Encouraging Social Distancing: Evidence from several Randomized Controlled Trials

Esther Duflo
MIT and J-PAL

Markus Brunnermeier
Princeton

Coming momentarily
At 12:30 p.m.
Webinar with Esther Duflo “Social Distancing”

Poll Questions

- As of September 2020, who was more likely to always be wearing a mask outdoors:
  a) Blacks, b) White Democrats, c) White Republicans, d) All the same?

- Whose knowledge on COVID-19 is most affected by short video messages by a racially diverse group of physicians from MGH (Massachusetts General Hospital)
  a) Blacks, b) White Democrats, c) White Republicans, d) All the same?

- Whose willingness to pay for a mask is most affected by short video messages by a racially diverse group of physicians from MGH
  a) Blacks, b) White Democrats, c) White Republicans, d) All the same?
Webinar upcoming momentarily at 12:30 pm

- Tomorrow’s Special Webinar

- Sign up and
  - Participate live and ask questions
  - Get executive summary

- Paul Krugman & Lawrence Summers
  “Will the Biden Stimulus lead to Inflation”
Next Week’s Webinar

Lasse Pedersen
“GameStop and Predatory Trading”

Sign up and
- Participate live and ask questions
- Get executive summary
Recent Webinars

- Andy Lo
  “Funding Models for Biomedical Innovations”

Catch up and watch on YouTube
- Princeton Bendheim Center for Finance
Webinar upcoming momentarily at 12:30 pm

Recent Webinars

- Bill Nordhaus
  “Climate Compacts to Combat Free Riding in International Climate”

- Catch up and watch on YouTube
  - Princeton Bendheim Center for Finance
Webinar upcoming momentarily at 12:30 pm

- Recent Webinars
  - James Stock
    “Macroeconomics, Carbon Pricing, and Climate Policy”

- Catch up and watch on YouTube
  - Princeton Bendheim Center for Finance
Webinar upcoming momentarily at 12:30 pm

Recent Webinars

- Jerome Powell
  “A Conversation about ‘Average Inflation Targeting’, COVID Crisis, GFC, Debt, Swap Lines, ... and Resilience

Catch up and watch on YouTube
- Princeton Bendheim Center for Finance
Webinar upcoming momentarily at 12:30 pm

- Recent Webinars
  - Charles Goodhart
    “Inflation and Interest Rates; not so much lower for longer as higher and sooner?”

- Catch up and watch on YouTube
  - Princeton Bendheim Center for Finance
Webinar upcoming momentarily at 12:30 pm

Recent Webinars

- Markus Brunnermeier
  “Towards a Resilient Society”

- Trap risk: “Inflation whipsaw”

Catch up and watch on YouTube
- Princeton Bendheim Center for Finance
Webinar upcoming momentarily at 12:30 pm

Recent Webinars

- Nick Bloom
  “Working from Home: Will it Persist?”

Catch up and watch on YouTube
- Princeton Bendheim Center for Finance

(B) The donut effect: bad for city centers good for suburbs

- Looks like employees WFH 2 or 3 days a week still want to live near city centers
- Generating a Donut-Effect – City Centers struggling but suburbs booming
Webinar upcoming momentarily at 12:30 pm

- Recent Webinars
  - Jason Furman
    “When, if ever, should we worry about debt?”

- Catch up and
  - watch on YouTube
    - Princeton Bendheim Center for Finance

*Debt up, but interest payments down*
Webinar upcoming momentarily at 12:30 pm

Recent Webinars
- Chris Sims
  “How to worry about Gov. Debt”

- Catch up and
  - watch on YouTube
    - Princeton Bendheim Center for Finance
Webinar speakers 2020 ... and beyond

Thank you for your questions and for being part of it!
Encouraging Social Distancing: Evidence from Several Randomized Trials


February 11, 2021
Introduction

• Before a vaccine was available, behavior change (social distancing, mask wearing, hand-washing) were the only tools available to protect oneself against COVID-19

• Even with the vaccine, communication remains critical

• As soon as March 2020, people were bombarded with information and dis-information, through radio, TV, social media, and it went on.

• “Credible” people (Fauci, stars, doctors) try to convey the most relevant information and advice

• This raises several questions:
  • Does this kind of light touch campaigning make any difference (or is it drowned, in the noise or in the politics)?
  • Does the information need to be tailored to particular groups to be effective?

