

#RoeOverturned: Twitter Dataset on the Abortion Rights Controversy

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Abstract

On June 24, 2022, the United States Supreme Court overturned landmark rulings made in its 1973 verdict in *Roe v. Wade*. The justices by way of a majority vote in *Dobbs v. Jackson Women’s Health Organization*, decided that abortion wasn’t a constitutional right and returned the issue of abortion to the elected representatives. This decision triggered multiple protests and debates across the US, especially in the context of the midterm elections in November 2022. Given that many citizens use social media platforms to express their views and mobilize for collective action, and given that online debate provides tangible effects on public opinion, political participation, news media coverage, and the political decision-making, it is crucial to understand online discussions surrounding this topic. Toward this end, we present the first large-scale Twitter dataset collected on the abortion rights debate in the United States. We present a set of 74M tweets systematically collected over the course of one year from January 1, 2022 to January 6, 2023.

Introduction

The US Supreme Court’s 1973 decision in the *Roe v. Wade* case gave women the right to terminate their pregnancy. Despite federal protection, abortion has remained a highly polarized and politically charged issue in American society. Studies published by Gallup (Saad 2010b,a) noted that views of Democrats and Republicans on abortion rights had grown increasingly polarized since 1975 and Americans continued to be divided along pro-choice and pro-life lines. A follow up study in 2021 (Brenan 2010) showed that Americans continue to differ on the morality of abortion with 47% of survey takers finding abortion to be morally acceptable and 46% disagreeing. These findings suggest that abortion has been one of the moralized political issues at the core of the so-called culture wars in the United States. Previous studies largely seem to agree on the highly polarizing nature of the abortion rights debate. (DiMaggio, Evans, and Bryson 1996; Mouw and Sobel 2001; Evans 2003; Fiorina, Abrams et al. 2008; Abramowitz and Saunders 2008). Although some scholars (e.g. (Fiorina, Abrams et al. 2008)) suggest that the general public’s policy preferences are mostly centrist toward wedge-issues including abortion, or argue that

the extent of polarization in the US society is exaggerated (Mouw and Sobel 2001), other evidence suggests different patterns. For instance, analyzing over 20 years of data from the National Election Studies (NES) and General Social Survey (GSS) (DiMaggio, Evans, and Bryson 1996) found that polarization on the issue of abortion had increased in the US. Similarly, leveraging NES and GSS data from 1970-2003 (Evans 2003) found unambiguous evidence of polarization with regards to abortion rights. Public opinion data aside, the National Abortion Federation found that (NAF 2022) violent crimes and assaults directed towards abortion clinics and patients rose by a staggering 128% from 54 cases in 2020 to 123 cases in 2021.

The June 24, 2022 United States Supreme Court ruling in *Dobbs v. Jackson Women’s Health Organization* struck down decisions made in *Roe v. Wade* (1973) and *Casey v. Planned Parenthood* (1992), removing federal protections for abortion and moving power to regulate it to the states.

In delivering the opinion of the court, Justice Samuel Alito noted that abortion presents a profound moral issue on which Americans hold sharply contrasting views (SCOTUS 2022). Given that states had enacted trigger laws¹ to go into effect once the Supreme Court overturned *Roe v. Wade*, abortion at the time of writing this article is banned in 13 states with or without exceptions for rape and incest. Other states have either completely banned abortion or provide limited access with gestational limits. Only 16 states in the US have legislation that protects access to abortion. Contrasting laws in different states of the country indicate the extent of the disagreement with respect to abortion rights.

As the ruling leaked, protesters both in favor (pro-choice) and opposition (pro-life) of the *Roe v. Wade* ruling of 1973 gathered on the streets and mobilized on social media. Slogans like “Bans Off Our Bodies” (Pro-Choice), “Abortion is a Right” (Pro-Choice), “Equal rights for the unborn” (Pro-life) and “Time to Reverse Roe” (Pro-life), echoed on the streets and online, reflecting a deeply polarized populace. In fact, many of these slogans, expressions, and discussions took place on social media, especially on Twitter, as we detail below. The easy availability of those data, furthermore,

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¹A trigger law is a law that is unenforceable but may achieve enforceability if a key change in circumstances occurs. https://en.wikipedia.org/wiki/Trigger_law

offers unprecedented insights to studying public opinion expression surrounding contentious political issues.

