

The Usage of Authoritarian Language in Reddit Communities

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1 Abstract

We present a dual analysis on the usage of authoritarian language in Reddit communities (subreddits), focusing on distinctions between users versus moderators and between a selection of drama, controversial, and/or political subreddits. While existing literature examines the usage of such language across governments and influential figures ([source](#)), this analysis provides a first look at how such rhetoric may be reflected in the interactions between the common man, as measured through the submissions and comments on Reddit. At its core, this work is a novel extension of the authoritarian language classifier developed by Mochtak [1] to the Reddit platform.

We find that ...

2 Introduction

Reddit is a popular internet forum consisting of many user created and moderated communities (subreddits), within which users discuss a broad range of topics. Reddit moderators are users with moderation powers for a given subreddit. We distinguish moderators as users with moderation powers and users as those without such privileges. Notably, these moderators are neither selected nor paid by the Reddit staff; they are typically either the creators of a given subreddit or otherwise promoted by the existing subreddit moderation team and work for free. Both moderators and users can post submissions and comments. A submission (colloquially known as a "post") is a top-level entry that may appear on the front-page of a subreddit, while comments can be posted underneath a submission or in response to other comments. Both submissions and comments have an aggregated score metric determined by users/moderators, which is used as a proxy for popularity.

Authoritarian language, especially as it relates to governments or elites, is a well-researched topic ([source](#)). Less is known, however, about how this language may be reflected within the emergent online communities that characterizes the 21st century. Our primary contribution is thus the novel application of Mochtak's authoritarian language classifier [1]

onto the submissions and comments generated by Reddit contributors. As Mochtak's classifier sourced its training data from UN speeches, this analysis will center around how such language may be replicated by Reddit contributors, and if so, whether or not it mirrors authoritarian language. We utilize the output probability as an "authoritarian score", with 1 indicating very authoritarian and 0 very democratic.

Specifically, we analyze the difference in language used between users and moderators and between 20 subreddits split evenly between a political, controversial, drama and control group. For clarity, the analysis relating to the users versus moderators will be referred to as the "Users" category while the analysis relating to the subreddits will be referred to as the "Subreddits" category. We measure same values for users, moderators, and each subreddit:

- Distribution of authoritarian score,
- Mean and standard deviation of authoritarian score over time,
- Mean authoritarian score per sentence in a given comment/submission,
- Mean authoritarian score with respect to a comment's/submission's score.

3 Related Work

TODO - should include how the classifier works here

4 Methodology

The data processing pipeline is described in [Figure 1](#). Submission and comment data was derived from the Pushshift dumps [2–6], then filtered and organized into an SQLite database. The classification step extracts the relevant entries (a submission or comment) from the database as a CSV file, which is then feed into the classifier. This returns an authoritarian score for both the entire entry as well as per sentence.

