



Social Data
Collaboratory at NORC

Leveraging Social Media Data to Examine Public Abortion Discourse:

A Case Study Using the General Social
Media Archive

July 2024

Haoyu Shi, MA; Hy Tran, MS; Sherry Emery, PhD; Brian Wells, PhD; Simon Page, BA

Agenda

01 Introduction

02 Research Aims/Questions

03 Methods

04 Results

05 Discussion/Implications



Introduction



 **NORC** at the
University of
Chicago

NORC at the University of Chicago is an objective, nonpartisan, research organization that delivers insights and analysis decision-makers trust.

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Social Data

Collaboratory at **NORC**

NORC's **Social Data Collaboratory (SDC)** explores the intersection of **social media**, human behavior, and digital communication.

Our team includes experts in public health, health communications, public policy, political science, economics, biostatistics, and data and computer science. We have extensive experience studying **how health information is searched for, engaged with, and shared across traditional and emerging media platforms.**

Why Social Media Data?

Value & Utility

- **Abundant** source of data on **opinions, attitudes, and behaviors** unlike any traditional social science method before
- **Countless topics** of discussion on social media, enabling myriad research questions to be asked across topic areas
- **More affordable** than traditional surveys with passive capture allowing for quicker turnaround and more frequent collection
- **Early signals** about factors that shape public opinion; measure and characterize communication surrounding major events in real time; examine for **agenda setting** and **opinion shaping***

* Examples include Colditz et al. (2018), Czaplicki et al. (2020), Kostygina et al. (2022)



Why (Not) Social Media Data?

Representation

- Social media data **might not be representative** of the population as a whole
 - No or limited demographic information useful for examining subpopulations
 - Ability to link social media data with demographic or survey data

Platform Challenges

- Social media **platforms vary widely** in availability and data quality
 - Different platform structures make comparability challenging
 - Different companies have varying levels of interest in providing **data for researchers**
 - Rapidly changing industry; emerging “alt-tech” platforms (e.g., Parler)



The General Social Survey



General Social Media Archive (GSMA)

- **30 million** social media posts
- **6 salient topics** in General Social Survey (GSS)
- Provide context for opinion research

Topic	Twitter	Facebook	Instagram
Abortion	1.5M	2.2M	337K
Climate Change	7.5M	5.6M	930K
Gay Marriage	3.6M	156K	36K
Gun Control	807K	1.2M	351K
Marijuana	425K	2.1M	484K
Taxation	492K	1.6M	123K

Research Questions

Research Questions

- For this analysis, we **focus on abortion**, a hot political topic in the US.
- RQ 1. What is the amount of Pro-Life vs Pro-Choice message over time?
- RQ 2. What are the relative reach/engagement do Pro-Life vs Pro-Choice?
- RQ 3. How is the level of Pro-Life and Pro-Choice message on Social Media compare to traditional survey (GSS)?

Methods



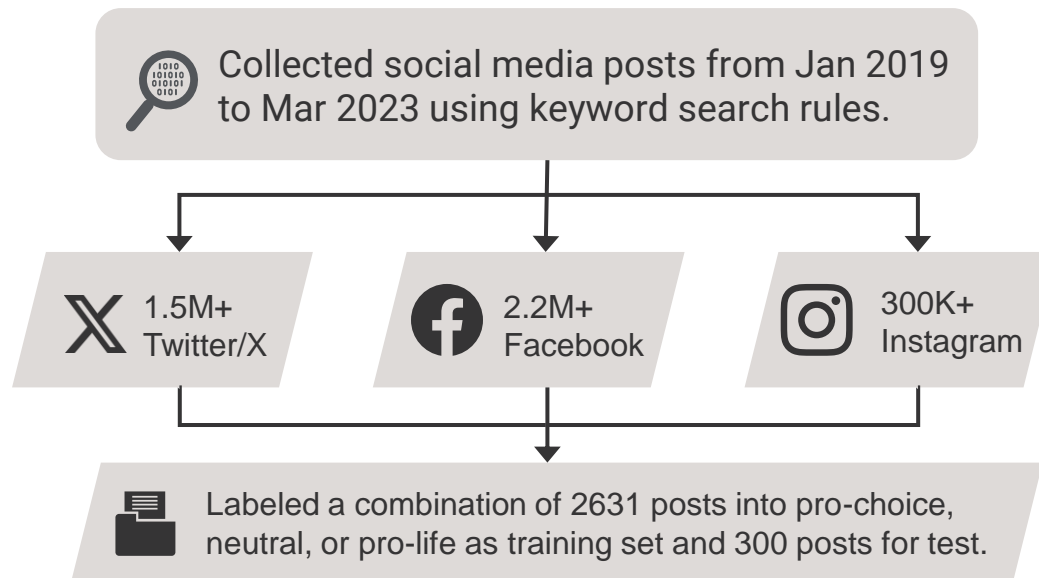
Collected social media posts from **Jan 2019**
to **Mar 2023** using keyword search rules using
SDC Twitter/X 1% Sample and CrowdTangle

