Analysis of the Interest Meta-Communities Surrounding Roe v. Wade on Reddit

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I. Introduction & Background

Social media users, who represent a majority of humans all over the world today, have been using these platforms - such as Facebook, Twitter, Reddit, and others - to not only just share daily activities and recipes, but to also voice concerns about pressing issues in their communities whether locally or globally. This has rendered social media networks very critical in the organization of protest, the sharing of stories, and the creation of support communities for many groups of minorities.

In late April 2022, there was a leak of the February Draft from the Supreme Court of the United States' voting to overturn Roe v. Wade which triggered a social upheaval across the US. Roe v. Wade is a landmark Supreme Court decision that established a constitutional right to abortion in 1973 which gives women the choice to not to move forward with their pregnancy for whatever reason that may be. The overruling of this case would mean that women will be legally charged should they choose to abort, regardless of what the reason behind the abortion is. This poses a major risk on the protection of abortion rights and allows state to decide whether to restrict or ban abortion (many of which have already started taking action on abortion clinics and women who undergo procedures).

In order to understand the reaction to Roe V. Wade's overturning, our project aims to analyse the r/roevwade subreddit, its users, and find their network connections with different subreddits to observe what topics of interest are shared by these abortion meta-communities.

II. Literature Review

When it comes to network nnalysis in social sciences and homophily on reddit Communities, in the last recent years, the technological advances of the internet have increase, creating a channel to the masses express their political opinion without being intermediated by third-party organizations, like political parties or traditional media. In fact, traditional media is losing space to the SNS (Social Network webSites), which can be easily used to be an active part of a political debate, like presidential elections and trending topics. The existing theory on social networks and Political Science indicate that these users don't assign themselves on groups randomly, since "individuals expose themselves to information that simply reinforces their existing views" (Barberá et al. 2015, 1), creating an echo chamber — high level of clustering along determined dimension, "reinforcing existing beliefs and attitudes" (Iyengar and Hahn 2009, 34, see also Barberá et al. (2015).

This effect is strongly associated with the concept of homophily, which is "the principle that a contact between similar people occurs at a higher rate than among dissimilar people" (McPherson, Smith-Lovin, and Cook 2001, 416). This is a crucial assumption to the literature and also to this article, since we expect that each individual community (subreddit) will have its own pattern of group formation through selective exposure leading to a very homophilic echo chamber.

Although not all conversations are divisive in society and in SNS and thus do not create echo chambers, political issues usually are divisive and do create echo chambers. Since the case of Roe versus Wade involves decisions from the United States' Supreme Court and also debates about women rights and abortion, it has enough characteristics to be considered political and, thus, divisive.

Following the literature about social networks in social media, we expect the /roevwade2022 community to be extremely homogenous in the posts they engage. Also, following Larson and colleagues (2019, 1) research "An individual's decision to protest depends on the decision of others in their social network", we expect that the members of the this community engage in activities in other similar topics, many political ones on the same political spectrum/preference as the /roevwade2022 subreddit.

III. Data and Methods

The data for this project are collected from Reddit because as a social network, it is an open content and user-driven platform where some of the most popular topics are discussed. Each post is data rich as it can be voted either up or down, therefore, indicating content popularity and engagement. As a massive an open access platform it showcases great power in the analysis of sentiment and community behavior about a plethora of topics. The data was extracted by using the Reddit application program interface (API) that allows to collect text from all the post and comments from a certain subreddit, as

well as the votes to each post/comment and the users handles. PRAW is the API used.