The rise of social media platforms since the early 2000s has provided researchers with a novel avenue to study public opinion, individual expressions, and behavioral indicators. The advantage of social media datasets over survey-based measurements used in public opinion polls is the ability to feasibly assess issue positions of the larger public without biases inherent in survey self-reports, especially of contentious political issues (e.g., social desirability bias). Large-scale social media datasets have also made possible, the analysis of protest mobilization (Breuer, Landman, and Farquhar 2015; Steinert-Threlkeld 2017; Munn 2021), proliferation of misinformation (Nikolov, Flammini, and Menczer 2020; Rao et al. 2021; Chen et al. 2021), moral and emotional attitudes (Guo et al. 2022; Priniski et al. 2021), echo chambers and ideological biases on platforms (Barberá 2015; Wojcieszak et al. 2022), among other democratically relevant phenomena. Previous studies (Yardi and Boyd 2010; Garimella et al. 2018; Cinelli et al. 2021) have also analyzed polarization with respect to wedge issues, including abortion rights in the US. The collection of large-scale social media data at pivotal points like the COVID-19 pandemic (Huang et al. 2020; Chen et al. 2020), 2020 US Presidential elections (Chen, Deb, and Ferrara 2022; Abilov et al. 2021) and the Russian invasion of Ukraine (Chen and Ferrara 2022) helps researchers capture the pulse of an increasingly volatile world.

The bulk of this work focuses on Twitter not only due to the relative ease of obtaining online behavioral data from the platform (relative to other platforms, such as Facebook) but also because Twitter is uniquely suited to analyzing discourse about political issues, given the platform's important role in American politics. Twitter is a key outlet for individuals to express their political opinions and engage in political activities (Bestvater et al. 2022). These tweets and engagement metrics are often treated as proxies of public opinion by journalists and campaign strategists (McGregor 2019), set political agendas that politicians follow (Barberá et al. 2019), and influence what journalists and media report (Nelson and Tandoc Jr 2019). In addition, Twitter is an important channel that citizens use to get political information: 71% of adult Twitter users in the U.S. report getting news on the site (Stocking, Barthel, and Grieco 2018), and is also a key platform for elite expressions: almost all US politicians, pundits, and news media have a Twitter account and politicians are more active and have more followers on Twitter than on other platforms (Wojcieszak et al. 2022).

Furthermore, Twitter users are more politically interested than the general population. In fact, Twitter stands out as one of the social media platforms with the most politically engaged users: 42% of U.S. adults on Twitter say they use the site to discuss politics at least some of the time, and this percentage is higher among the most frequent tweeters (Wojcik and Hughes 2019). Furthermore, this politically active group of Twitter users is highly influential. They produce the majority of engagements with elite tweets (Wojcieszak et al. 2021) and political content on Twitter (Bestvater et al. 2022), set political agendas (Barberá et al. 2019), and are

more likely to engage in political activities online and offline than the general public (Bestvater et al. 2022). In short, Twitter is well suited to examine the prevalence and fluctuations of the discourse surrounding the overturning of *Roe v. Wade*. As Twitter users are not representative of the general population (Wojcik and Hughes 2019), the tweets we collect do not necessarily represent public opinion on abortion. They however, reflect the discourse of the politically inclined and societally influential citizens.

Our dataset makes possible the exploration of a variety of research directions. Some interesting avenues include but are not limited to - modeling opinion dynamics and polarization, protest mobilization, assessing emotions and moral attitudes and the influence of social bots. When abortion was first outlawed in the mid to late 1800s, abortion was stigmatized for close to a century. Given that hate speech and toxic content thrive on social media platforms (Founta et al. 2018), an analysis of such discourse becomes imperative to prevent abortion from being stigmatized again.

In this study, we collect a large-scale Twitter data set consisting of discourse surrounding abortion rights in the United States and the recent Supreme Court verdict that overruled its 1973 *Roe v. Wade* ruling. Data collection is ongoing at the time of writing this article. In the following sections, we will describe data collection methods, descriptive statistics, and information on how to access and use the data.