Pro-choice
Pro-life
Roe v Wade
Abortion
Planned Parenthood
Dobbs v Jackson



Social Data Explorer

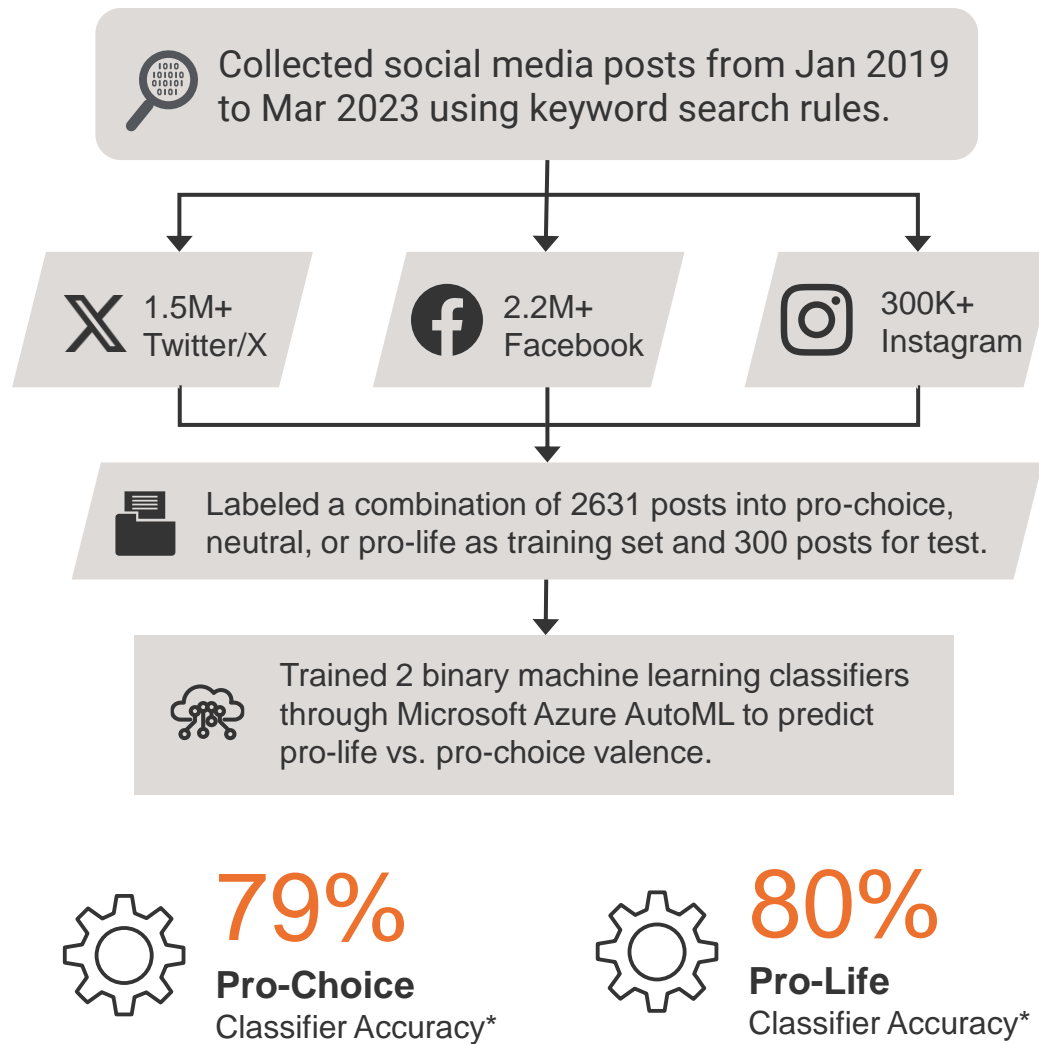
crowdtangle

**3**

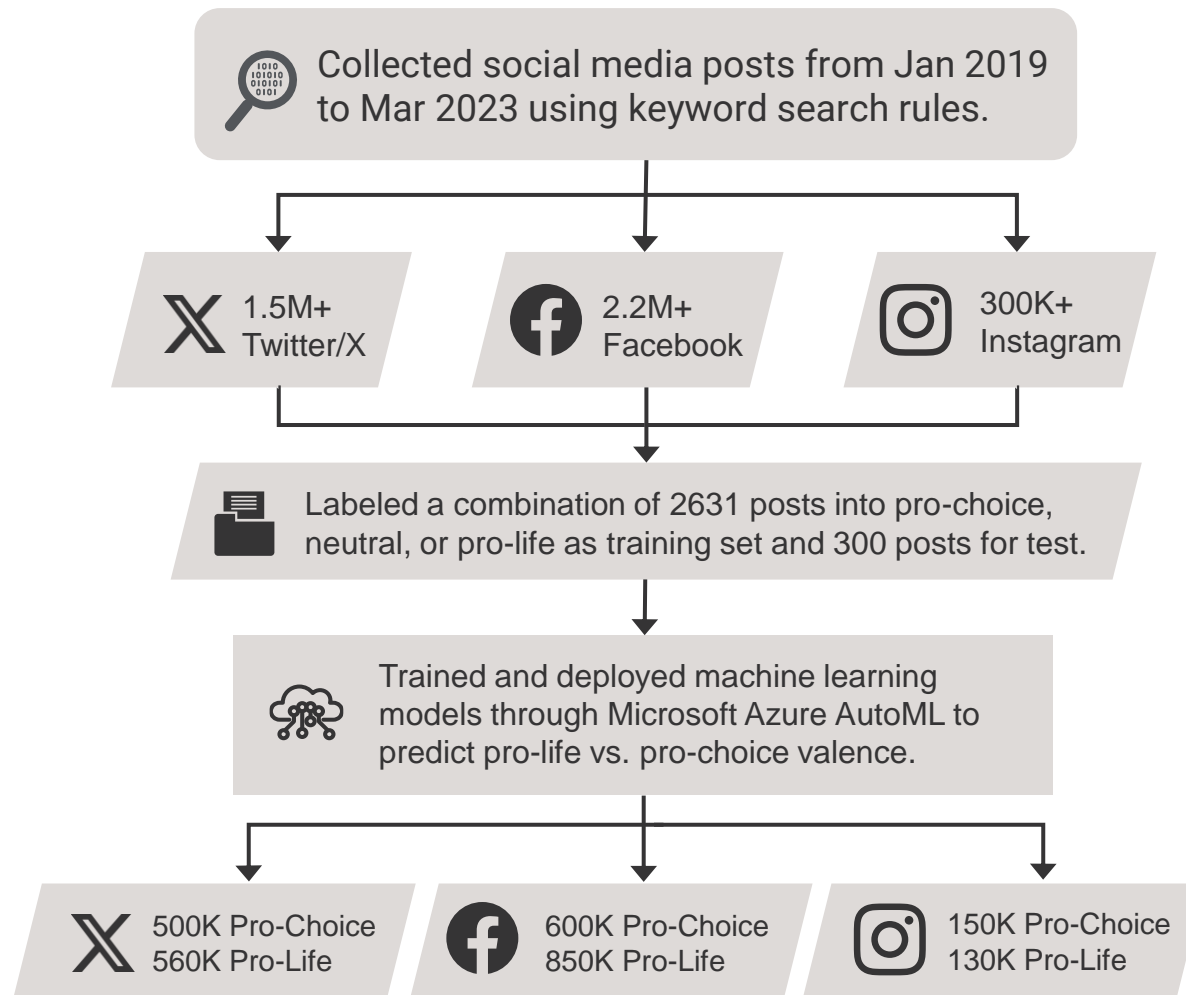
Human coders

**100**Posts/platform for
Inter-coder reliability**0.81**

Gwet's AC1 Reliability

