



# Analyzing Ideological Discourse on Social Media: A Case Study of the Abortion Debate

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An aerial photograph of a massive crowd gathered in a city square, likely in Poland, during a protest. The crowd is dense and fills the lower two-thirds of the frame. In the background, there are several large, historic buildings with red-tiled roofs and spires, including a prominent church with a tall, dark spire on the right. The sky is overcast and grey. In the top left corner, there is a faint, light-colored network diagram consisting of interconnected nodes and lines.

**About a year ago, in Poland, thousands of women took to the streets to protest against a proposal for a near-total ban on abortion that would criminalise women who terminated their pregnancies.**

*Image from Czarny Protest in Poland, October 3, 2016*



# The Abortion Debate

- ***Polarized:*** pro-life/anti-choice;  
pro-choice/anti-life
- ***Stigmatized:*** personal accounts often lead to public shaming
- ***Politicized:*** supreme court rulings, public protests, presidential election agenda
- ***Historically significant***



**What happens when this topic of utmost social, political, and historical significance is discussed on social media?**





“

# Social media as a democratic public sphere





# Analyzing ideological discourse, beyond text, via the socio-cultural practices





## ● Prior work

### Critical Discourse Analysis (CDA)

- Language as a social practice
- Framework to understand online discourse + manifestation of offline socio-cultural practices in discourse

### Dimensions of discourse

- As text
- As a sociocultural practice





## Research Questions

1. **Characterization** of ideological perspectives around the abortion debate on Twitter
2. **Re-conceptualization** of offline sociocultural practices around abortion in online discourse



