

Online Appendix for  
*Conspiracy Theories and Miracle Cures:*  
*Fighting COVID-19 Misinformation in India*

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## A Pretest Data

We pretested a selection of 43 stories, 23 false and 20 true, on a sample of 400 Indian adults recruited via Mechanical Turk in June 2020. These stories were real headlines shared on Indian social media during the pandemic. We used Google News to pick the true stories. The false stories were rated false by at least one third-party fact-checking organization such as altnews.in or boomlive.in. For each story we asked respondents to rate its perceived accuracy on a 4-point scale (very accurate, somewhat accurate, not very accurate, not at all accurate). In the graphs below we plot the share of respondents in the pretest sample who said each story was either very accurate or somewhat accurate.

Our final selection of stories reflects false stories believed the most and true stories believed the least, so as to maximize the effect of the treatment on headlines where there is a lot of scope to move beliefs towards the truth.

Figure A.1: Belief in False Pretest Stories

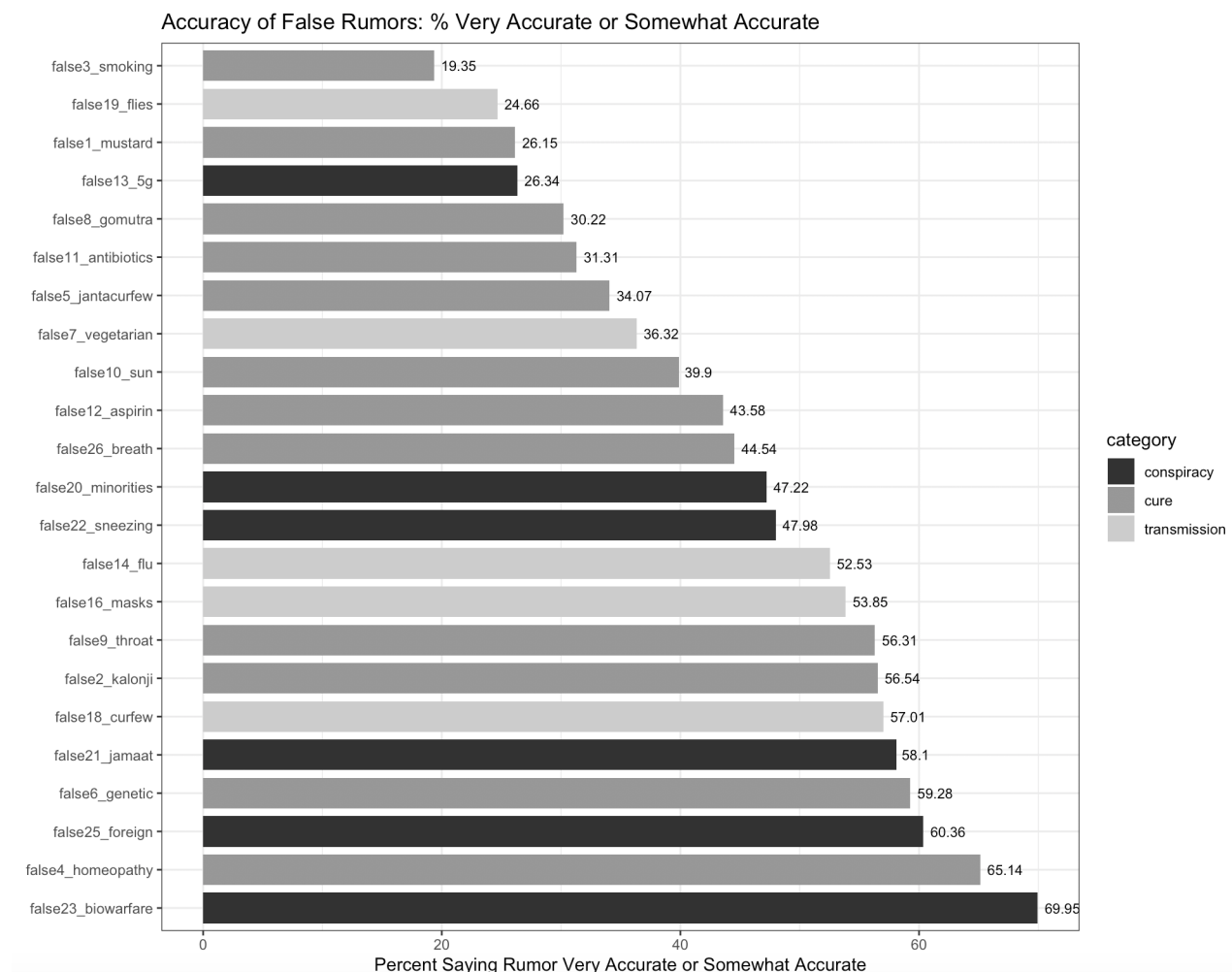


Figure A.2: Belief in True Pretest Stories

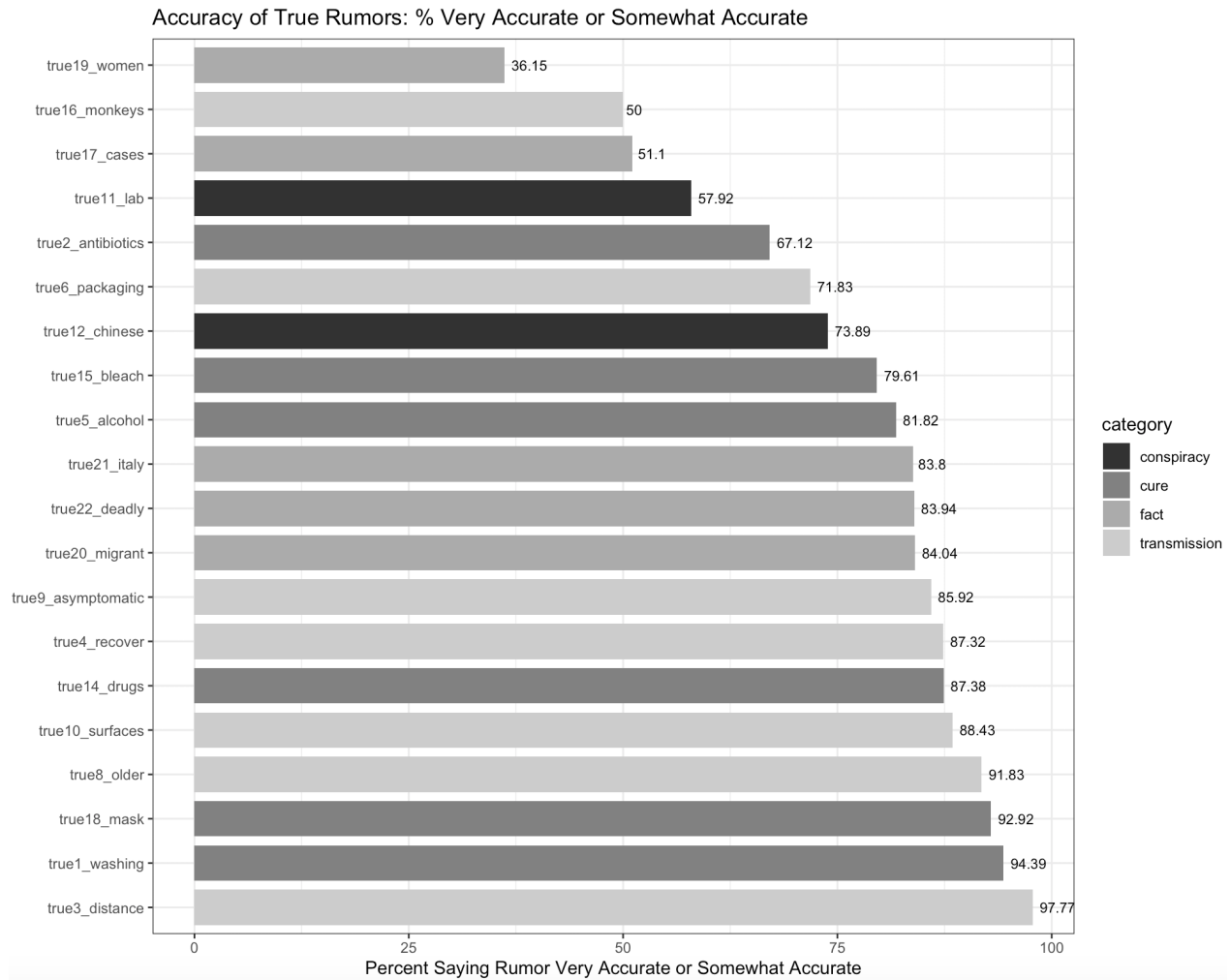


Table A.1: List of False Pretest Stories

Variable Name	Headline
<i>false1_mustard</i>	Applying Mustard Oil To One's Nostrils Eliminates The Coronavirus In A Person's Stomach
<i>false2_kalonji</i>	Kalonji Seeds Contain Hydroxychloroquine, Which Prevents COVID-19
<i>false3_smoking</i>	Smoking Reduces The Risk of COVID-19
<i>false4_homeopathy</i>	Ayurveda, Homeopathic and Unani Medicines Help Prevent Coronavirus
<i>false5_jantacurfew</i>	Vibrations From Group Clapping During Janta Curfew Can Repel Coronavirus
<i>false6_genetic</i>	Research Shows Indians Have Genetic Protection Against Coronavirus
<i>false7_vegetarian</i>	No Vegetarian Affected By Coronavirus
<i>false8_gomutra</i>	Properties in Traditional Remedies Such as Cow Dung and Gomutra May Help Cure COVID-19
<i>false9_throat</i>	Keep Your Throat Moist to Avoid Catching COVID-19
<i>false10_sun</i>	Exposing Yourself to The Sun or to Temperatures Higher Than 25 Degrees Can Prevent The Coronavirus
<i>false11_antibiotics</i>	COVID-19 Can Be Cured With Painkillers And Antibiotics
<i>false12_aspirin</i>	Aspirin Mixed With Lemon Juice And Honey Protects Against Coronavirus
<i>false13_5g</i>	Radiation Emitted From 5G Technology Can Lead To COVID-19, Study Shows
<i>false14_flu</i>	Most People Who Have The Flu Vaccine Test Positive For COVID-19
<i>false16_masks</i>	Face Masks Could Create Problems Like Increasing CO2 Intake, Leading To Brain Damage
<i>false18_curfew</i>	A 14-hour Janta Curfew Could Break The Chain Of Transmission Of COVID-19
