Mobilizing Manufactured Reality: How Participatory Disinformation Shaped Deep Stories to Catalyze Action during the 2020 U.S. Presidential Election

Prochaska. et. al

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Instruction

Overarching research question

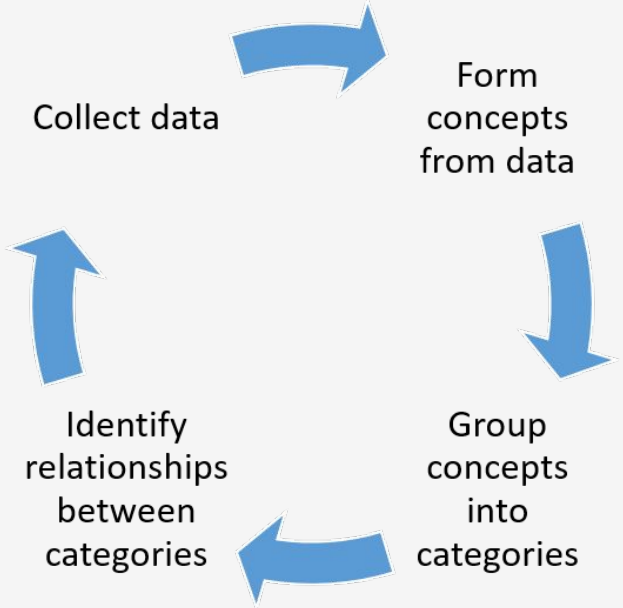
- Understanding how people interpret and act on disinformation
- ... because disinformation deeply influences public opinion and spurs real-world violence

Major contributions

- A framework for understanding the interaction between participatory disinformation and informal and tactical mobilization
- Case studies on three specific incidents of disinformation during the 2020 U.S. election cycle: temporal, content, and thematic analysis
- A qualitative coding scheme for understanding how digital disinformation functions to mobilize online audiences

What did the authors do (Method)?

A Grounded Theory approach in qualitative research



The data

Tweets related to three specific incidents of disinformation with tailored keyword and time-bounded queries

Three incidents

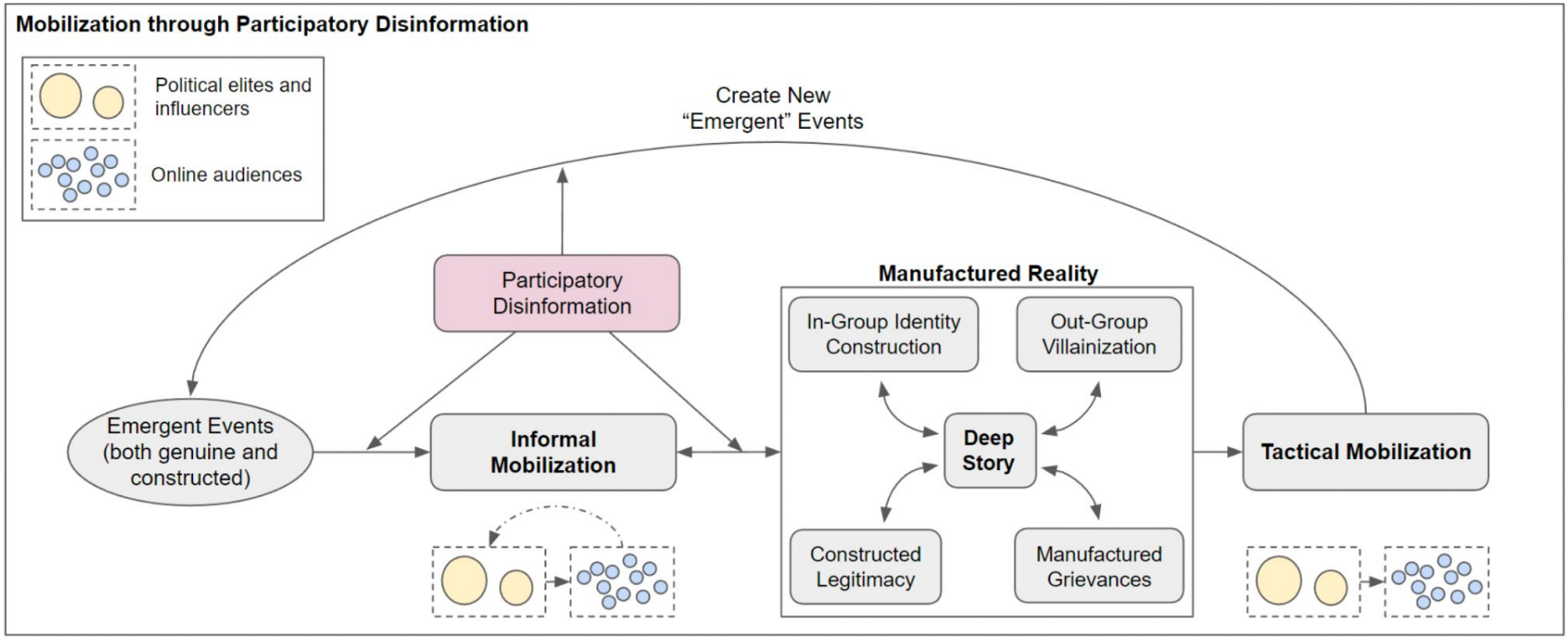
- Sonoma Ballot Dumping
- SharpieGate
- Dominion

