Whose Bark is Louder?

Analysis of Bias and Sentiment in Media Representation of Delhi's Dog Regulation Ruling

Group - 4

The Conflict: The Supreme Court's August 2025 order on stray dog removal sparked intense conflict, pitting **public safety** against **animal compassion**.

Our Goal: Analyze media bias and sentiment to understand public perception across platforms.

Core Questions

Sentiment Polarization

Is the debate polarized, and what is the dominant sentiment on each platform?

Dominant Narratives

Which frames ("menace" vs. "victims") and voices prevail in the discourse?

Literature Review & Research Contribution
Foundational Studies

| Title	Year	Methodology	Author
The application of a sentiment analysis approach to animal welfare	2023	Sentiment analysis on images and public perceptions	N. Mahon et al.
Combining sentiment analysis and text mining with content analysis of farm vet interviews	2024	Sentiment analysis + text mining + qualitative interviews	A.J. Duncan et al.
Pork production on YouTube: frame and sentiment analysis	2025	Frame/sentiment analysis of YouTube content	Anu Karki
Social Media Contexts Moderate Perceptions of Animals	2020	Experimental social media context manipulation	E. Riddle et al.
Documenting Online and Social Media Discussions of Animal Welfare	2025	Social media listening, net sentiment measurement	Z.T. Neuhofer et al. (Purdue)
Effectiveness of Media Self-Regulation in India: A Critical Analysis	2023	Legal framework critique, regulatory body review	Ashok Kumar Rai, Swatantra Kumar
Media Bias and Democracy in India	2022	Media outlet bias analysis, viewership correlation	Janani Mohan
Animal Welfare Frames: How Social Media Messages Bridge ...	2017	Content analysis of corporate/NGO public info	O. Norton
AN ANALYSIS OF BIAS IN INDIAN MEDIA	2021	Survey and content analysis of Indian news reporting bias	S. Tyagi

Methodology & Data Corpus

37K+

Total Comments

Analyzed across platforms

20,606

YouTube

Comments collected

16,366

Reddit

Comments collected

Analytical Pipeline

01

Preprocessing

Converted **Emojis to Text** to preserve emotional value, and removed noise.

02

Layer 1: Fine-Grained Emotion

Used j-hartmann/emotion-english-distilroberta-base to detect 6 core emotions.

03

Layer 2: Contextual Topic Modeling

Applied **BERTopic** (with all-MiniLM-L6-v2 embeddings) for narrative identification.

