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MAT. 2080422

NETWORK SCIENCE

AFTER THE VOTE: MAPPING ONLINE TRANS DISCOURSE

BACK GROUND

Transgender people face stigma and discrimination, leading to **minority stress**: a chronic strain linked to negative mental and physical health outcomes (Hunter et al., 2021). It is realistic to think this stress can be intensified by **political attacks on trans rights**, especially efforts to restrict access to gender-affirming care and fuel the **demonization of trans people**. Donald Trump's 2024 **Agenda 47 campaign** included several such proposals, framing them as protection from so-called "gender insanity" ([President Trump's Plan to Protect Children From Left-Wing Gender Insanity | Donald J. Trump for President 2024](#)).

President Trump's Plan to Protect Children from Left-Wing Gender Insanity

February 01, 2023



Today, President Donald J. Trump announced his plan to stop the chemical, physical, and emotional mutilation of our youth because no serious country should be telling its children that they were born with the wrong gender.

1. **Revoke Joe Biden's** **cruel policies on so-called "gender affirming care"**—a process that includes giving kids puberty blockers, mutating their physical appearance, and ultimately performing surgery on minor children.
 2. Sign a new executive order instructing every federal agency to **cease all programs that promote the concept of sex and gender transition** at any age.
 3. Ask Congress to **permanently stop** federal taxpayer dollars from being used to promote or pay for these procedures.
 4. **Pass a law prohibiting child sexual mutilation** in all 50 states.
 5. Declare that any hospital or healthcare provider participating in the chemical or physical mutilation of minor youth **will no longer meet federal health and safety standards for Medicaid and Medicare**—and **will be terminated** from the program.
 6. Support the creation of a **private right of action for victims to sue doctors** who have unforgivably performed these procedures on minor children.
 7. Direct the Department of Justice to **investigate Big Pharma and the big hospital networks** to determine whether they have:
Deliberately covered up horrific long-term side-effects of "sex transitions" to get rich at the expense of vulnerable patients.
Illegally marketed hormones and puberty blockers, which are in no way licensed or approved for this use.
 8. Direct the **Department of Education** to inform states and school districts that if any teacher or school official suggests to a child that they could be **trapped in the wrong body**, they will be faced with **severe consequences**, including, **potential Civil Rights violations** for sex discrimination, and the **elimination of federal funding**.
 9. As part of our new credentialing body for teachers, we will **promote positive education** about the nuclear family, the roles of mothers and fathers, and celebrating rather than erasing the things that make men and women different and unique.
- Ask Congress to pass a bill** establishing that:
- The only genders recognized by the U.S. government are **male and female**—and **they are assigned at birth**.
- Title IX prohibits men from participating in women's sports.
- Protects the rights of parents from being forced to allow their minor child to assume a new gender identity without the parents' consent.

GOAL

Capture a snapshot of online discourse within trans-oriented communities in the months following Trump's re-election.

OBJECTIVES

1

Cluster online posts into topics in order to understand what people are discussing within the broader transgender discourse.

2

Perform sentiment analysis on each topic to get an overview of the emotional tone and affect expressed across discussions.

PROCESS

PHASE 1

Collected top posts and comments from trans subreddits (Dec 6, 2024 – May 17, 2025) via **Reddit's API**. Deep cleaned and POS-tagged the documents. Constructed an **undirected weighted graph** from the giant component of the thresholded **document-projected** network. Applied the Network Community Profile (**NCP**) to determine the pruning percentile for thresholding the larger network (99%).

PHASE 2

Ran **four topic modeling methods** (BERTopic, BERTopic w/ outlier reduction, Louvain, Leiden). Evaluated performance using **Modularity, Ncut, and NMI**. Selected the best model and performed GPT-aided **topic interpretation**.

PHASE 3

Applied **LIWC-22** (categories: tone_pos, tone_neg, emo_pos, emo_neg, politic, health, mental) and **BERTAgent** (BATot). Created composite scores:
Tone = tone_pos – tone_neg;
Emotion = emo_pos – emo_neg.
Added the six resulting attributes to topic nodes, and built a **topic-level graph** from the output.

PHASE 4

Visualized the network in Gephi + Python (node size = PageRank score).

PHASE 1

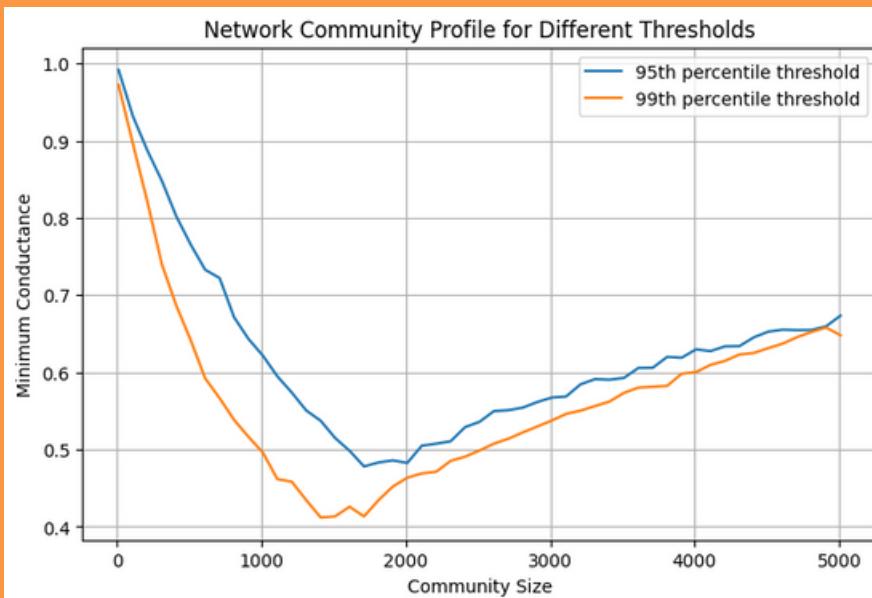
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START

r/trans
r/transgender
r/asktransgender

256 posts
18085 comments
=
18341 documents
6247 words

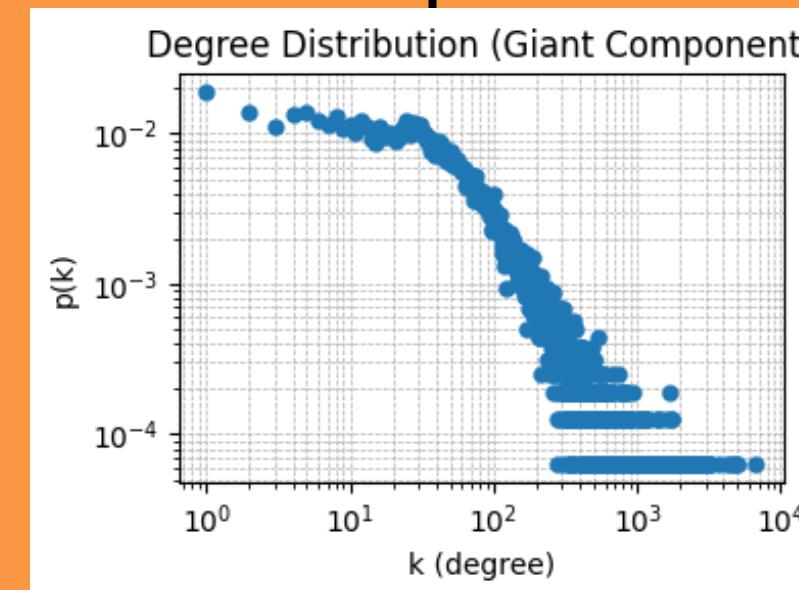
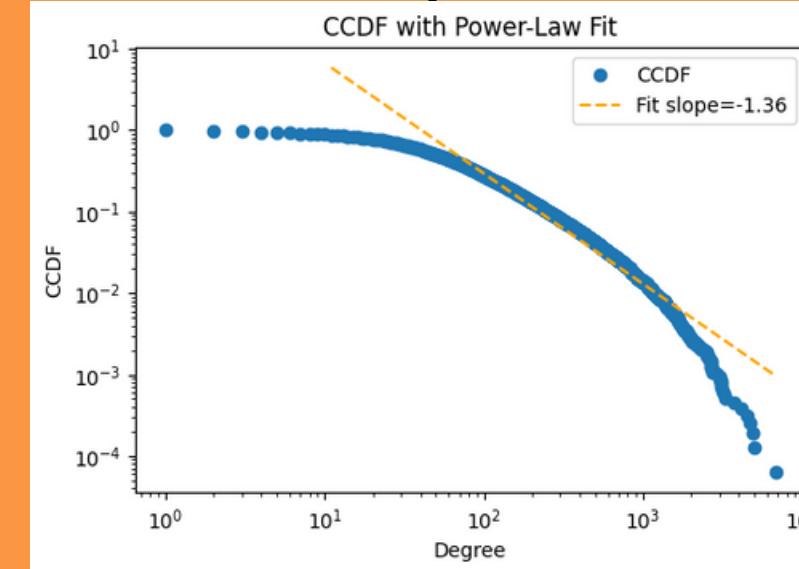
BUILD DOCUMENT-PROJECTED NETWORK