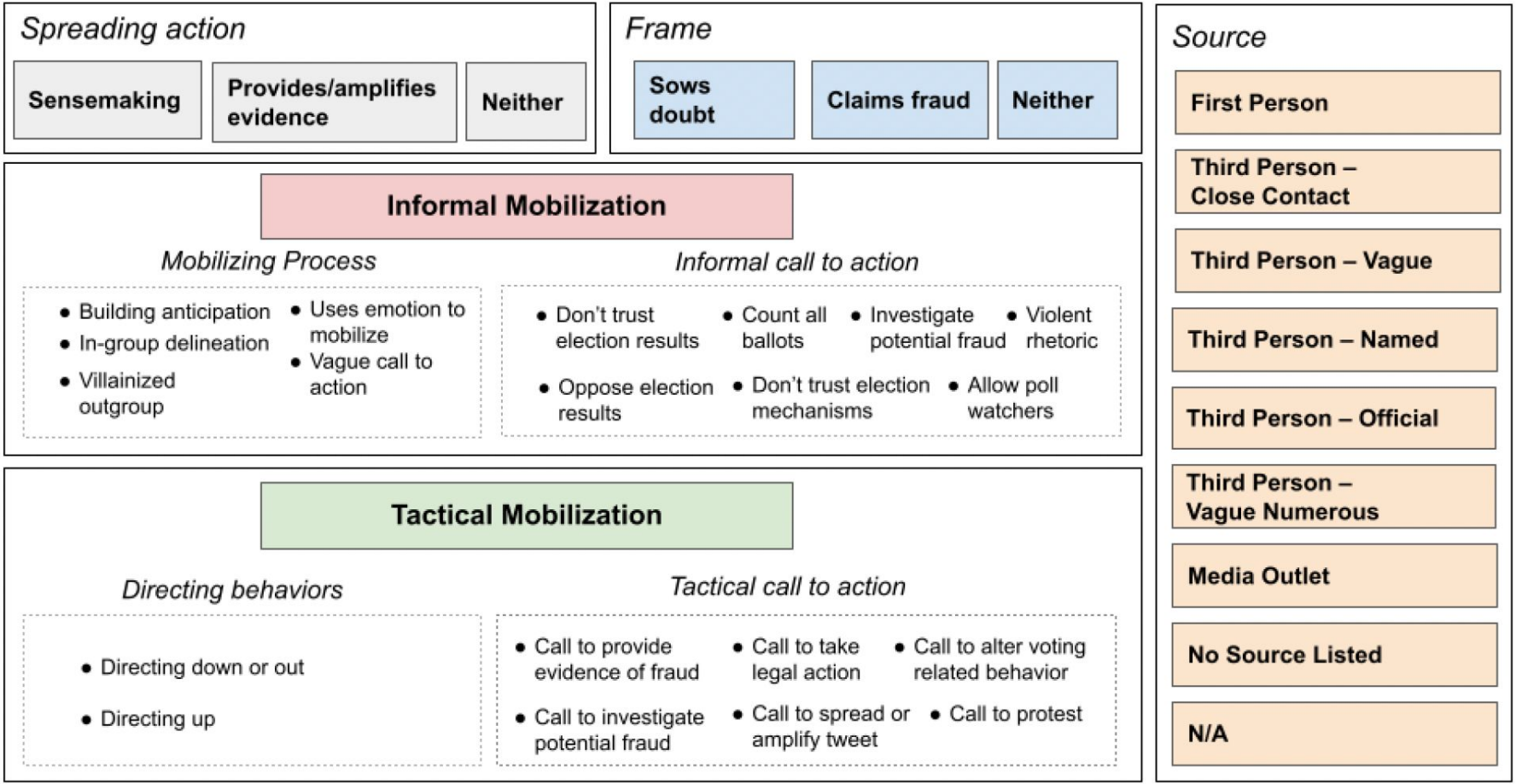
The keywords were developed iteratively to capture as much of the incident content as possible without introducing noise through unrelated tweets

	Early		*Random*		*Most Retweeted*	
Incident	Total	Related	Total	Related	Total	Related
SharpieGate	50	37	179	141	100	78
Sonoma	50	0	150	69	100	45
Dominion	51	49	174	154	99	99

Table 2. Total tweets coded for each of the three reported case studies

The Framework




Spreading action
Sensemaking
Provides/amplifies evidence
Neither
Frame
Sows doubt
Claims fraud
Neither
Source
First Person
Third Person – Close Contact
Third Person – Vague
Third Person – Named
Third Person – Official
Third Person – Vague Numerous
Media Outlet
No Source Listed
N/A
Informal Mobilization
Mobilizing Process
Building anticipation
In-group delineation
Villainized outgroup
Uses emotion to mobilize
Vague call to action
Informal call to action
Don't trust election results
Count all ballots
Investigate potential fraud
Violent rhetoric
Oppose election results
Don't trust election mechanisms
Allow poll watchers
Tactical Mobilization
Directing behaviors
Directing down or out
Directing up
Tactical call to action
Call to provide evidence of fraud
Call to take legal action
Call to alter voting related behavior
Call to investigate potential fraud
Call to spread or amplify tweet
Call to protest

Peer Review

Mobilizing Manufactured Reality: How Participatory Disinformation Shaped Deep Stories to Catalyze Action during the 2020 U.S. Presidential Election

Strengths

- Present an end-to-end description of misinformation spread: tweet origin -> amplification -> modification -> mobilization
- Pinpoint the characteristics of tweets that make mis/disinformation more plausible: personal experience, photographs, expert opinion, etc.

Limitations

- Coding scheme not tried and tested by an independent third party
- Lack of discussions on other related ideas: echo chamber effects of social media (Cinelli et al., 2021), infodemics (van der Linden, 2022). The latter is directly related to the second paper.
- Similarities and differences with information-powered social movements. For example, radio's role in the success of the Civil Rights Movement (Wang, 2021)

Connection to Behavioral Econ / Psychology

- Rational Inattention:

  “A wealth of information creates a poverty of attention”

  - Herbert Simon

  The idea of **inattention** is also discussed in the second paper.
- Thinking Fast and Slow: System 1 and System 2

Audience Perspectives

1. How do the ideas in this paper relate to those from other disciplines?
2. How are the 3V's of big data (or big information): **Volume, Velocity, and Variety** affecting how we perceive and react to social media posts?

Industry Practitioner

David Castro

Why is this paper relevant to industry?

Methods might be useful to understand/prevent the impact of misinformation affecting financial institutions, businesses, and consumers

- Banks runs
- Financial crimes
- Financial crises

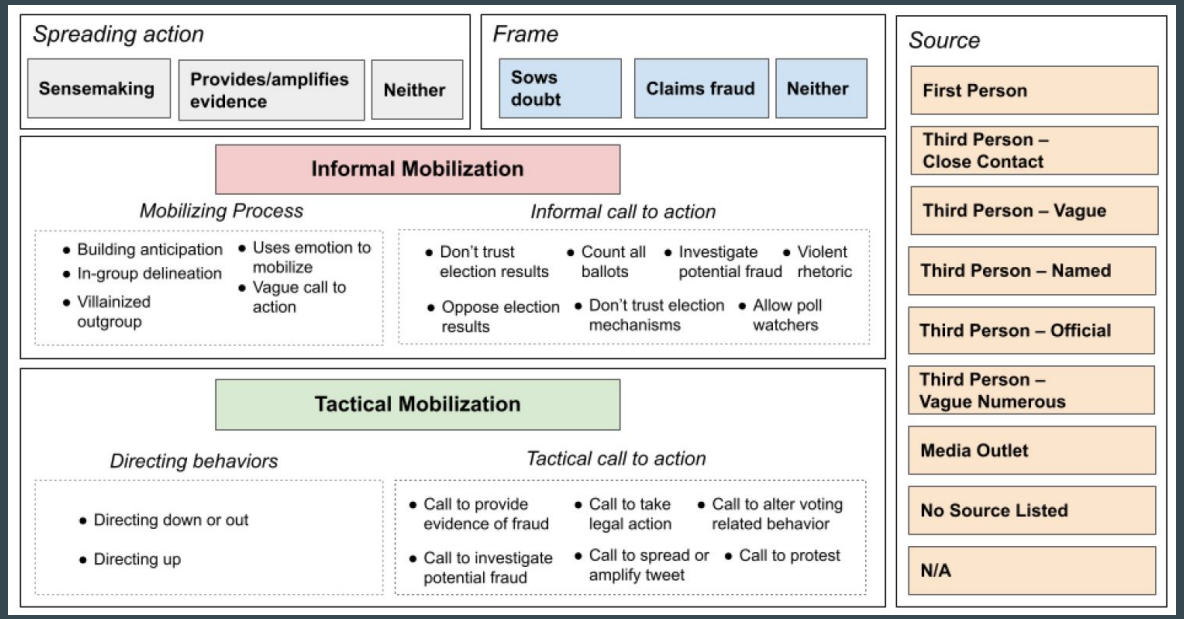
Why is this paper relevant to industry?