Methods

Overview

Prior to collecting the tweets, we identified a set of keywords that are meant to represent the breadth and the different sides of the discourse surrounding abortion in the United States. We followed a three-pronged data collection strategy, discussed below. We began collecting tweets on June 25, 2022. In order to collect data prior to June 25, 2022, we leverage Twitter Academic API's Full-Archive Search². This gives us data from January 1, 2022 to June 24, 2022. We gather tweets in real-time from June 25, 2022 to January 6, 2023. To ensure our dataset coverage, we use the count endpoint from the Twitter API to compare the number of tweets in our collection versus the number of tweets identified on Twitter. We use the Full-Archive Search endpoint to recollect the date if the total number of tweets per day in our dataset is less than the number of tweets identified on Twitter. Our data coverage is from January 1, 2022 to January 6, 2023. Data collection is ongoing at the time of writing this article. We restrict our collection to English tweets. In all, we collected over 74M tweets shared by roughly 10M users.

Keyword Collection Strategy

The Full-Archive Search endpoint of Twitter Academic API requires us to specify a set of keywords, on the basis of which the API returns relevant tweets. To this end, we conducted an exploratory collection to compile an exhaustive list of relevant phrases and hashtags to create a keyword set

²<https://developer.twitter.com/en/docs/twitter-api/tweets/search/api-reference/get-tweets-search-all>

Category	Keywords
Neutral	#Abortion, #roevswade, #Roeoverturned, #roevwade, abortion, roe vs wade, roe v wade, roe overturned
Pro-choice	#roevwadeprotest, roe v wade protest, pro choice, pro-choice, #prochoice, #forced-birth, forced birth, #AbortionRightsAreHumanRights, abortion rights Are Human Rights, #MyBodyMyChoice, My Body My Choice, #AbortionisHealthcare, abortion is healthcare, AbortionIsAHumanRight, abortion is a human right, ReproductiveHealth, Reproductive Health, AbortionRights, abortion rights,
Pro-life	#prolife, pro life, pro-life, #EndAbortion, end abortion, #AbortionIsMurder, Abortion Is Murder, #LifeIsAHumanRight, Life Is A Human Right, #ChooseLife, Choose Life, #SaveTheBabyHumans, Save The Baby Humans, #ValueLife, Value Life, #RescueThePreborn, Rescue The Preborn, #EndRoeVWade, End Roe V Wade, #LifeMatters, Life Matters, #MakeAbortionUnthinkable, make abortion unthinkable, #LiveActionAmbassador, Live Action Ambassador, Abortion Is Not A Right, #AbortionIsNotARight, #AbortionIsRacist, Abortion is racist, anti life, #antilife

Table 1: List of keywords

that covers abortion-focused discussions from different political stances. Henceforth, we will use the term *keywords* to refer to both phrases and hashtags. We then build a systematic data collection pipeline, which we will discuss in the following subsections.

Hashtag Sampling We first identified a set of seed hashtags - #roevwade, #prolife, #prochoice. The #prolife hashtag is used more commonly by individuals and activists who believe that human life begins at conception and abortion ends the life of an innocent being. The #prochoice hashtag on the other hand, is used more frequently by individuals who believe that it is a woman’s choice whether or not to get an abortion and any regulation of abortion infringes their freedom. The #roevwade is one hashtag that is used by individuals on both sides and is neutral per se.

Leveraging these seed hashtags, we conducted an exploratory data collection using the Twitter API’s recent tweet lookup endpoint ³. The purpose of the exploratory data collection was to identify other hashtags that frequently co-occur with the seed hashtags. We used snowball sampling to identify hashtags that frequently co-occurred with #prochoice, #prolife and #roevswade.