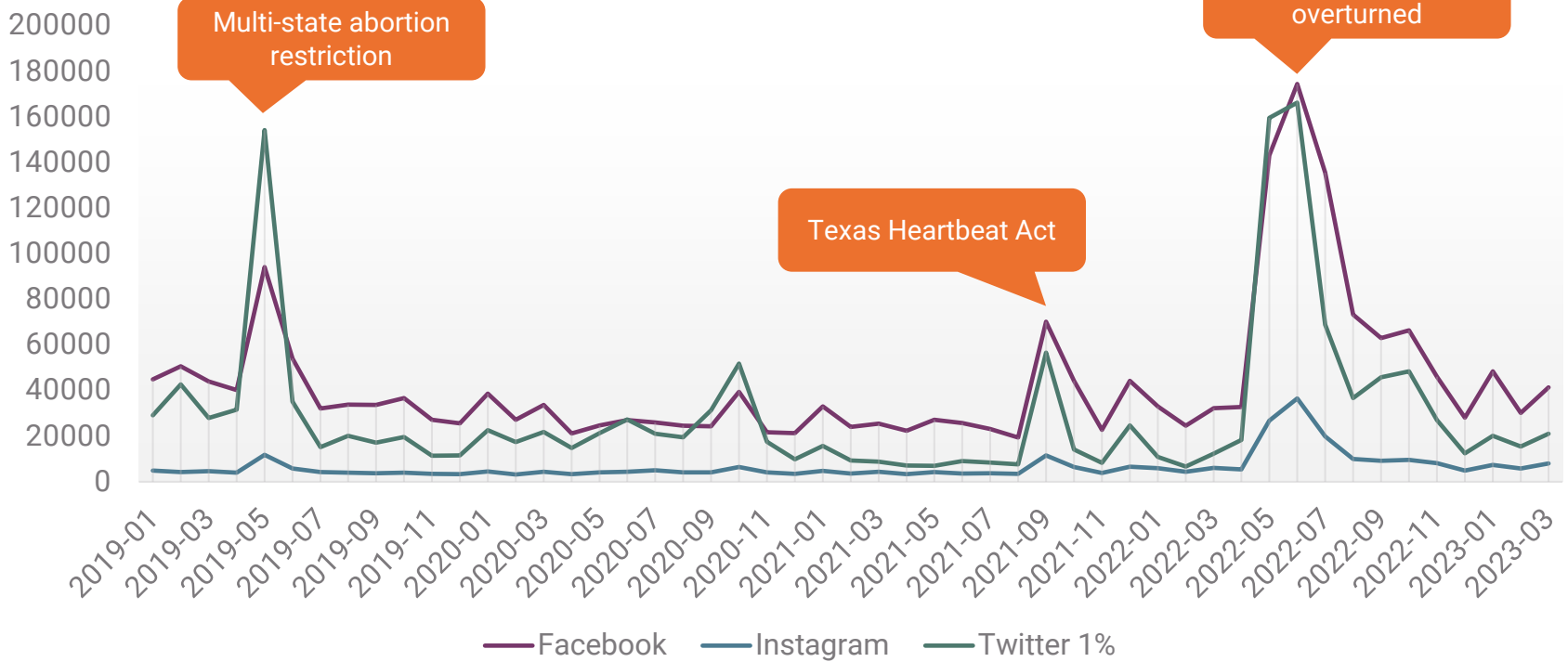


* Evaluated on the 300 posts for test



Results

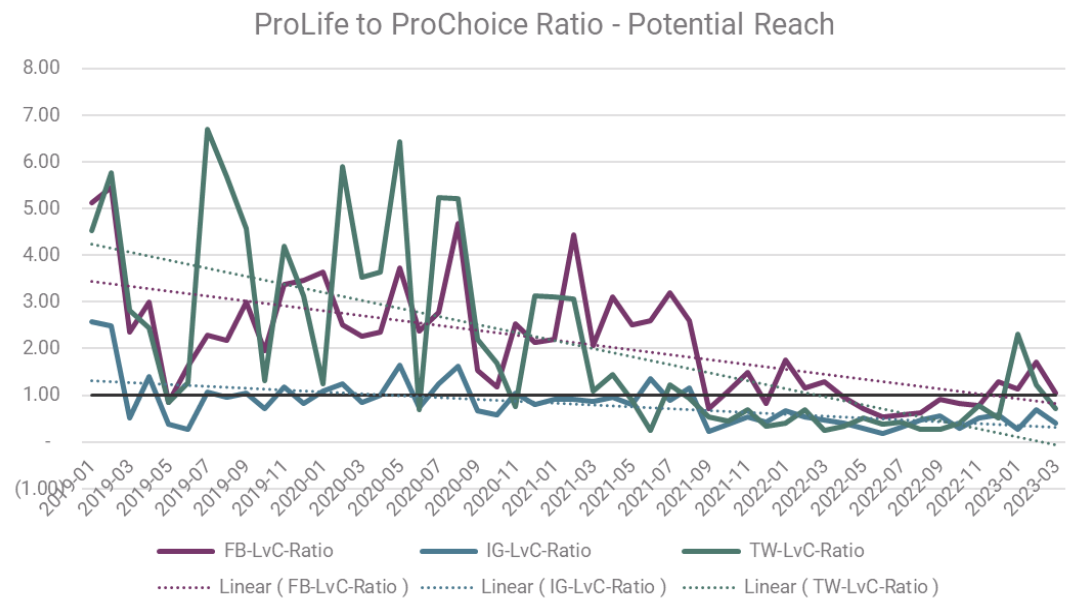
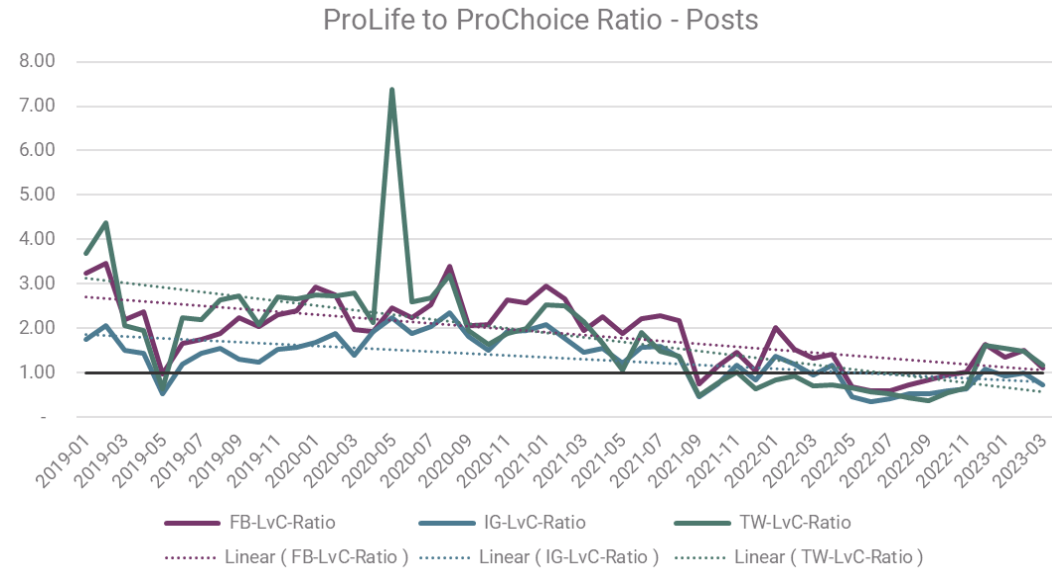
Abortion Posts/Time



Pro-choice posts outnumbered pro-life mainly during **brief outrage periods**.