> “Information in instances where information is endogenous – parties form beliefs (subjective probabilities) about the unobserved characteristics of other parties as a result of actions taken. There is limited direct communication, the one exception being that individuals may disclose verifiable information about themselves (their products or projects)” (Stiglitz, 2024)

Stiglitz, J. E., & Kosenko, A. (2024). The economics of information in a world of disinformation: A survey Part 1: Indirect communication (Working Paper No. 32049). National Bureau of Economic Research. http://www.nber.org/papers/w32049

Prochaska's framework could help clarify previous scenario

Findings suggest: “a strategy for disseminating electoral disinformation by high- and mid-level influencers” p. 140



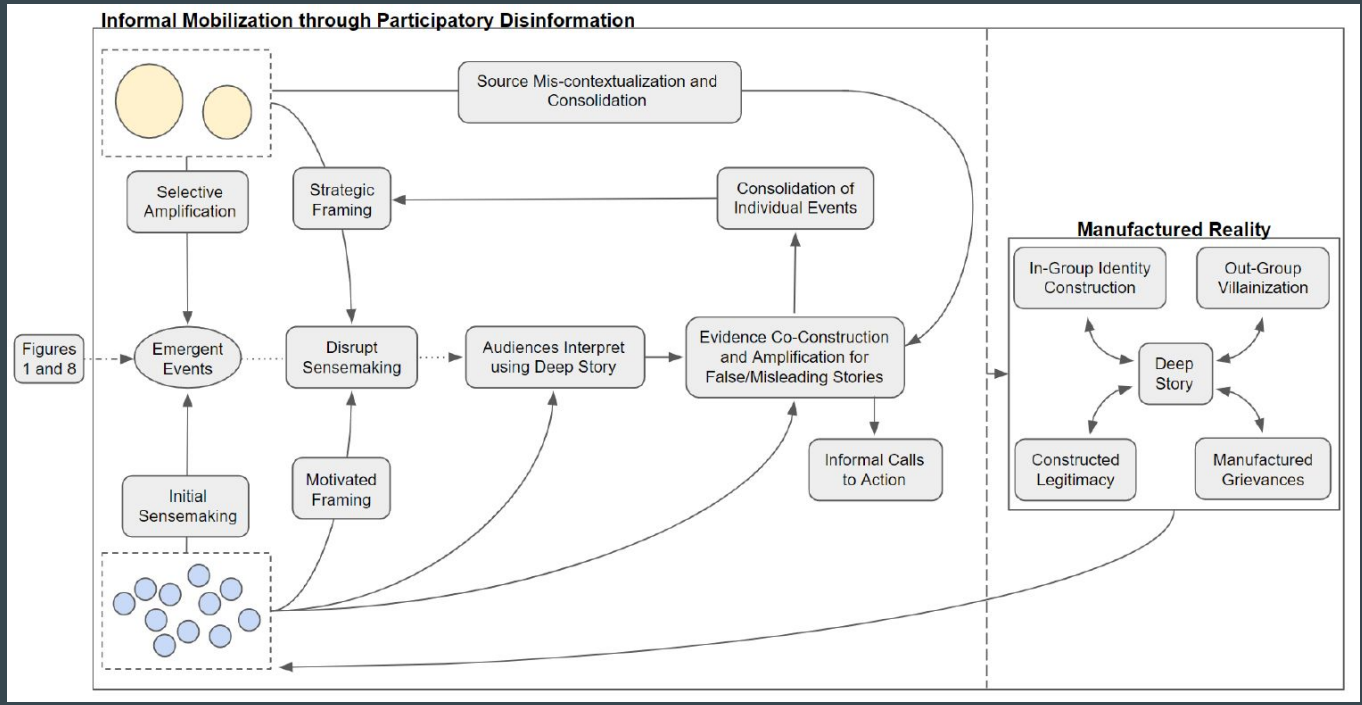
*Endogeneity means we can’t tell whether an outcome (e.g. bank runs) can be explained due to a set of observables or potential unobservables.

Prochaska's framework could help clarify previous scenario

How can we create a product that help regulators and banks address misinformation?

According to Prochaska et al, by paying attention to:

- Influencers' selective amplification, strategic framing, and manufactured reality strategies.



Product to prevent bank runs. SEC perspective

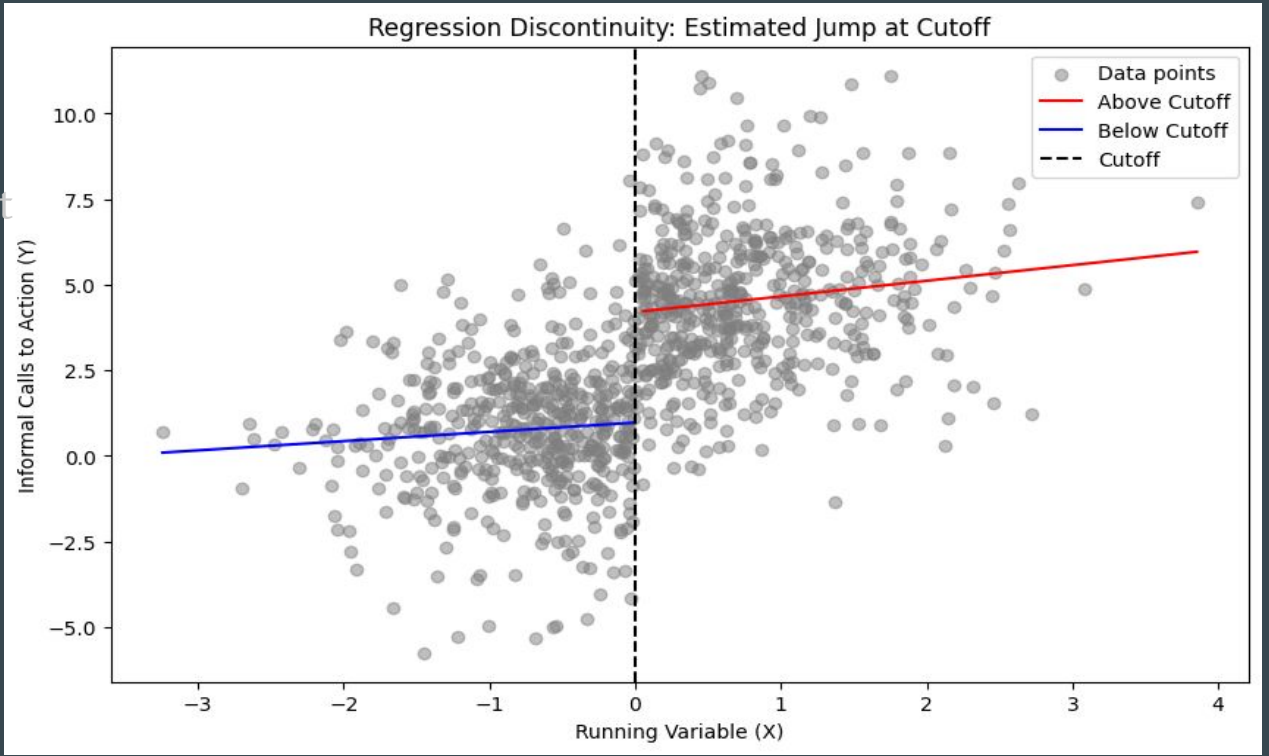
What is the Security Exchange Commission?

