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# Misinformation Exposure Beyond Traditional Feeds: Evidence from a WhatsApp Deactivation Experiment

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14 Encontro da ABCP

# Social Media, Politics and Misinformation

## ⊕ Prevalence of misinformation:

- People aren't actually exposed to a lot of misinformation – but exposure is heavily concentrated. (Grinberg et. al. 2019, Guess et. al. 2019)

## ⊕ Downstream effects on attitudes: less than you think:

- Mixed evidence from Deactivating users from Facebook (Asimovic et. al. 2022, Alcott et. al. 2020, Arcenaux and Ladd 2023)
- Meta Election 2020 studies (Guess et al. 2023a,b; Nyhan et al. 2023)
- Null effects of exposure to misinformation campaigns from Russian bots on Twitter (Eady et al. 2023)

## ⊕ Majority of scholarly work comes from W.E.I.R.D countries]:

- Over 80% of existing studies on interventions to correct misinformation focus on Global North countries (Blair et. al. 2023, Badrinathan and Chauchard, 2023a)
  - Despite the fact that the real-world effects of misinformation exposure may be more pronounced in these countries.

## *Disinformation Spreads on WhatsApp Ahead of Brazilian Election*

 Give this article  



## **Fake News Is Poisoning Brazilian Politics. WhatsApp Can Stop It.**

Oct. 17, 2018



Identify the causal effects of **WhatsApp usage** on **exposure to online rumors** and its downstream effects on **belief accuracy** and **political attitudes**

# Deactivation Studies

American Economic Review 2020, 110(3): 629–676  
<https://doi.org/10.1257/aer.20190658>

## The Welfare Effects of Social Media<sup>†</sup>

By HUNT ALLCOTT, LUCA BRAGHIERI, SARAH EICHMEYER,  
AND MATTHEW GENTZKOW\*

*The rise of social media has provoked both optimism about potential societal benefits and concern about harms such as addiction, depression, and political polarization. In a randomized experiment, we find that deactivating Facebook for the four weeks before the 2018 US midterm election (i) reduced online activity, while increasing offline activities such as watching TV alone and socializing with family and friends; (ii) reduced both factual news knowledge and political polarization; (iii) increased subjective well-being; and (iv) caused a large persistent reduction in post-experiment Facebook use. Deactivation reduced post-experiment valuations of Facebook, suggesting that traditional metrics may overstate consumer surplus.* (JEL D12, D72, D90, I31, L82, L86, Z13)

Social media have had profound impacts on the modern world. Facebook, which remains by far the largest social media company, has 2.3 billion monthly active users worldwide (Facebook 2018). As of 2016, the average user was spending 50 minutes per day on Facebook and its sister platforms Instagram and Messenger (Facebook 2016). There may be no technology since television that has so dramatically reshaped the way people get information and spend their time.

Speculation about social media's welfare impact has followed a familiar trajectory, with early optimism about potential benefits giving way to widespread concern about possible harms. At a basic level, social media dramatically reduce the cost of connecting, communicating, and sharing information with others. Given that interpersonal connections are among the most important drivers of happiness and

Facebook Deactivation in the US (Alcott et al., 2020)

## Testing the effects of Facebook usage in an ethnically polarized setting

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Despite the belief that social media is altering intergroup dynamics—bringing people closer or further alienating them from one another—the impact of social media on interethnic attitudes has yet to be rigorously evaluated, especially within areas with tensions between ethnic groups. We conducted a 4-week randomized controlled trial in Bosnia and Herzegovina (B&H), exploring the effects of exposure to social media during 1 wk around genocide remembrance in July 2019 on a set of interethnic attitudes of Facebook users. We find evidence that, compared to previous research, which often finds that users who deactivate their Facebook profiles report lower regard for ethnic outgroups than those who remained active. Moreover, we present additional evidence suggesting that this effect is likely conditional on the level of ethnic heterogeneity of one's residence. We also provide the first analysis of improvements in subjective well-being and knowledge of news. Here, we find that Facebook deactivation leads to suggestive improvements in subjective well-being and a decrease in knowledge of current events, replicating results from recent research in the United States in a very different context, thus increasing our confidence in the generalizability of these effects.

spaces can help or hinder the goal of transforming relations from antagonistic to constructive, social media should be considered and studied as one of the forces influencing the direction of countries' postconflict ethnic and partisan identities. Partisanship and ethnicity are potential markers of one's identity. Given that partisanship is acquired by choice, however, it is a more informative measure of one's worldview than group membership based on more immutable characteristics such as ethnicity or race (10). As such, some proposed interventions, such as those designed to make individuals more receptive to others for their partisanship than for their inborn group affiliations (11), The differences between partisan and other social identities have recently been discussed as a potential explanation of why intergroup contact, which tends to be associated with greater reconciliation (12–14), may be less effective at mitigating outgroup hostility in the context of partisanship (15). This, however, remains an open question requiring studies that go beyond partisan affiliation, in particular addressing attitudes toward ethnic outgroups and especially in an online context.