Data collected under r/roevwade2022 included the posts under this subreddit, the comments under each of the posts, and the posts of users who commented under the posts on other subreddits. Samples of the data could be seen in the figures 1, 2, and 3.

	id	score	text	author	num_comments	ups	downs	subreddit
0	upq73b	265	BEST of...Signs at Bans Off Our Bodies Marches	QuarterBackground	14	265	0	roevwade2022
1	us1x3f	213	Pro-lifers have spent decades using litigation...	gear-heads	6	213	0	roevwade2022
2	umvmof	174	RvW	DuhK_14	15	174	0	roevwade2022
3	uoxwtv	153	Made signs for the protest tomorrow	HubrisAndScandals	14	153	0	roevwade2022
4	urd3zb	144	Roe Art - missed protests due to lack of babys...	Loud-Resolution5514	6	144	0	roevwade2022

Fig. 1. Sample of Posts Data

	id	score	text	ups	downs	author	subreddit
0	i8mb2ci	37	"Ruth sent me" made me cry. These are amazing.	37	0	Suspicious_Cupcakes	roevwade2022
1	i8mc1uw	31	Loved them all. Especially 'Those SCOTUS fucks...	31	0	kgleas01	roevwade2022
2	i8mbihw	25	These are fabulous!\n\nHere's some links that ...	25	0	JennyLunetti	roevwade2022
3	i8mjeet	17	For me the best one was 'respect my existence ...	17	0	cjjforever	roevwade2022
4	i8mesuo	14	THAT LAST PICTURE. IM SO FUCKING PROUD!!!!!!!	14	0	throw_998	roevwade2022

Fig. 2. Sample of Comment Data

	id	score	author	num_comments	subreddit	sub_num_subscribers
409	ulhwmx	20	LegalPreference470	0	MoscowIdaho	3004
410	uqjplr	16	LegalPreference470	27	MoscowIdaho	3004
411	um62u6	8	LegalPreference470	1	prochoice	27388

Fig. 3. Sample of User Post Data

A. /roevwade2022 in a Nutshell

the /roevwade2022 community (subreddit) was created in May 4th and has had a total of 269 posts with over one thousand total contributions in less than two weeks. As discussed in the theoretical section, it's expected that the individuals that engage in political posts and comments on this subreddit only do so after recognizing that this community is a safe environment to them. are To better understand the the ideological position of the members of the roevwade2022 community, we selected the first ten posts on the community labeled as hot — a measure of the most upvote rates. We read each of them, as well as an average of four comments to each of these posts to understand if they were in tune with any political group. We also have read the five first posts labeled as top — which means the most upvoted posts.

The results assure us that this is a liberal pro-choice *milieu* since all posts and comments are oriented in that way. This shows that homophily is present, and this community is an echo chamber that shares information about the Roe versus Wade case in a monotonic position.

The most upvoted post illustrated in figure 4 is showing how the pro-life people view and judge women based on their

Fig. 4. Figure on the most upvoted post on the /roevwade2022 community

(non)choice. Other examples include the title of the top posts, like "Republicans hate ambitious women" or the tag (flair) used in some of the posts "Right Wing Insanity".
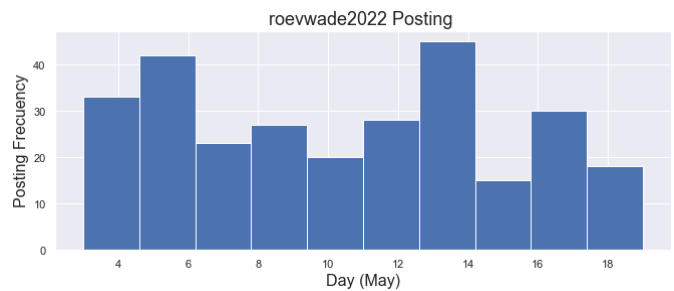

Fig. 5. Posting Frequency on roevwade2022 subreddit

	Count	Maximum Score	Average Score
Posts	269	265	31.5
Comments	832	74	4.6
Related Comments	16142	75403	879.5

Fig. 6. Data collection statistics

IV. ANALYSIS OF R/ROEVWADE2022

In the analysis of the posts, comments, and user interactions collected, we utilize multiple visualizations to draw insights.