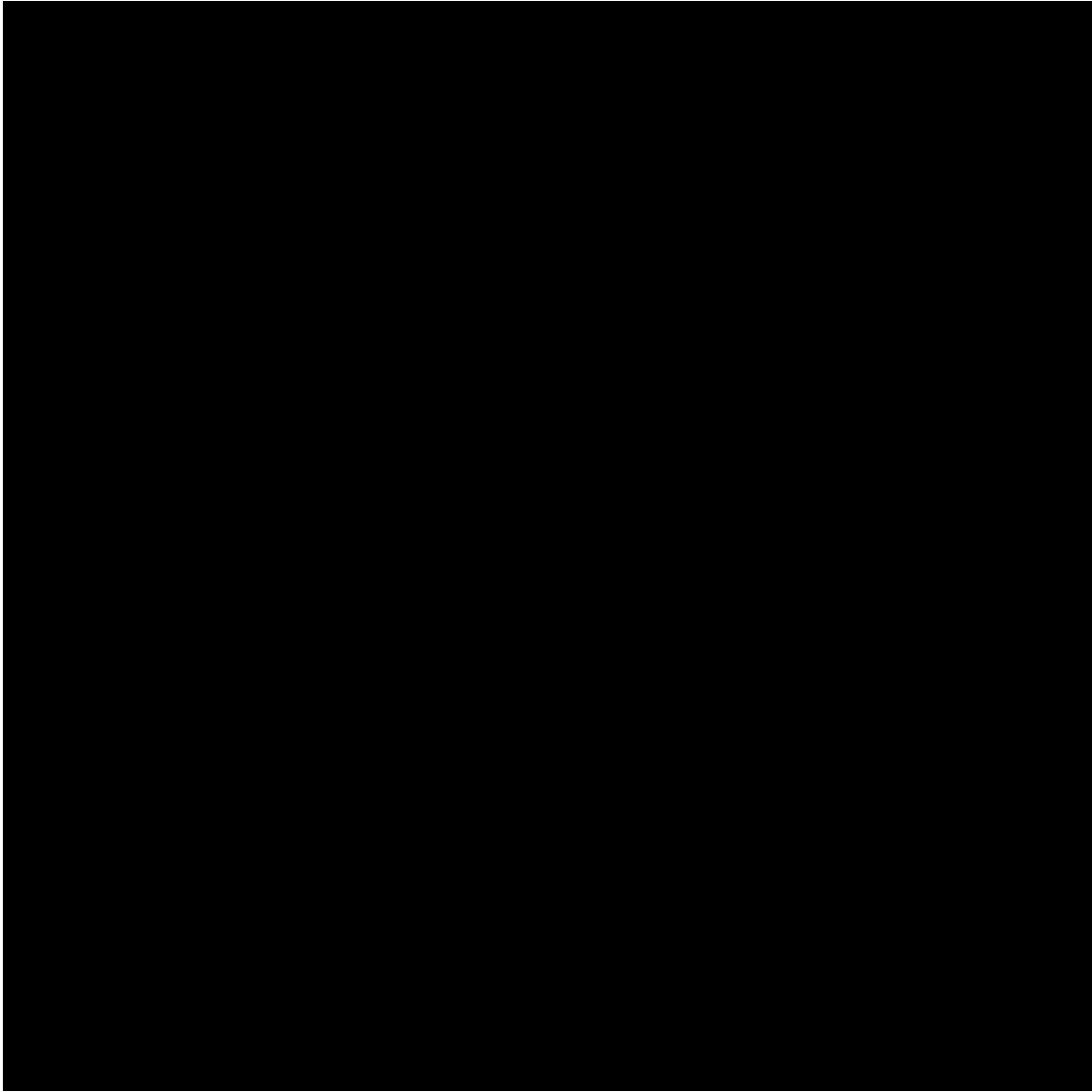


Figure 1: The data pipeline, split into **A.** ingestion (filtering and preparing raw Pushshift data) and **B.** classification.

Submissions are treated as top-level comments, and thus are not differentiated in the classification step and differ only slightly in their respective filtering rules during the ingestion step. In total, 351,368 entries were ingested and classified, 129,988 for the users category and 221,380 for the subreddits category.

4.1 Ingestion

Due to compute and storage limitations, an aggressive filter was applied to reduce the size of the input data. The applied rules were:

1. The body must have at least 5 sentences,
2. The body must contain only ASCII characters,
3. Comments may not be from AutoModerator (but submissions can).

Common markdown formatting was also adjusted. This includes:

1. Links in the form [display](url) are replaced with "display".
2. Links in the form https:\\ or http:\\ are removed.
3. Superscript (^), blockquote (>), and header (#) notation is removed.

Of note is the 5 sentence minimum and restriction to the ASCII alphabet. This is because the classifier was trained off UN speeches, and so expects well-formed, long-form text. Additionally, the ASCII restriction doubles as a proxy to filter out non-English posts.

The only difference between the submission and comment filter was that comments may not be from the AutoModerator bot. This is because AutoModerator comments are typically automated responses posted to most, if not all submissions, while no such pattern exists for AutoModerator submissions (which are typically manually posted by moderators).

