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

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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.
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
# anticheck 
# 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
- **Unseen Data**: 730,680 Tweets
- **Labeled Data**: 730,680 Tweets

**Features**
- **Bag of Words**
- **Memos**: Binary feature capturing presence or absence of a rule from the codebook

**Support Vector Machine**
## Classification Performance

<table>
<thead>
<tr>
<th>Metric</th>
<th>Mean</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>0.67</td>
<td>0.81*</td>
</tr>
<tr>
<td>Precision</td>
<td>0.67</td>
<td>0.78</td>
</tr>
<tr>
<td>Recall</td>
<td>0.65</td>
<td>0.77</td>
</tr>
<tr>
<td>F1-score</td>
<td>0.64</td>
<td>0.77</td>
</tr>
</tbody>
</table>

*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
Death
Religion
Anger

1st Person

Death
Anger
Religion
Person

Person

Person
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

Neutral to Abortion
Against Abortion
For Abortion

Topic Modeling
Topics

Theme Extraction
16 Themes
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 quantitative, methodological lens enabling future research
Thanks!

Any Questions?

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