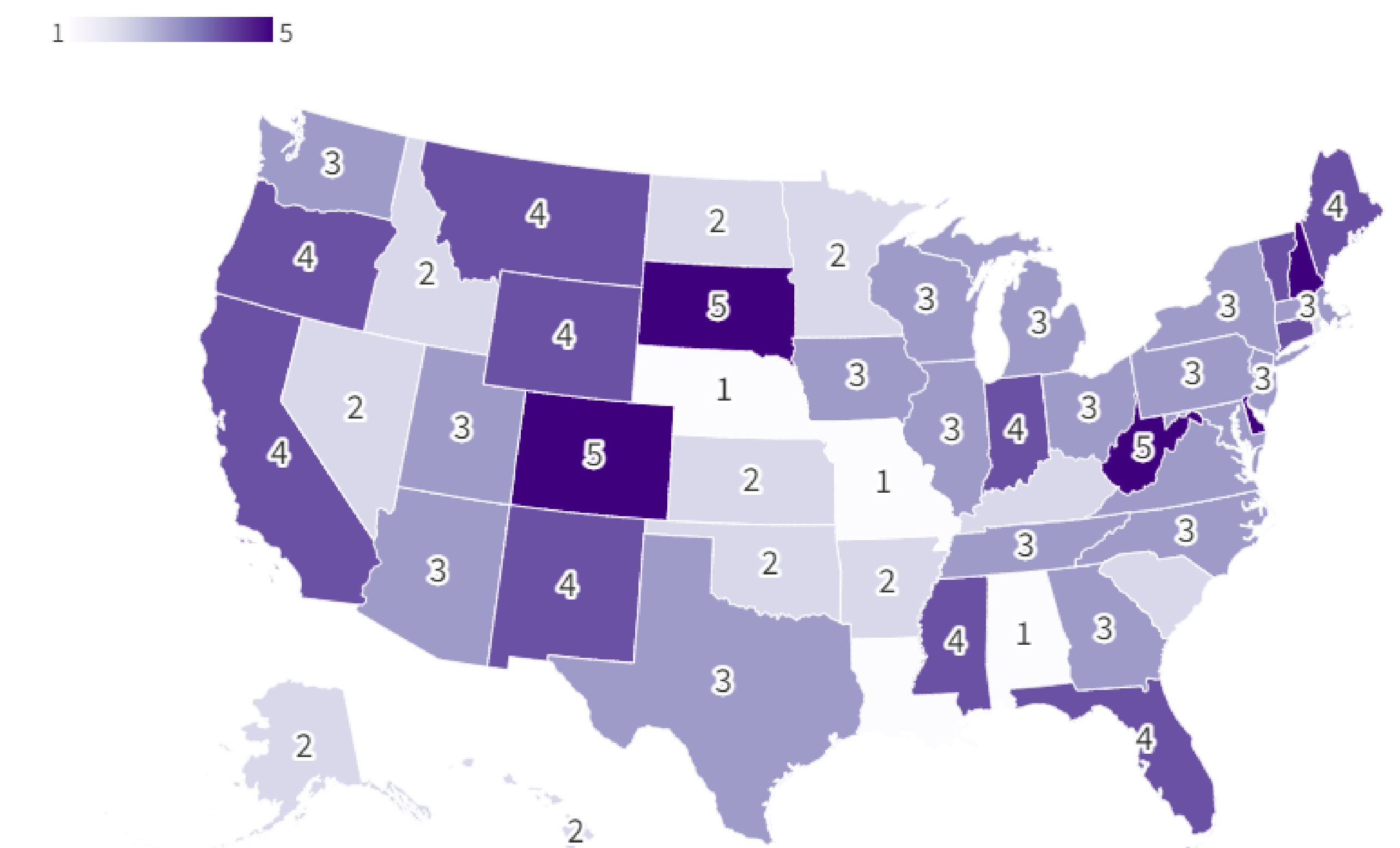| Parameter	Values	Percentage
Number of Negative Tweets	1,046,454	43.0%
Number of Neutral Tweets	1,346,551	56.2%
Number of Positive Tweets	19,200	0.8%