• This group of projects seek to determine precisely that, and also to make a difference along the way...
Study 1: The “Banerjee effect”

Context West Bengal, India May 2020

• Late March-April, strict nationwide lockdown, early May saw loosening of some restrictions
  • Our intervention: May 4-5
• Population bombarded with messages about COVID-19
  • e.g. 20 messages on social distancing in the last 2 days
  • Marketing jingles on hand-washing from soap manufacturers
  • marginal impact of another message may be limited
• Reasonably high knowledge levels
• However, public health behavioral compliance far from universal
  • 67% washed hands with soap when coming home from trip outside
  • 37% had traveled outside village in prior 2 days
  • on avg, 11 interactions within 2 arms lengths in prior 2 days

Field experiment: Would an extra unexpected nudge from a reliable source improve compliance?
Large-scale randomized controlled trial in West Bengal

Research design

- 2.5-minute-long video clips recorded by Abhijit Banerjee on an iPhone
  - 2019 Nobel laureate in economics, chair of the COVID-19 scientific council, well-known in WB
- Control: Link to gov’t website
- All messages reviewed basic symptoms, encouraged symptom reporting to local health worker (ASHA)
- \(2 \times 2 \times 2 + 1\) treatment arms
  - Behavior: Social distancing vs. Hygiene
  - Motivation: Externality vs. internality
  - Ostracism: Anti-ostracism vs. No Mention
- Messages randomized at Pincode level (1,214 out of 1,264 Pincodes in WB)
- Sent via SMS to 25m Jio subscribers (+ 3m control)
- Randomization allows measurement of:
  - Effect of any message (compare any message to control)
  - Spillovers (non Jio subscribers)
  - Comparative effects of specific message content
Data: phone surveys

Health Worker survey:

- Front-line health worker survey data (677 ASHAs)
  - Pre-pandemic: ASHAs responsible for maternal and child health
  - Redeployed by government for COVID work: symptom tracking, quarantine for migrants, triage of symptomatic individuals
- Surveys conducted w/in 5 days of treatment
  - Key outcomes: does anybody report to them?

Council Member survey:

- Random sample from public phone directory of previous and current village council members (gram panchayat).
  - Largest-scale public directory we could find.
- Questions on travel, social distancing, hygiene & knowledge of COVID-19, mask wearing (not just by them).
- 1883 respondents: mix of Jio (treated) and non-Jio (untreated) subscribers
**Treatment doubled symptom reporting and improved behaviors**

- **Fever and respiratory symptoms reported to ASHAs in past 5 days**
  - Control: 0.25
  - Treatment: 0.50

- **What % of the time do people in your village wash their hands when coming home?**
  - Control: 0.25
  - Treatment: 0.50

- **Did you go outside your village in the past 2 days?**
  - Control: 0.2
  - Treatment: 0.4

- **Do you wear a mask when leaving home?**
  - Control: 0.1
  - Treatment: 0.3
Message content didn’t matter
Take-aways

• Intervention led to substantial improvements in health-preserving behaviors, regardless of content.

• Additional results:
  • No detectable impacts on knowledge
  • Large spillovers onto behaviors of non-Jio subscribers (didn’t directly receive the videos)

• Interpretation: Intervention led to behavioral “nudge” rather than spread of new information

• Indicative of significant benefits from continuing messaging campaigns by credible sources even once society is informed

• Note we don’t know if the same message would also have worked by a less credible source...
Study 1

Comparison of knowledge and information seeking behavior following general COVID-19 public health messages and messages tailored for Black and Latinx communities: A randomized controlled trial. Annals of internal medicine

Study 2

Comparison of knowledge and behavior following general physician-delivered COVID-19 public health messages and messages acknowledging racial inequity: A randomized controlled trial.
Motivation

• 2020 saw a "syndemic": pandemic+systemic racism epidemic.
  • 1.4 times greater case COVID-19 rates in Black US population
  • 3.7 times greater hospitalizations.
  • 2.8 times greater death rates (age adjusted: 4 times)

• Many physicians have tried to reach out to people directly to encourage social distancing, not travelling, etc.