³<https://developer.twitter.com/en/docs/twitter-api/tweets/search/api-reference/get-tweets-search-recent>

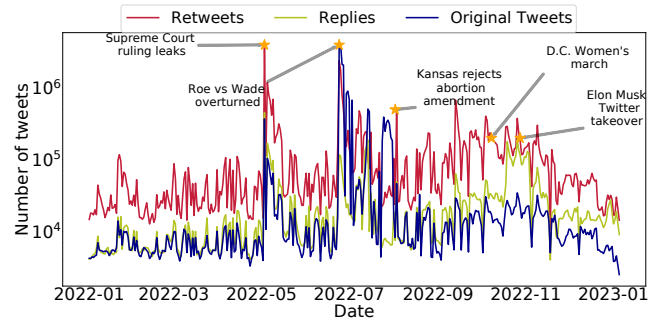


Figure 1: Daily Tweet Activity: Number of original tweets, retweets, and replies over time. Notable events are highlighted in the timeline

From tweets that contain #prochoice we identify the hashtags - #roevwadeprotest, #prochoice, #forcedbirth, #AbortionRightsAreHumanRights, #MyBodyMyChoice, #abortionishealthcare, #abortionisahumanright, #ReproductiveHealth, and #abortionrights to frequently co-occur. These form the set of pro-choice hashtags. From tweets that contained #prolife, we find #EndAbortion, #AbortionIsMurder, #LifeIsAHumanRight, #ChooseLife. #valueLife, #rescuethereborn, #endroevwade, #lifematters, #antilife, #makeabortionunthinkable, #liveActionAmbassador, #catholic, #AbortionIsNotARight, and #Abortionisracist to co-occur frequently. These hashtags form the set of pro-life hashtags. As #Abortion, #Roeoverturned and #roevwade frequently co-occured with #roevswade they form the set of neutral hashtags.

Creating Keywords Given that not all users on Twitter use hashtags in their tweets, we create a list of keywords based on the aforementioned hashtags by simply removing # from the hashtags. For hashtags that comprised multiple words, we break them down to reconstruct the phrases (e.g., #makeabortionunthinable into "make abortion unthinkable"). The final set of hashtags and phrases is shown in Table 1. In all we have 58 keywords comprised of 31 hashtags and 30 phrases. The keywords shown in Table 1 form the search terms in our query. More specifically, our search query is comprised of these keywords connected together by the 'OR' operator, which tells the search endpoint to return tweets that have at least one keyword in it. The search is not case-sensitive.

Validation and Removal Given that the Roe v. Wade overturns was US-specific (although it was covered internationally and generated global debates) and the most frequently used keywords are all in English, we do not collect non-English tweets ⁴.

⁴According to our collection of all language from June to September 2022, over 90% of the tweets on this topic is English. We thus removed the non-English tweets and collect only English tweets in this dataset.

Tweets	Retweets	Replies	Quoted Tweets
21,688,663	42,332,378	8,328,364	1,131,301

Table 2: Tweet Statistics

Descriptive Analysis

Tweet Statistics

We identify original tweets, retweets, quote tweets, and replies in our dataset. If the tweet was a retweet, quote tweet, or a reply, the tweet object lists the ID of the user referenced in the interaction through “retweeted user id”, “quoted user id” and “in reply to user id” fields respectively. The number of tweets, retweets, replies, and quote tweets in the dataset are shown in Table 2. In Fig 1, we show the time series of the total number of original tweets, retweets, and replies. Since quote tweets are low in number, they are not depicted in Fig 1 to reduce clutter. We also highlight crucial events relating to Roe v. Wade as vertical lines. The absolute volume of tweets using our keywords has an abrupt increase on May 2nd, 2022, when a draft decision of the Supreme Court was leaked to the press. Similarly, we also see a spike in tweets on June 24th, 2022 when the Supreme Court officially overturned its 1973 ruling in Roe v. Wade (Refer Fig 1. During the midterm elections in November 2022, we also see a spike in reply counts, hinting at an increased discussion about abortion rights.

Hashtags

Each tweet object consists of an entities field, which lists the hashtags used in the tweet. In Fig 2(a), we show that among the top 20 tweeted hashtags, most are directly related to the abortion rights debate in the US. The prominent usage of hashtags like #roevswade, #prolife, #roeverturned, #prochoice, #abortionishealthcare, #freshwords, and #mybodymychoice reflect both sides of the debate. We also show the usage of pro-choice, pro-life, and neutral hashtags (Refer Table 1) in Fig 2(b). We plot this time series using the hashtags in our keyword set in Table 1. Along expected lines, neutral hashtags like are used the most. These hashtags can co-occur prominently with both sides of the abortion rights debate. Pro-choice hashtags largely remain more prominent than pro-life hashtags, with both groups seeing significant spikes around May 2nd, 2022 and June 24th, 2022.