EXTRACT GIANT COMPONENT

15819 nodes
924976 edges
 $\gamma = 2.36$

--- Giant Component of Document-Projected Network ---
Size of the giant component: 15819
Average degree: 116.94
Median degree: 50.00
Density: 0.00739
Diameter: 6.00
Average path length: 2.51146



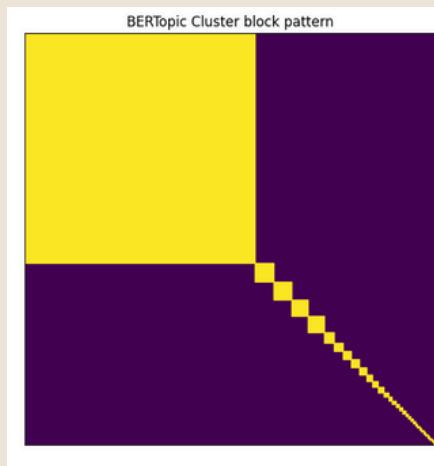
DOCUMENT-LEVEL GRAPH

PHASE 2

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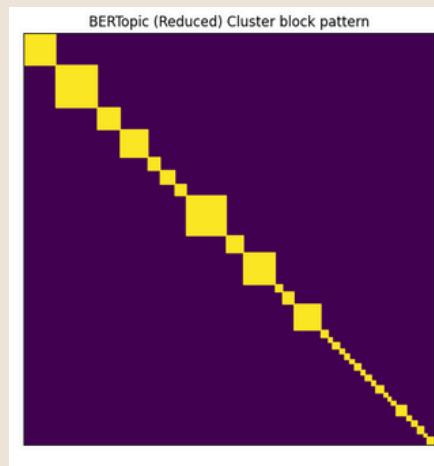
BERTOPIC

33 topics
8835 outlier docs



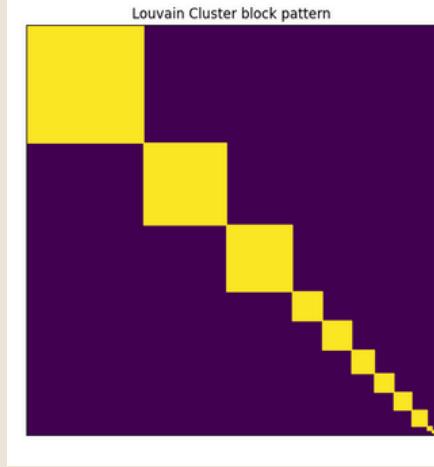
BERTOPIC -REDUCED

33 topics
12 outlier docs



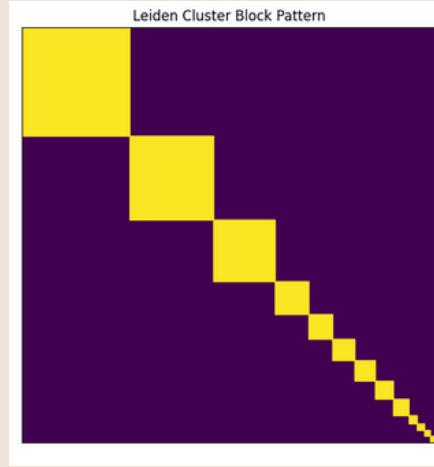
LOUVAIN

11 topics
2 outlier groups

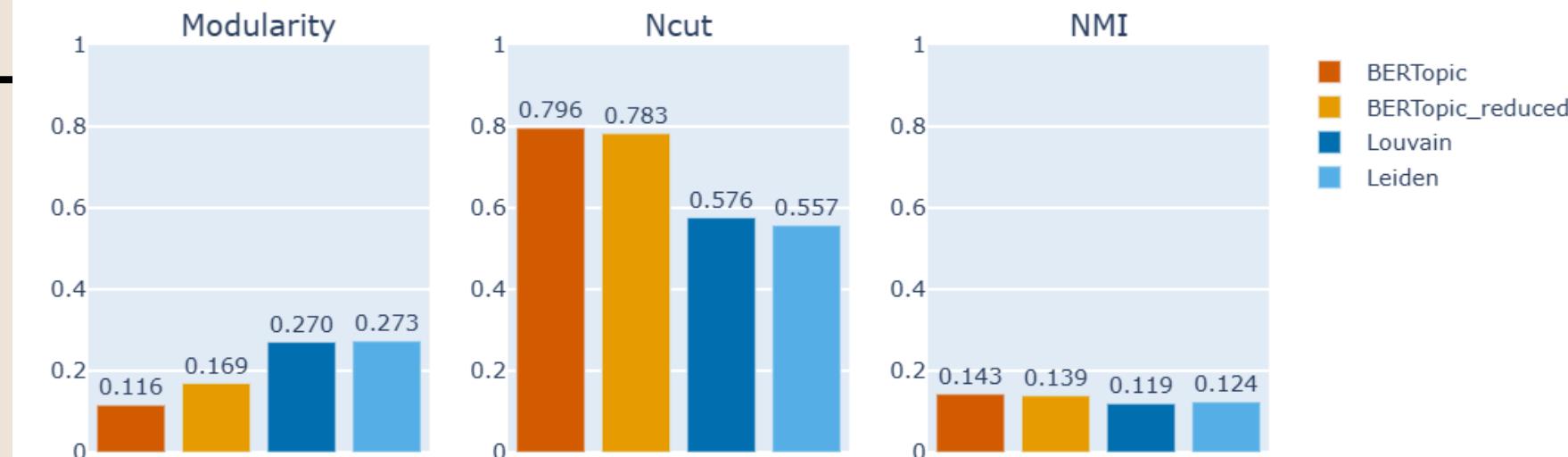


LEIDEN

13 topics
3 outlier groups



Model Scores per Metric



Topic 0: Erosion of Trans Rights in the U.S.
Topic 1: Daily Challenges for Trans People
Topic 2: Comprehensive Care for Trans Youth
Topic 3: Christianity and Trans Identity Conflict
Topic 4: HRT Physiological and Anatomical Changes
Topic 5: Cultural Sensitivity in Name Choice
Topic 6: Hypersexualization of Trans People
Topic 7: Legal Document Changes
Topic 8: LGBTQ+ Representation and Controversies in Media
Topic 9: Gender-Neutrality of Language
Topic 10: Trans Resources and Legal Context
Topic 11: Sex and Gender in Nature vs. Norms
Topic 12: Misrepresentation of School Shooter Narratives
Topic 13: Outliers 1
Topic 14: Outliers 2
Topic 15: Outliers 3