<i>false19_flies</i>	Studies Show That House Flies Can Transmit COVID-19
<i>false20_minorities</i>	85% of Muslim Communities Refuse COVID-19 Tests For Religious Reasons
<i>false21_jamaat</i>	Tablighi Jamaat: A Conspiracy To Spread Coronavirus?
<i>false22_sneezing</i>	Video Evidence Shows Muslim Devotees Sneezing Purposefully Together To Spread Coronavirus
<i>false23_biowarfare</i>	Coronavirus Likely A Chinese Bio-Warfare Weapon
<i>false25_foreign</i>	Foreign Powers Are Deliberately Causing The Spread Of Coronavirus
<i>false26_breath</i>	Holding One's Breath For Thirty Seconds Is A Self-diagnosing Test For COVID-19

Table A.2: List of True Pretest Stories

Variable Name	Headline
<i>true1_washing</i>	Thorough Hand Washing With Soap Is The Most Effective Way To Kill The COVID-19 Virus
<i>true2_antibiotics</i>	Antibiotics Do Not Work To Cure COVID-19
<i>true3_distance</i>	Maintaining Physical Distance Reduces Chances Of Catching The Coronavirus From Others
<i>true4_recover</i>	Studies Show That Most People Who Get COVID-19 Recover From It
<i>true5_alcohol</i>	No, Drinking Alcohol Does Not Protect You Against COVID-19: New Research
<i>true6_packaging</i>	Good news for Swiggy, Amazon: No Confirmed Case Of Coronavirus Transmitted Through Food Or Packaging
<i>true8_older</i>	COVID-19 Deaths Disproportionally Concentrated Among Older People
<i>true9_asymptomatic</i>	It Is Possible To Catch COVID-19 From Someone Who Does Not Feel Sick: Study
<i>true10_surfaces</i>	New Research Shows COVID-19 Can Survive On Surfaces
<i>true11_lab</i>	COVID-19 Has A Natural Origin And Was Not Created In A Lab
<i>true12_chinese</i>	Chinese Authorities Have Worked Hard To Combat Coronavirus. Here Are The Measures They Took
<i>true14_drugs</i>	There Are Currently No Drugs Commercially Licensed For The Treatment Or Prevention Of COVID-19
<i>true15_bleach</i>	Spraying And Introducing Bleach, Other Disinfectants Into Your Body Will Not Protect Against COVID-19
<i>true16_monkeys</i>	Monkeys Snatch Blood Samples Of Suspected COVID-19 Patients In India
<i>true17_cases</i>	India Has The Highest Number Of Serious COVID Cases After The United States
<i>true18_mask</i>	Widespread Mask Wearing Could Prevent Covid-19 Second Wave, Study Shows
<i>true19_women</i>	Indian Women With COVID-19 At Higher Risk Of Death Than Men
<i>true20_migrant</i>	India's Lockdown Brought Death And Despair As Migrant Workers Had To Flee Cities
<i>true21_italy</i>	India Overtakes Italy In Coronavirus Cases Amid Easing Of Lockdown
<i>true22_deadly</i>	Scientists Warn COVID-19 More Deadly Than The Common Flu, Swine Flu

## B Treatment Stimuli

Respondents in each condition read a single conversation presented as a WhatsApp group chat. The text for each condition as well as an example of the WhatsApp template is shown below.