Generally, hashtags are used to highlight the content of tweets. In some cases, users prefer to use multiple hashtags related to one another. We identify pairs of hashtags that appear together in tweets to build a hashtag co-occurrence network. To isolate related hashtags, we cluster them by applying the Label Propagation community detection algorithm (Raghavan, Albert, and Kumara 2007). Python-igraph’s implementation of the algorithm (Csardi and Nepusz 2006) allows us to specify a seed set of hashtags which we can specify have the community (pro-life/pro-choice) they belong to based on our domain-specific knowledge. We use the set of 28 pro-choice and pro-life hashtags in Table 1 as the seed set. Given the small numbers, we avoid including neutral hashtags in the seed set.

For better visualization, we only consider edges that connect at least one seed node. We also ignore infrequently co-occurring hashtags by setting a threshold of 500 on minimum co-occurrences. Clusters obtained through Label Propagation are shown in Fig 3. The pink cluster shows prominent pro-choice hashtags, and the green cluster highlights the pro-life hashtags. Hashtags such as #prochoicisprolife, #saveroevswade frequently co-occur with pro-choice hashtags while, #children and #babieslivesmatter appear with pro-life hashtags. Given that neutral hashtags such as #roevswade and #scotus co-occur more frequently with pro-choice hashtags, they get clustered into the pro-choice group. While Fig 3 shows that prochoice hashtags seemingly dwarf pro-life hashtags, it is worth noting that in Fig 2(a), #prolife appears more commonly than #prochoice in our dataset. The smaller pro-life cluster could be because other pro-life hashtags aren’t quite as popular, whereas several other pro-choice hashtags are prominent (Refer Fig 2(a)). Additionally, Twitter being more popular among liberals (Pew 2022) could potentially be another factor.

Domains

The entities field in tweet objects includes lists of the URL embedded in the tweet, if any. We use *tlldextract*⁵ Python package to extract the pay-level domain of the URLs shared. In Fig 4(a), we show the top 20 most commonly shared pay-level domains. Most of these domains are prominent media sources and consequently have their political leaning. We were able to identify 14 of the top 20 domains through Ad Fontes Media-Bias (Media 2020)⁶. The Ad Fontes Media-Bias provides ideology score and content reliability score⁷ for domains. Among the 14 domains in our dataset in Fig 4(b), 12 were left-leaning domains, with an overall mean of -4.61 . In addition, the majority (i.e., 12) of our top domains have a reliability score higher than 30, with the reliability or news value score ranging from 0 to 64, representing low to high reliability.

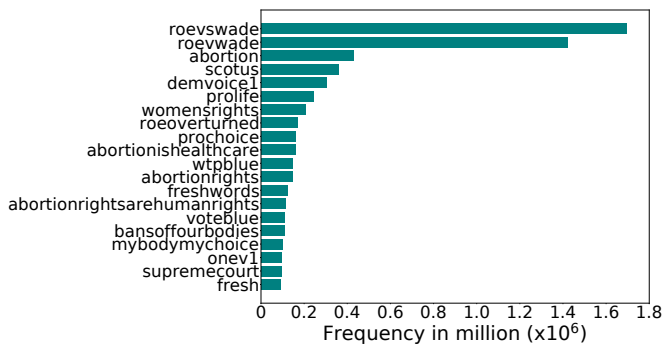
Retweet Network

Given that we have over 44M retweet interactions, we can extract a retweet network of users. From each of these 44M retweet interactions, we extract user IDs of both the account making the retweet (user id) and the account being retweeted (retweeted user id) and create a retweet network with 6.1M users and 27M unique interactions between them. Previous studies have leveraged retweet networks to not only study its properties (Bild et al. 2015) but also explore polarization and exposures (Conover et al. 2011; Rao, Morstatter, and Lerman 2022).