4.1.1 Users

The submission and comment data for the user category was sourced from the Pushshift monthly dumps [2–5] for the 13 month period from 09/2024 to 09/2025. Each month has 355 million entries on average, with the entire dataset consisting of 4.6 billion entries. This was filtered down to 244 million points. For each month, 10,000 entries were randomly sampled, 5,000 from non-moderator users and 5,000 moderators. In total, this section of the analysis consists of 129,988 entries (12 entries were dropped due to failing to be classified) evenly distributed across a year, with 64,997 moderator entries and 64,991 non-moderator entries. Table 1 describes the collected months.

4.1.2 Subreddits

The submission and comment data for the subreddit category was sourced from the Pushshift subreddit dumps [6], which covers the time range from 06/2005 to 12/2024. 20 subreddits were manually selected to be used in this analysis, which broadly fit into the sub-categories of drama, politics, controversial, and control (subreddits that are expected to have low authoritarian scores). Each sub-category has 5 constituent subreddits and were chosen to ensure an even distribution over the political spectrum and to have a medium to large user-base. For each subreddit, 1,000 entries were sampled per month for the most recent 12 months that had data (as some subreddits were banned). In total, this section of the analysis consists of 221,380 entries. Table 2 describes the collected subreddits.

4.2 Classification

From the SQLite database, for each subreddit, user month, and moderator month, we have the following columns:

1. `body`: the raw text of this message
2. `subreddit`: the subreddit this message was posted
3. `id`: the unique string associated with this message
4. `parent_id`: the id of the message this message is replying to; empty if this message is a submission
5. `created_utc`: the time which this message was posted, in Unix
6. `score`: the net upvotes minus downvotes this message has
7. `num_sentences`: the number of sentences this message has; sentences defined by .?! followed by whitespace, or any character followed by a new line
8. `distinguished`: an integer indicating whether this message was sent by a user, moderator, or admin

The first part of the classification process is converting the SQLite database table into a CSV, which is done simply by a script which copies each column of the table into a corresponding column in the output CSV.

Once the data is in CSV form, it can be classified using the authoritarian language classifier [1], resulting in a new CSV with an extra column `auth`. This column is a floating-point number ranging from 0.0 to 1.0, which represents the authoritarian language score the classifier has assigned to the string in the `body` column, where 0.0 is least authoritarian and 1.0 is most authoritarian. This was the most time consuming part of the data pipeline due to the significant time it took for a message to be classified. Furthermore, preliminary results seemed to indicate that the classifier model is biased towards messages which have mention of religion or nations, rating them more authoritarian than what might be expected;

this is likely due to the fact that the classifier was trained on United Nation speeches, which frequently include mention of religion and nations.

5 Results

Should include specific messages as examples here!

5.1 Users

5.2 Subreddits

6 Conclusion

7 Future Work

References

- [1] Michal Mochtak. Chasing the authoritarian spectre: Detecting authoritarian discourse with large language models. *European Journal of Political Research*, 64(3):1304–1325, 2025.
- [2] RaiderBDev. Reddit comments/submissions 2025-07, 2025.
- [3] RaiderBDev. Reddit comments/submissions 2025-08, 2025.
- [4] RaiderBDev. Reddit comments/submissions 2025-09, 2025.
- [5] stuck_in_the_matrix, Watchful1, and RaiderBDev. Reddit comments/submissions 2005-06 to 2025-06, 2025.
- [6] Watchful1. Subreddit comments/submissions 2005-06 to 2024-12, 2025.