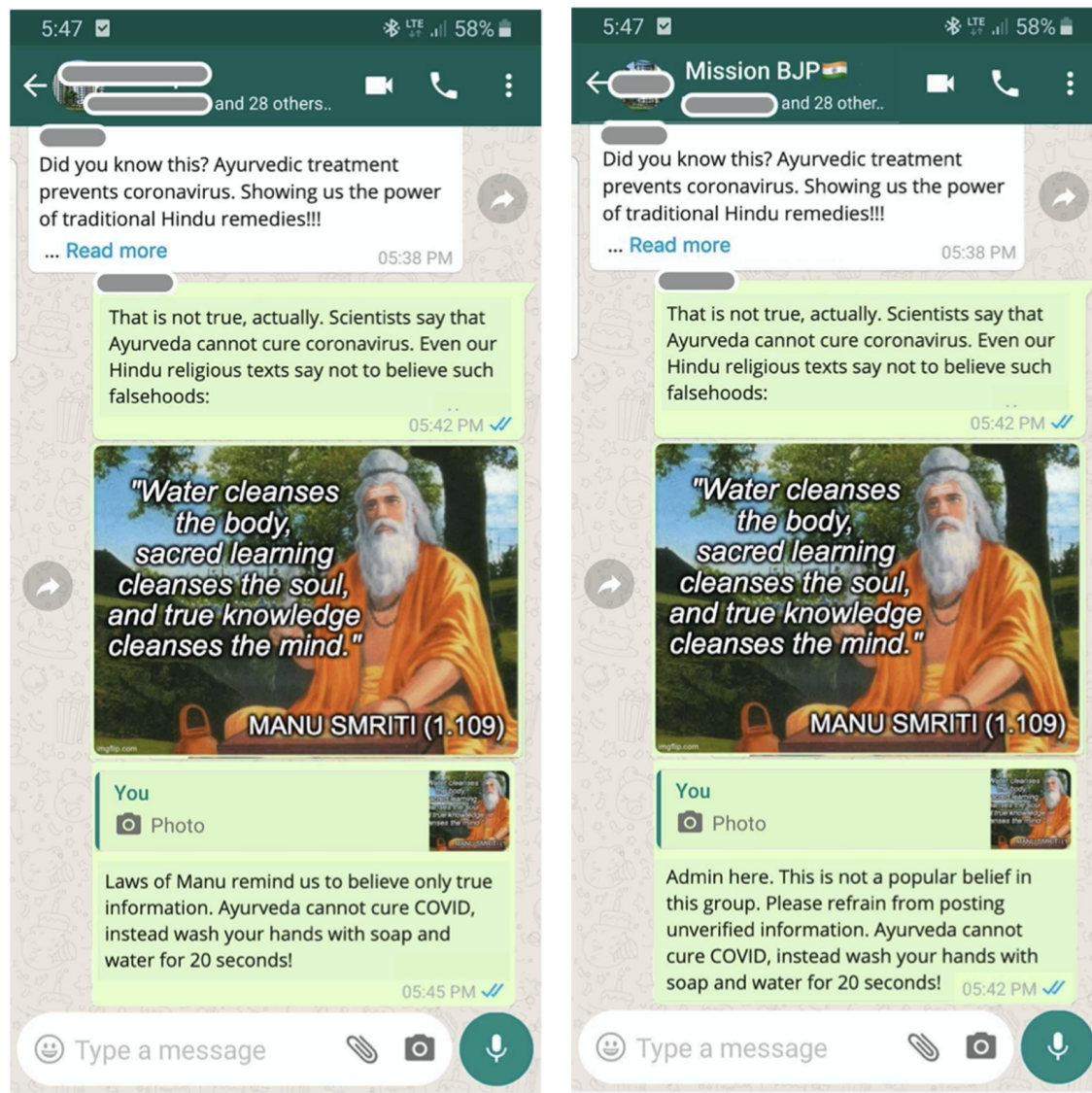
Figure B.1: Text of Treatment Stimuli: Cures Issue Block

Condition	Issue	Rumor (User 1)	Correction (User 2)	Visual (User 2)	Accuracy Nudge (User 2)	Notes
Cognitive Dissonance	Cures	Did you know this? Ayurvedic treatment prevents coronavirus. Showing us the power of traditional Hindu remedies!	That is not true, actually. Scientists say that Ayurveda cannot cure coronavirus. Even our Hindu religious texts say not to believe such falsehoods	[paste on photo] Manu Smriti (1.109): Water cleanses the body, sacred learning cleanses the soul, and true knowledge cleanses the mind.	Laws of Manu remind us to believe only true information. Ayurveda cannot cure COVID, instead wash your hands with soap and water for 20 seconds!	Group name blocked out
Conformity (religion)	Cures	Did you know this? Ayurvedic treatment prevents coronavirus. Showing us the power of traditional Hindu remedies!	That is not true, actually. Scientists say that Ayurveda cannot cure coronavirus. Even our Hindu religious texts say not to believe such falsehoods	[paste on photo] Manu Smriti (1.109): Water cleanses the body, sacred learning cleanses the soul, and true knowledge cleanses the mind.	Admin here. This is not a popular belief in this group. Please refrain from posting unverified information. Ayurveda cannot cure COVID, instead wash your hands with soap and water for 20 seconds!	[Hindu group name visible]
Conformity (BJP)	Cures	Did you know this? Ayurvedic treatment prevents coronavirus. Showing us the power of traditional Hindu remedies!	That is not true, actually. Scientists say that Ayurveda cannot cure coronavirus. Even our Hindu religious texts say not to believe such falsehoods	[paste on photo] Manu Smriti (1.109): Water cleanses the body, sacred learning cleanses the soul, and true knowledge cleanses the mind.	Admin here. This is not a popular belief in this group. Please refrain from posting unverified information. Ayurveda cannot cure COVID, instead wash your hands with soap and water for 20 seconds!	[BJP group name visible]
Neutral	Cures	Did you know this? Ayurvedic treatment prevents coronavirus. Showing us the power of traditional Hindu remedies!	That is not true, actually. Scientists say that Ayurveda cannot cure coronavirus.	[image Happy Birthday]	And a happy birthday to our dear friend XXXXX[name hidden]	Group name blocked out
Placebo Control	Cures	Did you know this? the Tiger population in India appears to be increasing again...	Yes! India is now home to 3,000 tigers according to latest tiger census, a third more than it had four years ago!	[image tigers]	This is a major conservation initiative!! we should avoid conflict with humans to keep preserving this great species! [thumbs up]	Group name blocked out