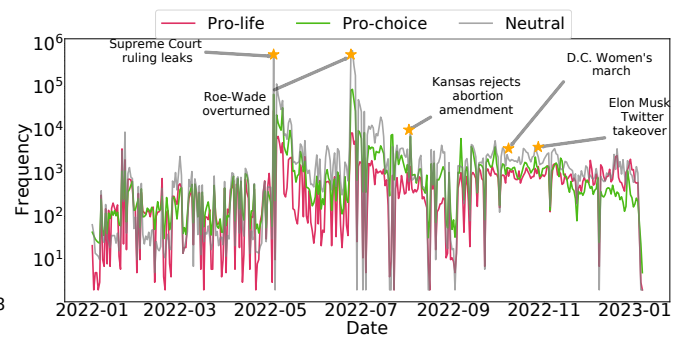
⁵<https://pypi.org/project/tldextract/>

⁶Ad Fontes Media-Bias Chart is a two-dimensional chart that positions 100 media outlets in terms of their political ideologies and content qualities. Ad Fontes evaluates media outlets based on ratings from 1,818 online articles and 98 cable news shows.(Heldebrandt 2019)

⁷On the Ad Fontes ideology-slant classification, the ideology score ranges from -42 to 42 , representing extreme left to extreme right political leaning. The 0 in ideology score represents moderate or centrist political leaning.



(a) Top-20 hashtags shared



(b) Hashtag use over time

Figure 2: (a) Top-20 hashtags shared by users in our dataset. (b) Usage of Pro-life, Pro-Choice and Neutral hashtags over time, including hashtags that co-occur with #prolife, #prochoice and #roevwade topics respectively. Refer to hashtags in Table 1. Notable events are highlighted in the timeline.

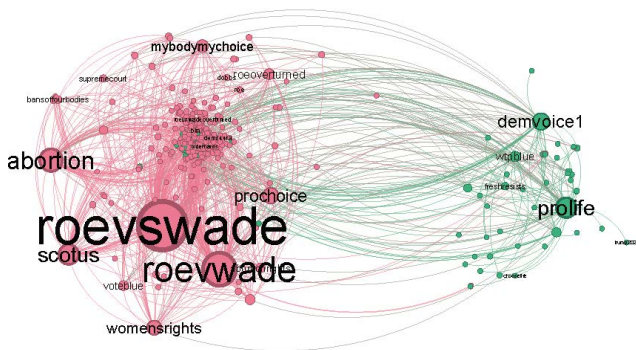


Figure 3: Clustering in hashtag co-occurrence network. The pink cluster shows prominent pro-choice hashtags whereas, the green cluster highlights pro-life hashtags.

Statistic	Value
Nodes	6,089,939
Edges	26,925,519
Max. Indegree	196,085
Max. Outdegree	9,558
Density	7.2×10^{-7}

Table 3: RT Network Statistics

In Table 3, we list simple statistics to summarize the retweet network. The most retweeted user has been retweeted for over 196K times and the user with the highest number of retweets has been retweeted 9.5K times. Retweet interactions are usually not reciprocal. A small fraction of users gets retweeted most of the time. This is reflected by the network density statistic in Table 3. The log-log plot of degree distributions in Fig 5 shows that the in-degree and out-degree distributions of the retweet network follow a power law.

Release and Access

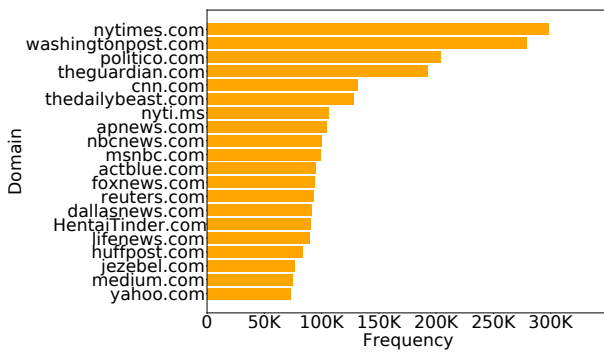
Our dataset is publicly available for download on Harvard Dataverse.⁸ The repository consists of Comma-Separated Value (CSV) files of tweet IDs separated by date. In order to extract tweet objects from Twitter IDs, users of this dataset can rely on third-party re-hydration tools - Hydrator (Doc-Now 2020) or the Twitter API's search endpoint (Twitter 2022b).