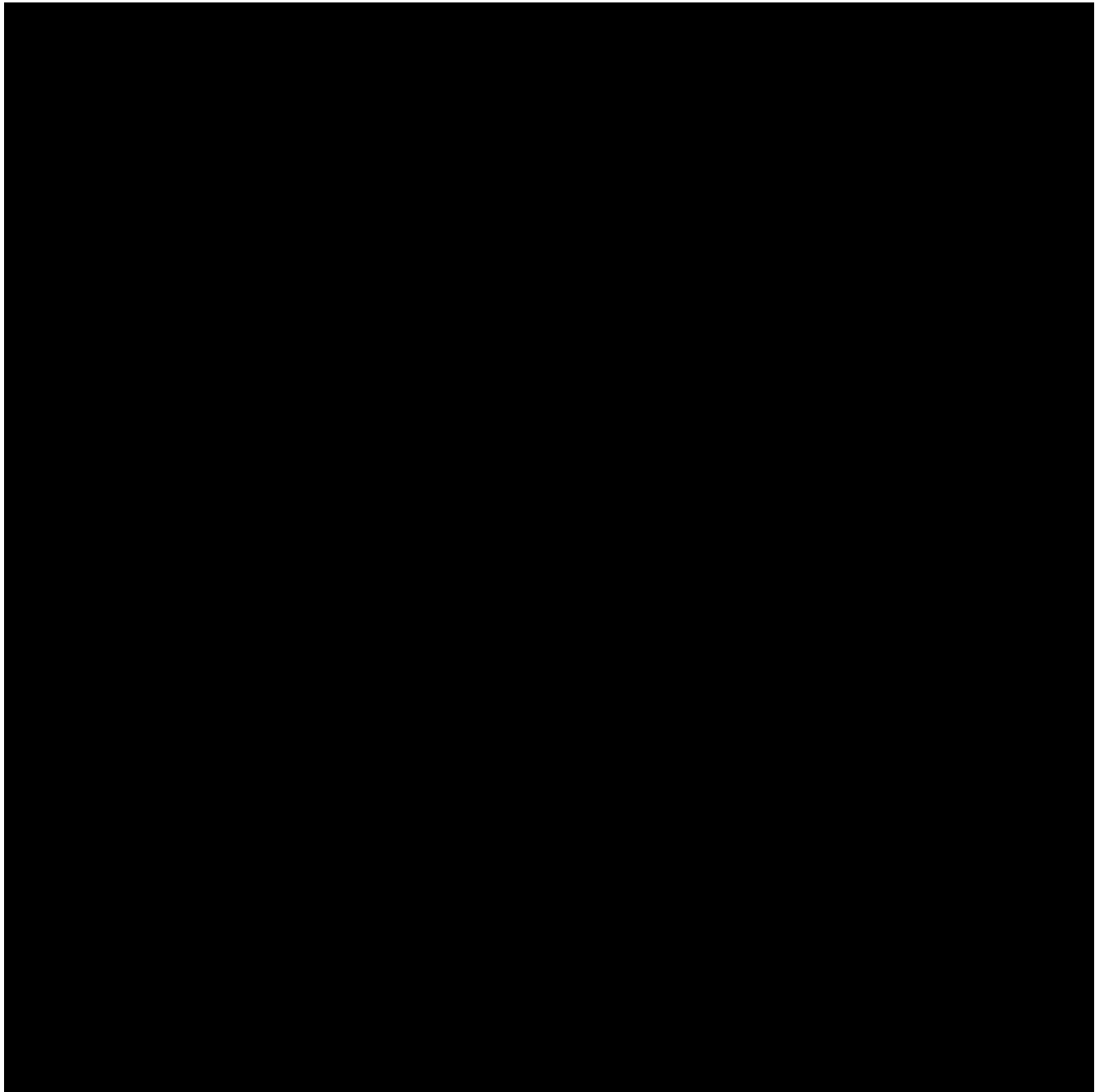


Figure 2: Left: The mean and one standard deviation (shaded) of the moderator and user posts from 09/2024 to 09/2025. Right: The total distribution of authoritarian score for moderator and user posts. (N=129,988)