The product should help regulators to:

- distinguish dangerous influencers (where call of action becomes massive) by using
- Prochaska's selective amplification, strategic framing, and manufactured reality

How can we create such product?

Drawing from paper findings, we can use an regression discontinuity identification that essentially builds an index of exposure to misinformation (independent variable) and informal call to action as a dependent variable



RDD using Prochaska's findings

$$Y_i = \alpha + \tau D_i + \beta X_i + \theta_1 Z1_i + \theta_2 Z2_i + \theta_3 Z3_i + \gamma(X_i - c)D_i + \delta(X_i - c)(1 - D_i) + \epsilon_i$$

Dependent Variable:

- Y_i: Number of informal calls to action by individual i.

Independent Variables:

- X_i (Misinformation Exposure): A score constructed based on influencer impact (Z1_i) and strategic framing (Z2_i), and Z3 (kinda difficult to observe)

- Z1_i: Influencer impact.

- Z2_i: Strategic framing.

- Z3_i: Selective amplification mechanism.

Assumptions:

1) critical to evaluate: x~z1+z2+z3
2) Not sure if indep Z* is guaranteed
3) We assume that people exposed to specific frameworks, amplified realities, and influencers are different from other people. Potential non-compliance

Applicability

1) Immediate Response to Misinformation
2) Regulatory Action Against Misinformation
3) Policy and Framework Adjustments: Conduct regular stress tests and scenario analyses to evaluate how resilient banks are to such shocks, adjusting capital requirements if necessary.

Interesting questions regarding the product

- False positives are far more dangerous than error type II: e.g. claiming that an influencer was leading a false insurrection against the financial system without clear evidence
- Legal issues: first amendment vs. protecting financial system/consumers
- Connected to the second reading “Understanding and combating misinformation...”--there are certain specific interventions that might guide policymakers to reduce pernicious impact of an toxic and highly connected influencer

Social Impact Assessor

Kwame Ocran

Closing the Gap

- All social movements need mobilisation of some sort
  - BLM -> Large scale protests
  - Feminism -> Social reforms and crique through media & protests
  - Free Palestine -> Financial Boycotts, Fundraising
- Mobilisation as an action requires resources to happen:
  - Human -> Labour, expertise, leadership
  - Cultural -> How to organise
  - Material -> Money, equipment, space
  - Networks -> Social connections, recruiting
  - Moral -> Ideological foundations

Closing The Gap

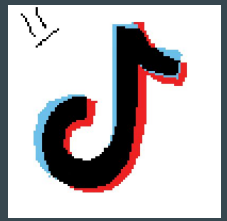
- This paper shows:
  - Social media gives way to mis + dis-information and infrastructure needed to mobilise
  - Social movements based on disinformation happen because of the variability of the movement's narratives and core stories
  - **TLDR: it links disinformation on social media to mobilization which can cause real life disruptions like January 6th.**

Future Impact?

- Ambiguous present social impact, but...
  - What if this paper is used in court?
    - What does that mean for liability and social responsibility cases?
      - Donald Trump has argued in court that he's not liable for January 6th, even though many of his supporters admit to seeing his tweets as a rallying call
        - **Should this paper be used to prove him to be liable?**

Future Impact?

- What does this mean for the role of social media companies?
  - They say they're platforms, not publishers, and thus, cannot be sued for any content or (most) adverse effects of said content
    - **Should their legal status(es) change given that there is now a direct link between social media posts and mobilisation?**



Instruction Cont.,
Understanding and combating misinformation across 16 countries on six continents

Arechar et al., 2023

Jihyeon Je
May 9, 2024

Motivation

Fake News is dangerous

NPR

Viral WhatsApp Messages Are Triggering Mob Killings In India

In recent months, about two dozen people
mobs driven to violence by what they've re

Jul 18, 2018

The New York Times

A Genocide Incited on Facebook, With Posts From Myanmar's Military (Published 2018)

With fake pages and sham accounts, the military targeted the mostly Muslim Rohingya minority group, said former military officials,...

The Guardian

WhatsApp and the Wakeley riot: how a messaging platform became a fake news broadcaster

The spread of misinformation on the night of the alleged stabbing of a priest in Wakeley escalated violence faster than news outlets could...

2 weeks ago

CNN

Many Americans still struggle with health misinformation, new poll finds

Although not a new phenomenon, health misinformation became even more widespread during the Covid-19 pandemic. A new poll from KFF finds...

The New York Times

Facebook Admits It Was Used to Incite Violence in Myanmar (Published 2018)

The company, citing a human rights report it commissioned, said it was moving to prevent further abuses of its platform in Myanmar.

Nov 6, 2018

Problem Setup

Psychology of online misinformation globally

- Cross-country analysis is difficult: large amounts of variation in people's attitude towards **credulousness**, **levels of digital literacy, social media platform, cultural values**

  →COVID-19 as a topic of global relevance

- Psychology of online misinformation globally with simultaneous experiments in 16 countries over 6 continents:
  - Who believes and share misinformation
  - Anti-misinformation interventions

Methods

Can we identify fake headlines?

- Headline construction
  - 30 false and 15 true headlines about COVID-19
- Participants
  - 2000 social media users in each varying in age and sex, in each country
- Experimental conditions
  - Accuracy: rate the **accuracy** of the headline on a scale
  - Sharing: rate how likely they would be to **share** the headline on a scale
  - Prompt: **prior** to sharing, rate the **accuracy** of a single headline
  - Tips: **prior** to sharing, shown a set of four digital literacy **tips**

Method, contd.