First, we study the relationship between post scores and comments. As observed in figure 7, we can see that posts with low numbers of comments have relatively less scores when compared to those with more comments. This shows that interaction of users drives people's reaction and response.
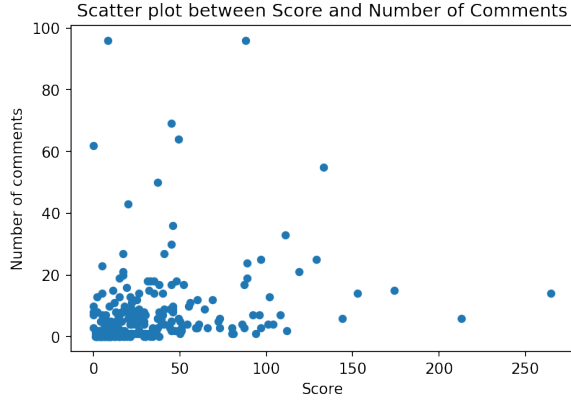

Fig. 7. Scatterplot of Score and Number of Comments under r/roevwade2022

Furthermore, figure 8 shows the top 25 commentors on the posts under our subreddit of interest. The reason we look at these is because we will find which other subreddits they are active under to understand their interests.
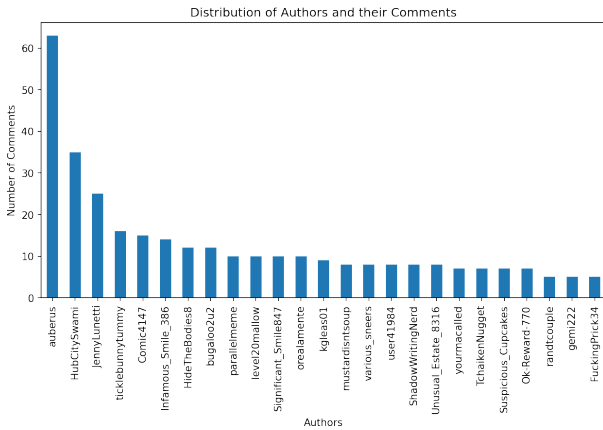

Fig. 8. Top 25 Commentors under r/roevwade2022

Given that our interest lies in understanding the different communities/subreddits that authors under r/roevwade2022 are also active under, we find the top 30 different subreddits that members of r/roevwade2022 are active under. Firgure 9 shows these 30 subreddits. We can see that the subreddits

that our authors are mostly active under, observed through the number of posts under those other reddits, are stopdrinking, rage, gay, atheism, and trans. This shows that these people are evidently active in communities that are oriented towards subjects of controversy in today's United States. Topics such as gay and trans rights are very similar in the roe v wade topic as it discusses basic and fundamental human rights being compromised. We cannot tell using this data yet whether the users are supportive or against the topics they're discussing. This is something that could be analyzed using sentiment analysis on the text of the posts and comments.
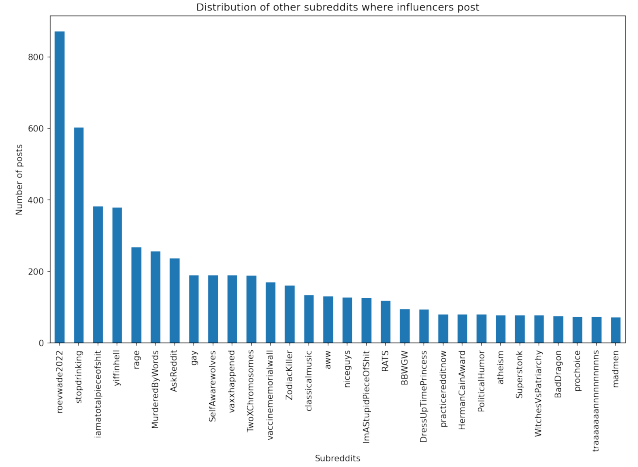

Fig. 9. Top 30 subreddit communities with users active under r/roevwade2022

In aim of reaching our objective in determining what other interest communities the members of the r/roevwade2022 are interested in, a network was constructed. In this network, only the top 30 subreddits were considered. Please note that the network of all subreddits and users was generates and could be found in the Python notebooks, however it is too big to be discussed in the paper. The focus will be on the 30 subreddits with the most author engagement from those who are members of r/roevwade. The network generated is observed in figure 12. In the network, colored dots are nodes representing users with high scores, and are considered "popular" in our network structure. From this network, we see that there are different subreddits that are common for users of r/roevwade. Of those, we chose to select a few and look into their community descriptions.

