

Characterizing and Comparing COVID-19 Misinformation Across Languages, Countries and Platforms

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Outline

Definitions

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Let's get some shared language...

- **Misinformation:** is incorrect information created without the intention of causing harm
- **Disinformation:** is incorrect information and intentionally created to hurt an individual, a group, or a country
- **Mal-information:** is correct information (based on reality), but used to cause harm to an individual, a group, or a country

Background: We live in the age of misinformation



EXPLOSION OF INFORMATION
HAS RESULTED IN CONFUSION
AND DISTRUST IN MEDIA



SOCIAL MEDIA IS A HOTBED OF
MISINFORMATION AND ECHO
CHAMBERS GLOBALLY



MISINFORMATION HAS LASTING
IMPACTS AND STUDYING THIS
PROBLEM ON A GLOBAL SCALE IS
INCREDIBLY COMPLEX

Social media, misinformation, and COVID-19

- As people were isolated in 2020, their sense of community and connection has relied increasingly on the use of social media
- Misinformation and echo chambers online have had serious consequences
- Fact-checking initiatives have struggled to debunk false claims surrounding COVID-19 globally

Purpose

- Explore COVID-19 related misinformation across languages and platforms
- Understand how the types of misinformation experienced around the world are different in different countries and different languages
- Focused on three languages/countries as examples - English, Farsi, and Chinese
- Categorized the content, topics, and roots of misinformation across these three

Methodology

- Opportunistic sample of 200 items of misinformation in English, Chinese, and Farsi on social media
- Collected from multiple platforms
- Utilized a qualitative approach, categorizing misinformation in all three languages

Platforms	China	Iran	USA	# of Monthly Active Users (as of 2020)
Twitter	✘	✘ ✓	✓	330 million
Facebook	✘	✘ ✓	✓	2.7 billion
Instagram	✘	✓	✓	1 billion
WhatsApp	✘	✓	✓	2 billion
Weibo	✓	S	S	550 million
WeChat	✓	S	?	1.2 billion
TikTok	✓	✓	?	800 million

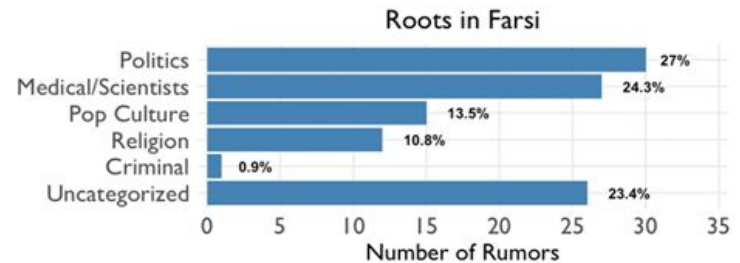
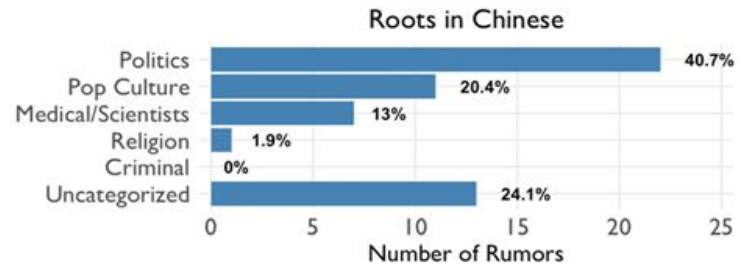
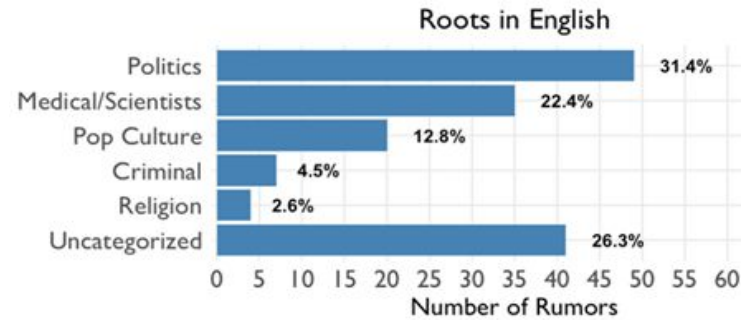
Methodology: Categorization of misinformation topics

1. Cures of COVID-19
2. Origin of COVID-19
3. Testing
4. Vaccines
5. Prevention methods (public)
6. Prevention methods (individual)
7. Number of deaths and confirmed cases (statistics)
8. Rumors about other countries (often xenophobic and external to a country)
9. Virus Transmission
10. Others

