Unveiling the Influencers of Radical Content: A Multimodal Analysis of QAnon Videos

Lin Ai[1], Yu-Wen Chen[1], Yuwen Yu[2], Seoyoung Kweon[1]
Julia Hirschberg[1], Sarah Ita Levitan[2]

[1]Columbia University   [2]Hunter College

Introduction

Background

- Radicalization, the process of developing extremist ideologies and beliefs in others, has been increasingly seen on social media in recent years.
- Previous studies have proposed to identify online radicalization using lexical and social context analysis.
- However, multimodal features can also be powerful in promoting extremist content.
- In addition, there has been little comprehensive examination of viewer traits and how those can affect viewers' perception.
- *QAnon* has been identified as one of the prime conspiracy-based radicalization groups, but little study has computationally analyzed *QAnon*-related videos.

Research Questions

- **RQ1:** What **viewer traits**, such as personaly and media consumption, are associated with their video preferences?
- **RQ2:** What **high-level video characteristics**, such as quality, arousal of emotions, and speaker traits, are correlated with viewers' perception?
- **RQ3:** Which **modality features** affect viewers' perception the most?

Viewer Questionnaire

- We have collected 5,924 YouTube and BitChute videos on *QAnon*.
- We have selected a subset of videos from the full corpus, 3 pro- and 3 anti-*QAnon*.
- We have created a questionnaire to collect viewer perceptions and potential actions.

Questionnaire Questions

1. Did you understand the video?
2. Was the video professionally produced?
3. Any violence displayed in the video?
4. How likely it is that the people in the video will become involved in protests, violence, or illegal acts?
5. Do you think the video is boring, lively, persuasive, trustworthy, or logical?
6. Do you think the speakers in the video are charismatic, confident, eloquent, etc?
7. Did you enjoy watching the video?
8. What emotions did you feel when watching the video? Happiness, sadness, surprise, fear, disgust, anger, confusion?
9. Which part of the video was most impactful?
10. Would you, or any others watching this video, take any of the following actions after watching the video?
    - Like/dislike the video
    - Post a supporting/criticizing comment
    - Share the video
    - Search for similar videos
    - Learn more about the group
    - Consider joining the group
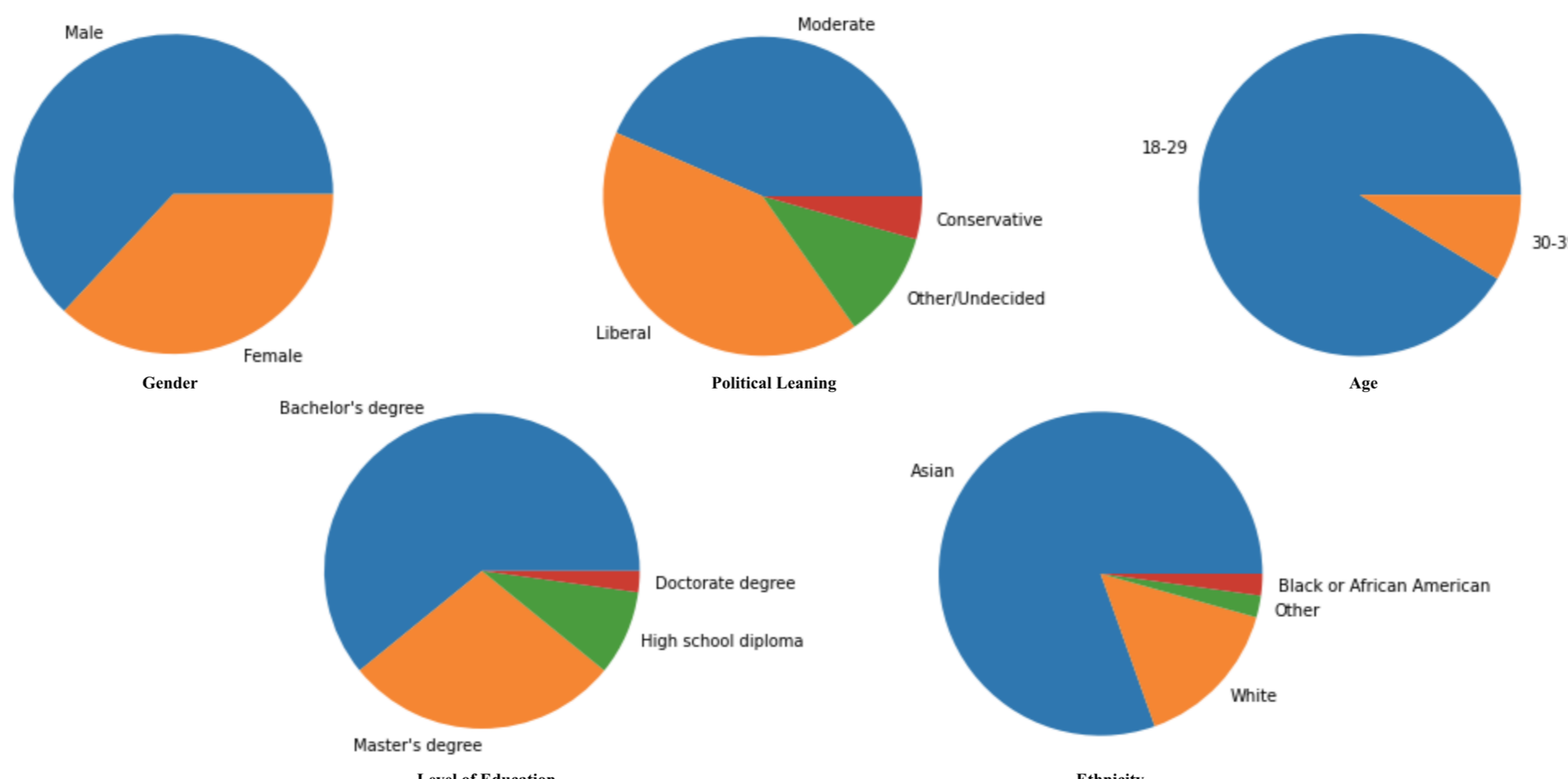
Viewer Statistics