Discussion

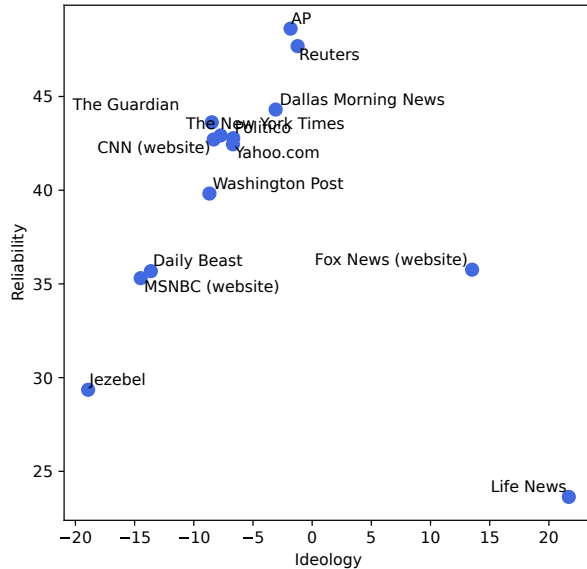
On May 2nd, 2022, a leaked draft decision of the Supreme Court in *Dobbs v. Jackson Women's Health Organization* was published by Politico (Gerstein and Ward 2022). In this initial draft majority opinion, Supreme Court justices had voted and opined in favor of overruling *Roe v. Wade*. This triggered a fierce outcry from pro-choice individuals and groups. Social media platforms became sites for contentious debate yet again. Pro-choice protests and mobilization efforts were met with equal measure from pro-life activists and groups. On June 24th, 2022, the Supreme Court officially ruled to set aside rulings made in *Roe v. Wade*, thereby paving way for certain states to outlaw abortion.

In light of these events have triggered increased discussions, many of which occurred on social media platforms. It is crucial to preserve the traces of these discussions in order to allow researchers to study and understand the implications of the ruling on online public opinion. Toward this end, we release the first large-scale Twitter dataset comprising of over 73 million in tweets identified systematically with keywords from both sides of the contentious debate: pro-abortion and anti-abortion, over the course of one year. The broad coverage of our dataset makes the study of a wide variety of research problems possible. The dataset has the potential and can benefit the research community in several ways, we listed a few possible usage below.

⁸<https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/STU0J5>



(a) Top-20 domains shared



(b) Domains: Ideology vs Reliability

Figure 4: (a) Top-20 domains shared by users. (b) Top-20 domains with ideology and reliability scores from Media Bias - Ad Fontes.

Opinion Dynamics and Polarization Our dataset can be used to study opinion dynamics and the spread of pro-life and pro-choice communities online. For example, comparing the number of retweets, the speed of the diffusion, retweet network structure, and how different ego characters such as politicians or celebrities plays different roles between pro-life and pro-choice communities. Given that we have a clear stance on the topic of abortion, polarization and the development of echo chambers between pro-life and pro-choice communities can be intriguing avenues and could be studied using our dataset.

Protest Mobilization While the role of social media in protest mobilization has been studied for specific wedge issues or events (Ince, Rojas, and Davis 2017; Wolfsfeld, Segev, and Sheafer 2013; Steinert-Threlkeld 2017; Freelon, McIlwain, and Clark 2018), studies comparing interactions around different protests are sparse (Seeger and Bennett