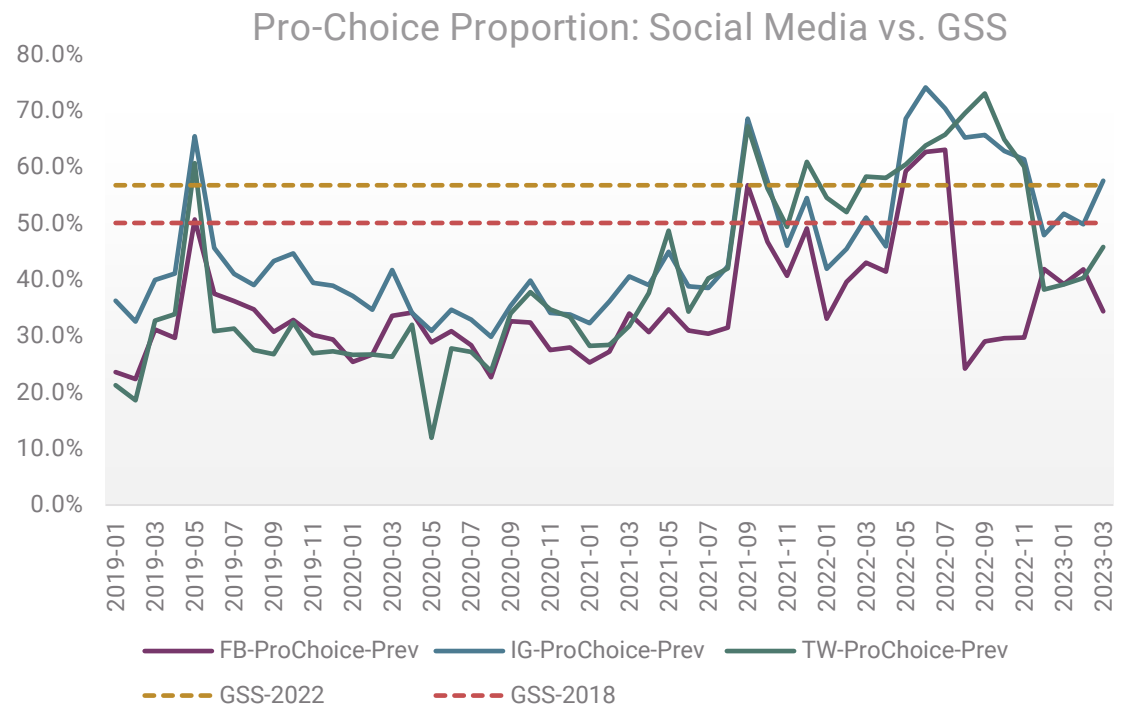
Overall, Pro-life **exceeded** pro-choice in the number of **posts and audiences (reach)**.

Suggesting more **dedication and coordination** among accounts that post pro-life content.



The higher volume of pro-choice posts during **outrages** more **closely reflect the proportion of true pro-choice opinions** represented in surveys of the American public.

Social media can better mirror public opinion when events **galvanize the public to speak out.**



Discussion/Implications

Discussion & Implications

- Pro-Life messages are **persistent** in effort.
- Pro-Life posts are **consistent** in their messaging:
 - Pro-Life posts generally had a simple and single focus on saving the infant lives
 - In contrast, pro-Choice posts represented many messages: health of the mother, bodily autonomy, safety of abortion, women's rights as human rights; and patriarchy.



RT @perlamontan: so abortion is murder but a cop killing an unarmed black man is a misunderstanding? okay. some of y'all really have your morals FUCKED UP

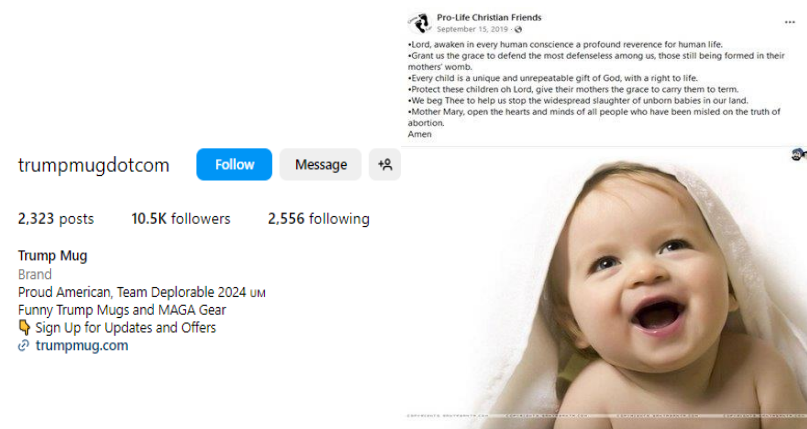
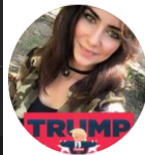
11:35 AM · May 29, 2020

RT @joncoopertweets: If banning abortion "stops abortions," let's ban guns and stop gun violence.

7:53 PM · May 4, 2022

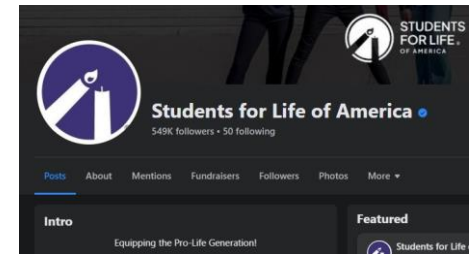
Hypothesis

- Social media may not reflect public opinion, but may represent **agenda setting and policy advocacy** that ultimately influences public policy.
- Pro-life content likely reflected the **steady efforts of grassroots activism and policy advocacy** organizations.
- Social media are more about **influence than representation**.



Each platform serves a **different audience and communication function**

- Facebook is data consist of public pages, where there are more **organizations with clear agenda**. These organizations are more right leaning.
- Twitter/X: few users create original contents. Driven by **Retweets and news coverage** of policy events.
- Instagram is perhaps **most organic** and representative of younger generations.
- It is important to consider the **audience and communication functions** of different platforms.



Jon Cooper ✓

@joncoopertweets

Ex: Nat'l Finance Chair of Draft Biden; LI Campaign Chair for Barack Obama; Majority Leader of Suffolk County Legislature. Gay dad of five kids. @DukeU alum.