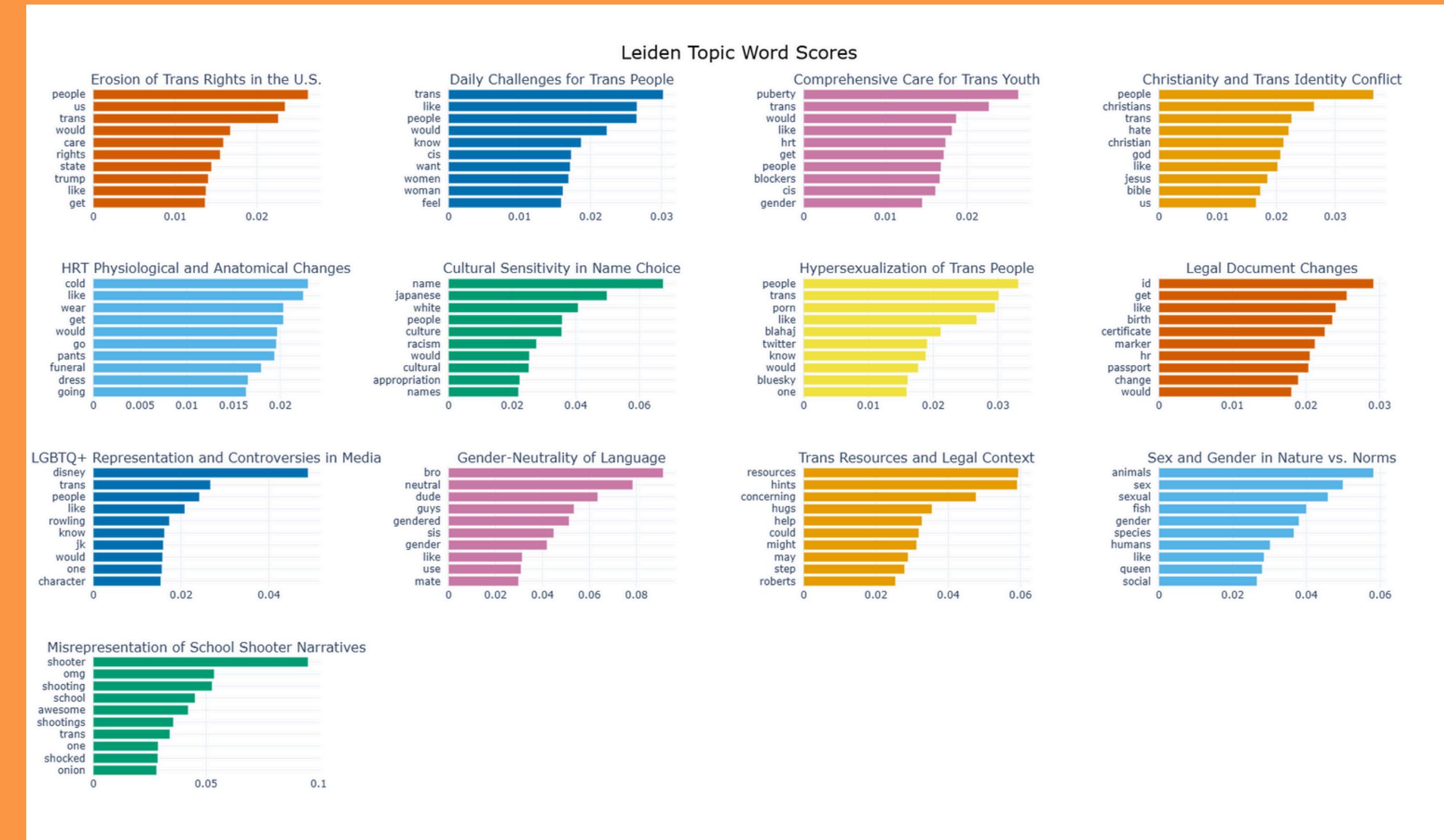
4120 documents
3194 documents
2358 documents
1263 documents
928 documents
840 documents
784 documents
676 documents
615 documents
315 documents
264 documents
230 documents
201 documents
22 documents
5 documents
4 documents

TOPIC DETECTION

PHASE 2

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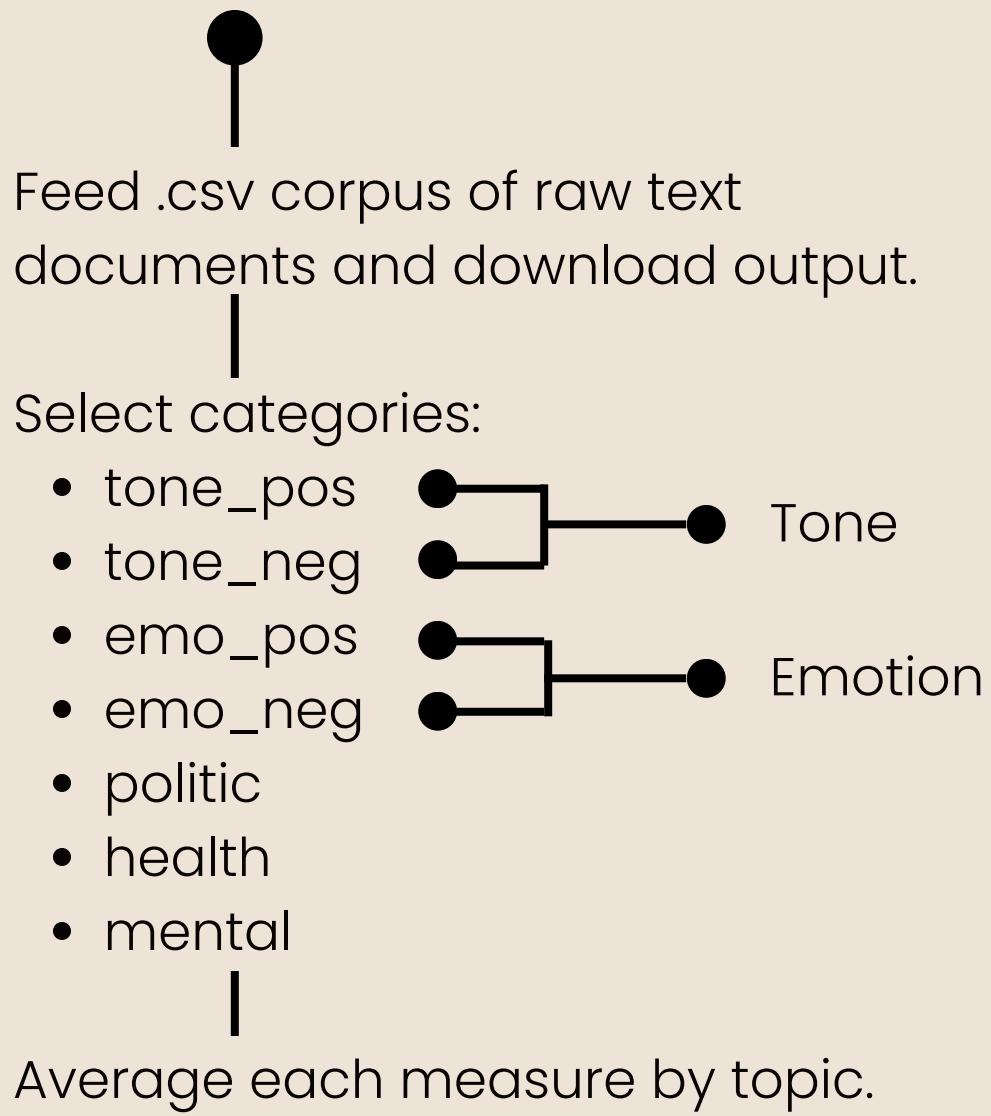
BAR CHART