• Doctors are among the experts most trusted in public opinion

• Questions:
  • Is such physician communication effective?
  • Does it effectively reach Black Americans who bear the biggest burden?
  • Can anything be done to make such communication more effective for Black Americans?
Context and methods for both studies

- Both studies were conducted in the US, on line, using the Lucid (online surveying) platform.
- Relatively large samples of low income Americans were recruited
  - Study 1: 11,000 Blacks and LatinX from May 13 to May 24 2020
  - Study 2: 20,000 Blacks and Whites in September 2020
- Diverse doctors from MGH and Lynn community health center read 3 information statement about COVID-19 and preventive behavior [Link]
- We varied different aspects of the message and the messengers.
- And then surveyed online to measure outcomes.
Study 1: Main Hypotheses Tested

• Do the videos have any impact (on knowledge, beliefs, behavior)?
• Does race concordance between doctor and respondent have an impact?
• Does acknowledging prior injustices, immigration fears, or economic insecurity have an impact?
• Is the video from a CDC representative (Dr. Birx) as effective as a video from a MGH doctor?
• Do beliefs & behavior on mask wearing change if informing respondents of others beliefs?
Study Design and Flow
Study Flow and Timeline

1. **Recruitment and Baseline Survey:**
   - Recruit target sample via Lucid (began on May 13 ended May 24, 2020)
   - Collect demographic information and healthcare experience.

2. **Randomization:**
   - Treatment scripts tailored to each racial/ethnic group
   - Randomization at the individual level:
     - Concordant or discordant doctor
     - Birx-acknowledgement of inequality/difference in health care access
     - Social norm on masks or not
   - A control group received COVID-19 information at the very end of the survey.

3. **Endline:** included knowledge and click on links to get more information
Concordant or Discordant
Social norms Survey

- Do you believe this person is... sick? up to no good? protecting their communities
- 8 out of 10 people think that black person wearing a mask is protecting their communities
On average, intervention Affected knowledge
But not demand for links
Except for Black, when the doctor reading the scripts was Black
The other forms of tailoring did not matter

- Dr Birx was not popular but did not affect impacts on knowledge or demand for link.
- Social norm message affected the perception of social norm but not other knowledge or behavior (even for people whose view on the social norms was changed)
- Acknowledgement of inequality did not make any difference.
Doctors video appear to be effective at changing knowledge but...

- No hard measure of behavior in our survey (even self reported)
- No Whites
- COVID fatigue...
- Racial justice protests, polarization getting closer to the election.
- Before scaling up, a second study...
Study 2

• Do the videos have any impact (on knowledge, behavior)?
• Does race concordance between doctor and respondent have an impact?
• Does systemic-racism acknowledgment that had become popular with companies following the racial protest have an impact?
• What are the effects of acknowledging racial disparities in COVID incidence?
The AMA anti-racism statement

After the George Floyd protests, every large organization rushed to issue anti-racism statements, including the American Medical association.

Treatment statement

Control statement was another AMA statement on drug pricing.

Actors for both statement varied in gender and race (randomly assigned)
Study Design and Flow
Study Design: Videos

Each subject receives one AMA statement (anti-racism or placebo) and then watches three videos pertaining to health.

**AMA Statement:** Racial Injustice Acknowledgment or Drug Pricing (Placebo)

**Treatment Videos:**
1. Video T1:
   - Introduction and symptoms
2. Video T2:
   - Social distancing and hygiene
   - Variation: racial disparities in burden
3. Video T3:
   - Information about masks

**Placebo Videos:**
1. Video C1:
   - Information about fitness routines
2. Video C2:
   - Information about sleep hygiene
3. Video C3:
   - Information about sugar intake
Summarized randomization tree with target cell-sizes:

- 20,000 randomized
  (10,000 white and 10,000 black)
  - 5,000 assigned to AMA racism statement with white speaker
  - 5,000 assigned to AMA racism statement with black speaker
  - 5,000 assigned to AMA placebo statement with white speaker
  - 5,000 assigned to AMA placebo statement with black speaker

  - 10,000 assigned to black doctor
    - 8,000 receive COVID-19 messages
      - 4,000 receive standard message
      - 4,000 receive standard message and info. about incidence on blacks
    - 2,000 receive placebo message

  - 10,000 assigned to white doctor
    - 6,000 receive COVID-19 messages
      - 4,000 receive standard message
      - 4,000 receive standard message and info. about incidence on blacks
    - 2,000 receive placebo message
1. **Recruitment and Baseline Survey:**
   - Recruit target sample via Lucid (began on August 7 ended September 6, 2020)

2. **Randomization:**
   - Randomization at the individual level according to Figure 24.