📍 New York, Florida 📅 Joined March 2009

82.1K Following 1.2M Followers

shoutyourabortion

Follow

Message



3,248 posts

111K followers

1,411 following

Shout Your Abortion

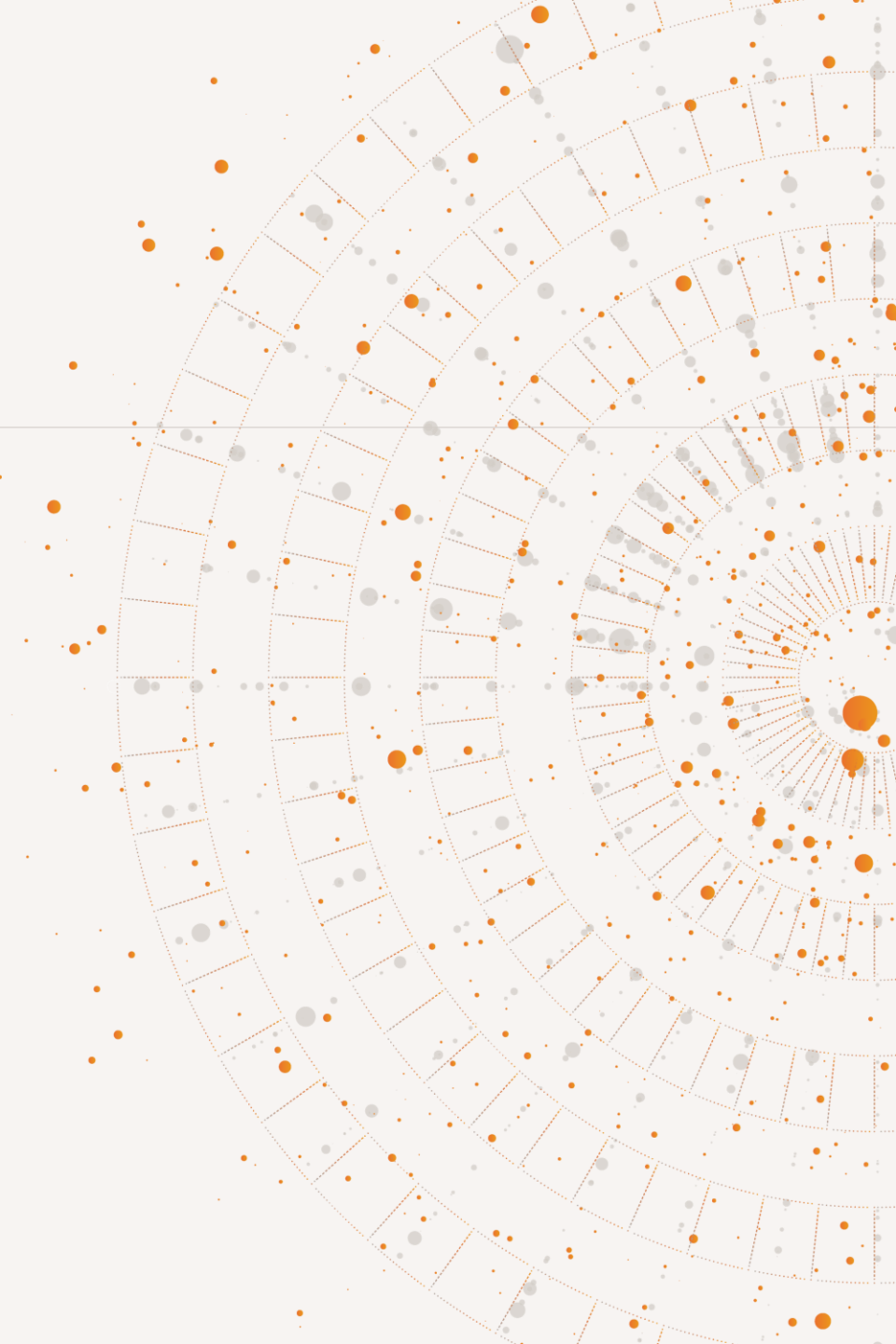
Abortion access is a community responsibility. Abortion pills forever. Abortion is normal. ♥
#ShoutYourAbortion

🔗 linktr.ee/shoutyourabortion

Conclusion

- **Advantages of Social Media Analysis**
 - Provides a retrospective view of **evolving public opinion**.
 - **Complements** periodic surveys by showing changes over time.
- **Role of Advocacy Groups**
 - Pro-life messaging dominates between policy events.
 - Advocacy groups **leverage social media to set agendas**.
 - Effective during periods of low public engagement with policy discourses.
- **Research Significance**
 - Highlights the importance of social media in understanding **public opinion dynamics**.
 - Essential for **contentious and rapidly shifting issues** like abortion.
 - Social media can be **influential** even if not representative.

Questions?





Thank you.

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Sr. Data Analyst
shi-haoyu@norc.org

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Appendix

Example Social Media Posts

MOST ACTIVE USERS - INSTAGRAM

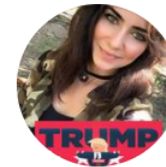
Top User	Posts	Bio
thatnotrightpolitics	3686	That's Not Right #1 in all things left! 🇺🇸🗳️ *NO DMs* Trolls/fake accts = Blocked us LIKE US ON FACEBOOK & TWITTER us WWW.ROCKTHEVOTE.ORG
lifenewspics	3225	LifeNews.com is a news agency devoted to reporting pro-life news. LifeNews.com reaches more than 1,000,000 people each week.
snowflake.tears	2268	turningpointusa Brand Ambassador Charleston, SC For legal purposes this is satire. Personal views does not reflect employer
all4choice	2036	We want free, safe and legal access to abortion in Northern Ireland & normalisation as healthcare ❤️🙏💜 #abortionrightsni #thenorthisnext
trumpmugdotcom	1966	Trump Mug Brand Proud American, Team Deplorable 2024 um Funny Trump Mugs and MAGA Gear 👉 Sign Up for Updates and Offers
shoutyourabortion	1874	Abortion access is a community responsibility. Abortion pills forever. Abortion is normal. ❤️ #ShoutYourAbortion
the.lgbt.feminist	1828	Community Contributor and Discord Manager: Hunter 🌈 he/him Content Contributor: Maddie 🌈 she/her DMs always open! Ask Us About deals on promos!
txrighttolife	1780	Texas Right to Life Statewide builders of a Pro-Life Texas Text PROLIFE to 40237
mayornnais_	1755	
frfrankpavone	1725	News personality Fulltime prolife leader, Ordained in 1988, Dir, PriestsforLife, National Co-Chair, ProLife Voices for Trump. This is my personal Instagram account.



thatnotrightpolitics [Follow](#) [Message](#)

13,133 posts 141K followers 402 following

That's Not Right
#1 in all things left! 🇺🇸🗳️
NO DMs
Trolls/fake accts = Blocked
us LIKE US ON FACEBOOK & TWITTER
us WWW.ROCKTHEVOTE.ORG
[vote.gov](#)



trumpmugdotcom [Follow](#) [Message](#) [+](#)

2,323 posts 10.5K followers 2,556 following

Trump Mug
Brand
Proud American, Team Deplorable 2024 um
Funny Trump Mugs and MAGA Gear
👉 Sign Up for Updates and Offers
[trumpmug.com](#)

shoutyourabortion [Follow](#) [Message](#) [+](#) [@](#) [...](#)

3,248 posts 111K followers 1,411 following

Shout Your Abortion
Abortion access is a community responsibility. Abortion pills forever. Abortion is normal. ❤️
#ShoutYourAbortion
[linktr.ee/shoutyourabortion](#)