46 viewers participated.
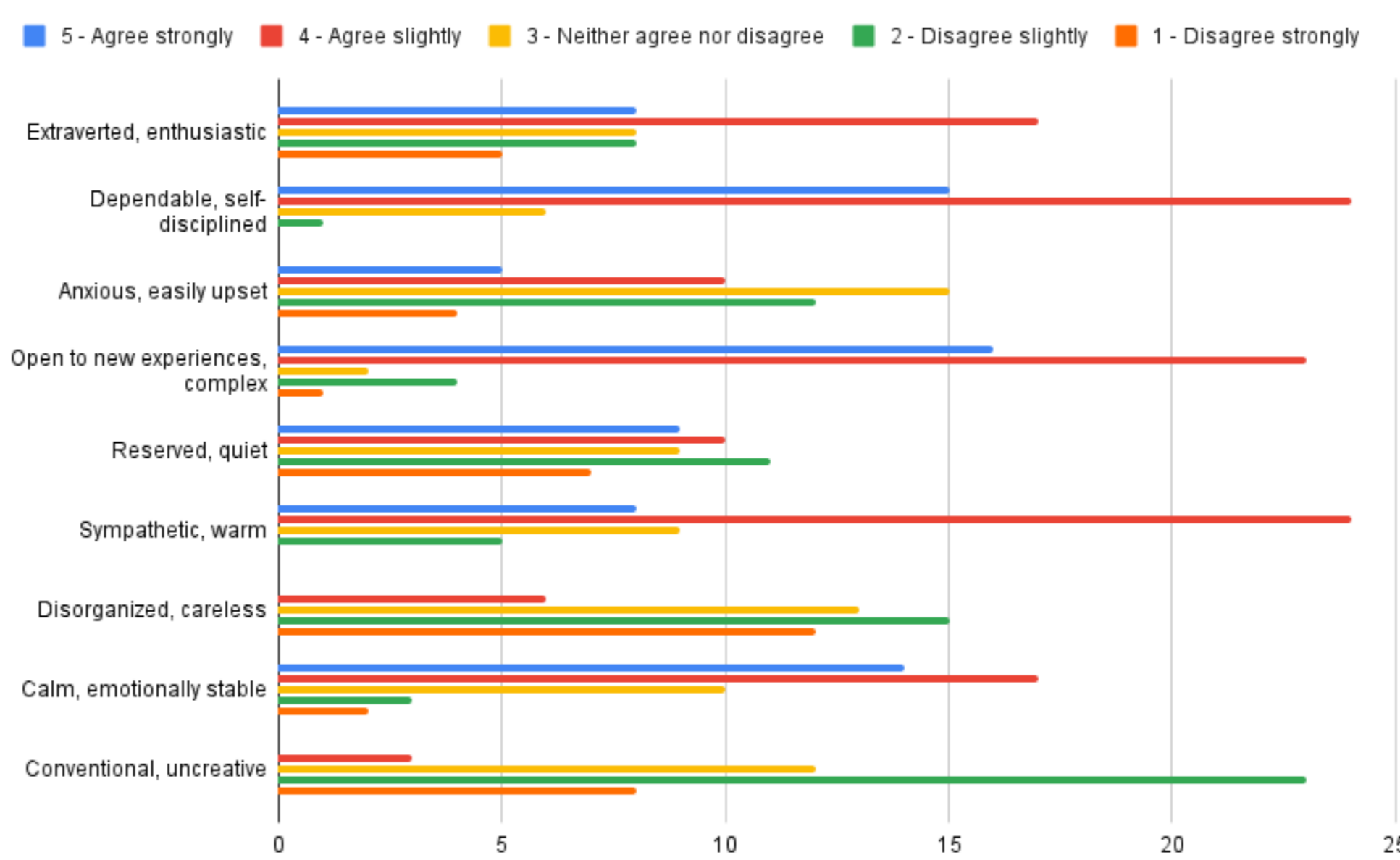

Figure: Viewers' Demographic Distribution