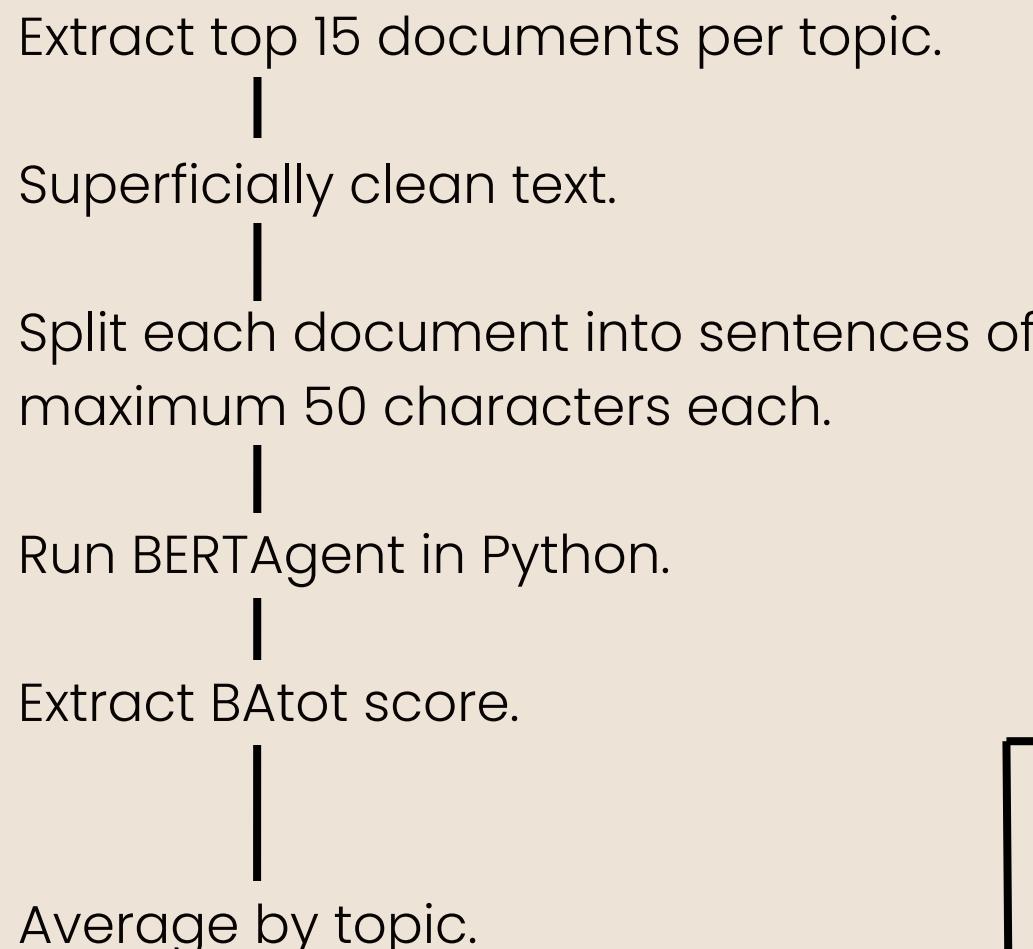
PHASE 3

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LIWC-22



BERTAGENT



SENTIMENT ANALYSIS

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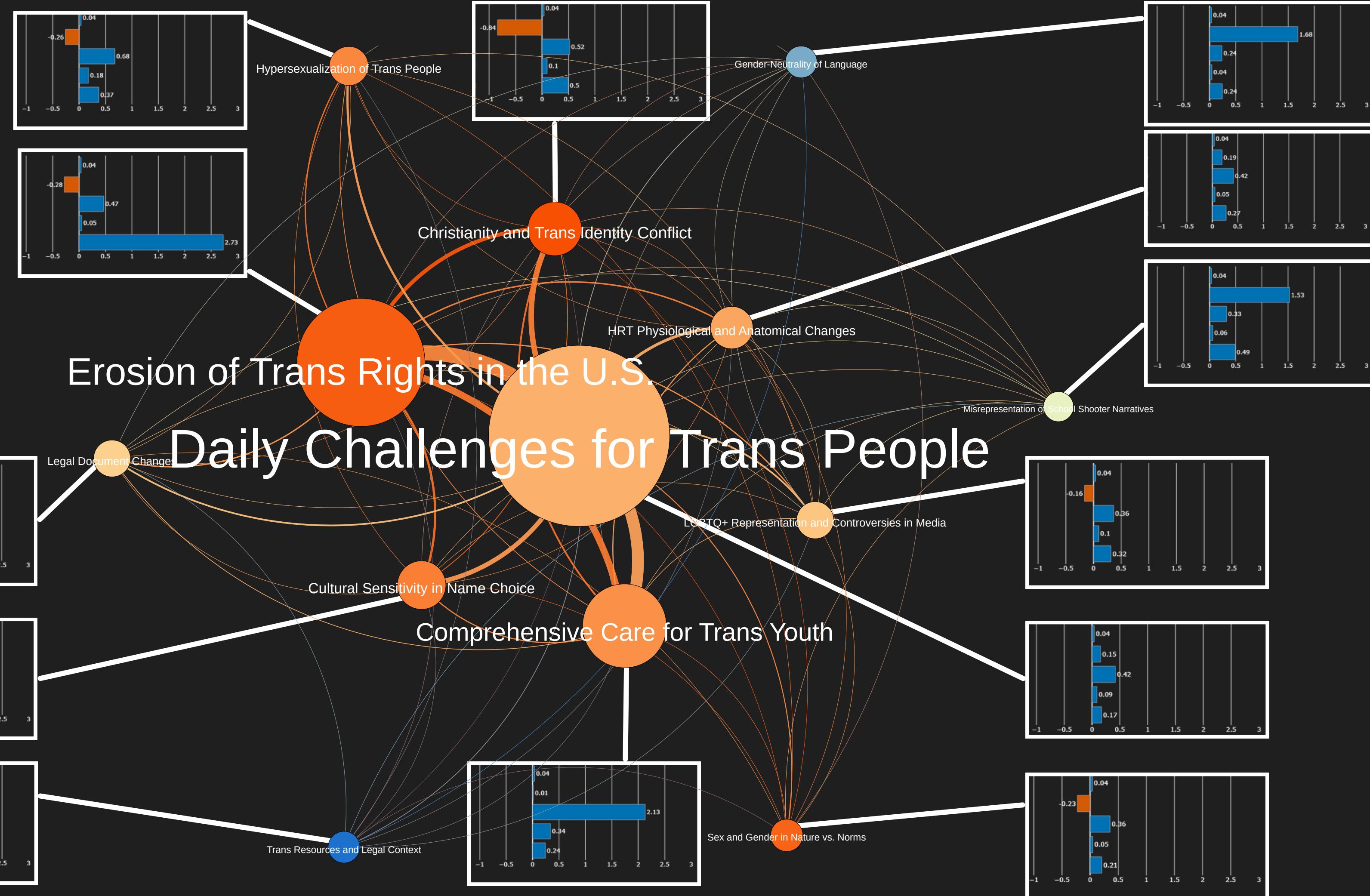
PHASE 4