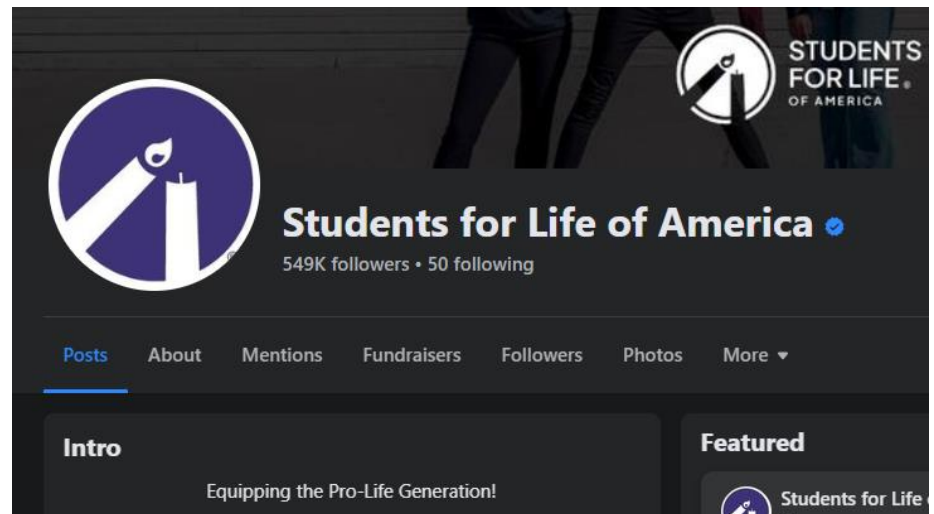
frfrankpavone [Follow](#) [Message](#) [+](#) [@](#) [...](#)

5,967 posts 68.1K followers 7,515 following

Frank Pavone
News personality
Fulltime prolife leader, Ordained in 1988, Dir, PriestsforLife, National Co-Chair, ProLife Voices for Trump.
This is my personal Instagram account.
[endabortion.us](#)

MOST ACTIVE USERS - FACEBOOK

Top User	Posts	Bio	Notes
LifeNews	11514	LifeNews.com is an independent pro-life news outlet. With a team of experienced writers, LifeNews.com	
TebowSuperBowlAd	9680		https://www.npr.org/2010/01/27/123035871/anti-abortion-super-bowl-commercial-causes-storm
DefeatObama2012	8019		Against obama/abortion related items in 2012, but URL redirects to life news!
StopKagan	7986	This page sponsored by LifeNews.com to help stop abortion!	Against Elena Kagan, a supreme court justice, but also directs to life news!
liveactionnews online	6902	This page sponsored by LifeNews.com to help stop abortion!	
tmhnm1	5542	I'm glad you were born!	"Take My Hand, Not My Life"
GlobalAbortionRightsNews	4785	World abortion news - reproductive rights news from countries around the globe.	
PreciousLife.Ireland	4292	Northern Ireland's leading pro-life group. Defending the lives of every unborn baby and their mothers	
PatriotsProtectingLife	4267	Polls show that the majority of Americans stand against abortions, especially after learning the vio	
studentsforlife	4202	Equipping the Pro-Life Generation!	




MOST ACTIVE USERS - TWITTER

Top User	Posts	Bio
i_womb	1411	Account Suspended
BotForEquality	279	I'm just a young intersectional bot, amplifying gender equality. Although I'm improving every day — I still welcome your feedback!
benamckee	266	Bass @imaginedragons . Board member @trfdotorg , @kulturec and @womensaudio . I stand with Planned Parenthood @PPFA . donors.womensaudiomission.org/-/NAPJMJUH
testisfidelis	258	Account Suspended
prochoiceforal1	242	unapologetically Prochoice~ ✨ prolife feminism isn't real ✨ reproductive rights are human rights, forcing people to stay pregnant is never right & is barbaric 🍊
LifeNewsHQ	237	LifeNews.com is a pro-life news outlet fighting abortion. Follow us at http://FaceBook.com/LifeNews and http://gab.com/LifeNews and http://gettr.com/user/lifenewshq
helmsinki	221	pro-abortion taylor swift enthusiast opinions are my own she/her St Louis, MOdonateabortions.com
prolife_rebrand	221	Twitter bot encouraging people be kinder to one another with thoughts & quotes.
pastorabharris	221	While prostrate in prayer; God said: stand up on your feet; Tell people My Son is coming soon.
marygribbin809	179	retired from us postal service, Agnostic, support antifa against right wing fascism. BLM, ACLU, College grad. Stockton U. PRO-CHOICE. #resistance.



Ben McKee  
@benamckee
Bass @imaginedragons. Board member @trfdotorg, @kulturec and @womensaudio. I stand with Planned Parenthood @PPFA.
donors.womensaudiomission.org/-/NAPJMJUH  Joined April 2012
1,849 Following 103.2K Followers



Pro-Life Redefined
@prolife_rebrand
Twitter bot encouraging people be kinder to one another with thoughts & quotes.
 Joined November 2019
0 Following 44 Followers



NEENERS777, ABORTION BANS KILL MOMS.
@marygribbin809
retired from us postal service, Agnostic, support antifa against right wing fascism. BLM, ACLU, College grad. Stockton U. PRO-CHOICE. #resistance.
 Pennsylvania, USA  Joined February 2009
7,897 Following 7,822 Followers

TOP CONTENT - INSTAGRAM

Text	Likes
My thoughts on the Supreme Court's decision to overturn Roe v. Wade.	5,315,058
🌍💔 us Last week, a bill was signed into law in Georgia that is a near-total ban on abortion. This marks the fourth “	4,465,177
Very special collab with @plannedparenthood @happyhippiefdn @marcjacobs TO BE ANNOUNCED veryyyyyyy soon	4,267,018
DON'T FUCK WITH MY FREEDOM 🤍 @themarcjacobs @marcjacobs @plannedparenthood @happyhippiefdn	2,454,122
I'm pledging \$500k from my upcoming tour to Planned Parenthood and Abortion Rights. Live Nation agreed to match	1,148,316
Forget all the obvious reasons why decrepit old men who jizz actual dust (and Amy Coney Barrett, who's vagina is a c	982,206
My daughters asked me to join them at a Pro-Choice rally and march in NYC. There were hundreds of young women	907,480
excited to be a part of 'Good Music to Ensure Safe Abortion Access to All' – a fundraising compilation record that will	874,077
let's be clear:- abortion is a right- abortion is legal- abortion is YOUR decisionstand with me, the @aclu_nationwide, :	825,972
💔 BREAKING: “The Supreme Court has voted to strike down Roe v. Wade, according to an initial draft majority opin	825,374

MICHELLE OBAMA 1/3

I am heartbroken today.

I am heartbroken for people around this country who just lost the fundamental right to make informed decisions about their own bodies.

I am heartbroken that we may now be destined to learn the painful lessons of a time before Roe was made law of the land—a time when women risked losing their lives getting illegal abortions. A time when the government denied women control over their reproductive functions, forced them to move forward with pregnancies they didn't want, and then abandoned them once their babies were born.

That is what our mothers and grandmothers and great-grandmothers lived through, and now here we are again.