04

Layer 3: Stance Validation

SVM model achieved 96.97% accuracy on stance detection, outperforming LSTM, validating the approach.
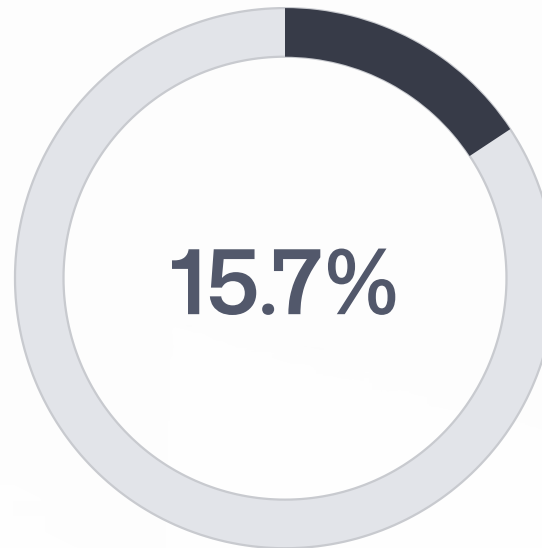
Model Accuracy Comparison
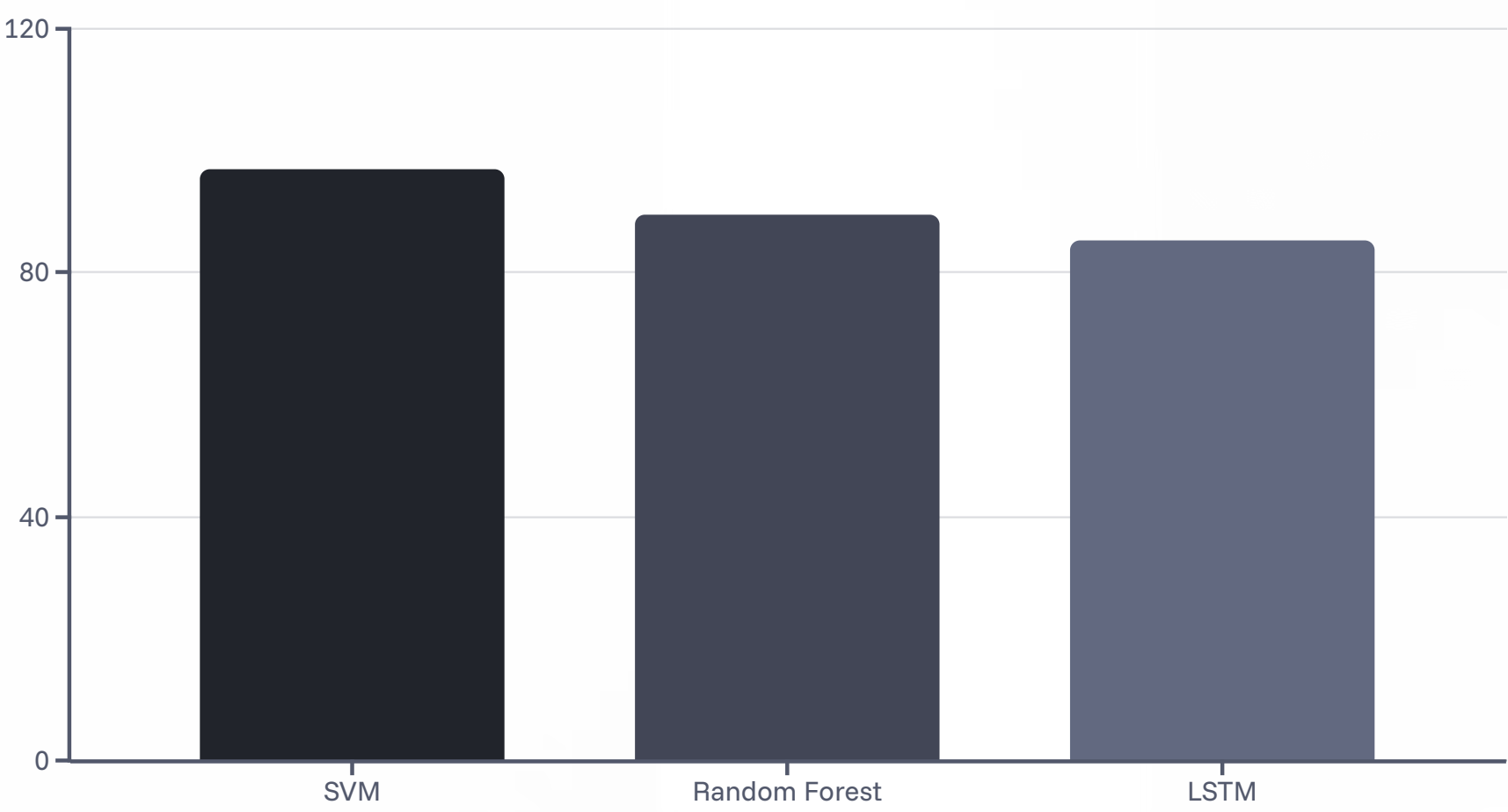
Results: Sentiment Polarization (YouTube)

Negative Sentiment Dominates (RQ1)
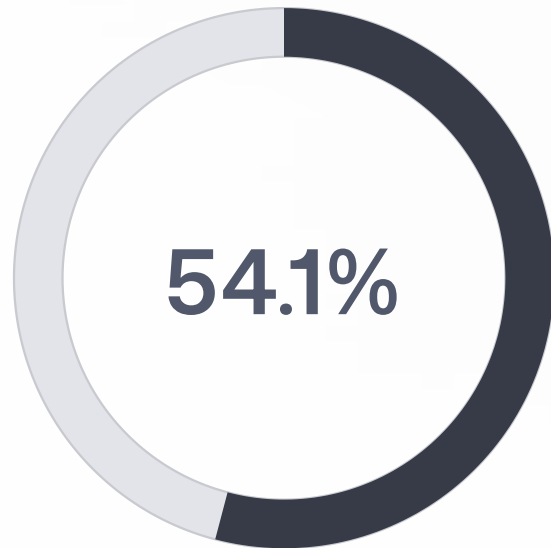
54.1%	15.7%	20,606
Negative Comments	**Positive Comments**	**Total Sample**
Dominant sentiment	Minority voice	YouTube comments

Narrative Framing (Negative Comments)

The opposition is framed as an urgent safety crisis.