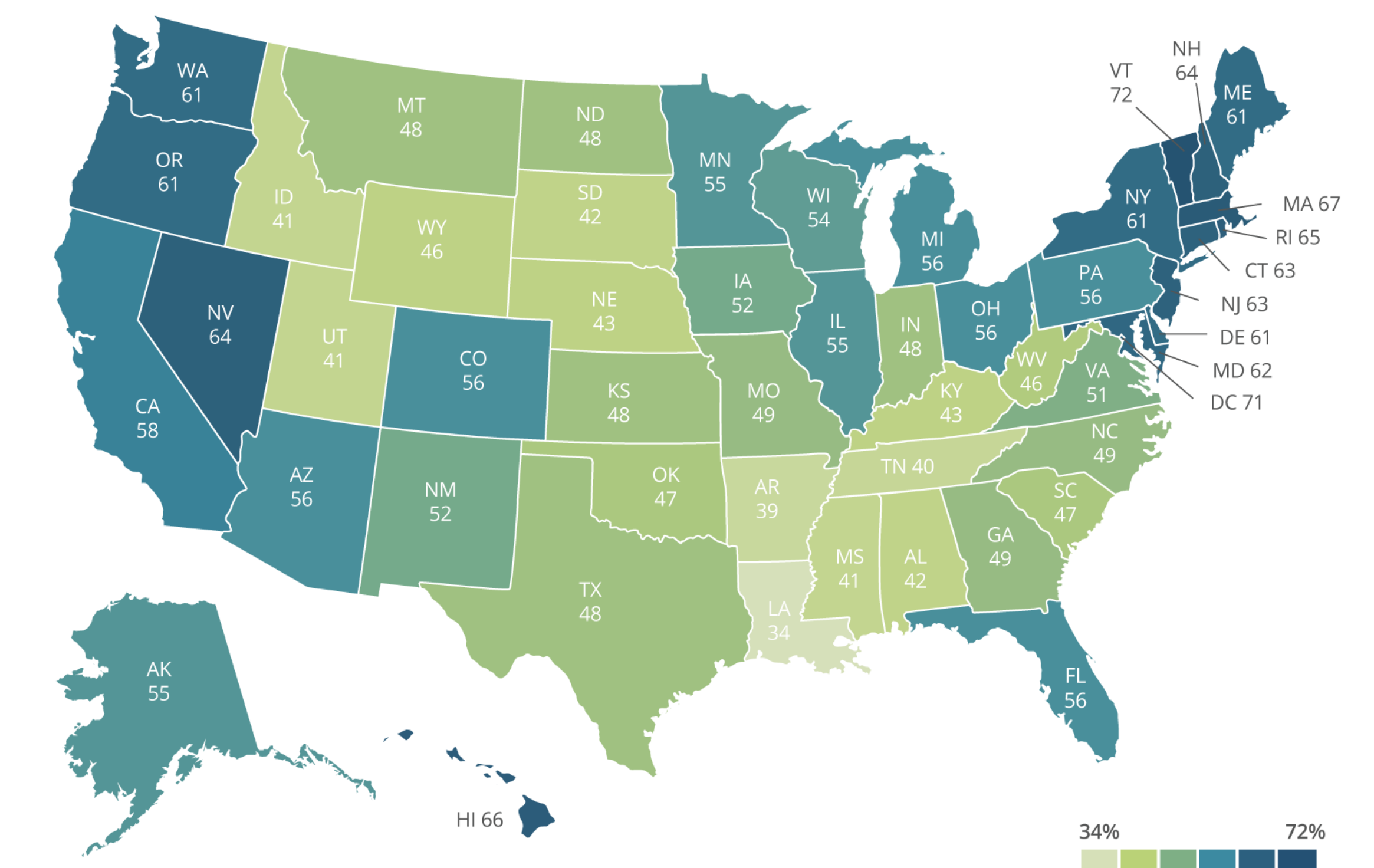■ Negative ■ Neutral ■ Positive

0.05
0.45
0.51

Average Score of Tweets

The results show that a **majority of Twitter users have a negative to neutral opinion on the recent abortion ban by SCOTUS.**

Visualizations

Average Negative Score of Tweets in Each State (Categories 1-5)

States that Support the Legality of Abortion by Percentage
Source: PRRI 2018 American Values Atlas

Conclusion & Implications

This preliminary study is the **first study** that has been conducted to analyze the effects of the recent SCOTUS Abortion Ban. The results of this study provide a **comprehensive overview of the collective reaction toward SCOTUS's decision** and **open a new area of study in analyzing the geospatial trends of these related tweets.**

Selected References

Giachanou, A., & Crestani, F. (2016). Like it or not: A survey of twitter sentiment analysis methods. ACM Computing Surveys (CSUR), 49(2), 1-41.

Han, B., Cook, P., & Baldwin, T. (2014). Text-based twitter user geolocation prediction. Journal of Artificial Intelligence Research, 49, 451-500.