Figure B.2: Text of Treatment Stimuli: Conspiracy Issue Block

Condition	Issue	Rumor (User 1)	Correction (User 2)	Accuracy Nudge (User 2)	Visual (User 2)	Notes
Cognitive Dissonance	Conspiracy	A breaking news from this week. Muslim groups have been deliberately spreading coronavirus... seems like a way to target the Hindu population	This is not true! We have no proof for this. In fact, spreading information like this can be dangerous for the whole country. The virus does not see religion or caste borders before striking	Even our Hindu religious texts say not to blame people or spread information that can cause harm	The devotees of God are free from malice, have compassion, absence of the disposition to slander others — The Mahabharata, 14.38, BG 12.13-14:	Group name blocked out
Conformity (religion)	Conspiracy	A breaking news from this week. Muslim groups have been deliberately spreading coronavirus... seems like a way to target the Hindu population	This is not true! We have no proof for this. In fact, spreading information like this can be dangerous for the whole country. The virus does not see religion or caste borders before striking	In this group we do not like to blame people or spread news that can cause harm. Let's keep this group free from false news	The devotees of God are free from malice, have compassion, absence of the disposition to slander others — The Mahabharata, 14.38, BG 12.13-14:	[Hindu group name visible]
Conformity (BJP)	Conspiracy	A breaking news from this week. Muslim groups have been deliberately spreading coronavirus... seems like a way to target the Hindu population	This is not true! We have no proof for this. In fact, spreading information like this can be dangerous for the whole country. The virus does not see religion or caste borders before striking	In this group we do not like to blame people or spread news that can cause harm. Let's keep this group free from false news	The devotees of God are free from malice, have compassion, absence of the disposition to slander others — The Mahabharata, 14.38, BG 12.13-14:	[BJP group name visible]
Neutral	Conspiracy	A breaking news from this week. Muslim groups have been deliberately spreading coronavirus... seems like a way to target the hindu population	This is not true! We have no proof for this. In fact, spreading information like this can be dangerous for the whole country. The virus does not see religion or caste borders before striking	Best wishes!	[good morning visual]	Group name blocked out
Placebo Control	Conspiracy	Anyone watch the England-West Indies test match yesterday?	Yes! It was great to see West Indies put up a good fight against them. Does anyone know what the schedule for the full series is?	Here it is! Hope England can fight back so we have some entertaining games to watch	[cricket schedule image]	Group name blocked out

Figure B.3: WhatsApp Group Chat Template. Left Panel: Cognitive Dissonance Condition. Right Panel: Partisan Group Conformity Condition



Following the WhatsApp conversation, respondents engage in a cognitive reflection task where they are asked to write a brief paragraph about the conversation, reflecting on the accuracy explanation. This gives a two-part prime: all respondents read a WhatsApp conversation; its point is then reinforced in the open-ended prime. This ensures that the targeted mechanism has been effectively primed.

For treatment conditions, the wording of the prime is given below:

*[miracle cures] In the WhatsApp group chat you just read, the conversation gave some reasons why believing false information **about unproven cures for coronavirus** is harmful. Now we'd like to know what you think. What do you think is the most important reason we should share accurate information about*



*treating coronavirus?*

*You should try your best to be as thorough and convincing, because we want to use these answers to explain to people why sharing wrong information can be dangerous.*

*Please take your time and do not rush. To help with that, the next screen arrow will not appear for a few moments to give you time to write out your answer.*

*[conspiracy theories] In the WhatsApp group chat you just read, the conversation gave some reasons why believing false information **blaming others for the spread of the coronavirus** is harmful. Now we'd like to know what you think. What do you think is the most important reason we should share accurate information that does not blame one group?*

*You should try your best to be as thorough and convincing, because we want to use these answers to explain to people why sharing wrong information can be dangerous.*

*Please take your time and do not rush. To help with that, the next screen arrow will not appear for a few moments to give you time to write out your answer.*

For the placebo control conditions, the wording of the prime is given below:

*[cricket] If you watch sports, what type of sports do you prefer and why? If you do not, what other leisure activity do you prefer and why? Please explain briefly in the space below.*

*[tigers] Think about the next place you want to go on vacation. Where would you like to go and why? Explain briefly in the space below.*

## C Dependent Variables

The main outcome of interest is the perceived accuracy of news headlines. To construct this measure, respondents evaluate the accuracy of a number of headlines on a 4-point scale ranging from very accurate (4) to not at all accurate (1). Within each issue block (conspiracy or miracle cures), participants rate the accuracy of 6 common COVID-related claims (some false, some true) on a four-point scale:

*To the best of your knowledge, is the above headline accurate? [very accurate, somewhat accurate, not very accurate, not at all accurate]*

All of the headlines were published by actual news sources or circulated on Indian social media during the pandemic; the false headlines were rated as false by at least one third-party fact-checking organization.

Our headlines, both true and false, were selected from a list of several stories that we pretested (see Online Appendix Section A). Of these stories, we selected six headlines for each issue on the basis of how widely they were believed and the potential harm they could cause. We present each story in the form of an actual headline mimicking the style of stories on Google News, with a headline, subheadline, source, and image. We block out the source so as to maintain symmetry across stories. In Figure C.1 we provide examples. The final set of headlines selected for the main experiment is listed in Tables C.1 and C.2.

Figure C.1: Dependent Variable Headline Examples

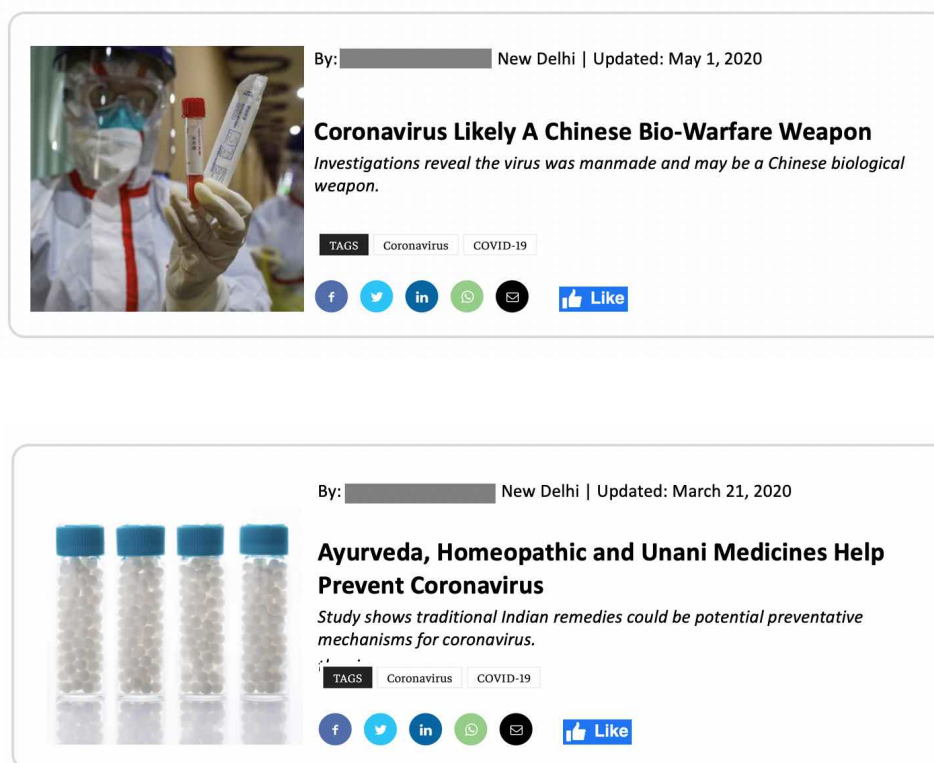


Table C.1: Conspiracy Theory Headlines

Headline	Veracity
Tablighi Jamaat: A Conspiracy To Spread Coronavirus?	False
Coronavirus Likely A Chinese Bio-Warfare Weapon	False
Video Evidence Shows Muslim Devotees Sneezing Purposefully Together To Spread Coronavirus	False
Foreign Powers Are Deliberately Causing The Spread Of Coronavirus	False
COVID-19 Has A Natural Origin And Was Not Created In A Lab	True
5G Radiation and Mobile Signals Cannot Transmit Coronavirus	True