Headline construction

False headlines

Masks, Gloves, Vaccines, And Synthetic Hand Soaps Suppress Your Immune System
Hot water, orange peel and a vapour rub containing menthol can kill bacteria and release "all the toxins" that cause coronavirus
Vaccine in development with "optional" tracking microchip
A COVID-19 vaccine will genetically modify humans
COVID-19 RNA Vaccine Will Change Your DNA
Antibiotics can treat coronavirus patients

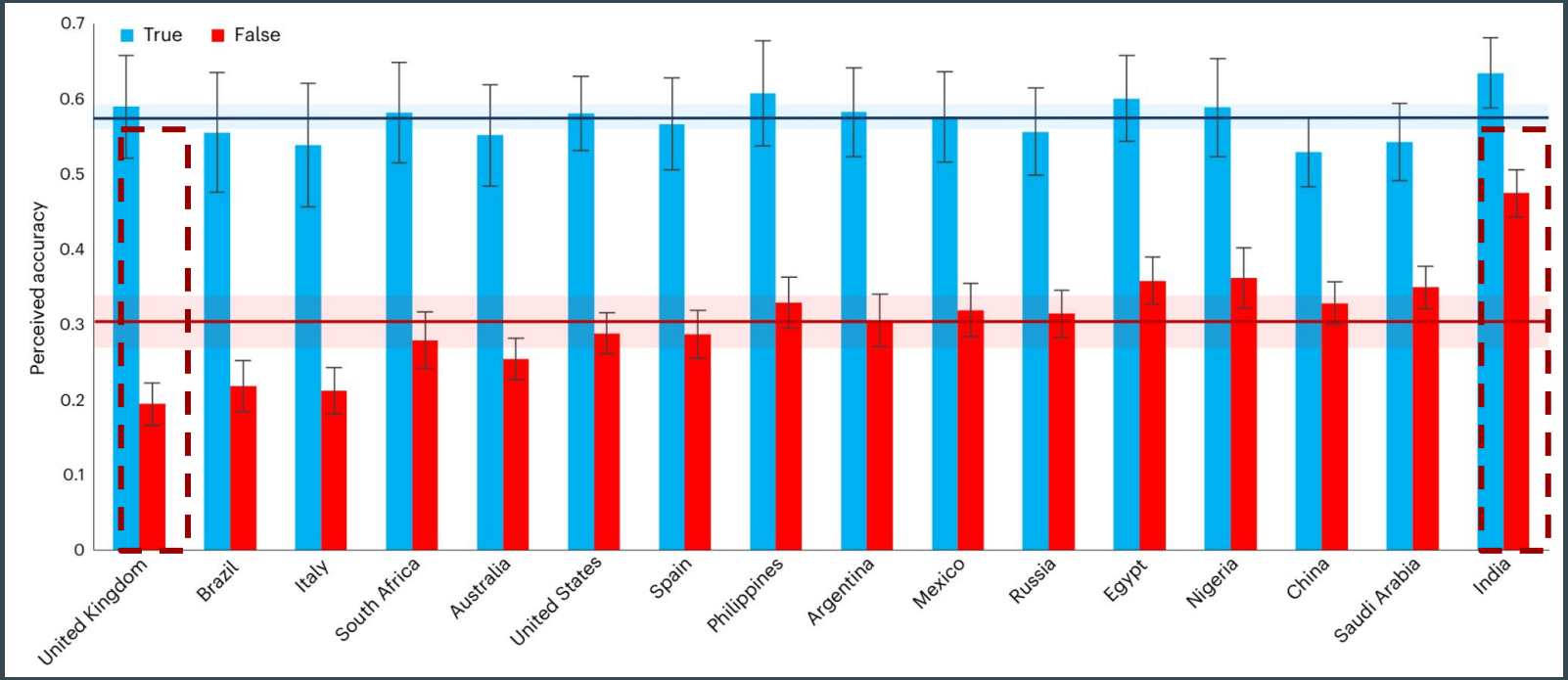
True headlines

The likelihood of shoes spreading COVID-19 is very low
Thermal scanners and thermometers CANNOT detect COVID-19
Viral mutations may cause another ‘very, very bad’ COVID-19 wave, scientists warn
Washing your hands six to 10 times a day could lower coronavirus risk
Coronavirus may have ‘devastating impact’ on the heart
Black and Asian individuals are up to two times more likely to contract Covid-19 than white people, comprehensive new research has warned

Accuracy: Who believes misinformation?

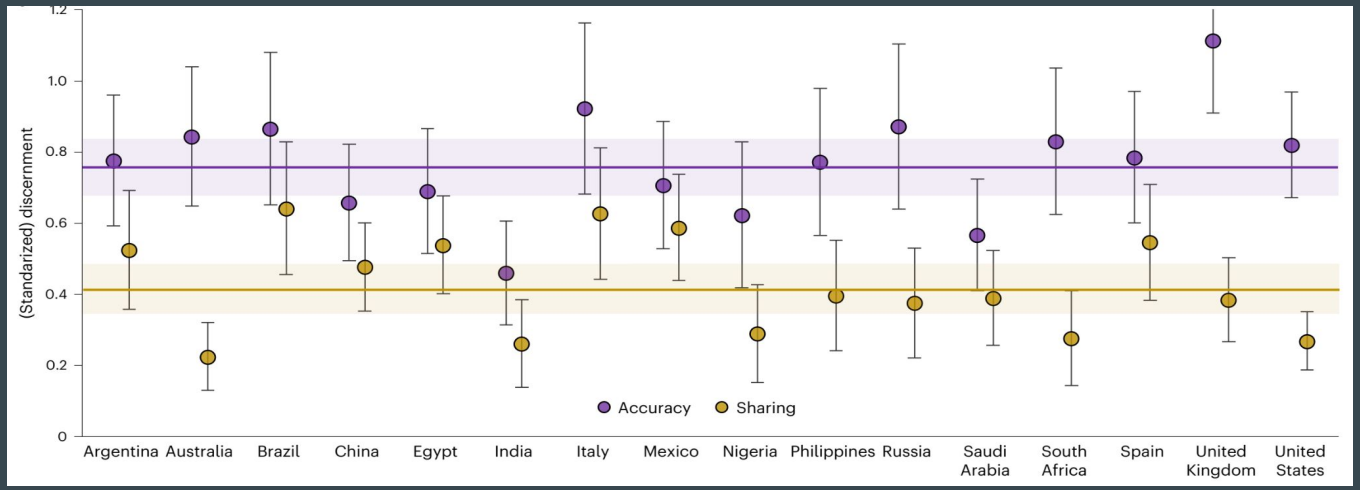
Can people identify true vs false headlines?

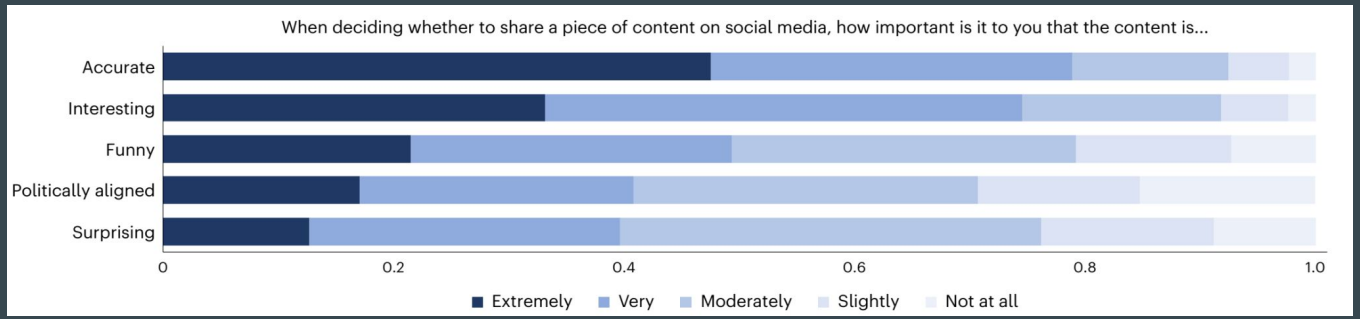
Marked variation across countries in truth discernment



Sharing: Accuracy judgements versus social media sharing

Will people share fake news?