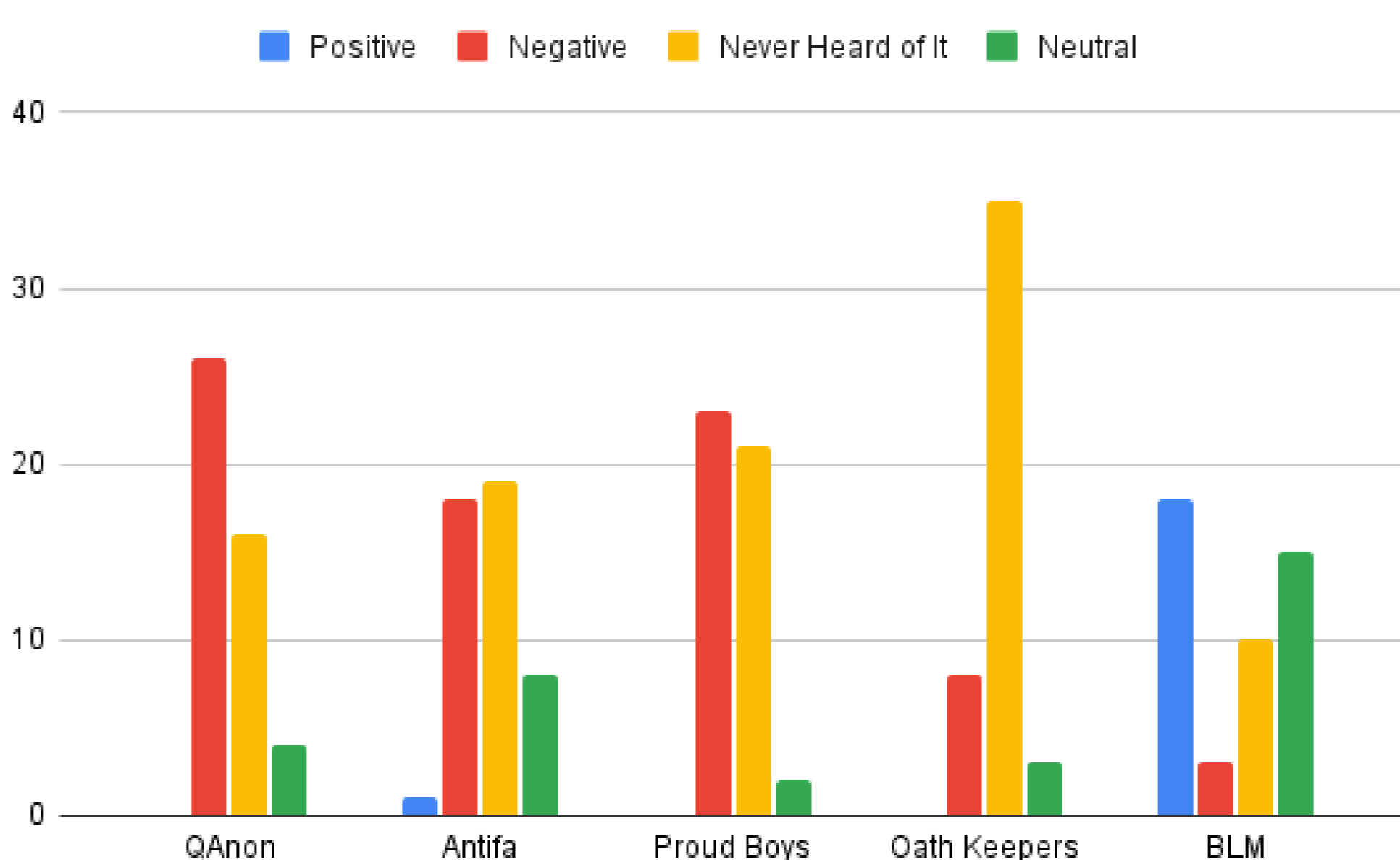Figure: Viewers' Self-Reported Personaly Distribution