# Twitter Dataset

#prolife



#antilife

#abortion

#antichoice

#prochoice

# Unique Tweets 731,080

# Unique Hashtags 93,374

# Unique Users 104,433

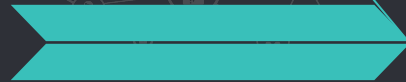


# Classifying Ideologies on Abortion

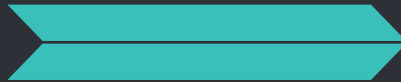


# Qualitative Coding

Open Coding



Examined 200  
Randomly  
Sampled Tweets



Created  
Codebook  
with Memos



Examined Another  
200 Randomly  
Sampled Tweets



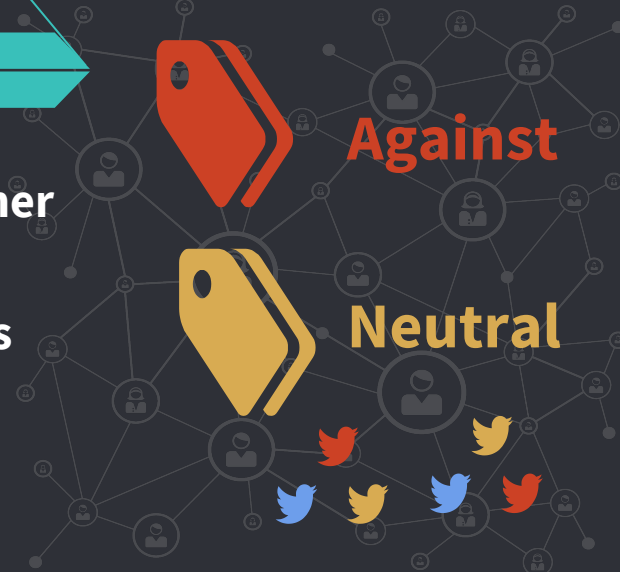
For



Against




Neutral



# Classification Framework

**Training Data**  
400 Labeled Tweets



**Features**



**Bag of Words**



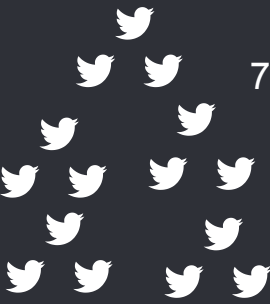
**Memos**

Binary feature capturing presence or absence of a rule from the codebook

**Support Vector Machine**

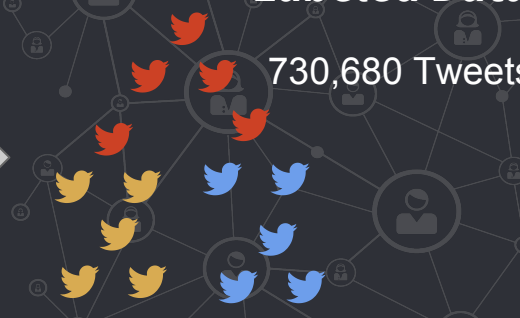


**Unseen Data**  
730,680 Tweets



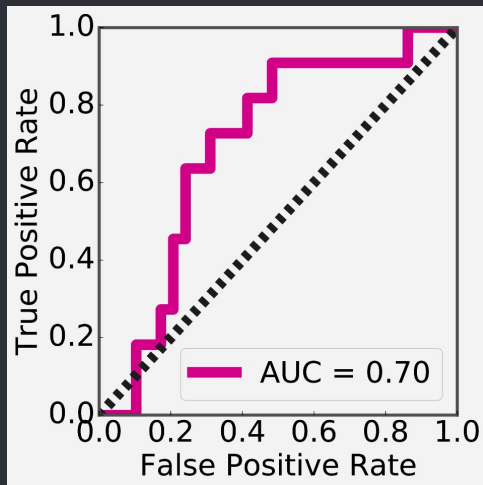
**Trained Model**

**Labeled Data**  
730,680 Tweets



# Classification Performance

Metric	Mean	Max.
Accuracy	0.67	0.81*
Precision	0.67	0.78
Recall	0.65	0.77
F1-score	0.64	0.77



\*Baseline Accuracy 0.41

# ● Ideological Imbalance

“ Former DPP encouraged #abortion on demand: Britain's abortion laws will be challenged ”

“ Antis can't decide bodily autonomy doesn't apply to pregnant people #prochoice=#prolife ”

Neutral to  
Abortion  
19.5 %

For  
Abortion  
19.8 %

Against  
Abortion  
60.6 %

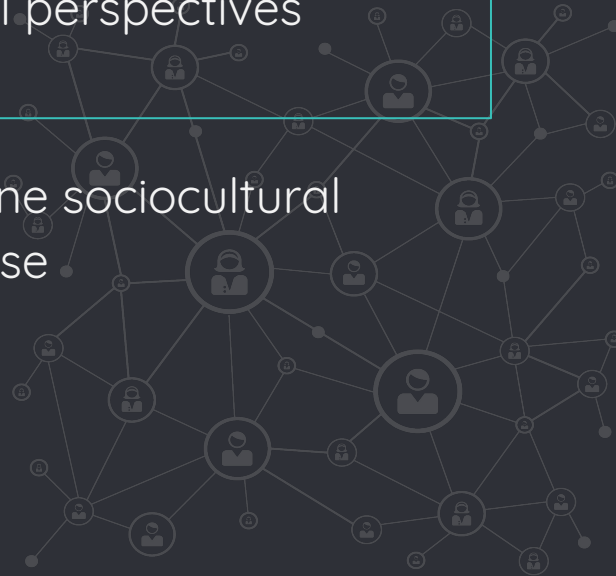
“ Sorry we're not in business of murdering unborn children. #DefundPP #ProLife ”



## Research Questions

**Characterization** of ideological perspectives  
around the abortion debate on Twitter

**Re-conceptualization** of offline sociocultural  
practices around abortion in online discourse



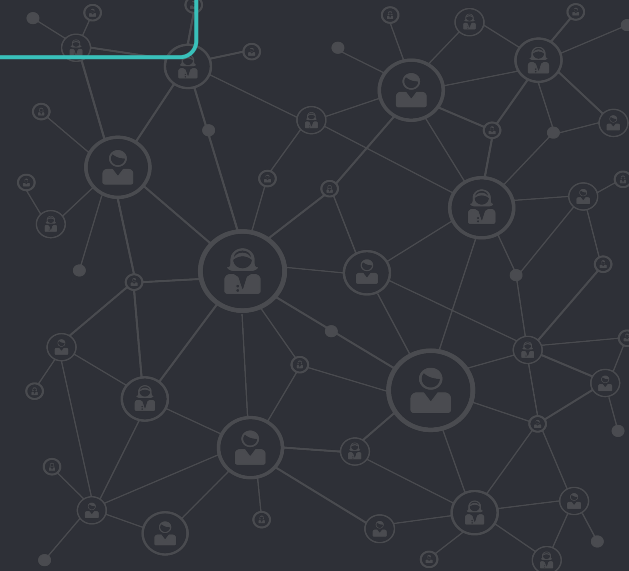
# ● CDA: Discourse as Text



Psycholinguistic Attributes



Hashtag Usage







## Psycholinguistic Attributes

Affective  
Cognitive  
Interpersonal  
Temporal  
Lexical Density  
Social  
Personal  
....