POLITICAL SCIENCES

Facebook Deactivation in Bosnia and Herzegovina (Asimovic et. al, 2022)

# Our Experiment

⊕ **Our Design:** Cut the primary channels through which users are exposed to misinformation and polarizing content: videos, images and audios (Machado et al., 2019; Resende et al., 2019; Garimella and Tyson, 2018; Garimella and Eckles, 2020; Batista Pereira et al., 2023).

⊕ **Experiment:** Offer respondents a monetary incentive to

- Disable their automatic download of media on WhatsApp.
- Do not purposefully click and watch any media on WhatsApp.

⊕ **Treatment Period:** Three weeks:

- **Start:** Three weeks before general election in Brazil.
- **End:** three days after the voting day.

# Overview of the Experiment

# Recruitment

**Method:** Facebook Ads targeting adults Brazil

**Started Recruitment:** September 8th

**Number of respondents:** 1,947

**Screening variables:**

- Willingness to join: 1,8861 participants
- More 5min WhatsApp daily
- Only WhatsApp mobile
- More than 2 min to complete recruitment + other quality controls

# Treatment Assignment

**Start:** September 15.

**Treatment:**

- Turn off the automatic download.
- Three **weeks** without consuming any multimedia.

**Control:** Three **days** without consuming any multimedia.

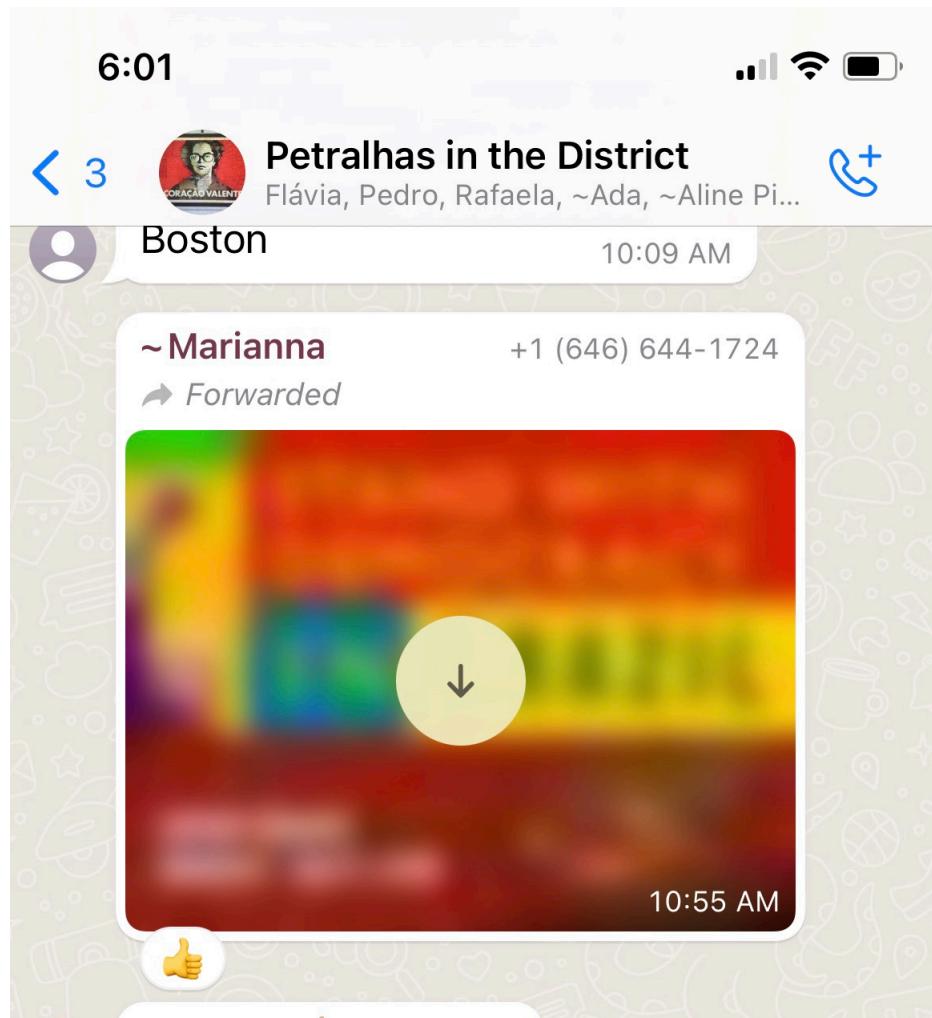
**Invited:** 1,135 respondents

**Enrolled:** 773 respondents

# Deactivation



# Intervention

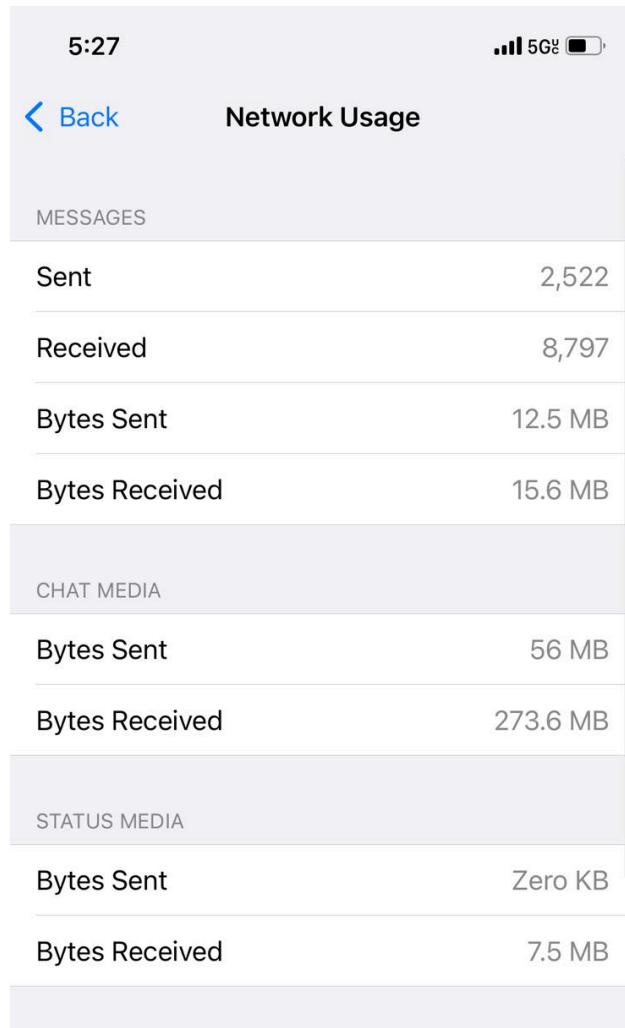


# Compliance

## Compliance Tasks:

- Screenshots of WhatsApp storage information
- Every week + final survey
- After the first compliance check, the control group was re-activated

# Compliance II



# Outcomes

## Self-Reported Exposure and Accuracy Judgment

- False Rumors published on fact-checking webpages during the month of the experiment
  - + True News stories headlines from mainstream media.

## Polarization

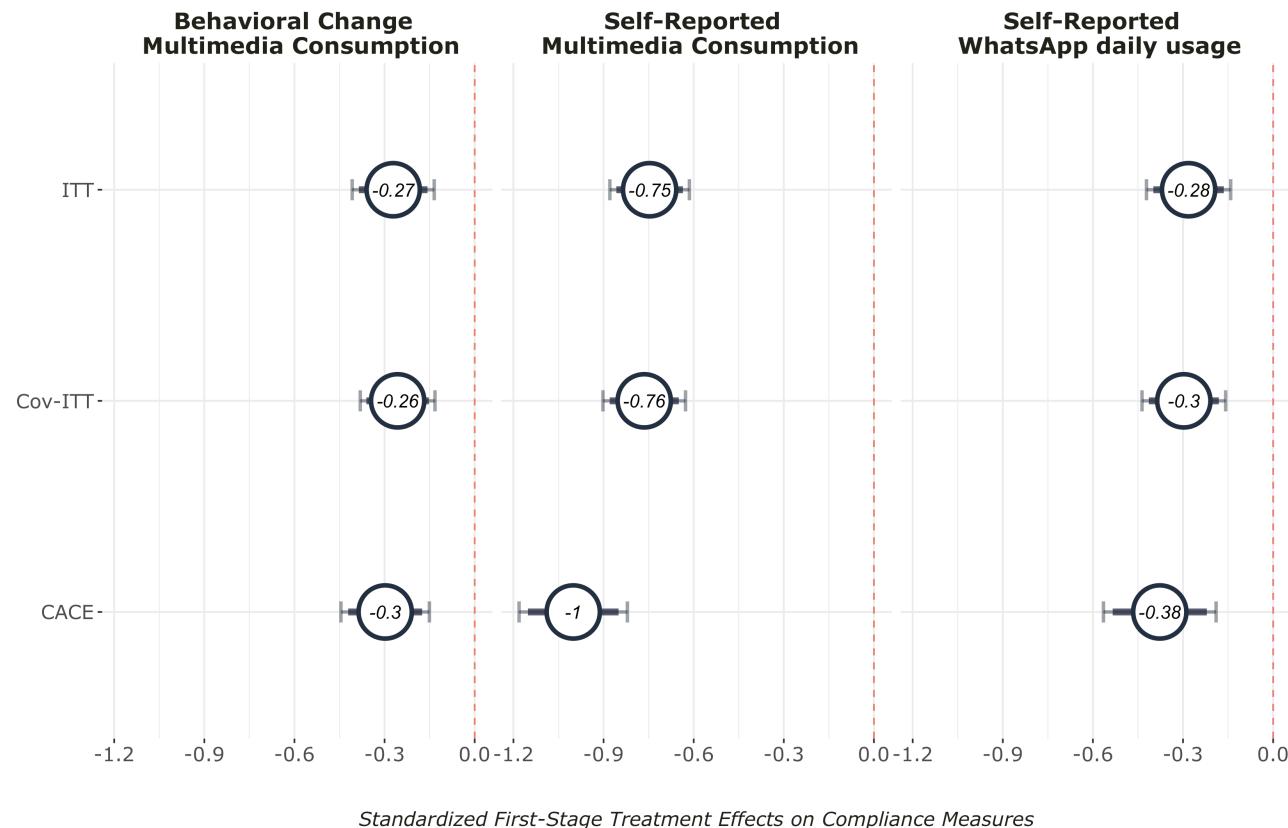
- Affective polarization (Feeling Thermometer).
- Social Polarization (Willingness to engage with outgroup voter).
- Issue Polarization (Abortion, gun control, etc..).
- Perceptions about ideological polarization ('Where do I observe the two main candidates?').