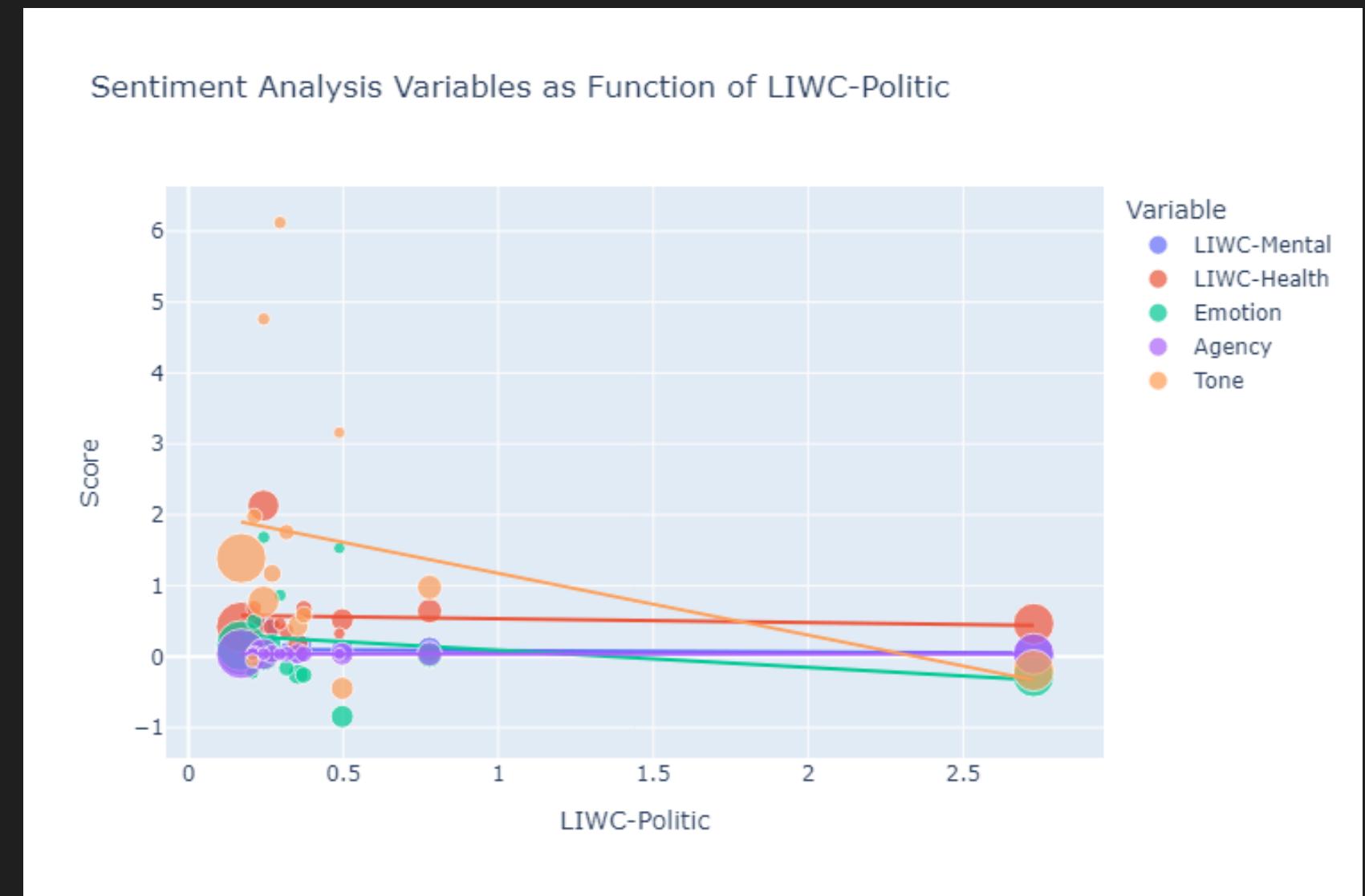
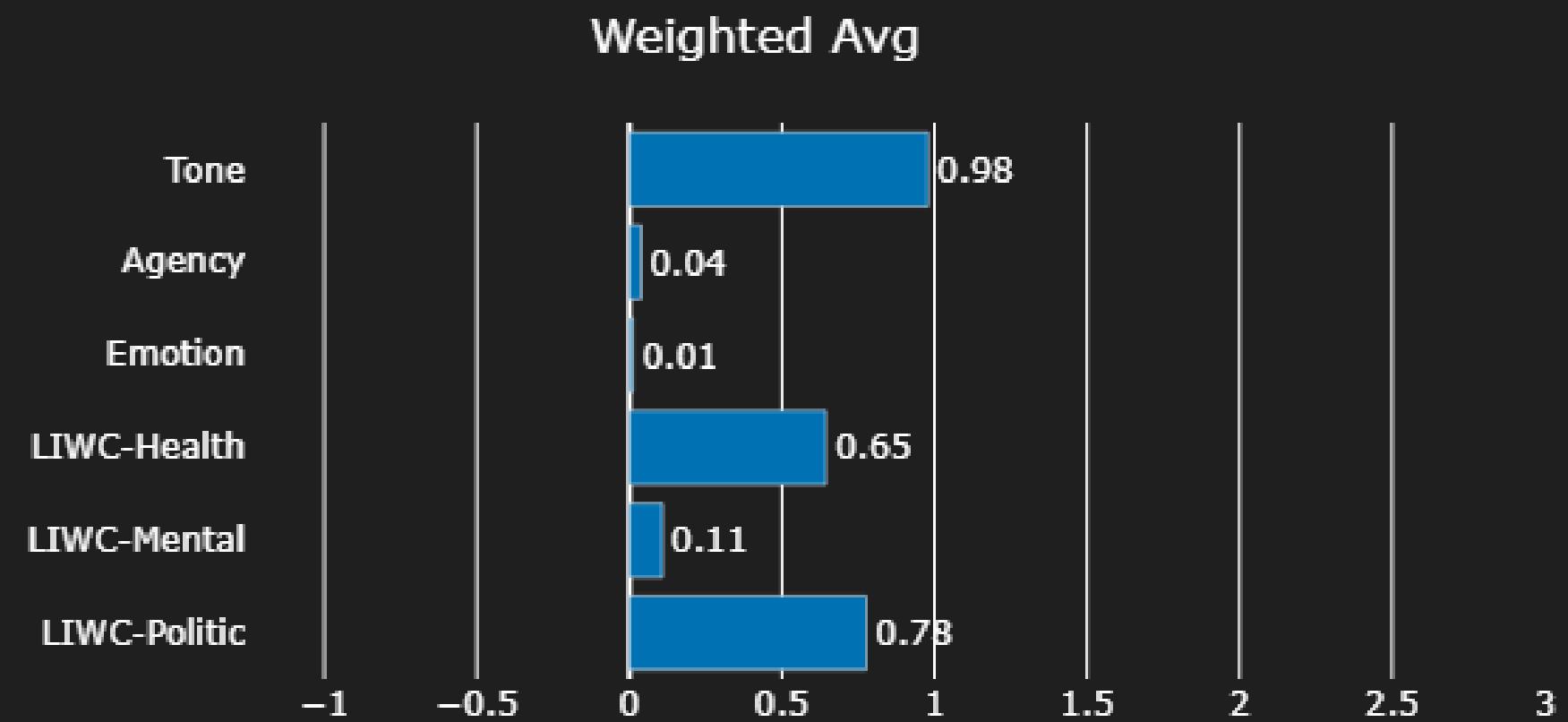
Erosion of Trans Rights in the U.S. Daily Challenges for Trans People



Top to bottom
of each barplot:

- Agency
- Emotion
- LIWC-Health
- LIWC-Mental
- LIWC-Politic







MAIN RESULTS

- **Most central theme:** *Daily Challenges for Trans People*
- **Key concerns** echo Agenda 47 priorities:
 - *Erosion of Trans Rights in the U.S.*
 - *Comprehensive Care for Trans Youth* (notably included more discussion of physical and mental health)
- **Supportive** discourse found in:
 - *Trans Resources and Legal Context*
 - *Gender-Neutrality of Language*
- **Tone analysis:**
 - Overall tone leaned slightly positive, with negativity increased in politically charged discussions
 - Affect and perceived agency stayed mostly neutral



MAIN LIMITATIONS

- **Overlapping communities:** These could be more effectively analyzed using detection methods specifically designed for overlapping structures, as standard techniques might miss important connections.
- **LIWC-22:** The tool can have difficulty picking up on sarcasm or other subtle language cues, which might lead to skewed interpretations.
- **BERTAgent:** It can be challenging to preprocess longer documents for this model, which may affect the reliability of the results.