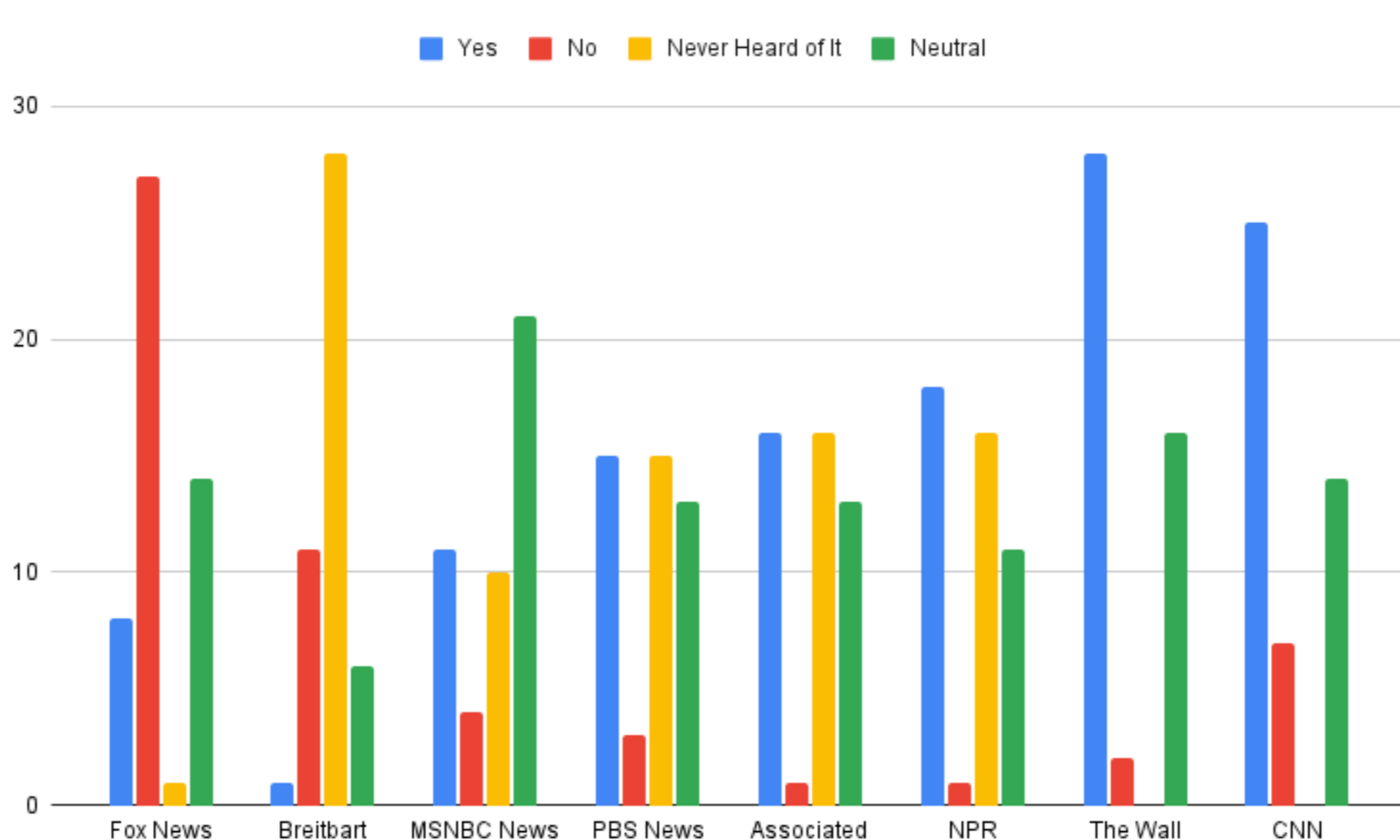Figure: Distribution of Viewers' Opinions on Radical Groups