## Subjective Well-being

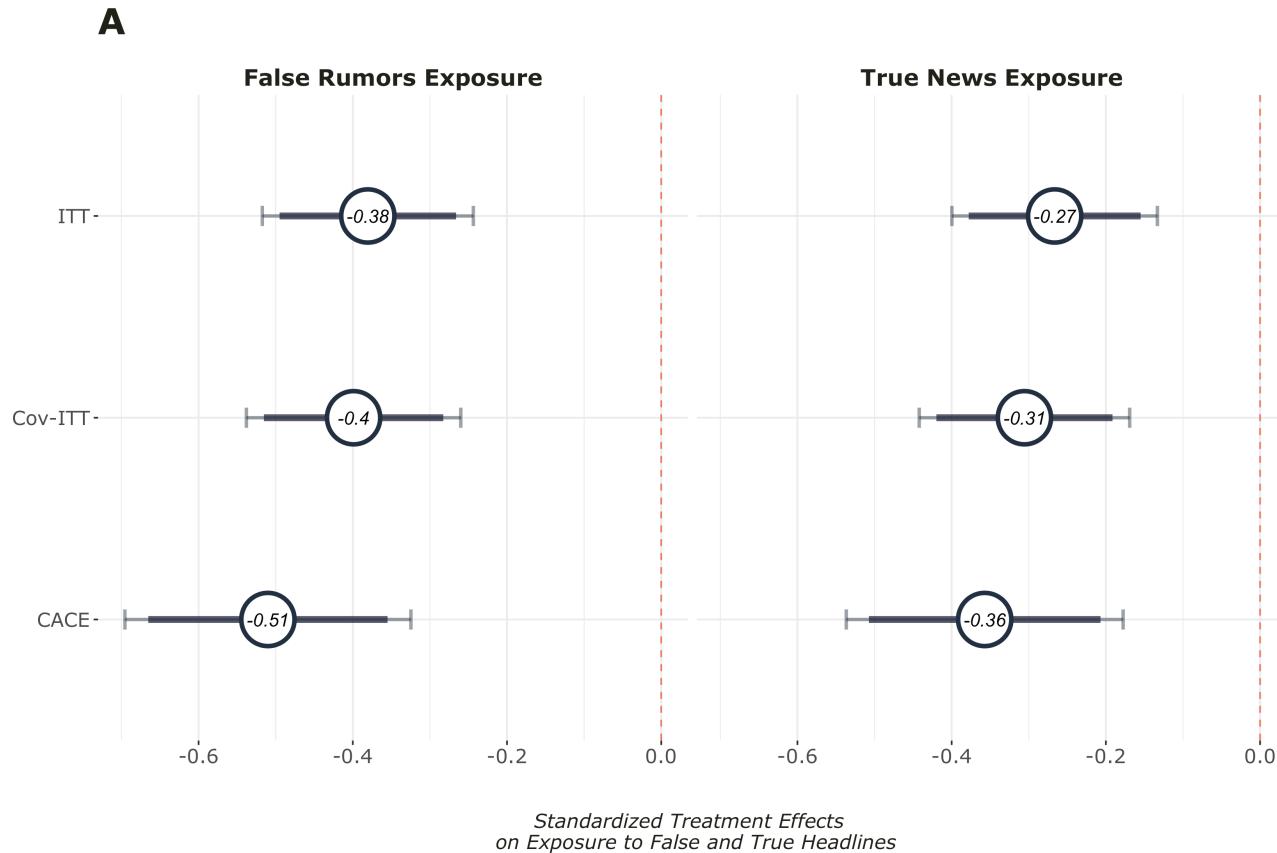
- How did you feel for the past three weeks? (Happy, Anxious, etc...).