THANK
YOU

Q/A

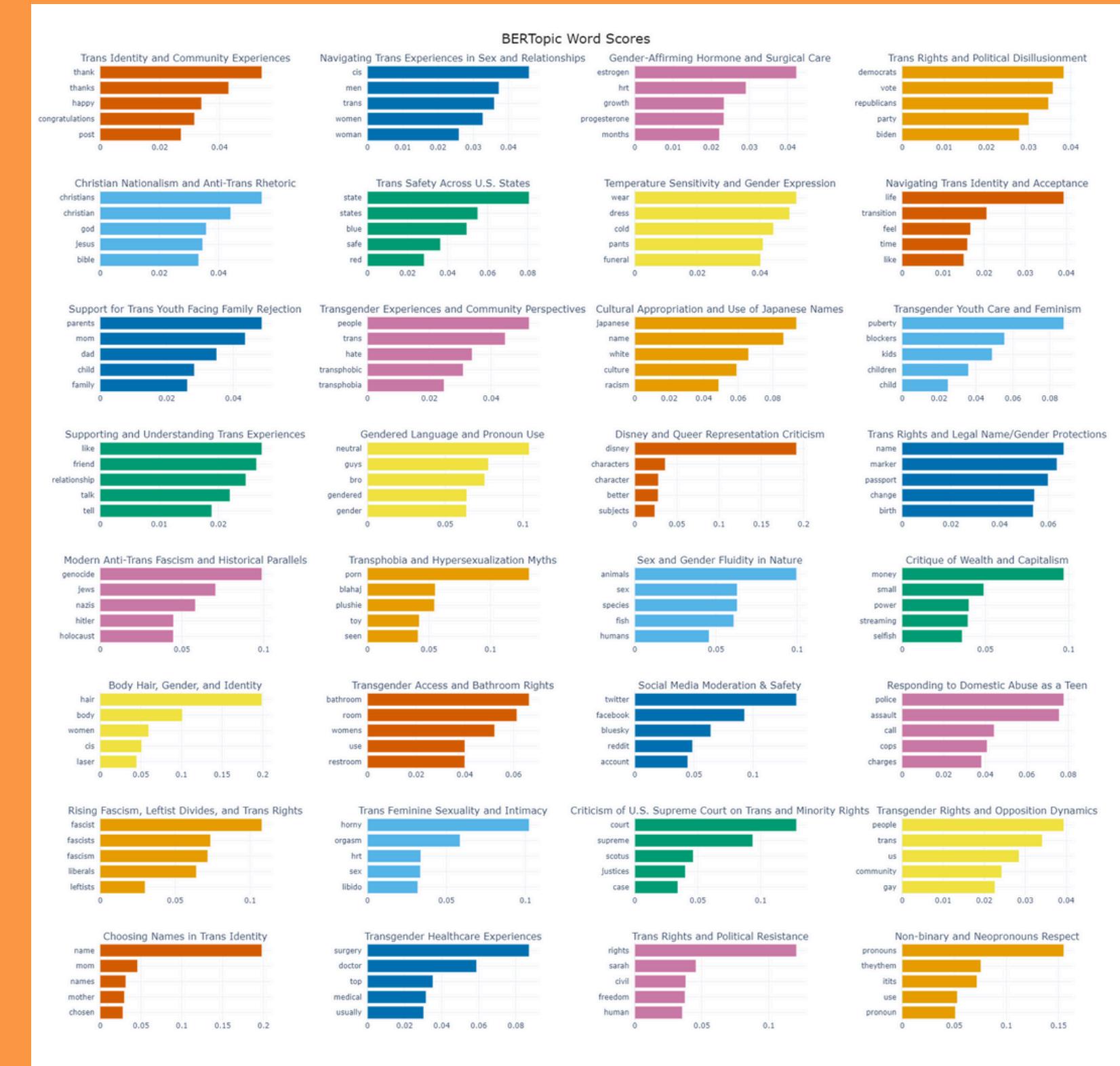
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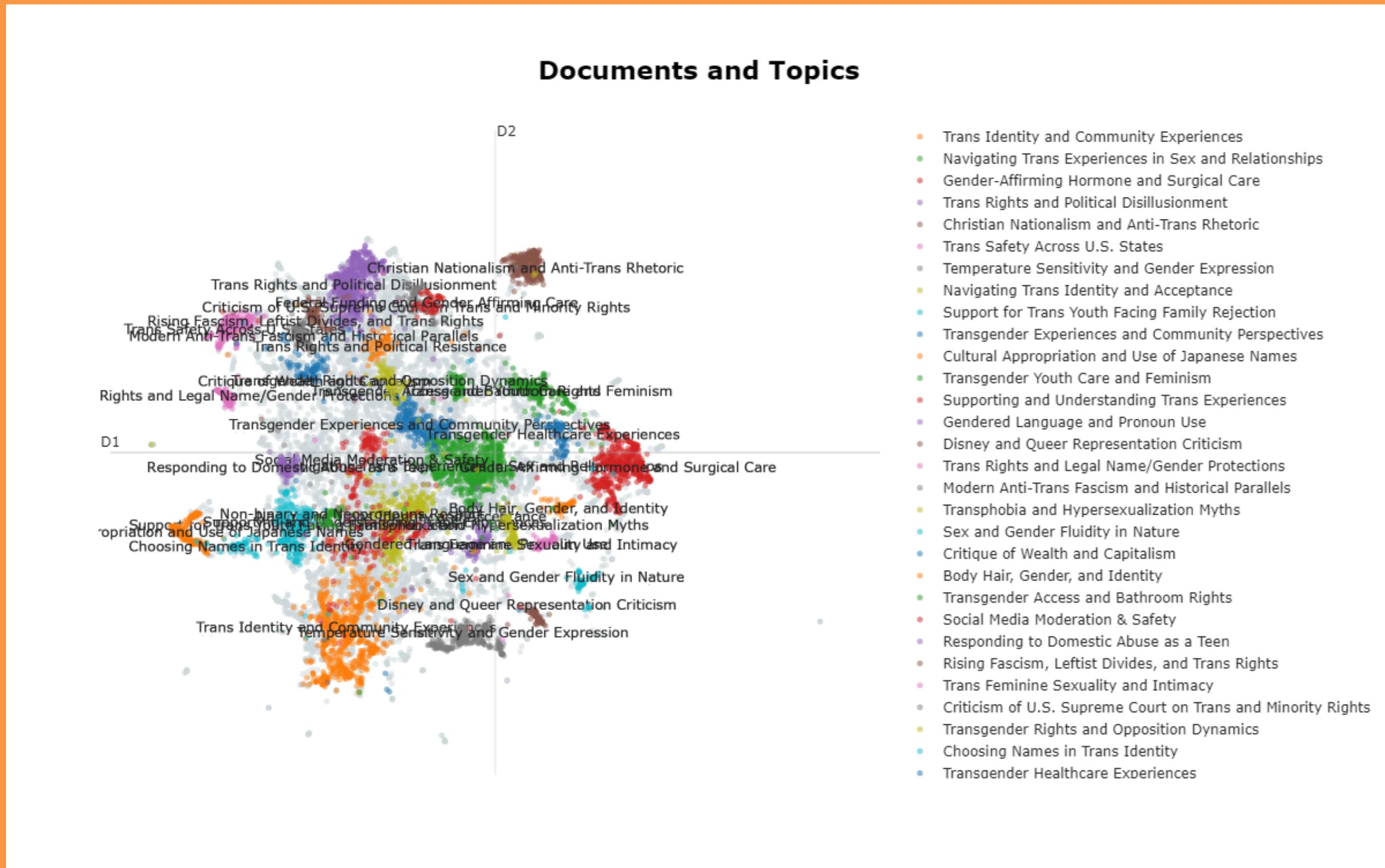
SUPPLEMENTARY MATERIAL

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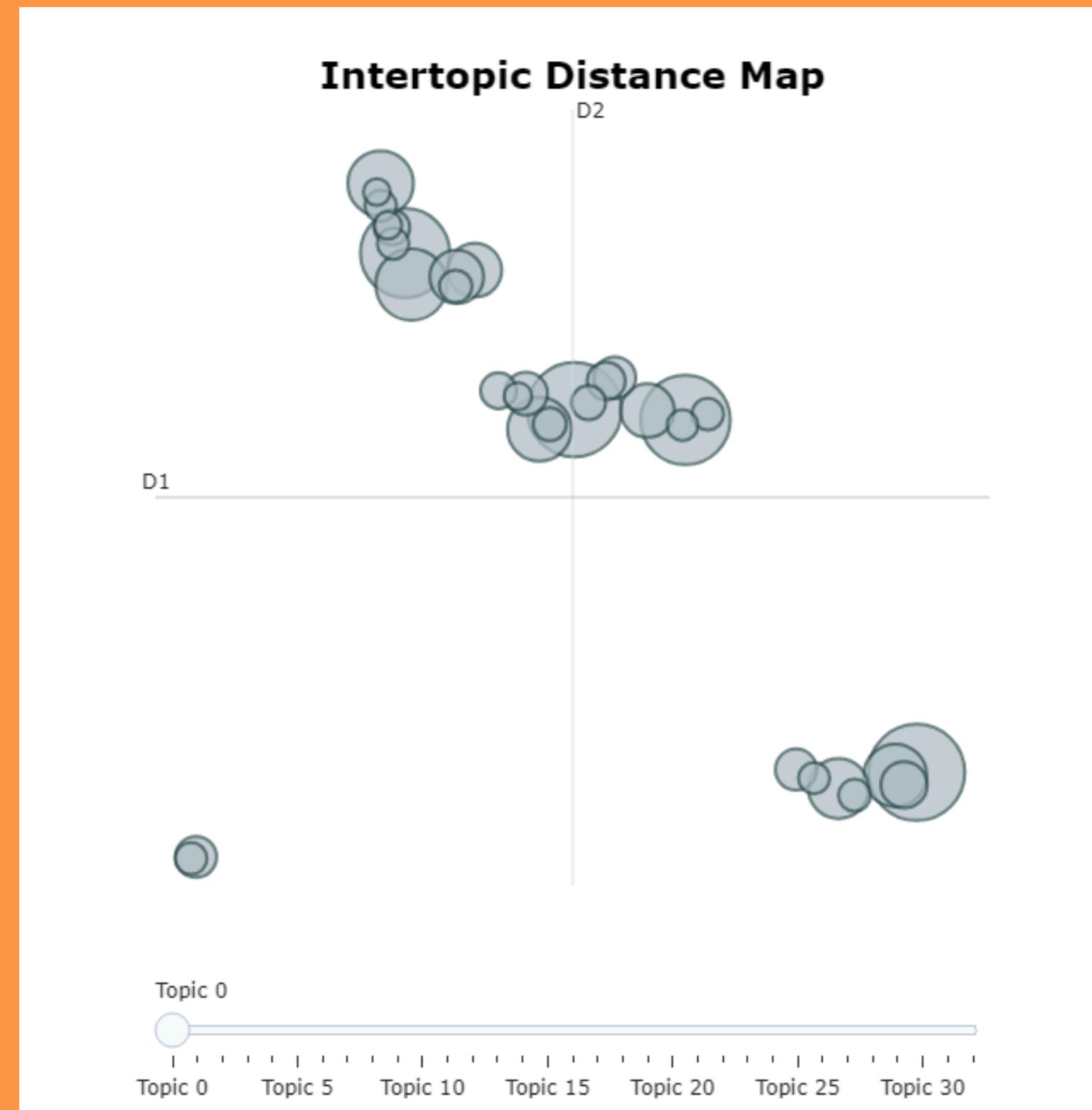
BERTOPIC