Linguistic Inquiry  
and Word Count

**2nd  
Person**

**1st  
Person**

**Death**

**Religion**

**Anger**



# Hashtag Usage



prochoice  
women  
choice  
standwithpp  
feminism  
rights  
reprorights  
support  
sign



prolife  
defundpp  
god  
babies  
parenthood  
ccot  
catholic  
unborn  
human



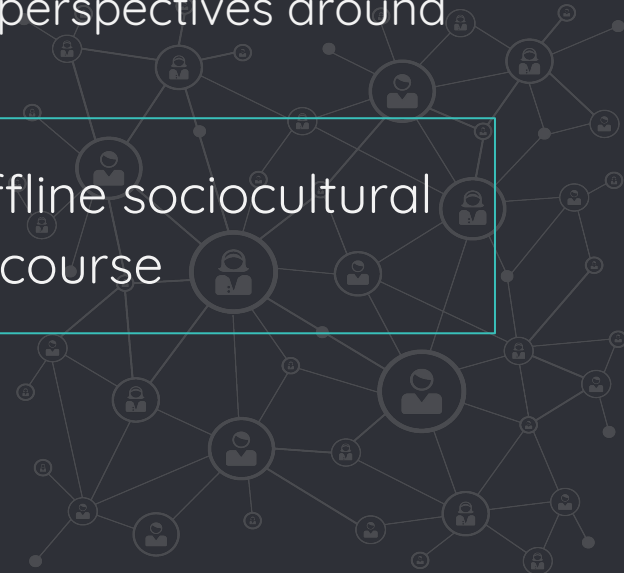
abortion  
court  
bill  
texas  
scotus  
mustread  
clinic  
health



## Research Questions

Characterization of ideological perspectives around the abortion debate on Twitter

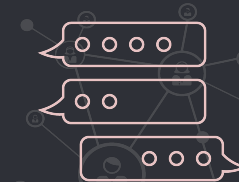
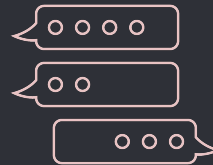
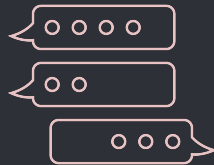
**Re-conceptualization** of offline sociocultural practices around abortion in online discourse