Core Terms

stray, *kill*, *problem*, *government*, *animal*, *street*, *human*.

Interpretation

Discourse is centralized, emotion-driven, and centers on stray dogs as a "menace" requiring immediate state action (kill, problem).

Results: Sentiment Polarization (Reddit)

Complex, Polarized Battleground (RQ1)

Discourse shows a clear lack of middle ground (n=16,366).

Stance Distribution

- **Critical / Dissenting:** Largest group at **34.6%** (Core opposition).

- **Personal Anecdote / Experience: 22.7%** (The key rhetorical strategy used by all sides).

- **Supportive / Affirming:** Significant counter-force at **21.6%**.

- **Inquisitive / Questioning:** Very low at **4.8%**.
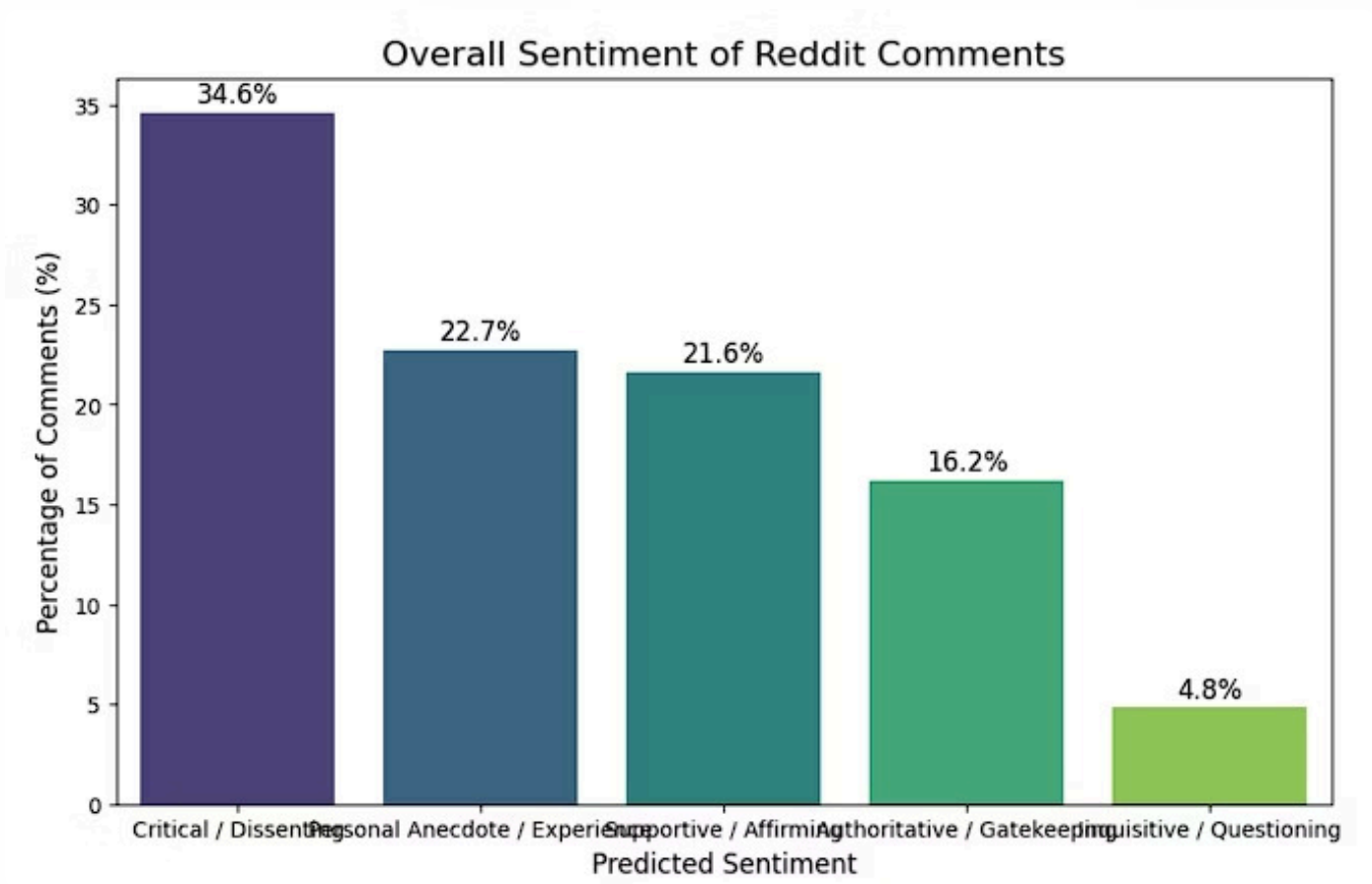
Results: The Power of Narratives & Emotion
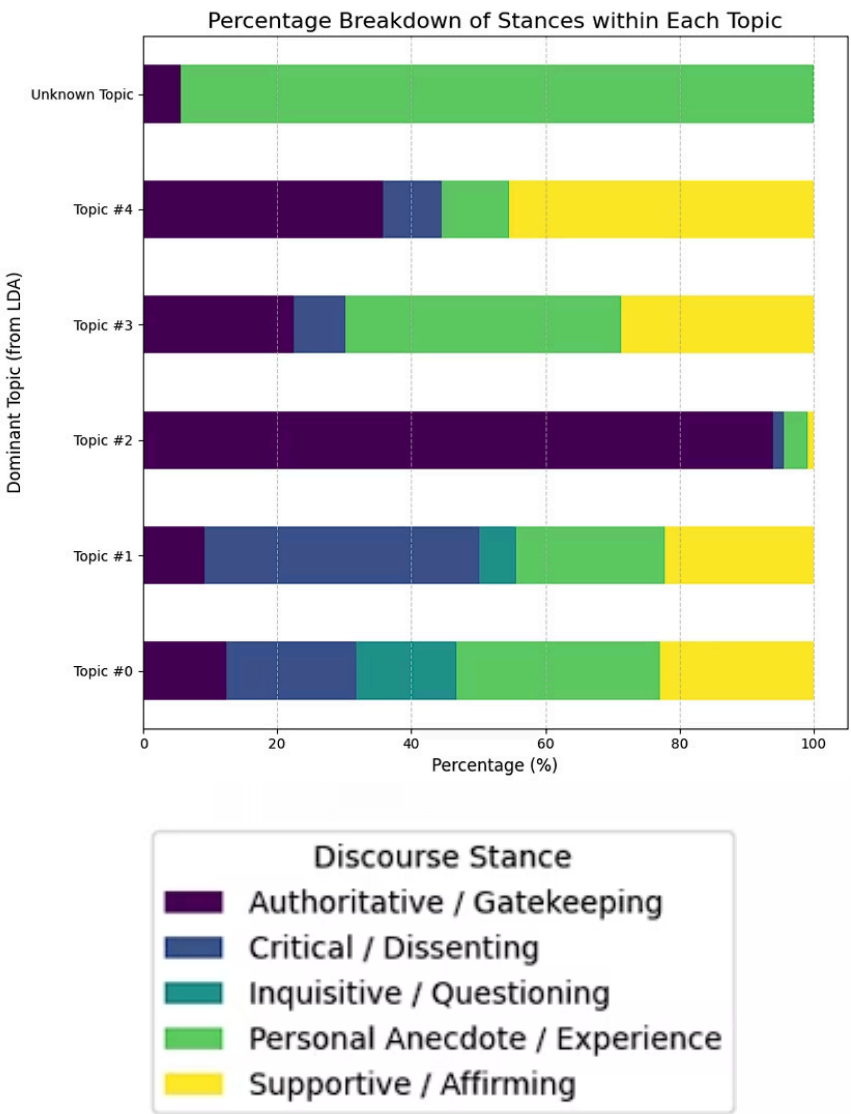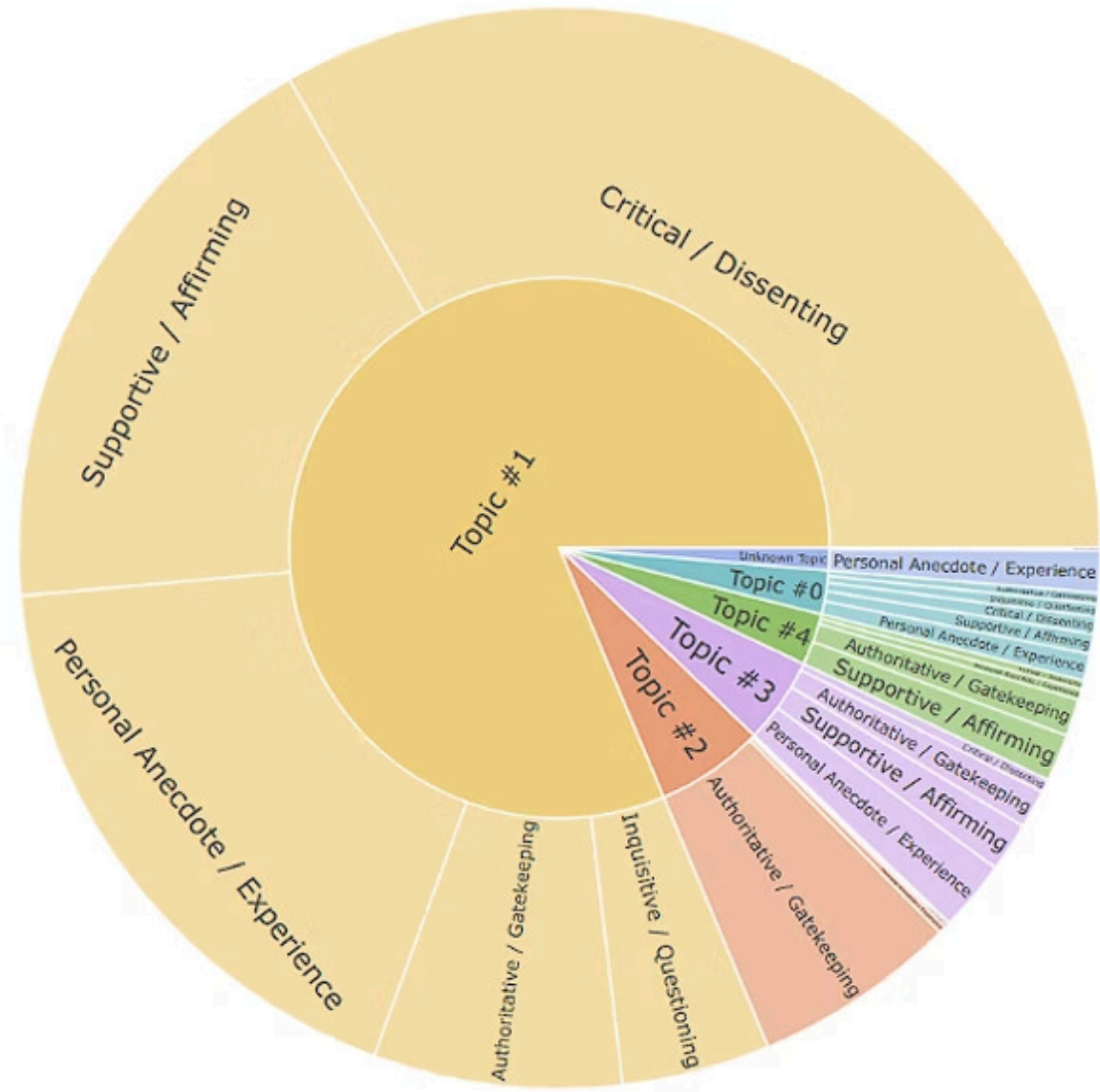## Narratives are Emotional, not just Rational (RQ3)