3. **Video delivery**

4. **Endline:** questions, click on links, preference over donations, willingness to pay for masks.

5. **Follow-up:** some participants that agreed to be recontacted were surveyed \( \sim 3 \) days later and asked about their safety-behaviors (and re-surveyed on knowledge and beliefs).
   - 12591 people were included in the follow up sample to track (defined by Lucid).
   - We managed to track 6217.
   - Attrition at this stage is 51.8% in the treatment group and 51.0% in the control group.
Outcomes

1. **Knowledge gap** measures if individual knows:

2. **Information seeking behavior** measures the number of additional COVID-19 informational links requested by the participant.

3. **Willingness to pay for masks** the price they would be willing to pay for a pair of high-quality masks. It was in participants’ best interest to report their true willingness to pay for them.

4. **Safety gap** measures if participants engaged in four behaviors of interest in the followup:
   - If they wore a mask indoors
   - If they wore a mask outdoors
   - If they washed their hands
   - If they followed social distancing guidelines

5. **Donation allocations** measure how they would like to allocate two donation of $1000 (covid vs alzheimer and Black COVID relief vs all COVID relief)
Results
Some interesting facts: Knowledge is not action

- Blacks have more knowledge gaps than whites (score of 0.31 vs 0.17)
- But they are much more careful (Before intervention, 44.6% always wear a mask outside, vs 20.4% for whites)
- Republicans similar knowledge gap to Democrats
- But they are much less careful (Before intervention, 30% of Democrat always wear a mask outside, vs 15% of Republicans)
Knowledge Gaps decreased
Demand for Links increased
Willingness to pay for mask increased
Safety Behaviors Gaps decreased
Donation to COVID and Black charity increased
Effects of variations in the message framing

To analyze the effect of different variants of the treatment (AMA racism statement, race concordance, emphasis on unequal burden of COVID-19), we interact the each variant with the COVID treatment dummy.

- Little impact on behavior
  - No impact on the AMA treatment on anything
  - No impact of Black doctor on knowledge or behavior (of either black or white)
  - No impact of the reminder of the disparate burden on knowledge or behavior

- But some positive impact on solidarity towards Black
  - Disparate burden increase donation to Black
  - Seeing a black doctors increase donations to black
  - Effects are stronger for White but when they are all on at the same time, very robust effect on Whites as well.
Who is more affected?

- Effect on knowledge gaps larger for whites
- But effect on behavior all the same
- Effect on knowledge gap larger for republicans
- And effect on behavior also all the same, despite the lower levels to start with
Republicans increase their WTP for mask as much as democrats
Republicans increase their donation to Blacks as much as democrats
Overall Summary

- Videos improved COVID-19 related knowledge.
- Videos improved behavior: increase in the demand for links and WTP for masks. Self-reported behavior a few days after the intervention also improves.
- Effects were present in all groups, even Republicans, and less educated people
- Racial specific framing did not matter for individual behavior but prompted sense of solidarity towards Blacks (among Blacks AND Whites).
Messaging at Scale with Social Media

with Marcella Alsan, Abhijit Banerjee, Emily Breza, Arun Chandrasekhar, Paul Goldsmith-Pinkham, Benjamin Olken. FIXME ADDME
Social Media and "Messaging at Scale"

Given these positive impacts, we partnered with Facebook to deliver messaging "at scale":

- Reach of social media unrivaled:
  - Facebook: 2.8bn monthly active users globally, 230mm US accounts
- November 2020: fear about holiday travel as engine for spreading COVID-19
- Many doctors try to take out to Facebook to convey to people they should stay home
- Intervention: video messages recorded by doctors and nurses
  - Key message: stay home for the holidays
  - Delivered as sponsored content (advertisements) to Facebook users (with Facebook donation)
Interventions

• Thanksgiving intervention
  • Launched November 14
  • 11,954,108 users saw a study message at least once
  • 30,780,409 total video posts

• Christmas intervention
  • Launched December 17
  • 23,302,290 users saw a study message at least once
  • 80,773,006 total video posts

• Sample frame: 820 counties in 13 US states

• 2-Stage Experimental Design for both interventions:
  • Counties randomized to High vs. Low Intensity
  • Within county, ZIP codes randomized to treatment or control:
    • High Intensity Counties: 75% of ZIPs treated
    • Low Intensity Counties: 25% of Zips treated.