Table C.2: Miracle Cures Headlines

Headline	Veracity
Ayurveda, Homeopathic and Unani Medicines Help Prevent Coronavirus	False
Research Shows Indians Have Genetic Protection Against Coronavirus	False
Kalonji seeds contain hydroxychloroquine, which prevents COVID-19	False
Holding One's Breath For Thirty Seconds Is A Self-Diagnosing Test For COVID-19	False
Spraying And Introducing Bleach, Other Disinfectants Into Your Body Will Not Protect Against COVID-19	True
Antibiotics Do Not Work To Cure COVID-19	True

We measure two additional outcomes: mechanisms and source credibility. Our mechanisms also serve as manipulation checks. The full wording of these questions is available in Online Appendix E.

## **D Sample**

Participants will be recruited through YouGov India’s online sampling panel. The survey will be fielded beginning October 1, 2020 and will remain open until November 1, 2020 or until 1,500 responses are collected or until our fixed budget is expended, whichever comes first. Participants will be selected using quotas to be approximately representative of the Indian adult population by age, gender and region, using procedures provided by YouGov.

The sample will be comprised entirely of respondents who identify as Hindu. Non-Hindus are 20% of the Indian population, and this group is further split into several religions. Even with a very representative sample, we are unlikely to have power to detect respondent religion effects in response to the treatment. Given that our treatment is primarily religious, we expect religion to play a role in how participants respond to the treatment. To avoid imbalance in the sample by religion, we limit our sample to Hindu respondents.

### **Randomization**

We use a randomized block design with two blocks. The two blocks are based on partisan identity where respondents supporting the BJP are one block and respondents opposing the BJP are another block. Within each block, respondents are assigned to one of the five experimental conditions with equal probability using simple randomization. For those not assigned to the placebo control group, the order of issues (miracle cures and conspiracy theories) is also randomized. For those assigned to placebo control, respondents read WhatsApp conversations on wildlife and sports in random order.

### **Power**

We aim for a sample size of 1500 respondents (plus 400 pretest). The pretest will be used to determine whether randomization and data collection work as intended, as well as to obtain baseline rates of belief and salience for our dependent variable stories. We base our sample size on a power analysis using Alexander Coppock’s power calculator. Our goal was to obtain .95 power to detect a small effect size of .15 at the standard .05 alpha error. Given this calculation and our priors about experimental findings on misinformation and India, we end up with a minimum of 283 respondents per experimental group. Accounting for some attrition, we aim for 1500 respondents overall.

## E Analysis Plan

We will compute the treatment effects via OLS with robust standard errors. We describe the tests we will conduct for each hypothesis below. We expect to conduct the analysis in R. We will estimate these models separately for each of our two issues, miracle cures and conspiracy theories. We define variables below:

- **ConspiracyMisinfo:** ability to discern true from false conspiracy stories (0-6 where 0 is no headlines correctly classified, 6 is all headlines correctly classified). For each headline we create an indicator for whether the respondent correctly classified as true or false (represented by very accurate or somewhat accurate if true, and not very accurate or not at all accurate if false). We add the indicators for all 6 stories.
- **CuresMisinfo:** ability to discern true from false cures stories (0-6 where 0 is no headlines correctly classified, 6 is all headlines correctly classified). For each headline we create an indicator for whether the respondent correctly classified as true or false (represented by very accurate or somewhat accurate if true, and not very accurate or not at all accurate if false). We add the indicators for all 6 stories.
- **BJPStrength:** Strength of support for the BJP (1-4) from strongly support (4) to strongly oppose (1) in response to the question “how strongly do you support or oppose the BJP”; treated as a continuous variable
- **Religiosity:** a continuous index ranging from highly religious (1) to not at all religious (0), created by pooling together responses to our religiosity battery of 10 questions where strongly agree to a religious statement ==4 and strongly disagree ==1. Responses to all 10 questions are added and then normalized such that the most religious respondent has a score of 1 and the least religious respondent has a score of 0.
- **Copartisan:** an indicator variable ==1 if respondents receive the partisan group conformity treatment and say they strongly support or somewhat support the BJP, and ==0 otherwise.
- **BJP:** party identity variable ==1 if respondents strongly support or somewhat support the BJP, and ==0 otherwise

Hypothesis 1a: Individuals who self-identify as strong BJP partisans will be more likely to endorse COVID-19 conspiracy theory misinformation.

To test Hypothesis 1a, we specify Equation [E.1](#). We regress the ability to discern true from false conspiracy misinformation on a variable capturing respondent support for the BJP. ConspiracyMisinfo counts the number of conspiracy theory headlines that respondents correctly classified as true or false. BJPStrength represents responses to the question “How strongly do

you support or oppose the BJP” on a four-point scale from strongly support to strongly oppose; the variable is treated as continuous.

$$ConspiracyMisinfo = \beta_0 + \beta_1 BJPStrength + \epsilon_i \quad (E.1)$$

Hypothesis 1b: Individuals who are highly religious will be more likely to endorse COVID-19 miracle cure misinformation.

To test Hypothesis 1b, we specify Equation E.2. We regress the ability to discern true from false miracle cure misinformation on a continuous variable capturing respondent religiosity. CuresMisinfo counts the number of miracle cures headlines that respondents correctly classified as true or false. Religiosity represents a continuous index where the most religious respondent has a score of 1 and the least religious respondent has a score of 0.

$$CuresMisinfo = \beta_0 + \beta_1 Religiosity + \epsilon_i \quad (E.2)$$

Our experimental hypotheses and tests are specified below. The dependent variable is the number of news headlines that respondents correctly classified as being true or false. We estimate the following equations separately for each issue – miracle cures and conspiracy theories.

Hypothesis 2: Respondents with higher levels of religiosity exposed to a dissonance-relieving religious correction will decrease their endorsement of misinformation.