Dominant Rhetoric (Reddit)

The prevalence of **Personal Anecdote / Experience (22.7%)** fuels the debate with emotional, lived stories (fear vs. compassion).

> 🗒 **Conclusion:** The conflict is consistently framed as a **moral and emotional one**, sidelining policy debate.

Hierarchical Breakdown of Discourse

Percentage Breakdown of Stances within Each Topic

Discourse Stance
- Authoritative / Gatekeeping
- Critical / Dissenting
- Inquisitive / Questioning
- Personal Anecdote / Experience
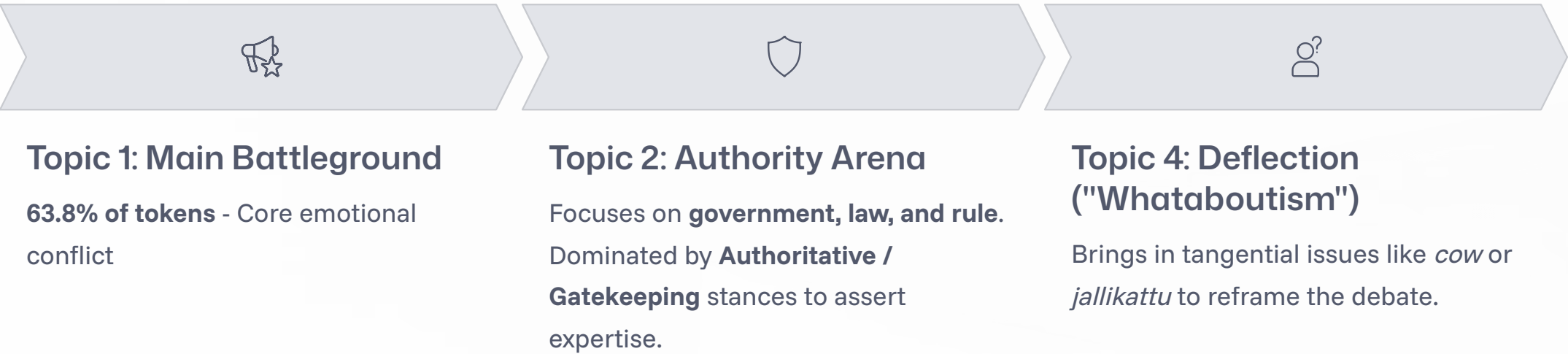- Supportive / Affirming
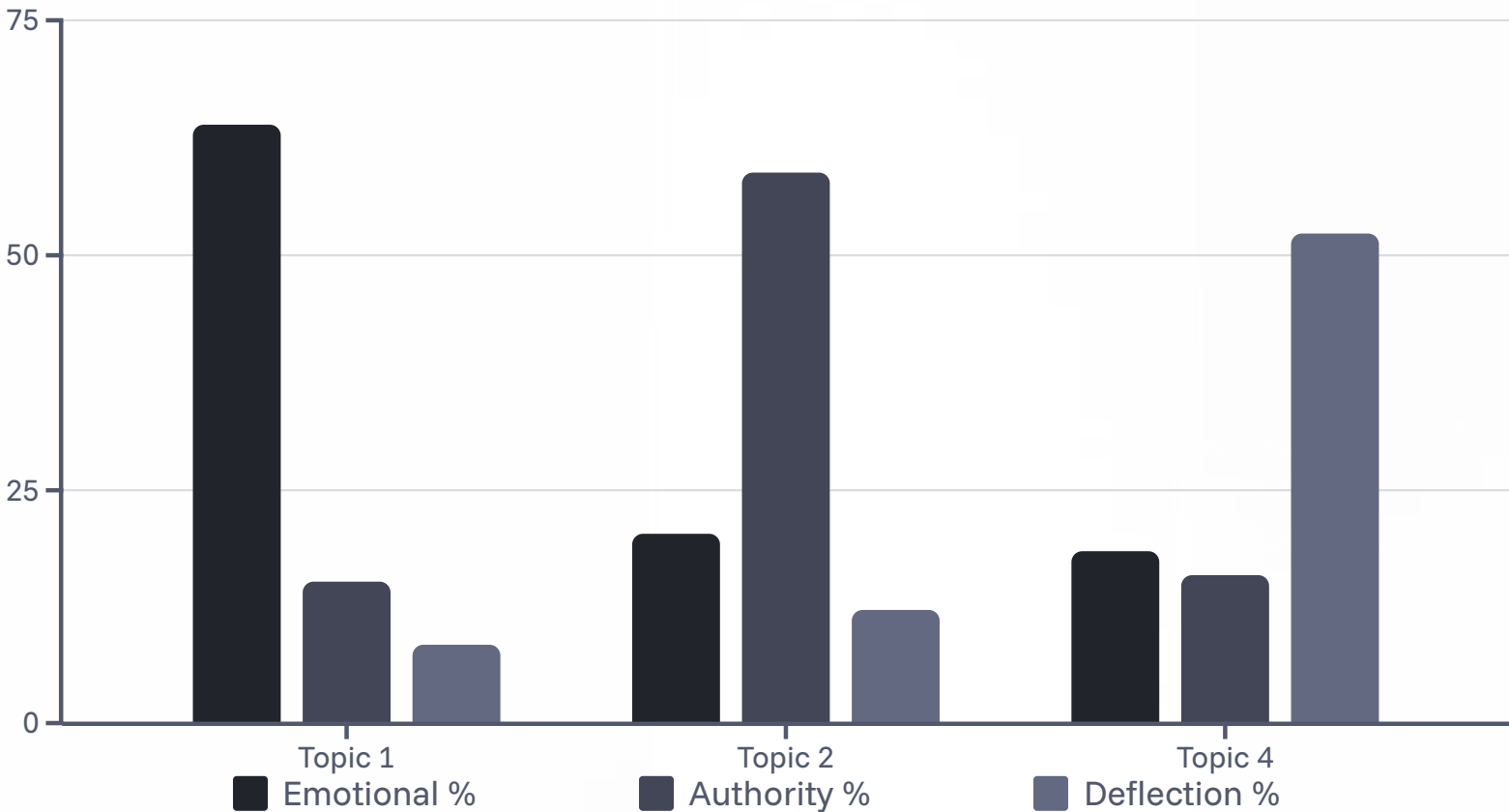
Results: Fragmented Voices & Arenas
Loudest Voices are Defined by their Rhetorical Arena (RQ2)
Fragmentation (BERTopic Findings)