# ● CDA: Discourse as a Socio-Cultural Practice



-----Topic Modeling-----



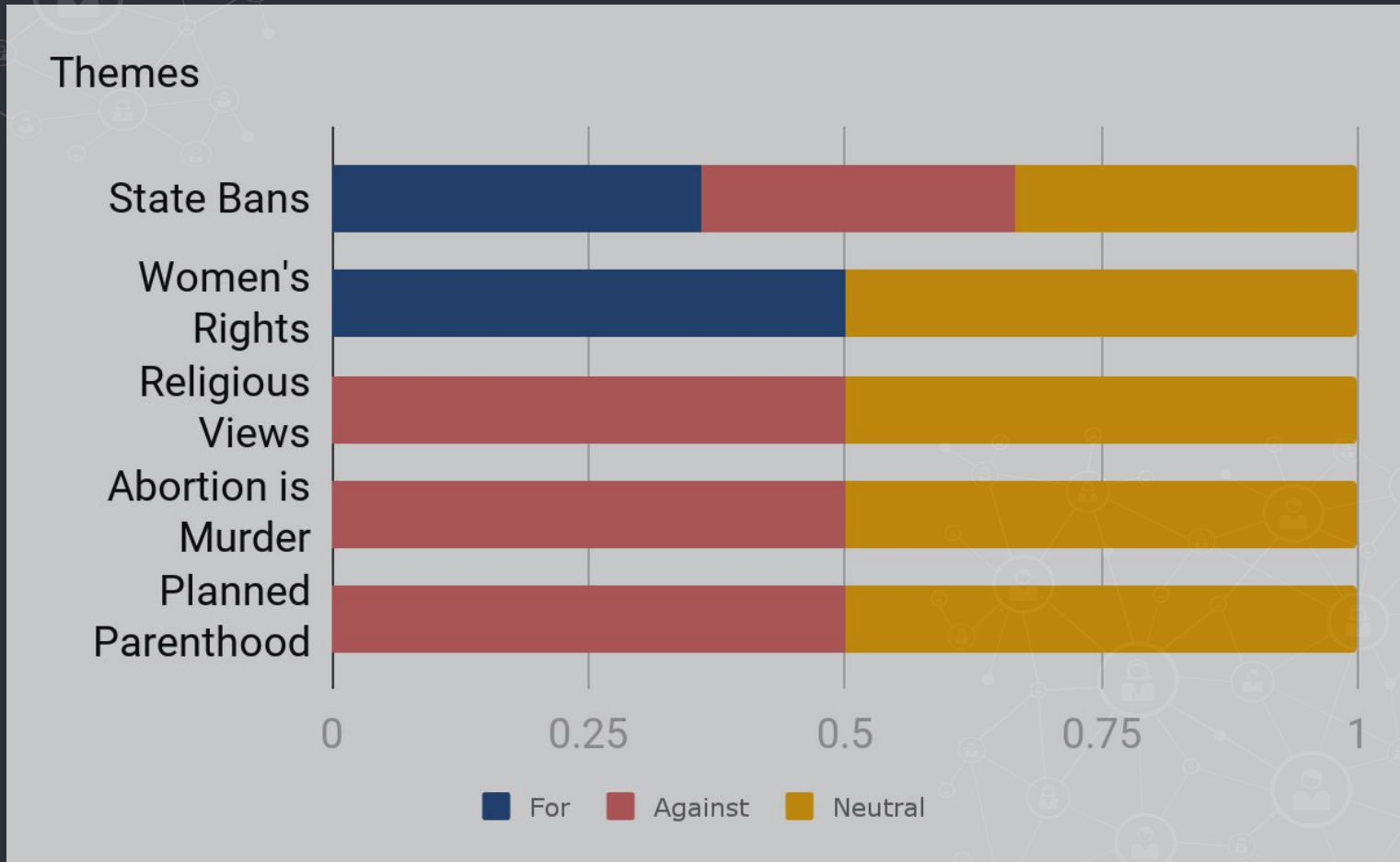
Topics

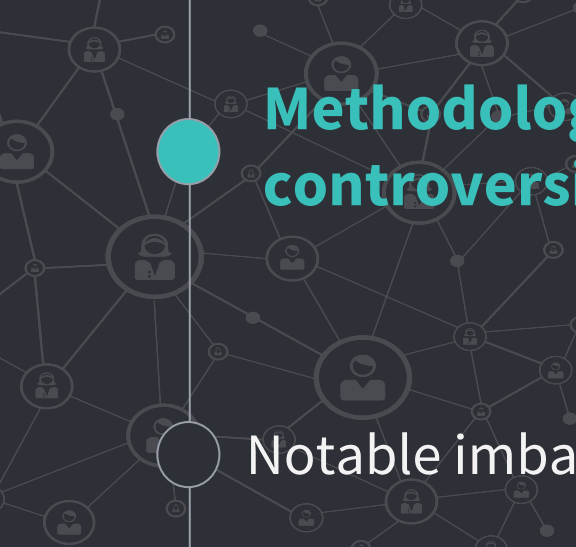
-----Theme Extraction-----



16 Themes

# Socio-Cultural Practices




A network diagram consisting of numerous small circular icons representing user avatars, connected by thin lines. The icons are arranged in a complex, interconnected web, with some larger icons acting as central nodes. The background is dark grey.

## **Methodological lens to study discourse around controversial topic of Abortion**

Notable imbalance in the expression of contrasting ideologies

Significant differences in linguistic cues of these ideological stances

Socio-cultural practices reconceptualized on Twitter

A network diagram consisting of numerous small circular icons representing user avatars, connected by thin lines. The icons are arranged in a complex, interconnected web, with some larger icons acting as central nodes. The background is dark grey.

**A quantitative, methodological lens enabling future research**



**Thanks!**

**Any Questions ?**

**You can find us at**

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