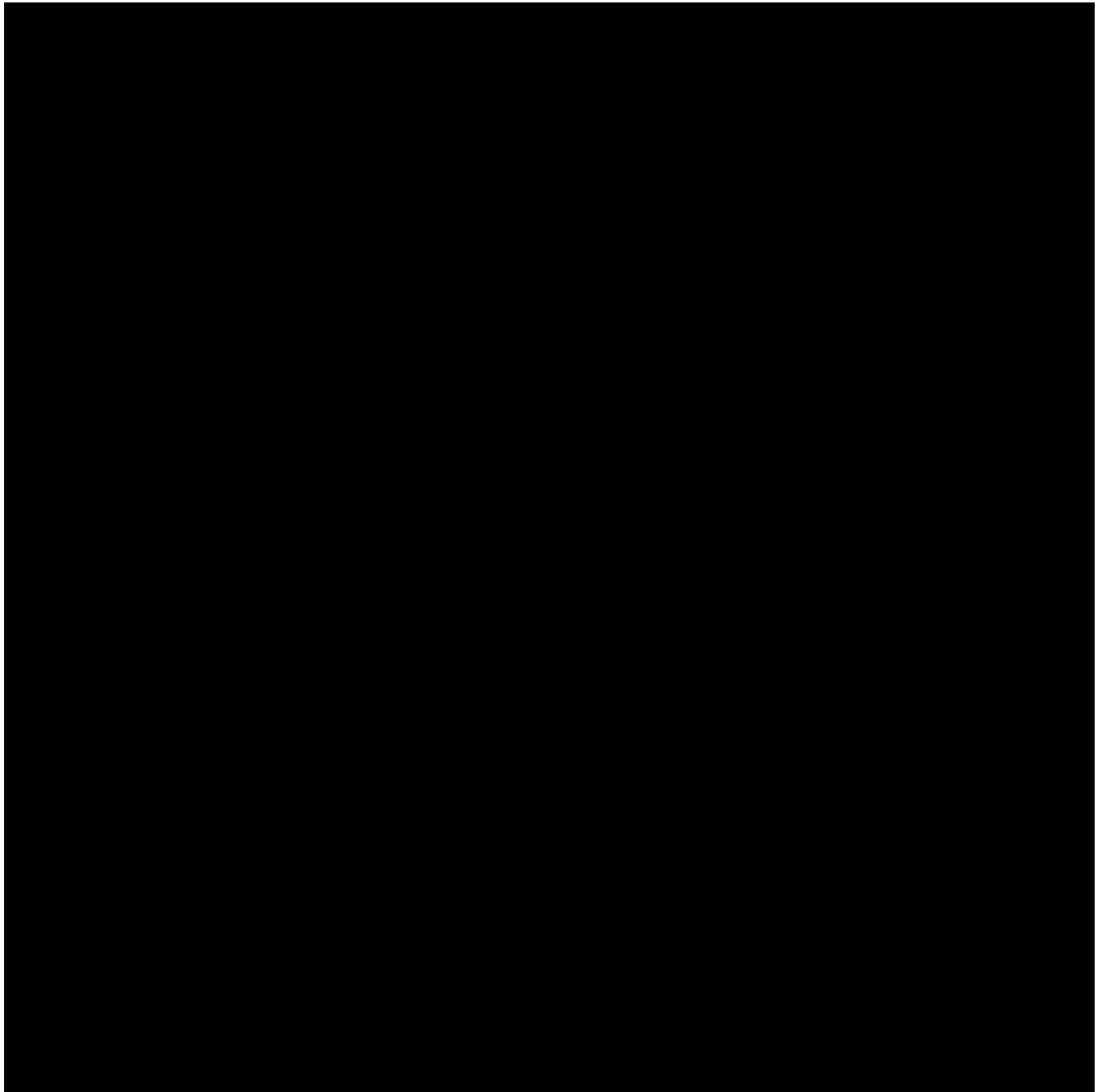


Figure 3: The distribution of authoritarian scores across selected subreddits. Subreddits are organized by group: (in order) control, drama, politics, and controversial. (N=221,380)