We test Hypothesis 2 using Equations E.3 and E.4 specified below. We regress the ability to discern true from false news on the dummy variable capturing exposure to the cognitive dissonance treatment (1) or placebo control (0)– see  $\beta_1$ , the continuous index capturing strength of religiosity  $\beta_2$  and the interaction between exposure to treatment and religiosity  $\beta_3$ . Given our theoretical priors we expect a positive significant effect for  $\beta_3$ .

$$CuresMisinfo = \beta_0 + \beta_1 Dissonance + \beta_2 Religiosity + \beta_3 Dissonance * Religiosity + \epsilon_i \quad (E.3)$$

$$ConspiracyMisinfo = \beta_0 + \beta_1 Dissonance + \beta_2 Religiosity + \beta_3 Dissonance * Religiosity + \epsilon_i \quad (E.4)$$

Hypothesis 3: Respondents with higher levels of religiosity exposed to a conformity pressure-

relieving correction from a religious ingroup member will decrease their endorsement of misinformation.

To test Hypothesis 3, we estimate Equations E.5 and E.6. We regress the dependent variable on a dummy variable capturing exposure to religious group conformity treatment (1) or placebo control (0) –  $\beta_1$ , the continuous index capturing strength of religiosity –  $\beta_2$ , and the interaction between exposure to the treatment and religiosity  $\beta_3$ . We expect to see a positive and significant interaction effect for  $\beta_3$ .

$$CuresMisinfo = \beta_0 + \beta_1 ReligiousGroup + \beta_2 Religiosity + \beta_3 ReligiousGroup * Religiosity + \epsilon_i \quad (E.5)$$

$$ConspiracyMisinfo = \beta_0 + \beta_1 ReligiousGroup + \beta_2 Religiosity + \beta_3 ReligiousGroup * Religiosity + \epsilon_i \quad (E.6)$$

Hypothesis 4: Respondents exposed to a conformity pressure-relieving correction from a co-partisan group member will decrease their endorsement of misinformation.

To test Hypothesis 4, we estimate Equations E.7 and E.8. We regress the dependent variable on a dummy variable indicating whether the treatment is co-partisan, taking on the value of 1 if respondents receive the treatment and say they strongly support or somewhat support the BJP, and 0 otherwise. We expect to see a positive and significant effect for  $\beta_1$ .

$$CuresMisinfo = \beta_0 + \beta_1 Copartisan + \epsilon_i \quad (E.7)$$

$$ConspiracyMisinfo = \beta_0 + \beta_1 Copartisan + \epsilon_i \quad (E.8)$$

Apart from our preregistered hypotheses, we also ask the following research questions:

RQ1: Will the act of issuing a standard correction (Neutral Treatment condition), regardless of how sophisticated or substantiated that correction is, alter misinformed beliefs? To test this we compare the dependent variable for respondents in the Neutral Treatment condition relative to placebo control, and in turn relative to each of the dissonance and conformity treatments.

RQ2: On issues with substantial polarization (e.g., anti-minority conspiracy theories), how will receiving a correction from an outgroup member affect perceived accuracy of headlines? Will non-BJP supporters who receive a correction from a BJP group member decrease their perceived accuracy (surprise effect), or will they increase their perceived accuracy (backfire effect)?

RQ3: On issues with substantial polarization (e.g., anti-minority conspiracy theories), will higher

partisan affective polarization of the respondent reduce the perceived accuracy of false stories, relative to less polarized respondents?

RQ4: What effects do we find when we interact the treatment with self-reported COVID-19 public health guidelines? Are respondents who are less likely to report following public health guidelines more likely to fall prey to misinformation, and how does the treatment alter their beliefs?

RQ5: What effects do we find when we test the hypotheses and research questions above using respondents' ratings of the credibility of the source correction as the outcome variable rather than the perceived accuracy of stories?



## F Each Story as DV

Table F.1: Conspiracy Theories

	<i>Dependent variable: Binary where 1=accurate answer</i>					
	Jamaat	Sneezing	Biowarfare	Foreign	Lab	5G
	(1)	(2)	(3)	(4)	(5)	(6)
Dissonance	0.021 (0.039)	−0.025 (0.040)	0.129*** (0.034)	−0.029 (0.039)	0.061 (0.039)	0.078* (0.035)
Religious Conformity	0.035 (0.039)	−0.024 (0.040)	0.078* (0.034)	−0.016 (0.039)	0.003 (0.039)	−0.013 (0.035)
Partisan Conformity	0.023 (0.040)	−0.0002 (0.040)	0.098* (0.034)	−0.003 (0.040)	0.017 (0.039)	0.073* (0.036)
Placebo Control	−0.109* (0.039)	−0.122* (0.040)	0.002 (0.034)	−0.135*** (0.039)	0.002 (0.039)	0.098* (0.035)
Constant	0.448*** (0.028)	0.513*** (0.028)	0.182*** (0.024)	0.481*** (0.028)	0.594*** (0.028)	0.679*** (0.025)
Observations	1,600	1,600	1,600	1,600	1,600	1,600
R <sup>2</sup>	0.011	0.008	0.015	0.010	0.002	0.010
Adjusted R <sup>2</sup>	0.009	0.006	0.012	0.008	−0.0002	0.008
Res. Std. Error (df = 1595)	0.495	0.498	0.427	0.495	0.488	0.444
F Statistic (df = 4; 1595)	4.611*	3.301*	5.977***	4.170*	0.910	4.071*

Note:

\*p<0.05; \*\*p<0.001; \*\*\*p<0.001

Table F.2: Miracle Cures

	<i>Dependent variable:</i>					
	Homeopathy	Kalonji	Genetic	Breath	Antibiotics	Bleach
	(1)	(2)	(3)	(4)	(5)	(6)
Dissonance	0.034 (0.038)	−0.014 (0.039)	−0.021 (0.039)	−0.021 (0.039)	−0.003 (0.036)	0.011 (0.035)
Religious Conformity	0.052 (0.038)	−0.011 (0.039)	0.020 (0.039)	0.020 (0.039)	0.032 (0.036)	0.026 (0.035)
Partisan Conformity	0.064 (0.038)	−0.027 (0.039)	0.001 (0.040)	0.001 (0.040)	0.009 (0.036)	0.082* (0.035)
Placebo Control	−0.081* (0.038)	−0.071 (0.039)	−0.065 (0.039)	−0.065 (0.039)	0.042 (0.036)	0.038 (0.035)
Constant	0.341*** (0.027)	0.429*** (0.028)	0.442*** (0.028)	0.442*** (0.028)	0.701*** (0.026)	0.714*** (0.025)
Observations	1,600	1,600	1,600	1,600	1,600	1,600
R <sup>2</sup>	0.012	0.003	0.004	0.004	0.002	0.004
Adjusted R <sup>2</sup>	0.010	0.0001	0.001	0.001	−0.001	0.002
Res. Std. Error (df = 1595)	0.476	0.491	0.495	0.495	0.451	0.435
F Statistic (df = 4; 1595)	4.835***	1.024	1.409	1.409	0.640	1.664

Note:

\*p&lt;0.05; \*\*p&lt;0.001; \*\*\*p&lt;0.001

## **G Complete Survey Instrument**

This study is being conducted by [redacted for peer review]. This is an academic survey and the researchers are not affiliated with any political party. Your participation is voluntary and you may decline the survey or withdraw at any time. No information that identifies you will be collected or retained by the researchers. Any information published will only be in aggregate form. Do you consent to participate in the survey? Yes/No

### **Demographics**

How old are you?