So yes, I am heartbroken—for the teenage girl, full of zest and promise, who won't be able to finish school or live the life she wants because her state controls her reproductive decisions; for the mother of a nonviable pregnancy who is now forced to bring that pregnancy to term; for the parents watching their child's future evaporate before their very eyes; for the health care workers who can no longer help them without risking jail time.

michelleobama • Follow

michelleobama • 56w
My thoughts on the Supreme Court's decision to overturn Roe v. Wade.

threads_and_it 7w
👍👍👍

n_ux00 16w
اللهم لك الحمد على الإسلام، اللهم لك الحمد على الإيمان، اللهم لك الحمد على القرآن، اللهم لك الحمد على نعمة الأمن والأمان 🇲🇸

n_ux00 16w
we have bigger problems to worry about than unborn babies. We

5,281,715 likes
JUNE 24, 2022



sarah.epperson • Follow
Supreme Court of the United States

sarah.epperson 64w
💔 BREAKING: “The Supreme Court has voted to strike down Roe v. Wade, according to an initial draft majority opinion written by Justice Alito & obtained by @POLITICO.

The immediate impact of the ruling as drafted in Feb. would end a 1/2-century guarantee of federal constitutional protection of #AbortionRights & allow each state to decide whether to restrict or ban abortion.” @Politico

“If the #SupremeCourt overturns or guts #RoevWade, 26 states are certain or likely to ban #abortion. Restrictions & bans on #AbortionAccess are a direct violation of basic #HumanRights

896,866 likes
MAY 22, 2022

Text	Likes
Many “political issues” are actually, and more importantly, biblical and moral issues. I am so grateful for Vice President Mike Pence’s bold an	557,628
It’s not over! We need to continue to pray for President Donald J. Trump, Vice President Mike Pence, and the outcome of this election. So mu	498,921
I’m so grateful for the work of SC Gov. Henry McMaster and state lawmakers to save lives by passing the Fetal Heartbeat Bill in their state this	466,847
I think it’s time to abort the government! Awesome artwork done by Art by KarlaPRO- LIFE PRO- CHOICE ABORT THE GOVERNMENT Karlyas H/	443,258
President Donald J. Trump has announced that this Friday, January 22, is National Sanctity of Human Life Day. This is also the 48th anniversary	403,636
Happy 75th birthday to former President Donald J. Trump! What a milestone! May God bless you, use you, and draw you close to Him. I contin	390,614
I’m immensely grateful to the 48 Republican senators who sent a letter to Senate Majority Leader Chuck Schumer today pledging to reject an	382,670
I was in the Rose Garden for the announcement that President Trump was nominating Amy Coney Barrett as an associate justice on the U.S. S	362,685
I appreciate politicians who don’t back down and are willing to do the right thing. North Carolina’s new Lt. Governor Mark Robinson isn’t afraid	331,269
My Response to Christianity Today: Christianity Today released an editorial stating that President Trump should be removed from office—an	320,528



ELECTIONS

SHARE [f](#) [t](#) [in](#) [✉](#)

Mike Pence on Supreme Court nomination and Roe v. Wade: ‘I’m pro-life. I don’t apologize for it’

‘Unborn Lives Matter’: N.C.’s 1st Black Lt. Gov. Compares Abortion to Slavery

[Michael Foust](#) | [ChristianHeadlines.com](#) Contributor | Tuesday, January 26, 2021



Retweet	Count
RT @perlamontan: so abortion is murder but a cop killing an unarmed black man is a misunderstanding? okay. some of y'all really have your m...	3681
RT @chalametvol6: so abortion is murder but when cops kick a pregnant woman causing her to lose her baby it isn't ??	3475
RT @MichelleObama: My thoughts on the Supreme Court's decision to overturn Roe v. Wade. https://t.co/9ALSbapHDY	1745
RT @jordyvotes: I really wish people would stop drastically using the scenarios of rape or incest as the sole premise for an abortion. A wo...	1681
RT @ananavarro: If you're against abortion, don't get one.If you're against contraception, don't take any.If you're against same-sex rela...	1571
RT @GavinNewsom: Abortion is legal in California.It will remain that way.I just signed a bill that makes our state a safe haven for wom...	1503
RT @spooky_tsalagi: If abortion becomes illegal, women and girls are just gonna start throwing themselves down the stairs again and shoving...	1422
RT @joncoopertweets: If banning abortion "stops abortions," let's ban guns and stop gun violence.	1406
RT @riotwaltz: I got tested for Covid yesterday by PLANNED PARENTHOOD because they do more for both women AND MEN than just abortions... bu...	1368
RT @coolkidkaia: due to the abortion laws, "ima put a baby in you" is considered a threat and i will call the police.	1234

RT @perlamontan: so abortion is murder but a cop killing an unarmed black man is a misunderstanding? okay. some of y'all really have your morals FUCKED UP

11:35 AM · May 29, 2020

perla

@perlamontan

fashion design, fashion history // coordinator for [@HFMetGala](#) // she/her 🇺🇸 333

📍 Boston, MA [🌐 instagram.com/perlamontan](https://www.instagram.com/perlamontan) 📅 Born October 23

📅 Joined December 2018

455 Following 3,811 Followers

RT @joncoopertweets: If banning abortion "stops abortions," let's ban guns and stop gun violence.

7:53 PM · May 4, 2022

Jon Cooper ✓



@joncoopertweets

Ex: Nat'l Finance Chair of Draft Biden; LI Campaign Chair for Barack Obama; Majority Leader of Suffolk County Legislature. Gay dad of five kids. [@DukeU](#) alum.

📍 New York, Florida 📅 Joined March 2009


82.1K Following 1.2M Followers


Data Source

SOCIAL DATA EXPLORER DASHBOARD **QUERY** MY PROJECTS REPORTS   Simon Page

QUERY BUILDER

Basic Search

Select Index Set 
Index Set
Twitter 1% Stre...