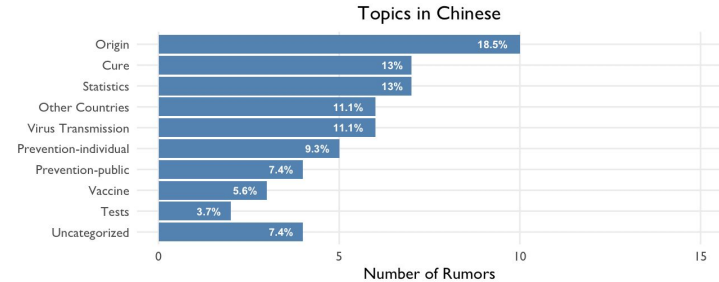
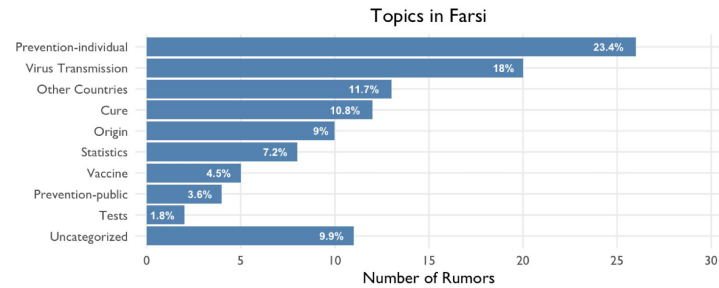
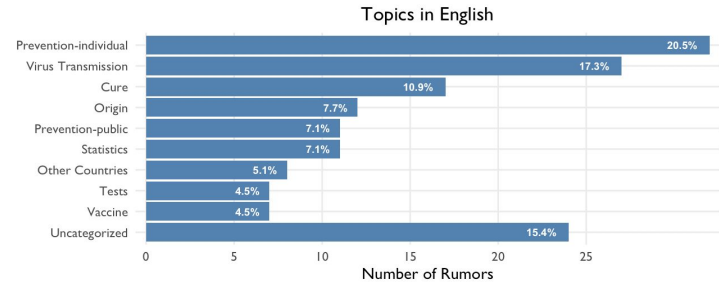
Methodology: Categorization of roots of misinformation

- 1. Political-related roots**
- 2. Medical/Science-related roots**
- 3. Celebrities & Pop Culture-related**
- 4. Religious-related roots**
- 5. Criminal-related roots**
- 6. Others**

Results: Distribution of roots by language



Results: Distribution of topics by language



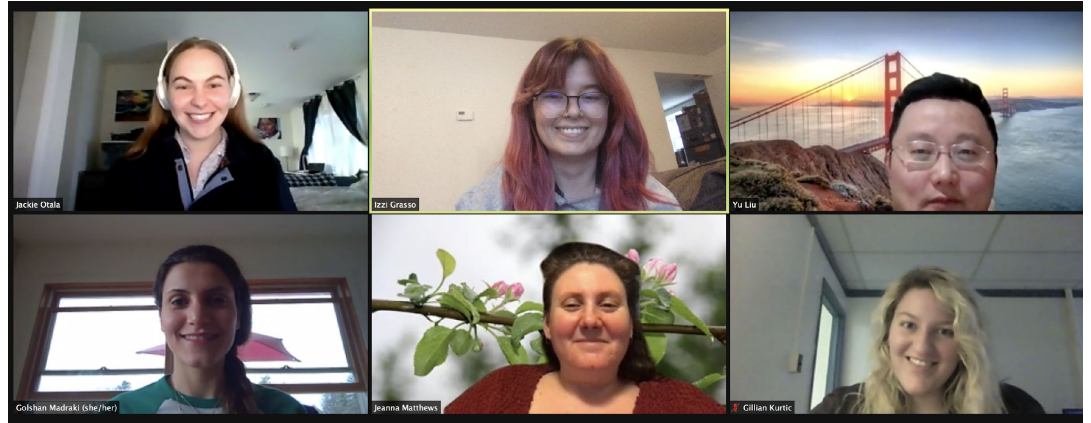
Key takeaways

- Largely in all three countries the source of misinformation was the government or politicians.
- English and Farsi misinformation samples have more in common in terms of the topic of misinformation than Chinese, specifically regarding the actions of the individual.
- Difference in how government controls on social media platforms drives users to specific platforms, with different infrastructure for tracking and controlling misinformation.
- The absence of misinformation with criminal roots and fewer categories of misinformation overall in Chinese social media is notable and points out the tradeoff in the control of misinformation.
- A key challenge going forward for all societies and countries will be in determining how to control misinformation without silencing the voices needed to hold governments accountable.

Future Work

- Currently we are working on quantifying political polarization on social media, particularly of politicians in the United States
- We plan to apply these techniques to other populations, specifically groups that are most vulnerable to misinformation
- We also will be exploring the impact of mainstream media outlets, both in the spread of misinformation and political polarization on and offline

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