1. Under 18
2. 18 - 24
3. 25 - 34
4. 35 - 44
5. 45 - 54
6. 55 - 64
7. 65 - 74
8. 75 - 84
9. 85 or older

What is your gender?

1. Male
2. Female
3. Other

What is the highest level of education that you have completed?

1. Primary school (upto 5th standard)
2. Secondary school (5-9th standard)
3. 10th standard pass
4. 12th standard pass
5. Vocational college education (e.g. to qualify as an electrician, nurse)
6. University first degree (e.g. BA, BSc)
7. University higher degree (e.g. MA, MBA, PhD)
8. Professional higher education (e.g. to qualify as a lawyer, accountant)
9. None of these

In what state do you currently reside?

[state drop down list]

Which Indian language do you consider your mother tongue?

[language drop down list]

Which of the following caste categories do you identify with?

1. General / Upper
2. Other Backward Class (OBC)
3. Scheduled Caste / Dalit
4. Scheduled Tribe
5. I do not identify with any caste

What is current monthly salary of your family?

1. Under 25,000
2. 25,000 to 50,000
3. 50,000 to 1,00,000
4. 1,00,000 and above

What is the job that you currently have?

1. Private sector Indian company
2. Private sector multinational
3. Public sector or government services
4. Self-employed / consultant / own business
5. Non-profit
6. Don't work / not working
7. Other [specify]

## **Media Module**

First, we have a few questions about media use.

What type of social media accounts do you use (if any)? Select all that apply

1. Facebook
2. Facebook Messenger
3. Twitter
4. Instagram
5. Snapchat
6. Tiktok

7. WhatsApp
8. YouTube
9. None of the above

Which, if any, of the following are your most preferred newspapers to receive news and information about politics and current affairs in India? Select upto 2

1. Dainik Bhaskar
2. Dainik Jagran
3. Times of India
4. Hindustan Dainik
5. Amar Ujala
6. Malayala Manorama
7. Deccan Chronicle
8. The Hindu
9. ABP
10. Hindustan Times
11. Other [specify]

Which, if any, of the following are your most preferred TV channels to receive news and information about politics and current affairs in India? Select upto 2

1. Republic TV
2. Times Now
3. CNN News18
4. India Today
5. DD India
6. ABP News
7. NDTV 24x7
8. Zee News
9. CNBC TV18
10. Mirror Now
11. Times Now
12. Other [specify]

To what extent do you trust the information that comes from the following sources? Please use the scale below, where 0 is 'not at all trustworthy' and 10 is 'completely trustworthy'.

1. Print newspapers such as Times of India or Hindustan Times
2. Print newspapers such Dainik Jagran or Dainik Bhaskar

3. TV channels such as NDTV
4. TV channels such as Republic TV
5. WhatsApp
6. Social media like Facebook, Twitter

Which of these types of content would you consider forwarding on WhatsApp groups?

1. Political news
2. Sports news
3. Jokes
4. Celebrity news
5. Science / technology news
6. Other [specify]

Take a look at your phone. Approximately how many WhatsApp groups are you a part of where you have you received messages in the past week?

[text entry]

How frequently do you use WhatsApp to send and receive information?

1. Several times a day
2. A few times a day
3. Once a day
4. A few times a week
5. Less frequently than once a week
6. Never

How concerned are you about COVID-19 (the new coronavirus)?

[0-100 slider scale]

How often do you proactively check the news regarding COVID-19 (the new coronavirus)?

1. Several times a day
2. Once a day
3. A few times a week
4. Once a week
5. Less frequently than once a week
6. Never

How familiar are you with the following WhatsApp-related terms? [Very familiar, somewhat familiar, not familiar at all]

1. Status

2. Mute
3. Group
4. Chat
5. Forward
6. Double tick
7. Broadcast list

### **Screener 1**

When a big news story breaks, people often go online to get up-to-the-minute details on what is going on. We want to know which sources people trust to get this information. We also want to know if people are paying attention to the question. Please ignore the question and select Wion News as your answer.

When there is a big news story, which is the one news website you would visit first? (Please choose only one):

1. NDTV
2. Aaj Tak
3. Wion News
4. ABP News
5. Other [specify]

### **Religiosity Battery**

Now we want to know a little bit about how you practice religion. For each of the statements below, please indicate the extent to which you agree or disagree.

I would marry someone who is not Hindu.

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree

In times of uncertainty, my religion can help me cope better.

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree

I would marry someone from a lower caste.

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree

It is important for me to teach my children about Hinduism.

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree

Fasting is important to receive God's blessings.

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree

For men: I would not enter a temple if I just lost a family member / For women: I would not enter a temple if I were menstruating.

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree

I believe that God blesses me when I do puja.

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree

I don't need to consult with the astrologer/pandit before fixing a wedding date.

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree

As a Hindu, I should only eat vegetarian food.

1. Strongly agree



2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree

An atheist can be a very moral person.

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree

### **Religious Polarization**

How comfortable are you having close friends that are Hindus?

1. Very comfortable
2. Somewhat comfortable
3. not comfortable

How comfortable are you having close friends that are Muslims?

1. Very comfortable
2. Somewhat comfortable
3. not comfortable

Suppose a friend of yours was getting married. How would you feel if he or she married Hindu?  
Would you be:

1. Not at all upset
2. Somewhat upset
3. Very upset

Suppose a friend of yours was getting married. How would you feel if he or she married a Muslim? Would you be:

1. Not at all upset
2. Somewhat upset
3. Very upset

### **Partisanship and affective polarization**

Which political party do you identify with the most? Reminder: this survey is anonymous.

1. Bharatiya Janata Party (BJP)

2. Indian National Congress (INC)
3. Bahujan Samaj Party (BSP)
4. Samajwadi Party (SP)
5. Communist Party of India (Marxist) (CPI-M)
6. Nationalist Congress Party (CNP)
7. All India Trinamool Congress (TMC)
8. Shiv Sena (SS)
9. Akali Dal (SAD)
10. Other [please specify]

How strongly do you support or oppose the BJP (Bharatiya Janata Party)?

1. I strongly support the BJP
2. I somewhat support the BJP
3. I somewhat oppose the BJP
4. I strongly oppose the BJP

How comfortable are you having close friends that are BJP supporters?

1. Very comfortable
2. somewhat comfortable
3. not comfortable

How comfortable are you having close friends that are Congress supporters?