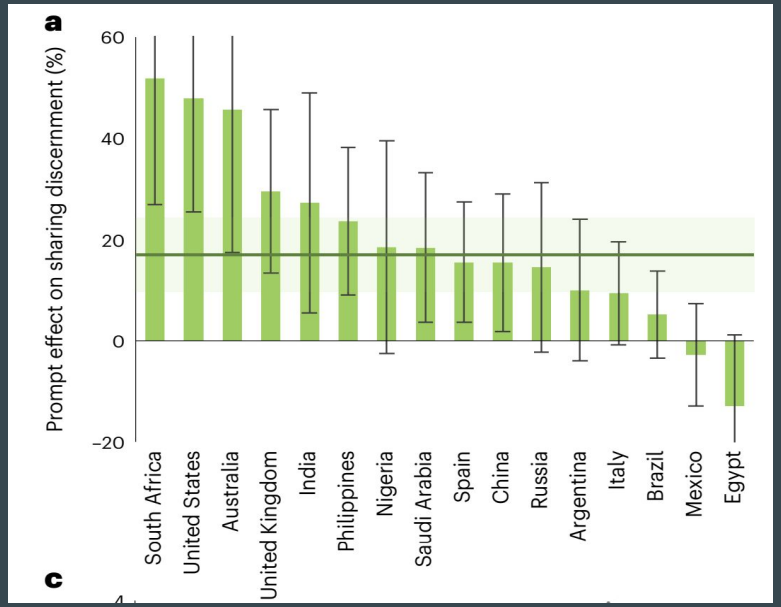


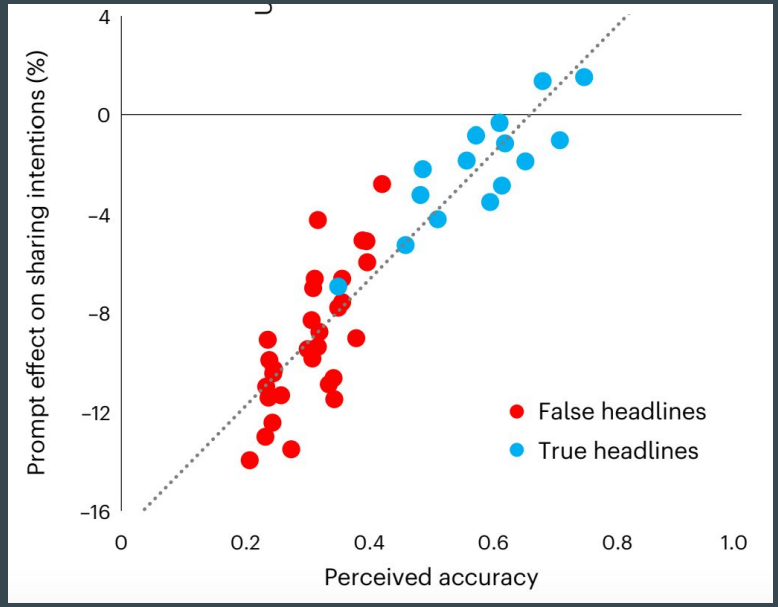


Prompt: Do accuracy prompts increase information sharing quality?

What if we ask them to judge before sharing?

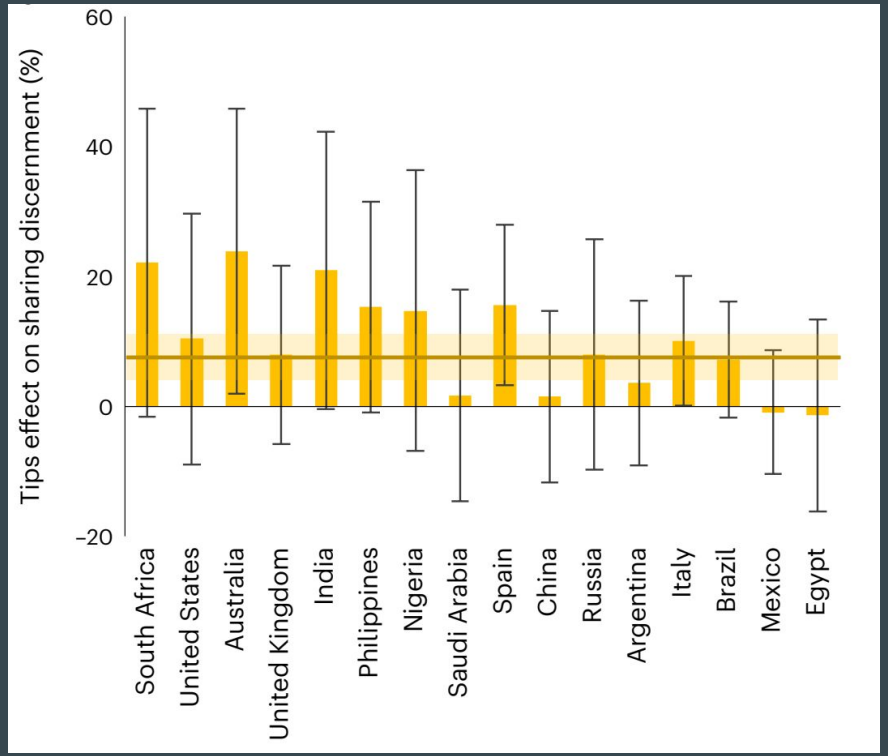
Why the discontent between accuracy and sharing? Can people be sharing to mock or correct a false news?





Tips: Can minimal digital literacy tips improve sharing?

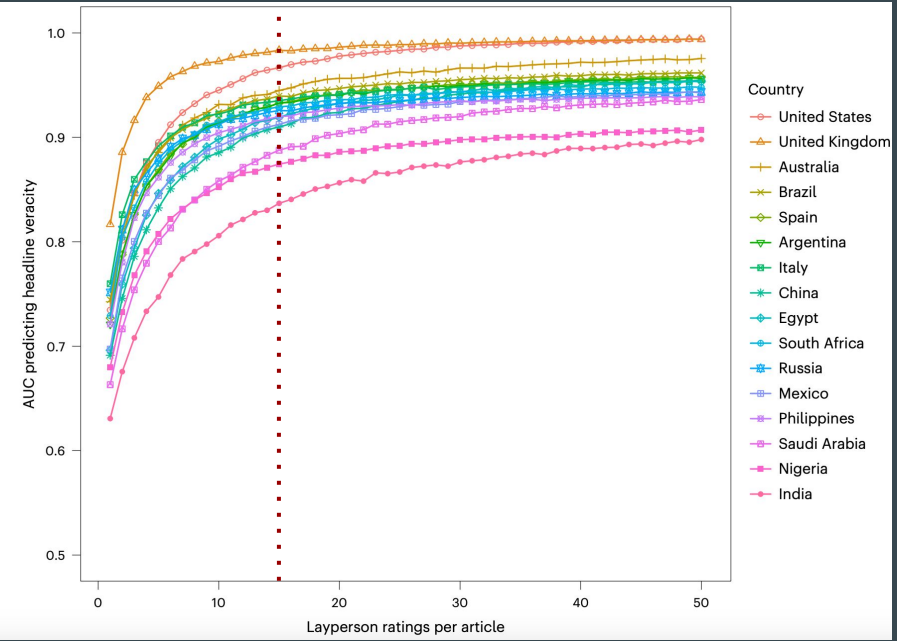
What if we provide them some tips beforehand?