Voices are strategically fragmented into distinct sub-discourses:

Topic 1: Main Battleground

63.8% of tokens - Core emotional conflict

Topic 2: Authority Arena

Focuses on **government, law, and rule**. Dominated by **Authoritative / Gatekeeping** stances to assert expertise.

Topic 4: Deflection ("Whataboutism")

Brings in tangential issues like *cow* or *jallikattu* to reframe the debate.

Percentage Breakdown of Stances within Each Topic

Legend:
- Emotional %
- Authority %
- Deflection %

Discussion: Platform Dynamics & Ideological Conflict

The Platform Dictates the Mode of Conflict

YouTube (Action-Oriented Opposition)

Centralized, immediate opposition (54.1% negative), driving a narrative of necessary action.

Reddit (Rhetorical Control)

Fragmented into deep threads where power is asserted through **Personal Anecdote** and **Authority/Gatekeeping**.

Ideological Clash

Greater good approach

Public safety concerns drive the need for immediate action against stray dogs.

Moral rule following

Animal rights and compassion demand protection regardless of consequences.

The debate is a proxy for the conflict between these two fundamental ethical frameworks.

Conclusion & Broader Impact
The "Bark" of the Conflict is Emotional and Rhetorical
Key Takeaways

1 Sentiment is Polarized

Discourse is a zero-sum battle between critics (dominating) and supporters.

2 Narratives are Emotional

Policy debate is constantly grounded in personal stories (**anecdotes**) over facts.

3 Discourse is Fractured

Factions assert control by shifting the frame to **Authority** or **Deflection** to manage the conversation.

> **Broader Impact:** This study provides an objective, computational framework for understanding how **media architecture creates specialized rhetorical arenas**, hindering unified policy discussions in future animal welfare controversies.

Limitations

- **Sentiment Ambiguity:** Automated models struggle to classify sarcastic posts or those using mixed-language (Vernacular/English).
- **Data Scope:** Focus on English-language platforms may have missed regional or less visible conversations.

Technical/Ethics

- **Model Validation:** Successfully validated our computational approach with the high-performing **SVM (96.97%)**.
- **Ethical Practice:** Ensured anonymity by aggregating all public data and avoiding the identification of individual users.

Sources

ScienceDirect Study • PLOS ONE Research • Frontiers in Communication • NCBI PMC Article • Purdue CAWS Document • IJRPR Paper • Stimson Center Report • University of Arkansas Thesis • UTA Communication Thesis