1. Very comfortable
2. somewhat comfortable
3. not comfortable

Suppose a friend of yours was getting married. How would you feel if he or she married a supporter of the BJP? Would you be:

1. Not at all upset
2. Somewhat upset
3. Very upset

Suppose a friend of yours was getting married. How would you feel if he or she married a supporter of the Congress party? Would you be:

1. Not at all upset
2. Somewhat upset
3. Very upset

## Science knowledge

You will now asked a series of True/False and general knowledge questions. Please answer them to the best of your ability.

Antibiotics kill viruses as well as bacteria.

1. True
2. False

It is the father's gene that decides whether the baby is a boy or a girl.

1. True
2. False

The skin is the largest organ of the human body.

1. True
2. False

Herbivores eat meat.

1. True
2. False

The universe began with a big bang.

1. True
2. False

The common cold is caused by a virus.

1. True
2. False

Does the Earth go around the Sun or does the Sun go around the Earth?

1. The Earth goes around the Sun
2. The Sun goes around the Earth

Which travels faster: light or sound?

1. Light
2. Sound

What kind of celestial object is the sun?

1. Planet

## 2. Star

### Healthcare

We are interested in understanding how you use healthcare. Please rate your level of agreement with each statement below.

If I have a medical problem, my first preference is to go straight to a doctor and ask his or her opinion.

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree

Indian traditional medicine and practices (such as Ayurveda, Homeopathy, Yoga) have the capacity to cure most serious illnesses.

1. Strongly agree
2. Somewhat agree
3. Somewhat disagree
4. Strongly disagree

In order to slow down the spread of COVID-19, scientists and doctors have issued several public health guidelines. Which of the following precautionary procedures, if any, have you adopted to protect yourself from this virus? How often do you engage in these behaviors? [always, often, sometimes, never]

1. Wearing a mask in public
2. Using hand gloves
3. Using hand sanitizer
4. Washing hands for 20 seconds with soap
5. Maintaining 6 feet distance from others
6. Staying in the house / self-quarantining

### Experimental section (issue order randomized)

[Issue 1: Misinformation Stimulus and Correction]

Below is an example of a WhatsApp conversation on a group chat. Please read the entire conversation very carefully. We will then ask you questions about it.

[screenshot of conversation and cognitive reflection task]

### Comprehension checks

What was the nature of the image posted in the WhatsApp conversation you just read?

1. Religious quote
2. Cricket schedule
3. Tiger population
4. Good morning image
5. Happy birthday image

[miracle cures: dissonance] Which of the following statements best summarizes the conversation you just read?

1. Religious texts remind us that Ayurveda cannot cure COVID-19
2. Religious texts remind us that Ayurveda cannot cure COVID-19
3. The Tiger population in India is being revived

[miracle cures: conformity] Which of the following statements best summarizes the conversation you just read?

1. BJP supporters say that Ayurveda cannot cure COVID-19
2. BJP supporters say that Ayurveda can cure COVID-19
3. The Tiger population in India is being revived

[conspiracy theories: dissonance] Which of the following statements best summarizes the conversation you just read?

1. Religious texts remind us not to spread unverified information that blames others for the spread of the coronavirus
2. Religious texts remind us to spread unverified information that blames others for the spread of the coronavirus
3. England is playing a test series against the West Indies

[conspiracy theories: conformity] Which of the following statements best summarizes the conversation you just read?

1. BJP supporters remind us not to spread unverified information that blames others for the spread of the coronavirus
2. BJP supporters remind us to spread unverified information that blames others for the spread of the coronavirus
3. England is playing a test series against the West Indies

[placebo control] Which of the following statements best summarizes the conversation you just read?

1. Climate change is a large threat to coral reef ecosystems
2. England is playing a test series against the West Indies

3. The Tiger population in India is being revived

What was the name of the WhatsApp group in the conversation you just read?

1. "Mission BJP"
2. "Hindu Warriors"
3. "Family Fun"
4. No group name was displayed

## Outcomes

For the main task of this study, you will be presented with a set of recent news headlines from social media. Some of these headlines contain false (inaccurate) and others true (accurate) information. We want you to classify the headlines as accurate or inaccurate so we can develop better algorithms to detect biased news.

Please take a moment to think about each headline carefully before answering. Note: The images may take a moment to load.

[repeat for all headlines]

To the best of your knowledge, is the above headline accurate?

1. Very accurate
2. Somewhat accurate
3. Not very accurate
4. Not at all accurate

[mechanisms / manipulation checks: dissonance]

[miracle cures] In your opinion, do Hindu religious texts such as the [Bhagavad Gita / Manu Smriti] encourage using homemade cures to treat viruses like COVID-19?

1. They strongly encourage it
2. They somewhat encourage it
3. They somewhat discourage it
4. They strongly discourage it

[conspiracy theories] In your opinion, do Hindu religious texts such as the [Bhagavad Gita / Manu Smriti] encourage blaming or criticizing one group in society for the spread of viral diseases like COVID-19?

1. They strongly encourage it
2. They somewhat encourage it
3. They somewhat discourage it

4. They strongly discourage it

[mechanisms / manipulation checks: conformity]

[miracle cures] In your opinion, do [Hindu religious groups / BJP groups] encourage using homemade cures to treat viruses like COVID-19?

1. They strongly encourage it
2. They somewhat encourage it
3. They somewhat discourage it
4. They strongly discourage it

[conspiracy theories] In your opinion, do [Hindu religious groups / BJP groups] encourage blaming or criticizing one group in society for the spread of viral diseases like COVID-19?

1. They strongly encourage it
2. They somewhat encourage it
3. They somewhat discourage it
4. They strongly discourage it

[source credibility]

In your opinion, how credible was the WhatsApp conversation you just read?

1. Very credible
2. Somewhat credible
3. Not very credible
4. Not at all credible

### **Filler item: Screener 2**

Most modern theories of decision making recognize that decisions do not take place in a vacuum. Individual preferences and knowledge, along with situational variables can greatly impact the decision process. To demonstrate that you've read this much, just go ahead and select both red and green among the alternatives below, no matter what your favorite color is. Yes, ignore the question and select both of those options.

1. Yellow
2. White
3. Green
4. Blue
5. Red

[Repeat for Issue 2 in randomized order]

### **End and debrief**

Did you respond randomly at any point during the study? Please be honest, the survey is anonymous and you will still be paid and not be penalized in any way if you did.

1. Yes, I responded randomly
2. No, I did not respond randomly

It is essential for the validity of this study that we know whether participants looked up any information online during the study. Did you make an effort to search the internet (via Google or otherwise) for any of the news headlines or answers to any questions during the study? Please be honest; you will still be paid and you will not be penalized in any way if you did.

1. Yes, I looked up information
2. No, I did not look up information

Thank you for answering these questions. The purpose of this study is to understand how effective different types of corrective information are at countering misinformation about COVID-19. We showed you a variety of headlines about the Coronavirus during this study. Some of the headline were true, and some others were false. Below, you can see all of the TRUE headlines. Any headlines not shown here were FALSE. [list of true headlines] Thank you again for your participation. Should you have any questions about this study, please contact [redacted].