Results: Can layperson accuracy ratings help identify misinformation?

Utilizing group judgement to combat misinformation

Can a layperson accuracy judgements be leveraged to identify group misinformation?
→ Can a small subset achieve a high level of agreement on factuality?



Conclusion and Future Work

Global variations in accuracy discernment

- Disconnect between **accuracy** and **sharing**: people would share news they would be able to identify as false if asked
- Anti-misinformation interventions and digital literacy tips may be widely helpful
- “Wisdom of the crowds” could be used to aid in fact-checking

- Variations in familiarity and prior exposure to headline
  → Can we select the headline with the highest level of social media interaction?
- Measures of sharing were hypothetical

Peer Review

Understanding and Combating Misinformation Across 16 Countries on 6 Continents

Strength

- Determine demographic and cultural factors underlying belief and spread of misinformation on a global level.
- The combination of Accuracy, Sharing, Prompt, and Tips conditions presents a framework for not only determining the potential causes but also the solutions

Limitations

- Lack of explanation regarding the choice of the regression model. For instance, why adjust standard errors for two clusters? Perhaps went with the adage, “When in doubt, cluster.”

- Comparison to other related works. For example, the paper Global Surveys on COVID-19 beliefs, behaviors, and norms (Collis et al. (2022)): 2 million responses in 67 countries.

Question for Discussion

- What other global topics do you think the researchers could have drawn headlines from? Election integrity? Climate change?
- Should the study have been confined to English speaking countries around the world? How much do you think linguistic/translation differences affected the participants' judgement?

Academic Researcher

Alex Nam

Prior works

- Arechar et al., 2023: cross-cultural ***experimental study*** about truth discernment and spread (using COVID 19 news headlines)
- Prochaska et al., 2023: ***observational study*** about political mobilization based on disinformation / spread of fake news (using 2020 US presidential election tweets)

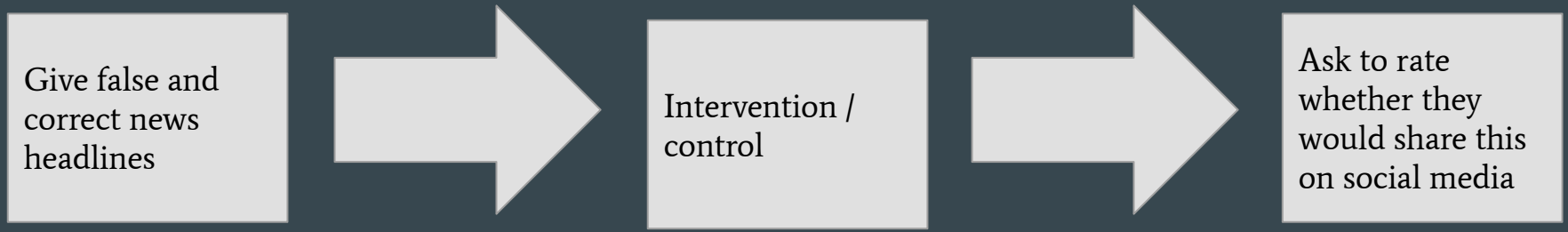
Follow-up project

- Experimental study to explore the effects of other people's opinions on an individual's truth discernment and tendency to spread the news
  - Use the setup from Arechar et al.
  - Further investigate their treatment effect results (in order to answer: "what intervention mechanisms can help reduce the spread of fake news?")
  - Guided by the "source codes" introduced by Prochaska et al. (e.g., media, political elites, intermediate carriers of information – tiers based on their social media influence)

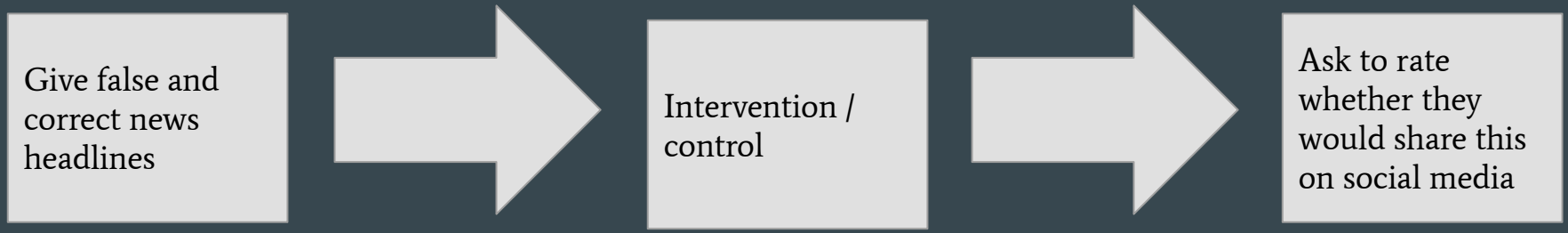
Goal

- Study the effect of other people's opinions on an individual's truth discernment and spread on social media
- To help design effective intervention strategies that can mitigate the spread of fake news

Method / experiment set-up (by prior work)



Method / experiment set-up (by prior work)



Treatment A: direct prompting
- Ask people to first rate the news accuracy

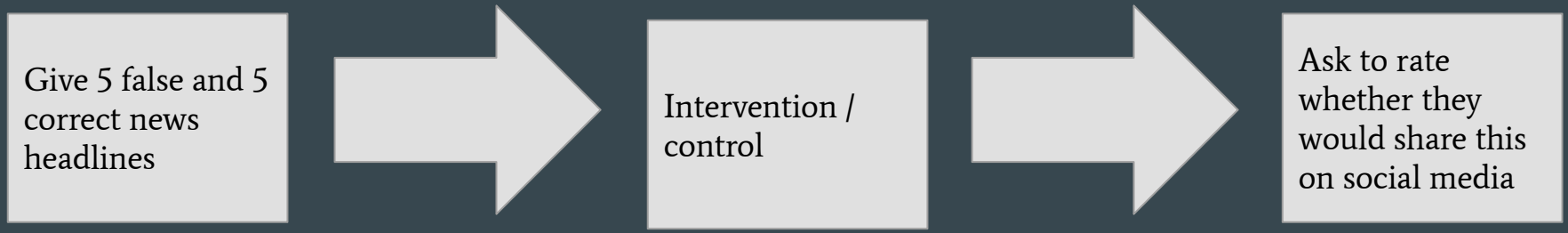
Treatment B: 4 digital literacy tips

Control: none

Method / experiment set-up (by prior work)

- “Wisdom of the crowd”: with as few as 10-15 people, can detect whether the article is correct or false
- Our question: Can “wisdom of the crowd” modulate individual’s tendency to spread the new?
  - Who makes up the “crowd”?
  - Can this be used in manipulative ways?