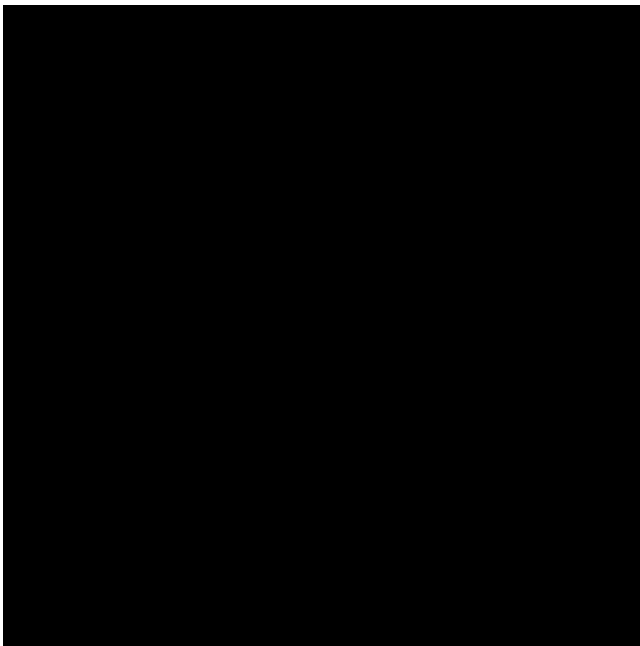


Figure 4: The mean authoritarian score of r/TheNewRight, r/The_Donald, and r/ChapoTrapHouse prior to their ban from Reddit, covering the period from 04/2019 to 04/2020. (N=28,160)

A User Metadata

| Month | Raw count | Filtered count |
|---------|-------------|----------------|
| 09/2025 | 364,400,451 | 18,329,833 |
| 08/2025 | 374,731,044 | 18,984,206 |
| 07/2025 | 377,926,771 | 19,457,589 |
| 06/2025 | 361,955,878 | 18,771,520 |
| 05/2025 | 365,727,232 | 19,378,542 |
| 04/2025 | 349,247,132 | 18,849,741 |
| 03/2025 | 365,416,129 | 19,439,652 |
| 02/2025 | 340,567,900 | 18,153,859 |
| 01/2025 | 371,887,689 | 20,005,184 |
| 12/2025 | 338,056,561 | 17,917,922 |
| 11/2024 | 339,726,491 | 18,128,014 |
| 10/2024 | 342,994,866 | 18,572,378 |
| 09/2024 | 328,811,163 | 17,899,637 |

Table 1: Processed Pushshift monthly dumps for the user category.

B Subreddit Metadata

| Category | Subreddit | Time span | Raw count | Filtered count | Sample size |
|---------------|------------------------|-----------------|-------------|----------------|-------------|
| Drama | r/iama | 01/2024–12/2024 | 26,418,432 | 3,498,061 | 12,000 |
| | r/aitah | 01/2024–12/2024 | 23,751,957 | 3,481,885 | 12,000 |
| | r/offmychest | 01/2024–12/2024 | 11,245,621 | 1,960,112 | 12,000 |
| | r/changemyview | 01/2024–12/2024 | 15,924,864 | 4,390,646 | 12,000 |
| | r/unpopularopinion | 01/2024–12/2024 | 49,914,916 | 4,626,244 | 12,000 |
| Politics | r/politics | 01/2024–12/2024 | 206,228,369 | 20,588,197 | 12,000 |
| | r/conservative | 01/2024–12/2024 | 20,126,511 | 1,329,385 | 12,000 |
| | r/democrats | 01/2024–12/2024 | 2,241,816 | 139,199 | 11,806 |
| | r/thenewright | 04/2019–04/2020 | 182,732 | 14,612 | 4,160 |
| | r/dsa | 01/2024–12/2024 | 99,283 | 7,930 | 1,414 |
| Controversial | r/the_donald | 04/2019–04/2020 | 53,111,792 | 3,512,943 | 12,000 |
| | r/chapotraphouse | 04/2019–04/2020 | 10,320,276 | 510,208 | 12,000 |
| | r/mgtow | 02/2020–01/2021 | 5,740,257 | 787,775 | 12,000 |
| | r/antiwork | 01/2024–12/2024 | 24,104,472 | 2,346,889 | 12,000 |
| | r/kotakuinaction | 01/2024–12/2024 | 8,627,189 | 1,372,307 | 12,000 |
| Control | r/mademesmile | 01/2024–12/2024 | 17,818,417 | 598,701 | 12,000 |
| | r/explainlikeimfive | 01/2024–12/2024 | 21,128,493 | 3,702,010 | 12,000 |
| | r/aww | 01/2024–12/2024 | 47,354,286 | 1,325,022 | 12,000 |
| | r/damnthatsinteresting | 01/2024–12/2024 | 25,960,408 | 960,695 | 12,000 |
| | r/hobbydrama | 01/2024–12/2024 | 729,125 | 104,058 | 12,000 |

Table 2: Processed Pushshift subreddit dumps for the subreddits category.