BAR CHART





TOPIC DISTANCE MAP



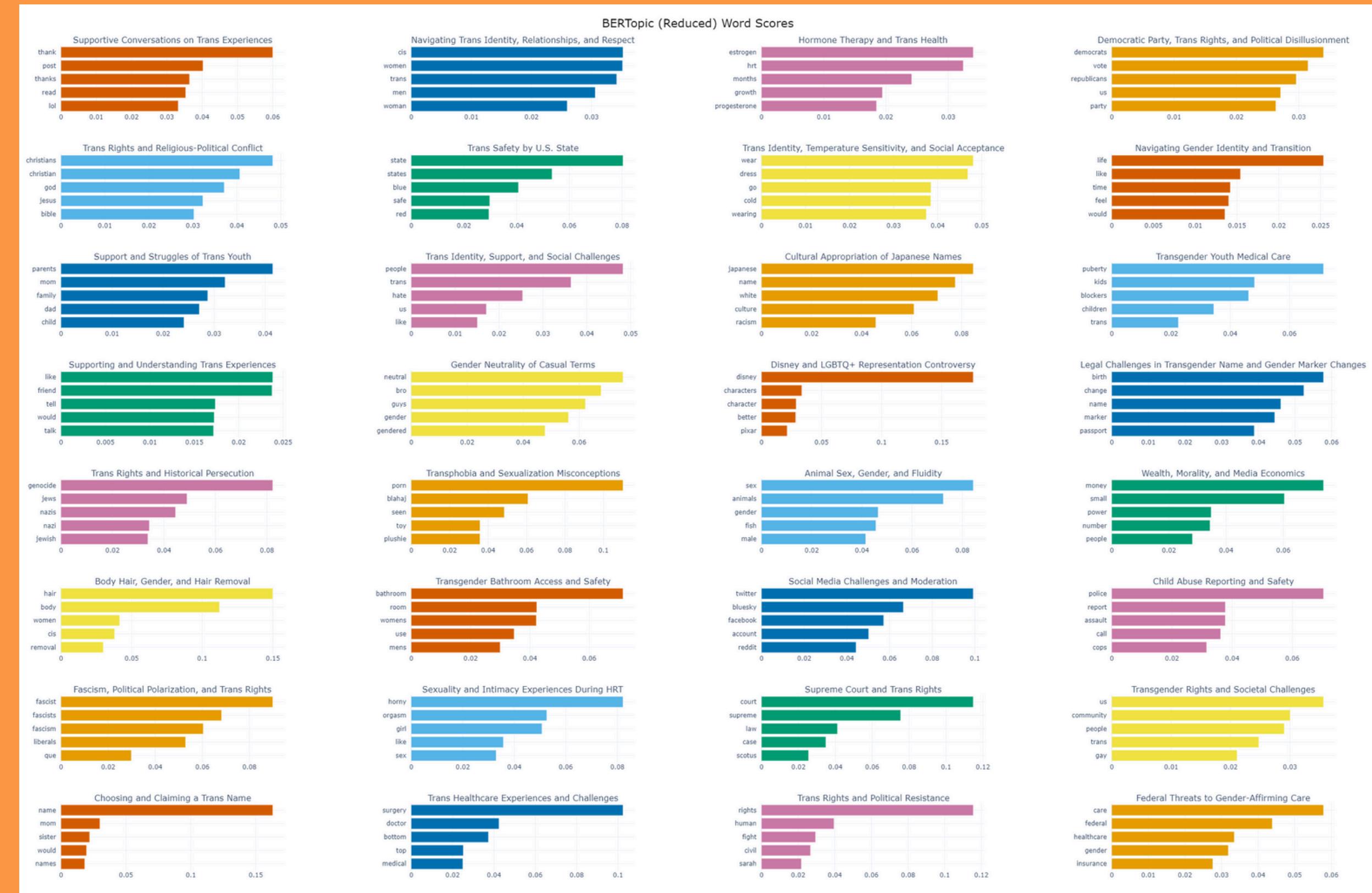
AFTER THE VOTE: MAPPING
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BERTOPIC -REDUCED

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BAR CHART

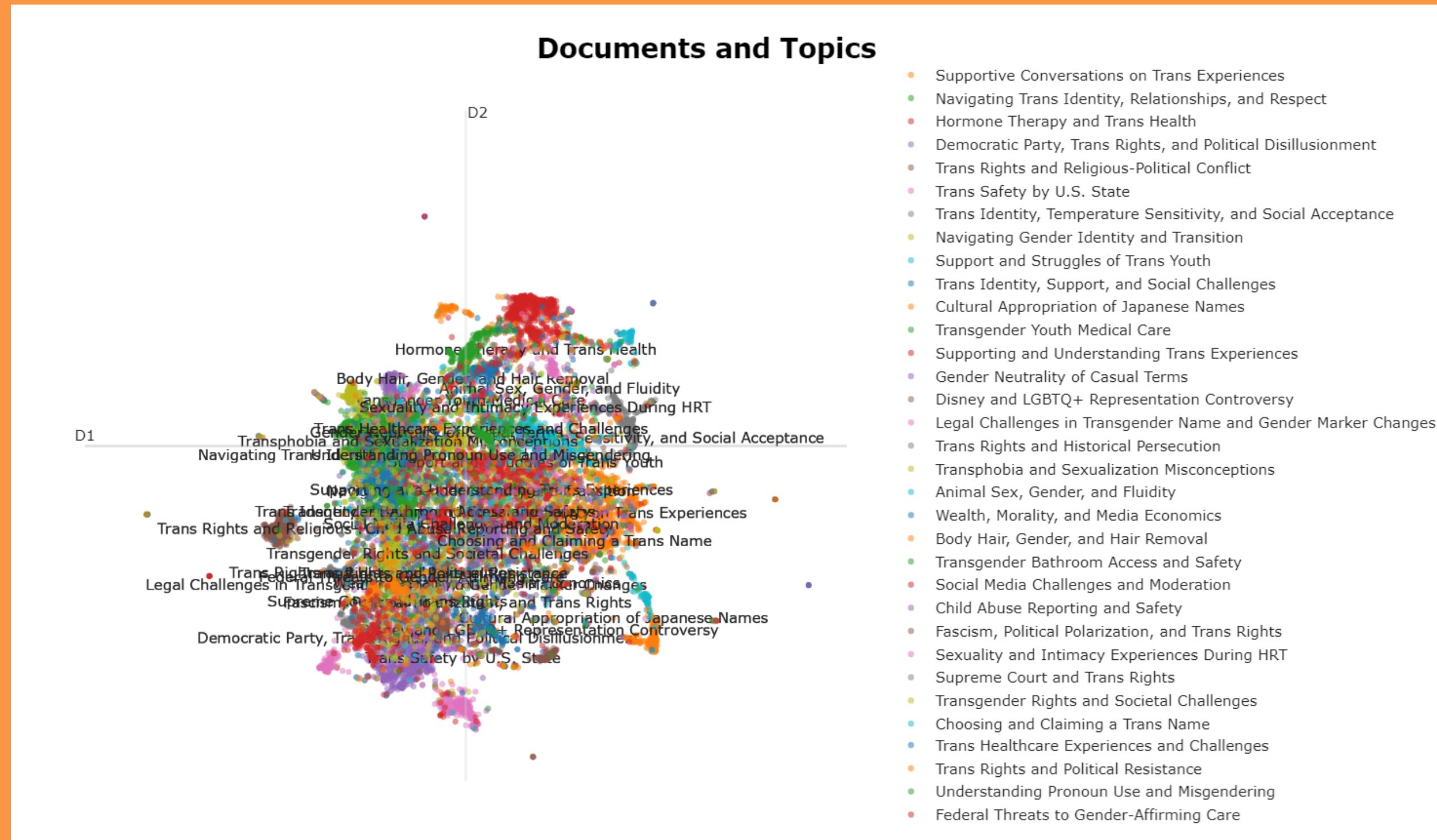
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TOPIC NETWO RK