Preliminary results use county-level variation (Better mobility data)
Outcomes: Facebook Mobility Data

County-level outcomes: Facebook Movement Range Data

- "Change in movement" metric: how much are people moving around?
  - aggregates of how many 600m x 600m spatial tiles each user is seen in each day.
  - relative to Facebook baseline: February 2020

- "Stay put" metric: how much of the time are people really staying in their homes? (measured daily)
  - Fraction of the day that is spent in a single 600m x 600m geographical area.

We generate "Leave home" = 1-"Stay put". Higher levels indicate more movement.

Note: both measures consider individuals who began the day in each county.
  - Tagged to the place, not the person.
### Thanksgiving/Christmas: Leave Home

#### Time Period: Nov 23-29 for Thanksgiving; Dec 21-27 for Christmas

<table>
<thead>
<tr>
<th>Thanksgiving</th>
<th>Share Leave Home</th>
<th>Mon-Weds</th>
<th>Thurs-Sun</th>
<th>Mon-Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Intensity County</td>
<td></td>
<td>0.100</td>
<td>0.166</td>
<td>0.135</td>
</tr>
<tr>
<td></td>
<td>(p = 0.298)</td>
<td>(0.096)</td>
<td>(0.115)</td>
<td>(0.095)</td>
</tr>
<tr>
<td>Control Mean</td>
<td></td>
<td>80.9</td>
<td>74.6</td>
<td>77.3</td>
</tr>
<tr>
<td>Control Sd</td>
<td></td>
<td>2.66</td>
<td>4.16</td>
<td>4.76</td>
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<tr>
<td>Main effect RI p-val</td>
<td></td>
<td>0.311</td>
<td>0.147</td>
<td>0.142</td>
</tr>
<tr>
<td>Observations</td>
<td></td>
<td>2,072</td>
<td>2,759</td>
<td>4,831</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Christmas</th>
<th>Share Leave Home</th>
<th>Mon-Thu</th>
<th>Fri-Sun</th>
<th>Mon-Sun</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Intensity County</td>
<td></td>
<td>0.085</td>
<td>0.180</td>
<td>0.106</td>
</tr>
<tr>
<td></td>
<td>(p = 0.372)</td>
<td>(0.095)</td>
<td>(0.148)</td>
<td>(0.104)</td>
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<tr>
<td>Control Mean</td>
<td></td>
<td>80.7</td>
<td>70.8</td>
<td>76.5</td>
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<tr>
<td>Control Sd</td>
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<td>2.85</td>
<td>4.62</td>
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<td>Main effect RI p-val</td>
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<td>0.389</td>
<td>0.212</td>
<td>0.321</td>
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<tr>
<td>Observations</td>
<td></td>
<td>2,651</td>
<td>1,988</td>
<td>4,639</td>
</tr>
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</table>
Thanksgiving/Christmas: Distance Traveled

Time Period: Nov 23-29 for Thanksgiving; Dec 21-27 for Christmas

### Thanksgiving

<table>
<thead>
<tr>
<th></th>
<th>Distance Traveled Relative to Feb 2020</th>
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<tbody>
<tr>
<td></td>
<td>Mon-Weds</td>
</tr>
<tr>
<td>High Intensity County</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.701</td>
</tr>
<tr>
<td></td>
<td>(0.411)</td>
</tr>
<tr>
<td></td>
<td>p = 0.089</td>
</tr>
<tr>
<td>Control Mean</td>
<td>-5.32</td>
</tr>
<tr>
<td>Control Sd</td>
<td>9.03</td>
</tr>
<tr>
<td>Main effect RI p-val</td>
<td>0.091</td>
</tr>
<tr>
<td>Observations</td>
<td>2,072</td>
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</table>