# Results

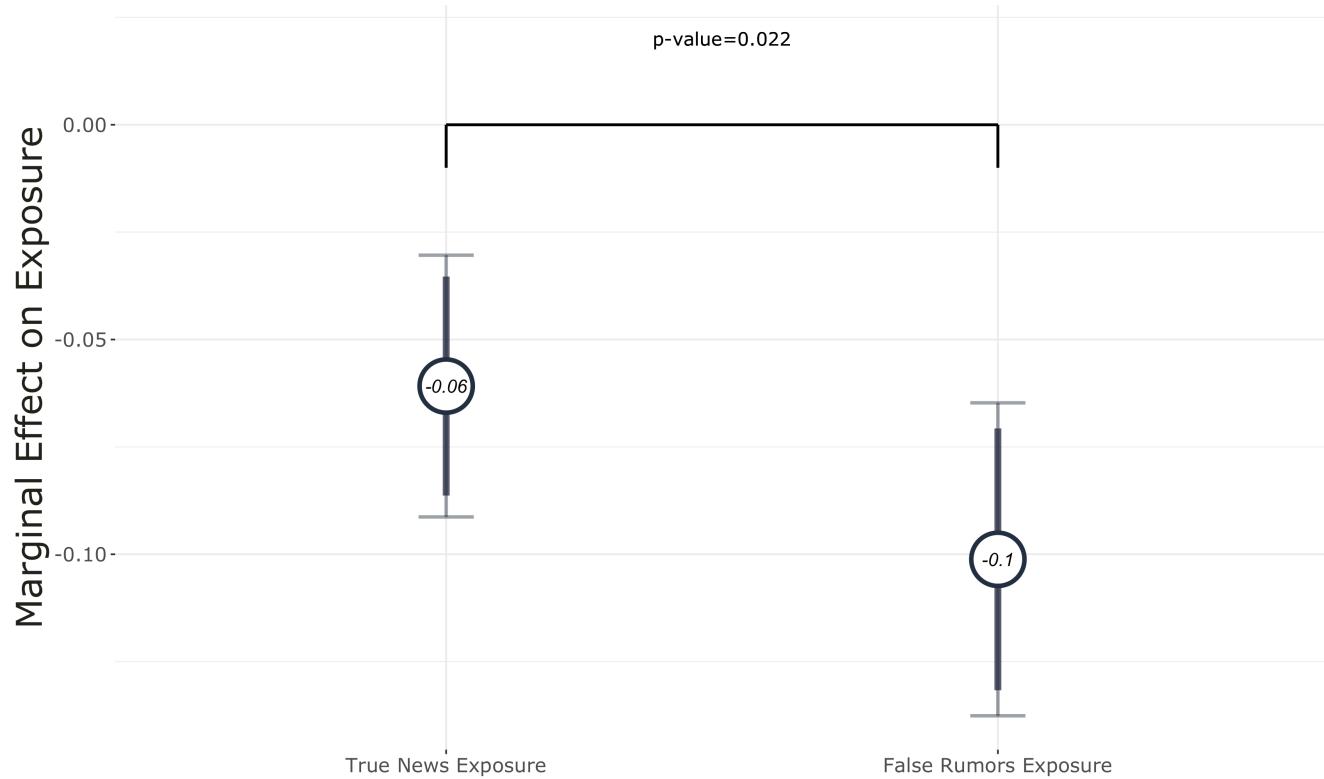
# First-Stage Results



# Effects on Exposure to Misinformation Rumors (H1)

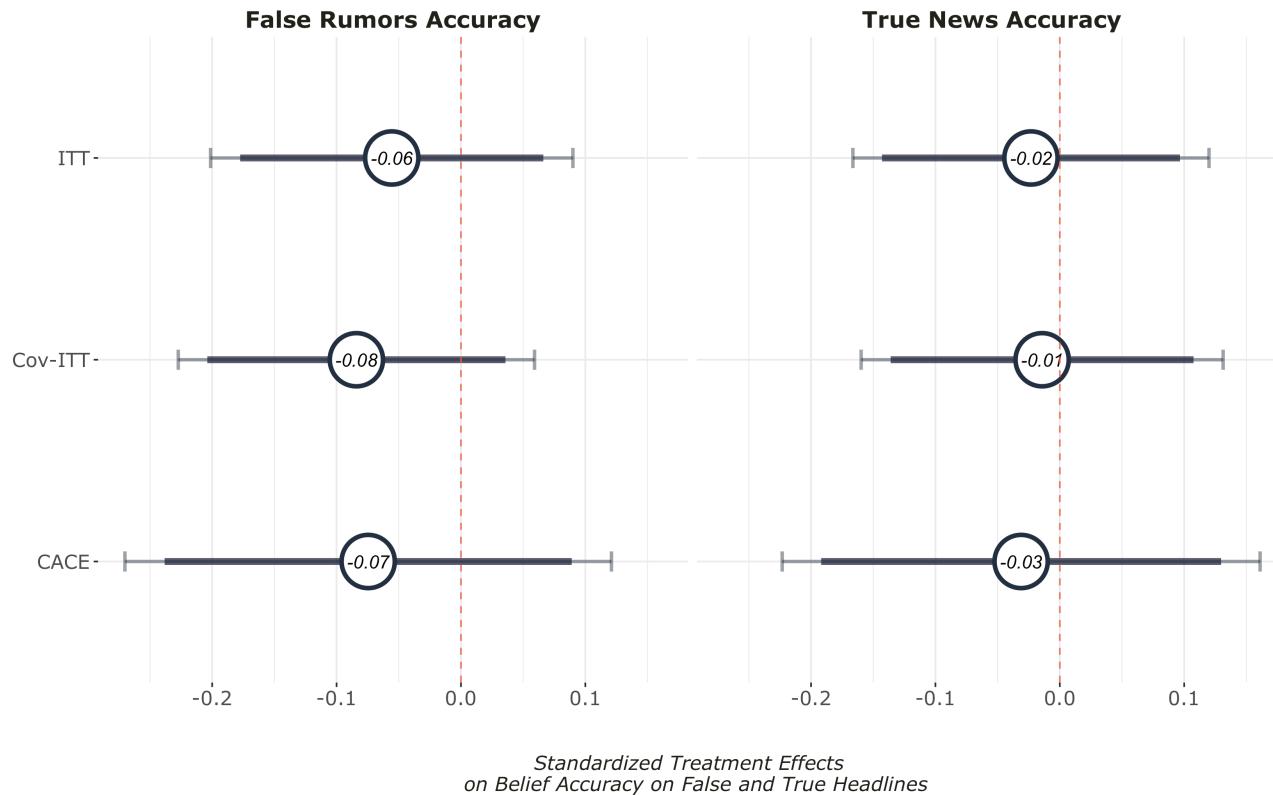


# Reduction in exposure is large for false news (H1)

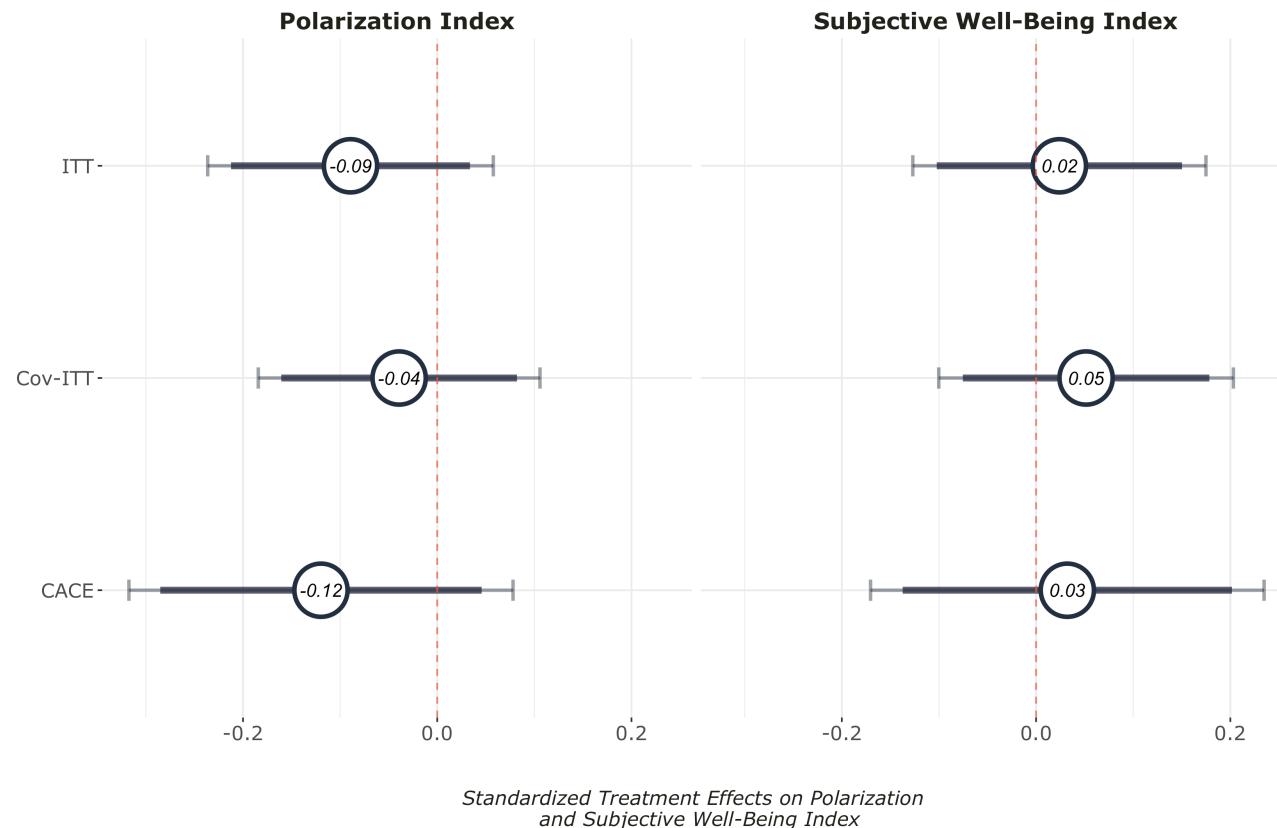


# Effects on Belief Accuracy (H2)

B

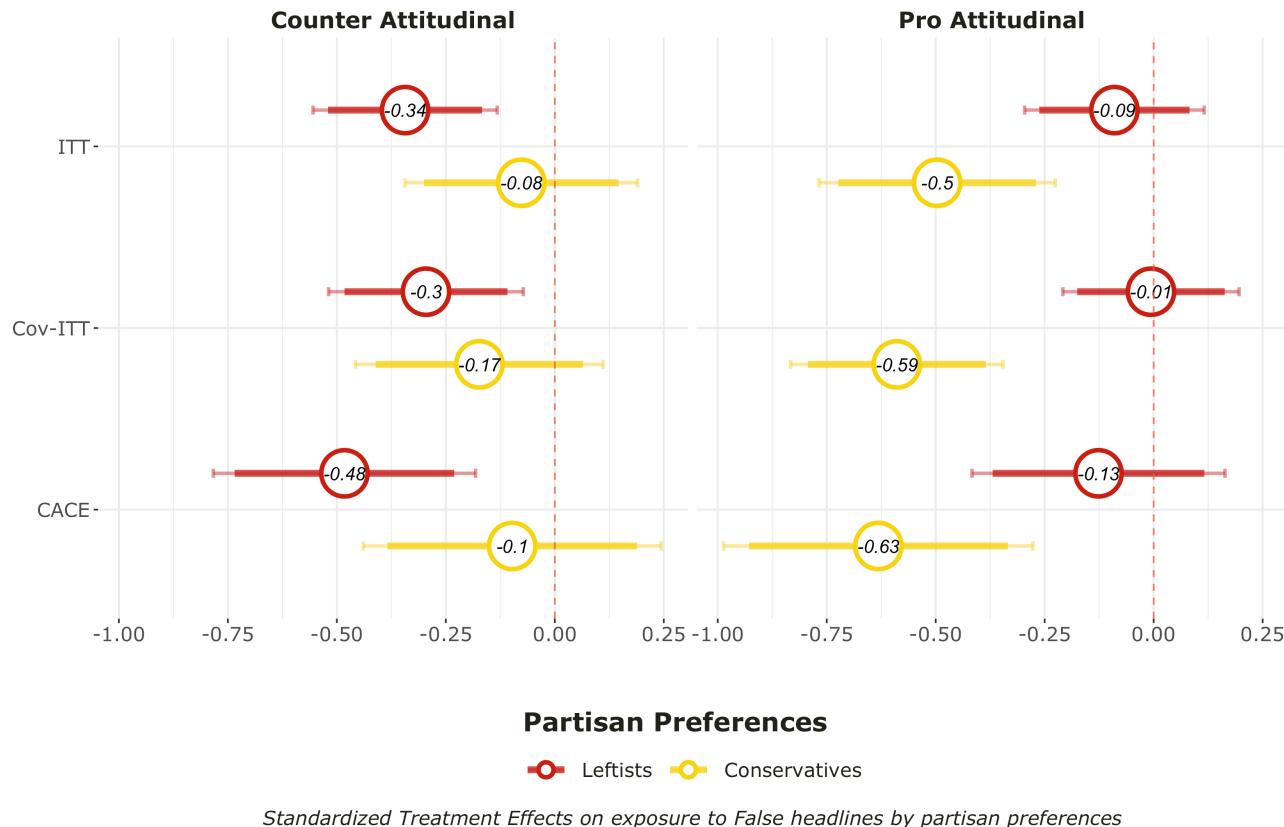