BERTOPIC
-REDUCED

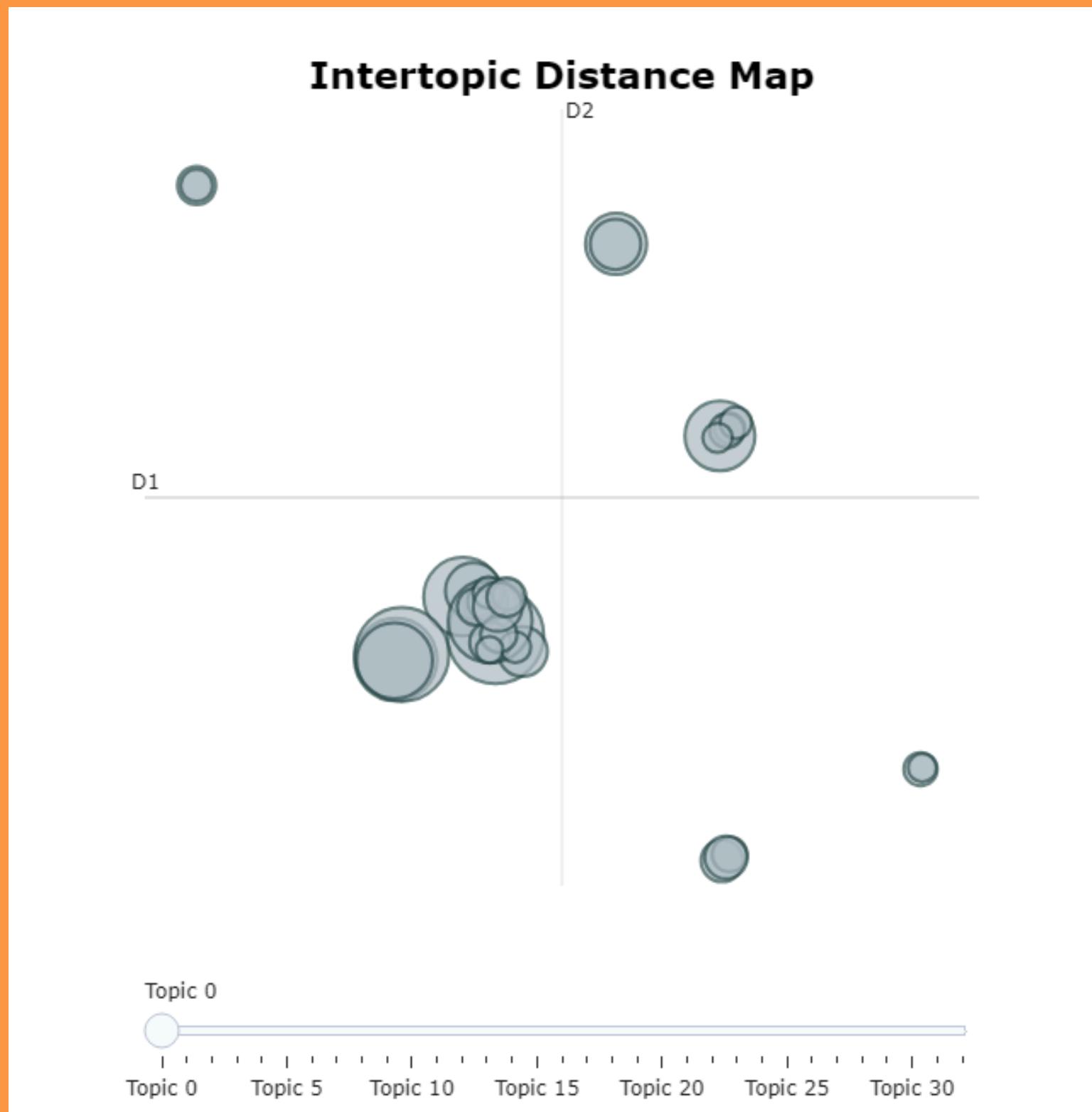
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TOPIC DISTANCE MAP

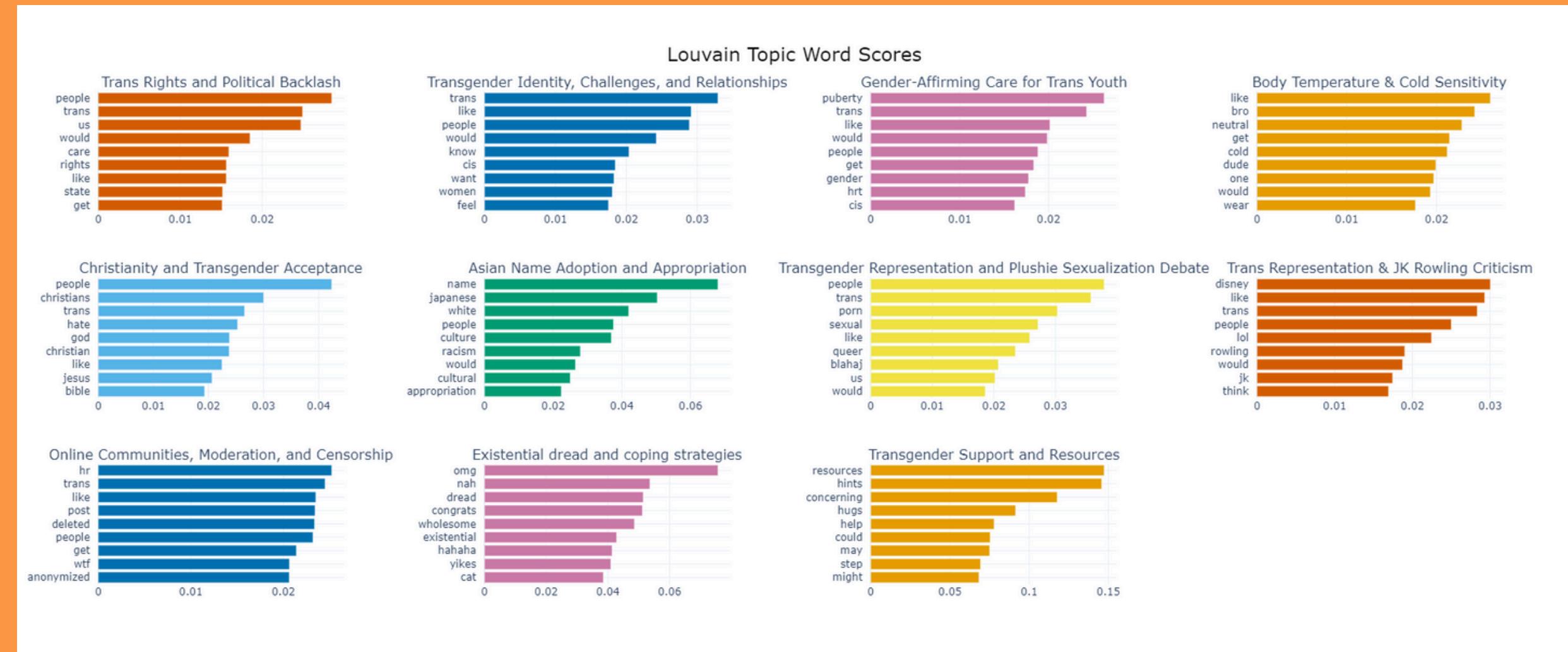
BERTOPIC
-REDUCED

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ONLINE TRANS DISCOURSE



AFTER THE VOTE: MAPPING
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LOUVAIN



BAR CHART