



Same Vaccine, Different Voices

A Cross-Modality Analysis of HPV Vaccine Discourse on Social Media

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Framework

Health Belief Model

Susceptibility
“Could I actually get HPV”
Perceived risk of getting the infection.

Severity
“It’s not just a virus, it’s the risk of cancer.” Understanding the link to serious risks, like cancer.

Benefits
“This shot will protect me!”
Advantages of vaccine in preventing infection and related cancers.

Barriers
“Ugh, but it’s expensive and hard to book..” Concerns about cost, access, and side effects.

Actionable Insights

Tailored Strategies

Text-based Platforms
Ideal for rapid debunking and policy clarification

Audio-based Platforms
Best for in-depth education and building trust.

Video-based Platforms
Powerful for emotive storytelling and fostering empathy.

Hear the Difference !

Background

- Although the HPV vaccine is highly effective, vaccination rates remain **low** in regions like **China**.
- The public primarily gets health information from social media, yet the impact of **different modalities (text, audio, video)** is often overlooked.

Our Questions:

- RQ1:** How do text, audio, and video modalities **differ** in discussions of HPV vaccination’s susceptibility, severity, benefits, and barriers?
- RQ2:** What are the representative **topics** in HPV vaccine discussions across text, audio, and video?
- RQ3:** How do **emotions expressed** in HPV vaccine discourse vary across modalities?

Methodology: Decoding the Voices



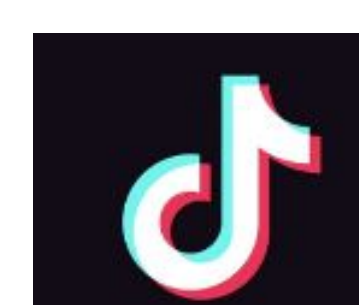
273,357 posts (Weibo)

Text



1,228 podcasts (Ximalaya)

Audio



1,225 videos (Douyin)

Video

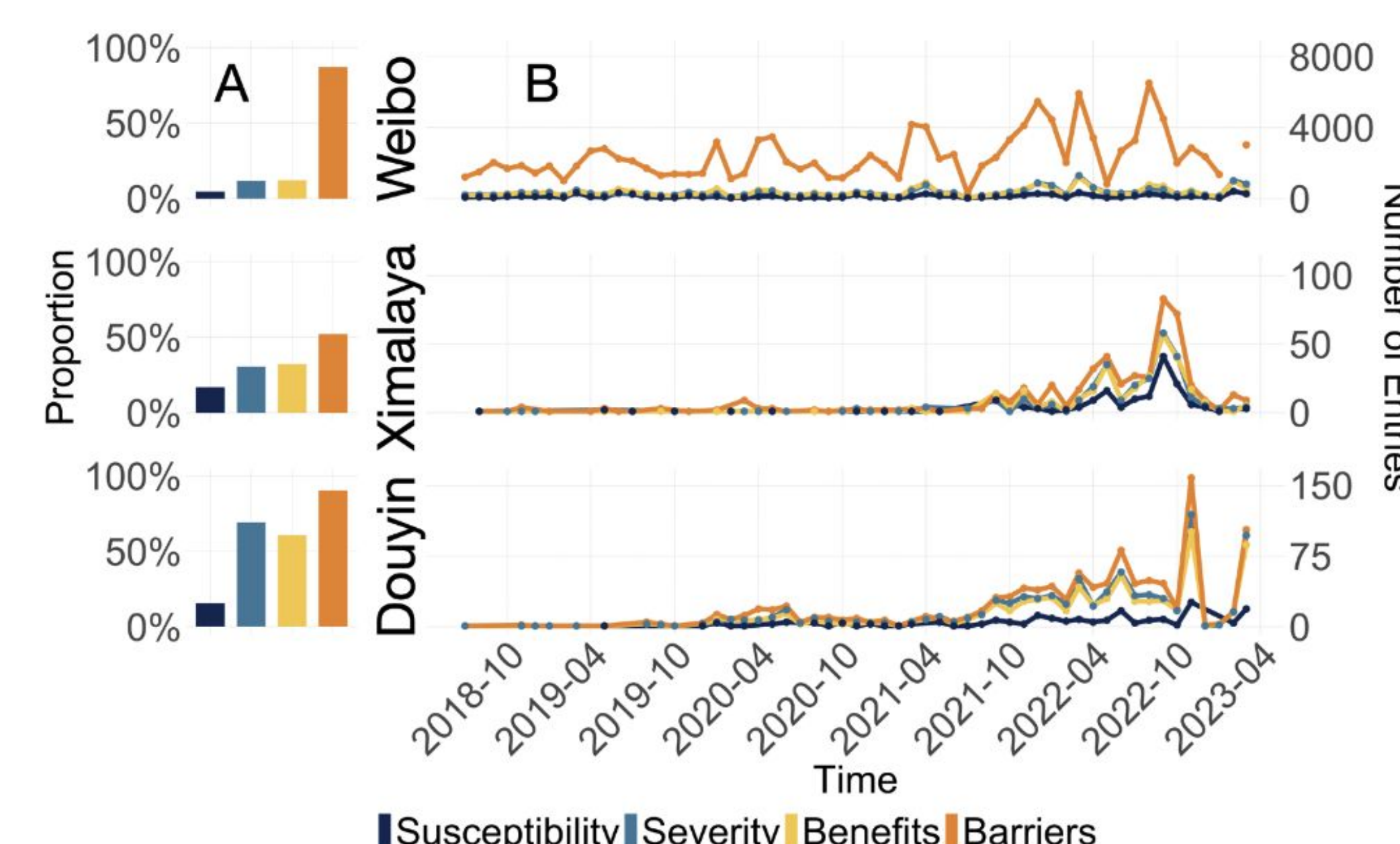
We used the Health Belief Model (HBM) to analyze the public’s discourse about the HPV vaccine.

- Multimodal Data preprocessing: Human Voice-to-Text Transcription
- Data Coding Under Health Belief Model Four dimensions
- BERTopic Analysis, Emotion Analysis and Trend Analysis

Results

RQ1: Text, Audio, and Video Differ in HBM Dimensions

- Text-based platform (Weibo): Focuses primarily on barriers.
- Audio-based platform (Ximalaya): Offers a more balanced discussion.
- Video-based platform Douyin (Douyin): Focuses on barriers, severity, and benefits, often through personal stories.



Know more details about our work!

RQ2: Representative Topics in HPV Vaccine Discussions Across Modalities?

- Text-based platform (Weibo): Spotlight policy-level issues.
- Audio-based platform (Ximalaya): Delve into discussions of eligibility, safety, or industry aspects.
- Video-based platform Douyin (Douyin): Emphasize personal stories, everyday experiences, and quick recommendations.



Homepage



Full Paper

RQ3: What Emotions Are Expressed and How Do They Fluctuate Under Different Modalities?

Text: Rapid Spike & Fade Bursts Audio: Slow Burn & Sustained talk Video: Brief, Scattered

