Understanding the Effect of Private Data in Disinformation Propagation

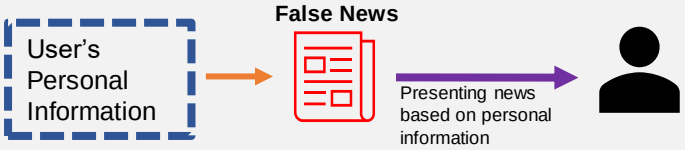
Arizona State University

Protik Bose Pranto, Waqar Hassan Khan, Sahar Abdelnabi, Rebecca Weil, Mario Fritz , Rakibul Hasan

CISPA

Introduction

- Technologies collect personal data including demographic, bio-metric, behavioral patterns, and (dis)interests, etc. which often lead to privacy concerns
- In this research project, we explore the concept of targeted disinformation, where individuals are exposed to specific disinformation based on their personal information.



We hypothesize that, an individual, when **targeted with disinformation** based on **some property** "*p*" (e.g., gender, socio-economic status, interests, personality traits, etc.), will **react differently** compared to other people who do not possess property "*p*"

Our Goal

- ❖ We conducted a study to explore the possibility of targeting individuals based on their topical interests (e.g., health, politics, entertainment, etc.)
- ❖ For our study, we specifically chose the topics of health and entertainment due to their widespread familiarity and popularity among individuals.

Method

Picked **20** news articles from **low and high-credible** sources

Inquired about participants' **preferred topics** and **news sources**

Participants were asked to indicate their **beliefs**, **sharing tendencies**, and **level of surprise** for each news article.

Linear mixed effect model was used for the statistical analysis purpose

We conducted a closed-ended survey on Qualtrics, participated by 207 people, recruited from Prolific. But, among them, 23 people were discarded since they failed the attention-check questions.

Findings

- ○ **Interest** in entertainment topics significantly predicts **belief scores** for high-credible entertainment news *(F(1, 99) = 8.13, p < 0.01)*
- ○ There is a **positive correlation** between **share** score and **surprise** score for both low-credible *(r = 0.40, p < 0.0001)* and high-credible *(r=0.57, p < 0.0001)* health articles, and for low-credible entertainment articles *(r=0.41, p <0.0001)*.
- ○ Individuals who regularly follow health-related news *(M = 0.420, SD = 0.262)*, are more likely to share such articles from low-credible sources *(M = 0.613, SD = 0.212), d = 0.81, p < 0.01*

Discussions

- ❑ The participants' interest in a topic does not influence their beliefs or sharing tendencies regarding news from low-credible sources related to that topic.
- ❑ This might happen since most of the participants reported following high-credible sources for their daily news consumption.
- ❑ People are more likely to share news when it is unexpected or surprising to them.

Next steps:

- ➢ Enhance analyses by recruiting individuals following low-credible sources