Method / experiment set-up (proposed)



Treatment with *elites (credible sources)*: e.g., NHS, doctors
Treatment with *wisdom of the crowd*: anonymous majority
Treatment with *LLM*: “Chat-GPT says/thinks ... about the article”

Main questions to study

1. Does exposure to other people's opinions affect people's tendencies to share information on social media?
    a. Positively? (e.g., People who would otherwise share the fake news are less likely to share it if the majority opinions say false)
    b. Negatively? (e.g., People who would otherwise not share the fake news are more likely to share it if the majority says true)

Main questions to study

2. Factors contributing to the treatment effect (as experiment ablations):

    a. How the opinions are shared
        i. How much is shared:

            e.g., “XYZ believed this article to be true” v.s. “XYZ believed .... about the article is true and cast doubts on ....”

        ii. Sensitivity to the number of people in majority & majority actions:

            e.g., “Majority of people believed ...”, “10 people who read this article said ...”, “10 people liked/shared this article”

    b. Are people more susceptible to news/headlines with statistics / numerical data v.s. qualitative words only?

Limitations of the proposed experiment study

- Can only study the one-time step treatment effect
- Cannot observe how narratives shift/build over time as different people's rendering/perception of the news interact with each other

- ... what else?

Social Impact Assessor

Kwame Ocran

The General Good

- Misinformation is rampant but can often be covert
    - This study gives us insights into allows it to spread
- Bringing any attention to misinformation and studying how it spreads is always good
- A number of studies on the topic are constrained to the U.S. / West, so this study opens up the conversation to non-Western countries, which is important because this is a global issue

The Questionable

False Headlines Used

9	Wearing a mask can cause CO2 intoxication and oxygen deficiency	WHO
10	Hot steam and tea cure coronavirus	Vishvas News (India)
11	Medical Research Has Shown Distance Does Not Matter In COVID-19 Transmission; Research Contradicts Air Transmission Hypotheses	WHO
12	Head of Pfizer Research: Covid Vaccine is Female Sterilization	Reuters
13	COVID-19 vaccines have "experimental technology never before used on humans" and some "contain nanochips which can electronically track recipients."	Politifact (U.S.)
14	Sun exposure or temperatures higher than 25 Celsius can protect you from the coronavirus	WHO
15	Covid-19 excess deaths are the same as 2017-18 winter flu season	BBC
16	The defectiveness of the Covid-19 tests exposed by demonstrating that even a glass of Coca Cola will test positive for Covid-19	Reuters
17	Fewer Deaths In 2020 With COVID-19 Versus 2019 Without The Virus	Lead Stories (U.S.)
18	UN health experts admit toxic vaccine ingredients are harming children worldwide	Institute for Strategic Dialogue (U.K.)
19	There has been no death due to Covid-19 in Israel as they mix lemon and baking soda in their tea. This combination kills coronavirus	India Today

The Questionable

True Headlines Used

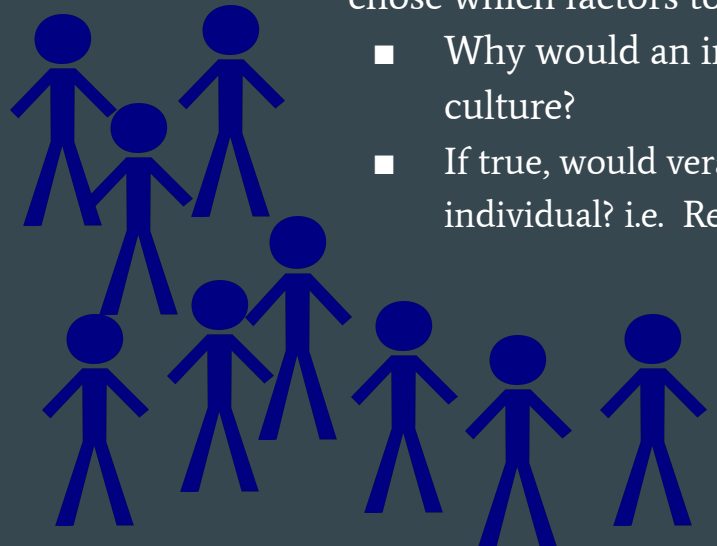
True headlines used in the study		Source
31	The likelihood of shoes spreading COVID-19 is very low	WHO
32	Thermal scanners and thermometers CANNOT detect COVID-19	FDA (U.S.)
33	Viral mutations may cause another 'very, very bad' COVID-19 wave, scientists warn	Science (U.S.)
34	Washing your hands six to 10 times a day could lower coronavirus risk	WHO
35	Coronavirus may have 'devastating impact' on the heart	BBC
36	Black and Asian individuals are up to two times more likely to contract Covid-19 than white people, comprehensive new research has warned	lbc.co.uk
37	Covid-19 Is Far More Dangerous Than Any Vaccine	Hindustan Times (India)
38	Most people who get COVID-19 have mild or moderate symptoms and recover	Many sources
39	Some COVID-19 patients still have coronavirus after symptoms disappear	Many sources
40	Suspicions grow that nanoparticles in Pfizer's COVID-19 vaccine trigger rare allergic reactions	Science (U.S.)
41	COVID-19 lockdowns significantly impacting global air quality	American Geophysical Union
42	More people are getting COVID-19 twice, suggesting immunity wanes quickly in some	Science (U.S.)
43	Vaping Linked to Increased COVID-19 Risk, According to New Study	Stanford Medicine (U.S.)
44	Facebook to Warn Users Who 'Liked' Coronavirus Hoaxes	Associated Press
45	Trial shows that dexamethasone reduces death risk in severe COVID-19 cases	WHO

The Questionable

- The study generalises its findings about CoVid misinformation to all misinformation, but the pandemic had many different contexts around the world
    - According to John Hopkins University, Ghana had 1,462 CoVid deaths overall, compare this to the 2017 lower respiratory (with influenza being a main contributor) death rate of 17,537 people
- Researchers didn't consider differing attitudes to news credibility
    - USA & UK have open news, i.e. companies can produce news, China & Saudi Arabia have closed news, i.e. only government institutions can regulate and produce news
- Study downplays the effect of familiarity with headlines
    - Headlines used in the study were mainly from U.S., UK, and to a lesser extent, Indian sources, so those from those countries might be more likely to have already seen them or similar headlines
    - To a lesser extent, this is also connected to their use of translation services

The Bad

- Researchers stated they focused on psychological factors & misinformation
- However, they propose connections between political-economic factors and misinformation
    - They provide no basis for why they think those factors might be connected, and how they chose which factors to consider
        - Why would an individualist culture be better at truth discernment than a collectivist culture?
        - If true, would veracity change if a header author was implied to be a group rather than an individual? i.e. Reporter Jon Smith says... vs. CNN reporters find...



The Bad...Again...

- Seems to be attempting to understand these factors in other countries under an American/Western frame
- These connections in conjunction with their claims about particular country's gullibility, might imply some kind of cultural/social deficiency in those countries
- Overall, lowers the possible positive impact of study, because it seems biased against non Western countries