- **r/TwoXChromosomes:** Welcome to TwoXChromosomes, a subreddit for both serious and silly content, and intended for women's perspectives. Thoughtful, Meaningful Content. Posts are moderated for content according to the following guidelines:. **Respect:** No hatred, bigotry, assholery, misogyny, misandry, transphobia, homophobia, racism or otherwise disrespectful commentary.
- **r/RATS:** Welcome to Rattit, a subreddit for all things pet rats!**Rats make amazing pets, they're smart, clean and highly intelligent. [Just make sure you *always* adopt in

pairs or more. Rats need friends to be happy. **Rule 1:** *No harassment; no racist, sexist, homophobic, transphobic, ableist or discriminatory language. **Rule 2:** *No spam.**Rule 3:** *No asking for donations except for established charities/rat rescues.

- **r/niceguys:** Self-proclaimed "niceguys" are manchildren or douches, who mistake being spineless and pathetic for being "nice".Most posts feature men, but posts of anyone who fits the nice guy archetype are allowed. This is a lighthearted subreddit for funny, cringey images, NOT a subreddit for showcasing misogyny or debating gender roles.

The above subreddit community descriptions show that there is a general tone of anti-toxic masculinity and anti-patriarchy. For that reason, we wanted to also look into some other sides and looked into a subreddit community that is celebrating the overturning or Roe v. Wade. Below we can see the interactions that the r/CelebrateRoeVWade.
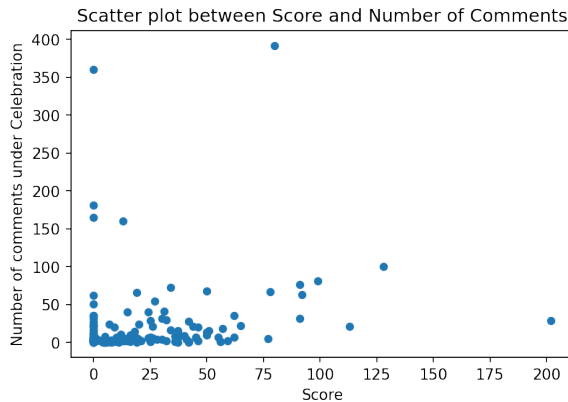

Fig. 10. Scatterplot of Scores vs Comments under r/CelebrateRoevWade

We can see that overall in figure 10, there are more comments under the celebration of Roe v Wade subreddit. However, unlike observed under r/roevwade2022, the scores do not increase as the number of posts increase. This shows that interaction is not much on that subreddit which could indicate that most of its members are unified in their opinion and no debate is driven.

In figure 11, we see that there are many more comments that both of the aforementioned subreddits. This shows that there is a heavy induced debate on patriarchy.

V. CONCLUSION

In this research, we studied the case of /roevwade2022 subreddit with a multimethod approach. Both qualitative and computational investigation show that they have a homophilic pattern toward a liberal agenda and a pro-choice preference in the case of abortion. We also find that - through the network - the authors under our community of interest
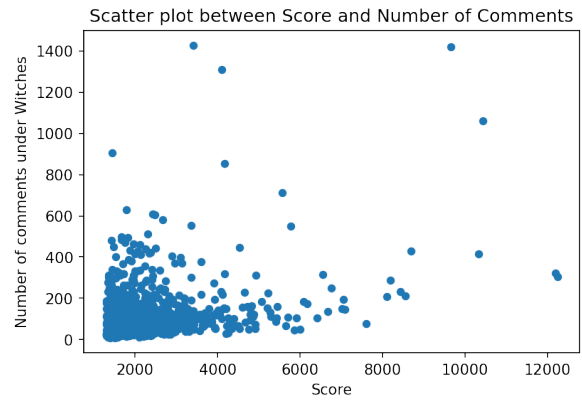

Fig. 11. Scatterplot of Scores vs Comments under r/WitchesVsPatriarchy

(r/roevwade2022)are very active under other subreddit communities that are centered around human rights discussions. Few of them are also invested in different topics but not many. This shows that overall, meta-community interest on Reddit is very solid in a sense that users are more likely to be part of discussion surrounding similar topics and debate similar ideologies.