# Effects on Polarization & Subjective Well-Being (H3 & H4)

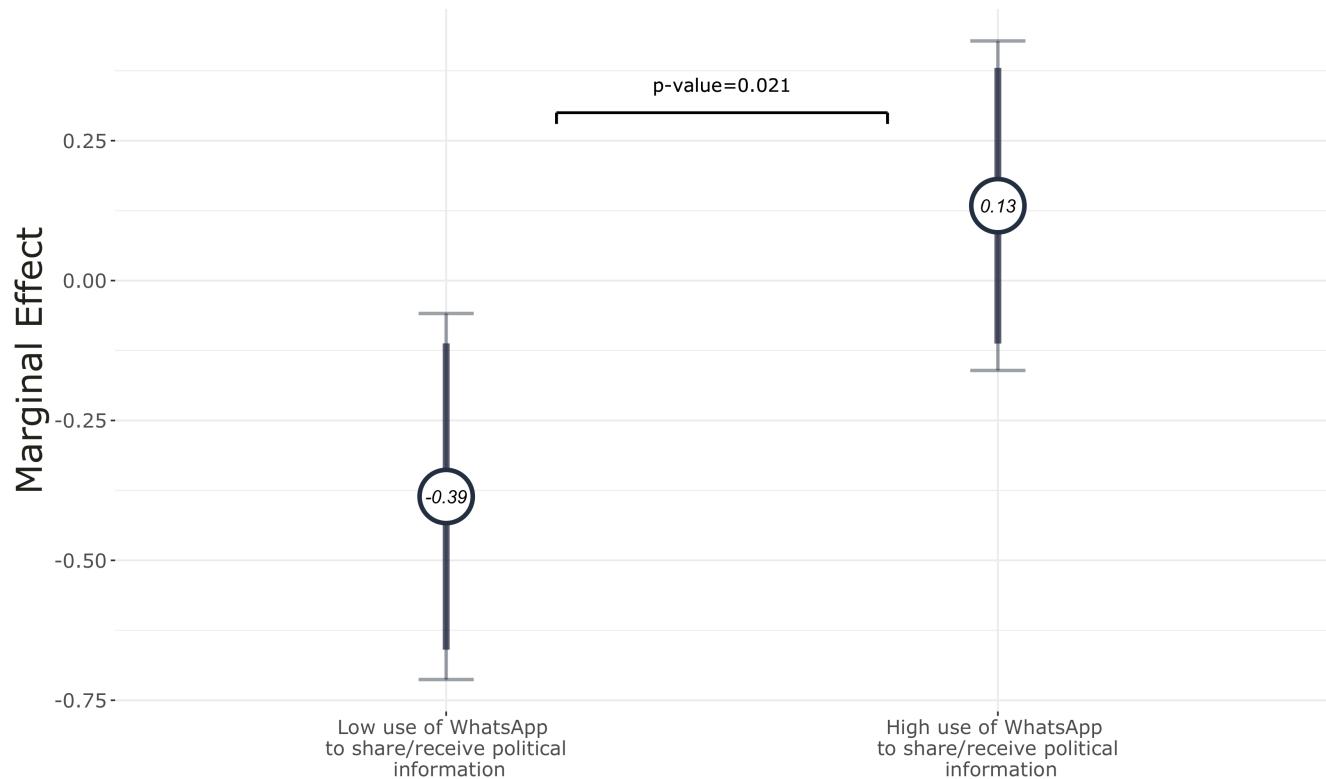


# Additional Analyses (Non Pre-Registered)

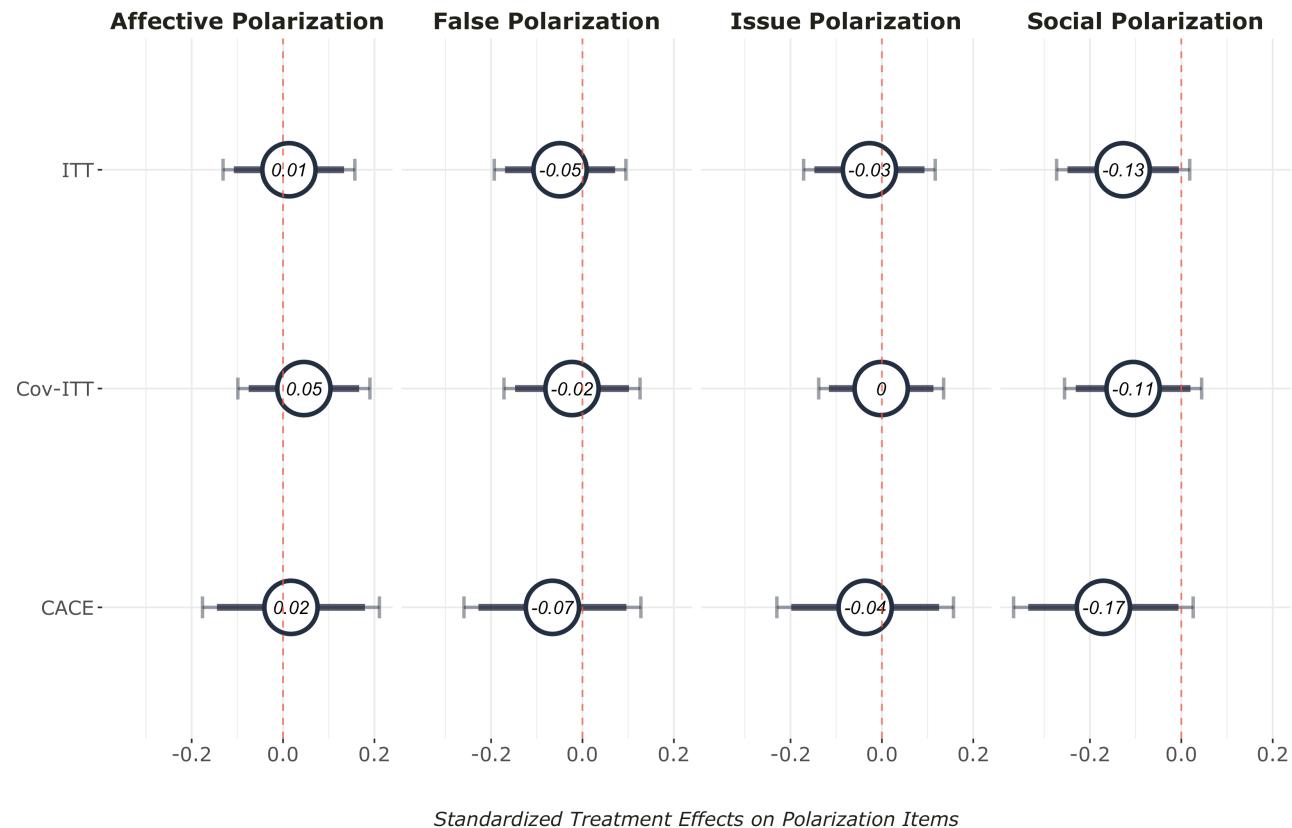
# Exposure and Partisanship



# Belief Accuracy Conditional on WhatsApp usage for Politics



# Polarization Outcomes



# Discussion

- ⊕ WhatsApp is an important vector through which voters receive misinformation in Brazil at a higher rate compared to true news.
- ⊕ The null results provide support for a minimalist view of the short-term causal effects of exposure to misinformation on WhatsApp on political attitudes.
- ⊕ Exposure to misinformation does not mechanically affect attitudes

# Limitations

- ⊕ **Scope conditions:** focus on direct effects of exposure to misinformation on WhatsApp & and short-term effects.
- ⊕ **Our study does not** rule out the use of WhatsApp (and other messaging apps) as a mobilization and organizational tool by malicious actors.
- ⊕ Larger effect might exist exactly on **hard to reach population**.
- ⊕ **Small effect size & power constraints**
- ⊕ Electoral context & role of **directional** motivated reasoning

# Thank you!