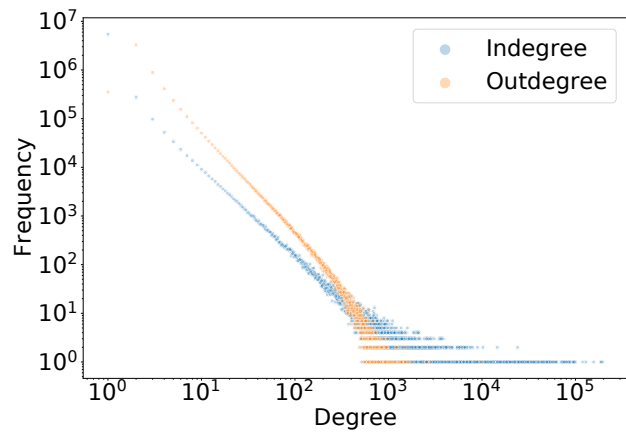


Figure 5: Indegree and Outdegree distribution in the Retweet Network

2011; Won, Steinert-Threlkeld, and Joo 2017). This dataset can be used in conjunction with other datasets to study complex social movements such as the Black Live Matter movement (Giorgi et al. 2022), and capital riots (Kerchner and Wrubel 2021). For example, do these social movements rely on certain agents’ call for action? Do discussion networks’ size and density correlate with the public opinions on the protests or the media’s coverage of the protests? If we could quantify the magnitude of each offline protest, could one predict it using online data? And what are the crucial components in the online discussions that determine the success or failure of an offline protest? Furthermore, this dataset facilitates the examination of how certain public figures, politicians, pundits, and also non-political actors, disseminate, support, or engage with different claims related to Roe v. Wade and abortion more broadly. One could also systematically examine the relative contribution of political elites (i.e., politicians, journalists, pundits, and news media organizations) versus the “ordinary users” to the overall volume and nature of these online discussions. Did ordinary citizens contribute more abortion-related tweets than politicians? How did these patterns vary by political leaning of the citizens and the politicians?

Emotion, Moral Attitudes, and Multi-Modalities Different groups express different moral attitudes and emotions to specific events. Multi-modal information in the form of text, images, embedded videos, and hyperlinks can be extracted and analyzed to quantify them. Additionally, one can attempt to quantify agreeableness and sarcasm. Some possible research questions include - whether pro-choice or pro-life individuals express more anger or other negative sentiments, whether certain political parties use more propaganda techniques in abortion-related messages, and whether it correlated with the midterm election outcome. Furthermore, one could ask how hate speech toward woman stigmatize abortion and plays a role in abortion-related debates.

Bots and Misinformation The rise of social bots has paved ways for malicious actors to infiltrate political dis-

course and spread misinformation (Ferrara et al. 2016). Exploring the influence of bot accounts in abortion rights-related discourse and the subsequent harms posed by health-related misinformation is another interesting area of research. Potential research questions include whether there was an increase in health-related misinformation once *Roe v. Wade* was overturned, what agenda was propagated through bots, and whether exposure to such discourse can influence individual opinions.

Overall, this dataset provides an important source to study the dynamics of online discourse around abortion rights in the US. In future work, we will use computational methods to quantify the stances on abortion rights in the tweets and measure the level of toxicity expressed in those stances.

Limitations

Our data collection relied on a list of relevant keywords, which may not fully capture the extent of the event. Additionally, the dataset only includes English-language tweets, and may not capture multilingual discourse relating to the topic. The data collection also relies on both the stream and archive search endpoints of the Twitter API, and while the data covers every day in 2022, it may not include all tweets if they were deleted before collection. Other potential factors that may impact the data collection include changes in ownership at Twitter and subsequent changes to the Trust and Safety team, which could affect the API's functionality. Additionally, the dataset only includes data from Twitter, which has been shown to be more popular among liberals (Pew 2022). Despite these limitations, the keywords were chosen systematically and the dataset's validity has been demonstrated in its statistics.

Ethical Statement

All of the data in this dataset is publicly available information. Our data collection was deemed exempt from review by the Institutional Review Board (IRB) at the University of California-Davis and University of Southern California, as it relied solely on publicly available data. The data collection adheres to Twitter's terms of service (Twitter 2022a). In compliance with Twitter's terms and conditions, we only release the Tweet IDs of publicly available tweets and require users of the dataset to comply with Twitter's terms and conditions as well.

There may be ethical concerns regarding user anonymity. Tweet objects contain user information. Users have the option to restrict their tweets from being made available through the API by switching to a private account or by deleting their tweets. In this article, we only present aggregated statistics to address this concern.

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