Figure: Distribution of Viewers' Opinions on Media Sources

Evaluation Metrics

Metric	Description	Score Range
Enjoyment Score	How much viewers enjoy watching each video	[-2, 2]
Content Score	Whether a video is persuasive, trustworthy, logical, and professional	[-1, 1]
Action Score	Whether viewers would take supporting or opposing actions	[-3, 6]

Table: Evaluation Metrics Description

Experiment and Analysis

1: Viewer Traits Analysis

- **Pos on enjoy:** Opinion of The Proud Boys, CNN, WSJ
- **Pos on content:** Opinion of Fox News
- **Pos on actions:** Opinion of right-learning groups and media

Enjoyment on All Videos

Feature	Corr	p-value
Opinion_CNN	0.358	0.0146
Opinion_Antifa	0.345	0.0189
Opinion_ProudBoys	0.297	0.0452

Enjoyment on Pro-QAnon Videos

Feature	Corr	p-value
Opinion_CNN	0.329	0.0255
Opinion_WSJ	0.298	0.0440

Enjoyment on Anti-QAnon Videos

Feature	Corr	p-value
Opinion_Antifa	0.368	0.0119

Significant Viewer Traits and Ratings on Enjoyment Scores

Actions after All Videos

Feature	Corr	p-value
Opinion_OathKeepers	0.387	0.00793
Opinion_Antifa	0.359	0.0143
Opinion_Fox	0.350	0.0172
Opinion_WSJ	0.322	0.0291

Actions after Pro-QAnon Videos

Feature	Corr	p-value
Opinion_OathKeepers	0.370	0.0114
Opinion_Fox	0.358	0.0145
Opinion_WSJ	0.346	0.0186
Opinion_CNN	0.298	0.0442
Opinion_Antifa	0.295	0.0467

Actions after Anti-QAnon Videos

Feature	Corr	p-value
Disorganized	0.318	0.0312
Sympathetic	-0.317	0.0321

Significant Viewer Traits and Ratings on Actions Scores

Content of All Videos

Feature	Corr	p-value
Opinion_Fox	0.430	0.00283

Content of Pro-QAnon Videos

Feature	Corr	p-value
Opinion_Fox	0.487	0.000592
Opinion_NPR	-0.376	0.0100
Opinion_AP	-0.330	0.0253

Content of Anti-QAnon Videos

Feature	Corr	p-value
Reserved	0.339	0.0213

Significant Viewer Traits and Ratings on Content Scores

Figure: Significant Viewer Traits

2: High-Level Video Characteristics Analysis

- **Pos on enjoy:** Validness, persuasiveness
- **Neg on content:** Disgust, boredom
- **Pos on actions:** Trustworthiness, persuasiveness, logic, enthusiastic speakers

Enjoyment on Pro-QAnon Videos

Feature	Corr	p-value
Validness	0.999	0.0234
Persuasive	0.997	0.0452

Significant Video Traits and Ratings on Enjoyment Scores

Actions Likely after All Videos

Feature	Corr	p-value
Trustworthy	0.968	0.00150
Validness	0.964	0.00191
Persuasive	0.905	0.0131
Logical	0.875	0.0225
Enthusiastic	-0.951	0.0486

Content of Anti-QAnon Videos

Feature	Corr	p-value
Disgust	-0.998	0.0440
Boring	-0.998	0.0440

Significant Video Traits and Ratings on Content Scores

Actions after Anti Videos

Feature	Corr	p-value
Trustworthy	1.00	0.0114
Lively	-1.00	0.0167

Significant Video Traits and Ratings on Actions Scores

Figure: Significant High-Level Video Characteristics

3: Multimodal Feature Analysis

- Friends and gender lexicons positively influence viewers' perceptions.
- Violence lexicons Have a negative impact.
- Speakers showing too much surprise or sad facial expressions bring negative impact.
- Angry speakers appeal to more viewers.
- Weapons have a negative impact.

Conclusions

- Collected a large corpus of *QAnon* videos, ready to share with the community.
- Computationally analyzed viewers' perception of radical content by examining
  - viewer traits
  - high-level video characteristics
  - video multimodal features

Resources

Our Paper

Our Poster