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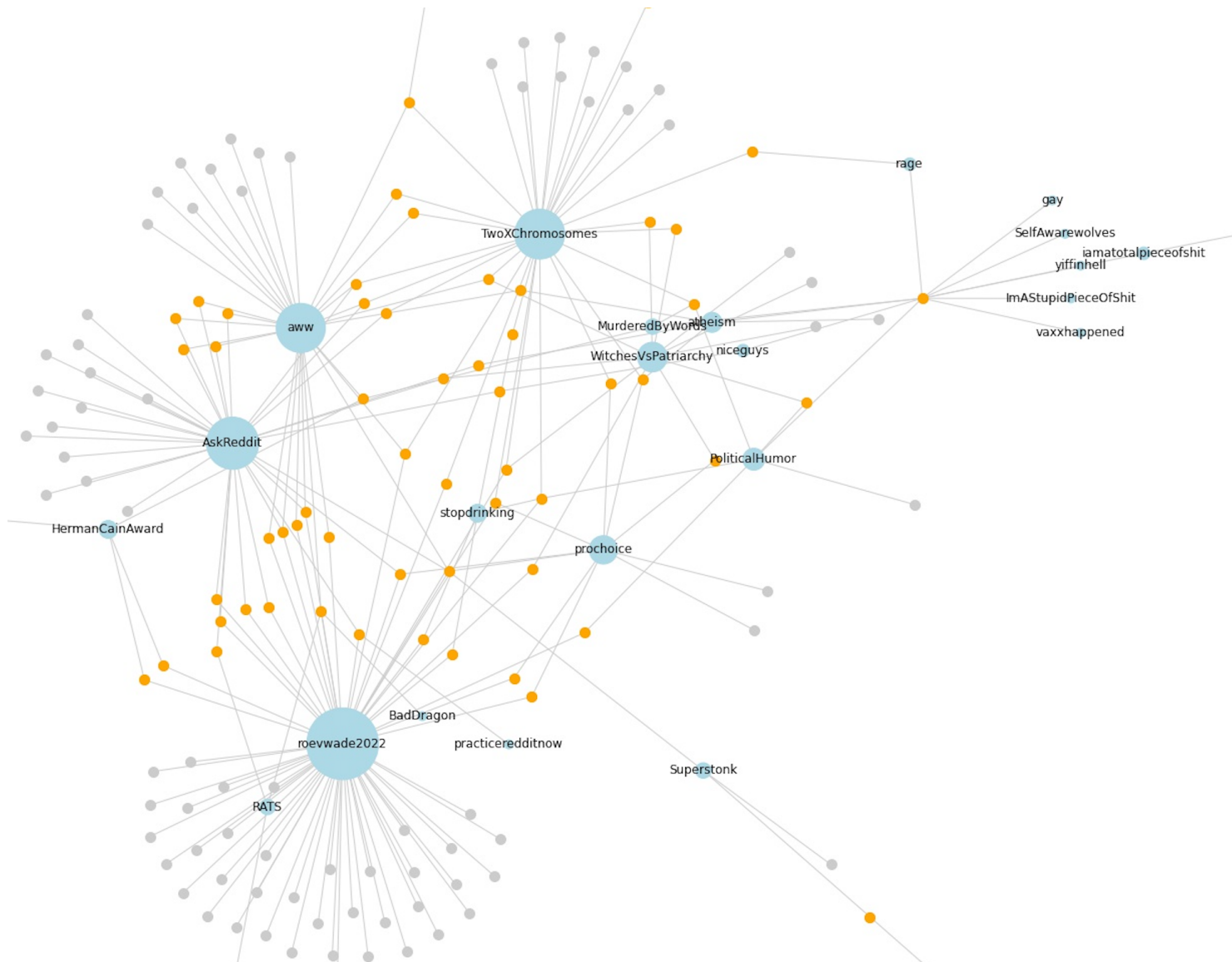
Fig. 12. Network of Interest Meta-Communities centered around members of /roevwade2022