Select Date Range 
From Date To Date
1/1/2019 4/30/2023

Note: Tweets currently indexed through 09/06/2023

Text Search Rules

Query Text
"climate change"

Exclude Text

Hashtags

Query Text


Exclude Text

Exclude Text

Hashtags

Hashtags

Add Another Set

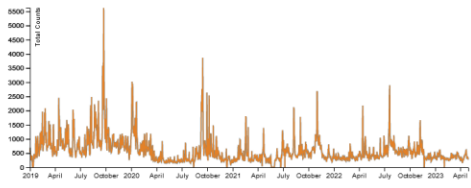
Advanced Search 

CLEAR SEARCH


TWEETS OVER TIME Filter by Rule: "climate change"

Tweets 1% matching search: **925,045**

Tweets 1% sample in date range: **6,148,113,887**

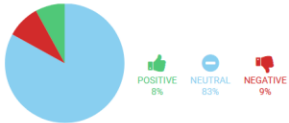


■ "climate change" ■ Total


Save Graph 
PNG JPEG PDF

SENTIMENT AND SUMMARY STATISTICS Choose Summary: Scores and Ratios

Sentiment Compound (VADER) -0.05



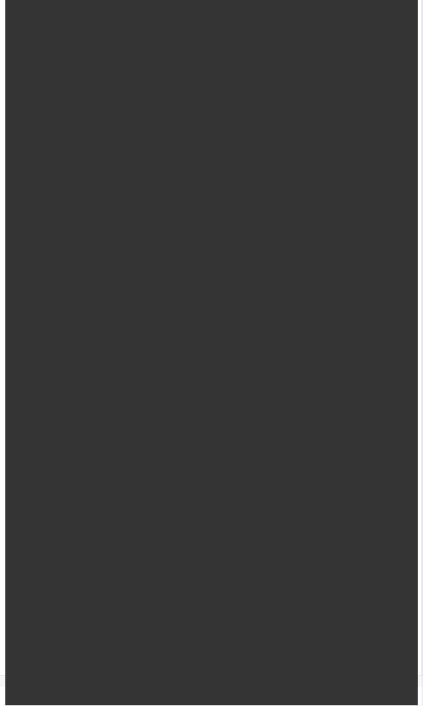
POSITIVE 8% NEUTRAL 83% NEGATIVE 9%

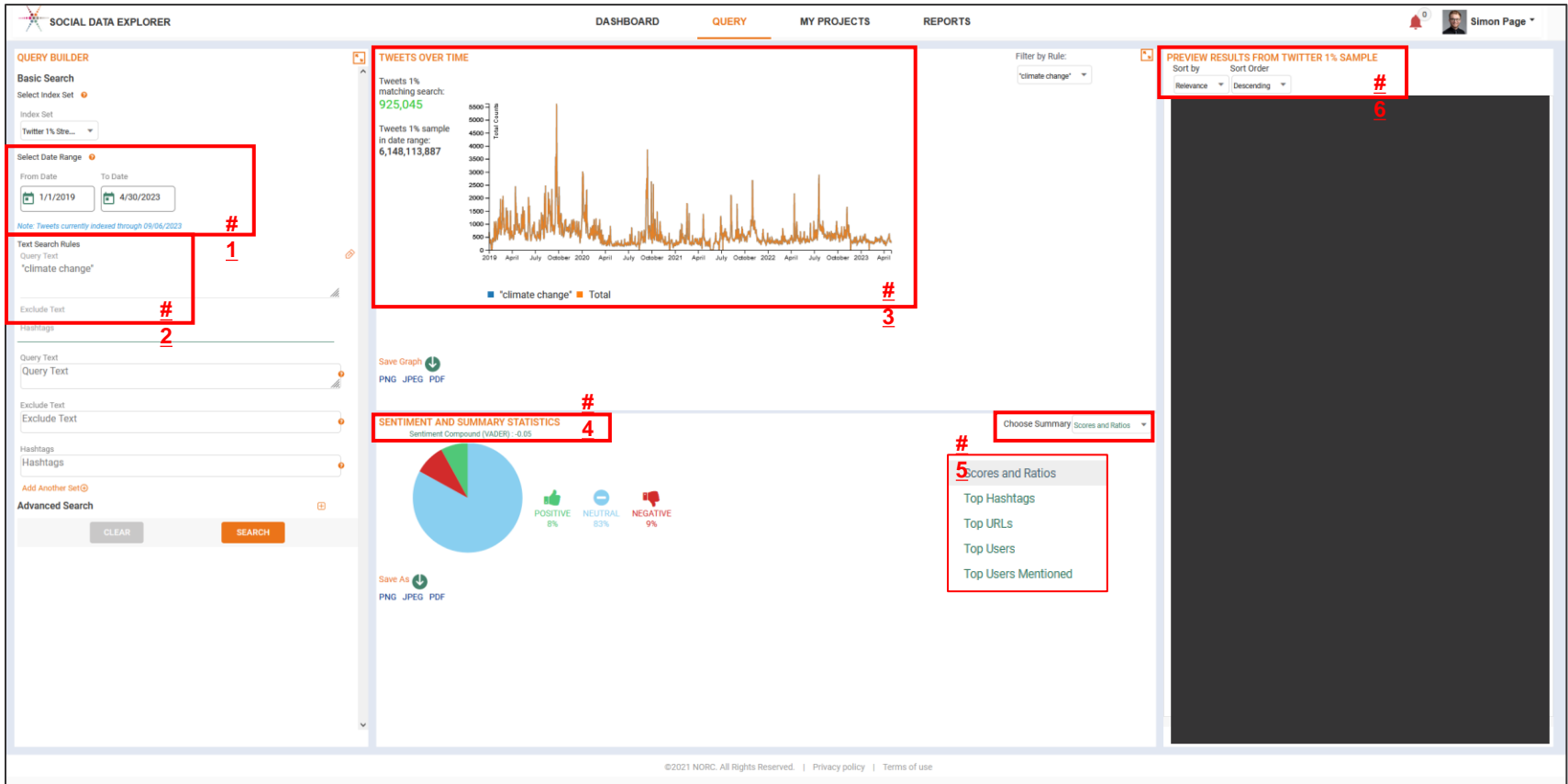
Save As 
PNG JPEG PDF

PREVIEW RESULTS FROM TWITTER 1% SAMPLE

Sort by Sort Order

Relevance Descending





The screenshot displays the Social Data Explorer interface with several key components and annotations:

- Navigation:** DASHBOARD, QUERY, MY PROJECTS, REPORTS.
- QUERY BUILDER (Left Panel):**
 - Basic Search:** Index Set: Twitter 1% Sbr...; Select Date Range: From Date: 1/1/2019, To Date: 4/30/2023. **#1** is placed over the date range.
 - Text Search Rules:** Query Text: "climate change". **#2** is placed over the query text.
 - Exclude Text:** Exclude Text field. **#3** is placed over this field.
 - Hashtags:** Hashtags field. **#4** is placed over this field.
 - Advanced Search:** CLEAR and SEARCH buttons.
- TWEETS OVER TIME (Center Chart):** A line graph showing tweet counts over time. Text above the graph: "Tweets 1% matching search: 925,045" and "Tweets 1% sample in date range: 6,148,113,887". **#5** is placed over the graph area.
- SENTIMENT AND SUMMARY STATISTICS (Bottom Center):** A pie chart showing sentiment distribution: POSITIVE 8%, NEUTRAL 83%, NEGATIVE 9%. **#6** is placed over the pie chart.
- PREVIEW RESULTS FROM TWITTER 1% SAMPLE (Right Panel):** Filter by Rule: "climate change"; Sort by: Relevance, Sort Order: Descending. **#7** is placed over the sort options.
- Annotations:** Red boxes and numbers (#1-#7) highlight specific UI elements.
- Footer:** ©2021 NORC. All Rights Reserved. | Privacy policy | Terms of use.