### Christmas

<table>
<thead>
<tr>
<th></th>
<th>Distance Traveled Relative to Feb 2020</th>
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<tbody>
<tr>
<td></td>
<td>Mon-Thu</td>
</tr>
<tr>
<td>High Intensity County</td>
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<tr>
<td></td>
<td>-0.755</td>
</tr>
<tr>
<td></td>
<td>(0.329)</td>
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<td></td>
<td>p = 0.022</td>
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<tr>
<td>Control Mean</td>
<td>-4.54</td>
</tr>
<tr>
<td>Control Sd</td>
<td>9.77</td>
</tr>
<tr>
<td>Main effect RI p-val</td>
<td>0.015</td>
</tr>
<tr>
<td>Observations</td>
<td>2,651</td>
</tr>
</tbody>
</table>
Facebook Study: Takeaways

• We detect responses to public health messaging by medical professionals "at scale"
  • Facebook users respond to the sponsored content
• Distance traveled prior to both holidays decreases
  • Consistent with following specific instructions in video messages
• However, no impact on staying home
  • Cannot rule out sizable positive impacts
  • Scope for substitution effects
• Need to be cautious in interpreting net impacts
• In progress: COVID-related outcomes
Conclusion

• Despite ambient noise, light, social-media based, information campaign still get people to change their behavior

• Even on topics that appear to be ultra-politicized (travel on thanksgiving, mask wearing) people are affected by simple messages, regardless of race or politics

• People are still responsive to actionable information...
Thank You
CONSORT Diagram

44,743 were assessed for eligibility
24,283 were excluded
- 14,569 were excluded due to quotas being met
- 5,534 due to participant or tasked data collection of data
- 53 due to being a non-eligible
- 10 were missing

14,569 were excluded

20,460 were randomized

5,534 were assessed to the AHM intervention arm
- 602 were assigned to the non-discordant physician
- 4,101 were assigned to the discordant physician

2,046 assigned to the intervention group
1,256 eligible
584 non-eligible
818 completed
- 291 included
- 327 no answer
- 651 eligible
- 402 non-eligible
- 22 left
- 5 left

1,243 eligible
611 eligible
611 non-eligible
620 eligible
620 non-eligible

1,855 completed
- 597 included
- 634 completed
- 301 included
- 597 non-eligible

2,051 were assigned to the AMA intervention arm
1,256 eligible
584 non-eligible
817 completed
- 291 included
- 327 no answer
- 651 eligible
- 402 non-eligible
- 22 left
- 5 left

1,889 completed
- 591 included
- 635 completed
- 304 included
- 634 non-eligible

1,883 completed
- 593 included
- 636 completed
- 301 included
- 637 non-eligible

53 left
- 301 included
- 634 completed
- 301 included
- 637 non-eligible

1,820 completed
- 588 included
- 602 completed
- 22 left
- 5 left

1,830 completed
- 588 included
- 602 completed
- 22 left
- 5 left

1,839 completed
- 588 included
- 602 completed
- 22 left
- 5 left

1,878 completed
- 602 included
- 636 completed
- 304 included
- 637 non-eligible

1,883 completed
- 593 included
- 636 completed
- 301 included
- 637 non-eligible

1,878 completed
- 602 included
- 636 completed
- 304 included
- 637 non-eligible

2,050 assigned to the intervention group
1,255 eligible
607 non-eligible
811 completed
- 291 included
- 327 no answer
- 651 eligible
- 402 non-eligible
- 22 left
- 5 left

1,830 completed
- 588 included
- 602 completed
- 22 left
- 5 left

1,820 completed
- 588 included
- 602 completed
- 22 left
- 5 left

1,807 completed
- 594 included
- 635 completed
- 304 completed
- 637 non-eligible

1,806 completed
- 594 included
- 635 completed
- 304 completed
- 637 non-eligible

1,807 completed
- 594 included
- 635 completed
- 304 completed
- 637 non-eligible

913 completed
- 33 left
- 301 included
- 637 non-eligible

913 completed
- 33 left
- 301 included
- 637 non-eligible

1,026 were assigned to the placebo statement
1,273 eligible
775 non-eligible
773 completed
- 291 included
- 327 no answer
- 651 eligible
- 402 non-eligible
- 22 left
- 5 left

913 completed
- 33 left
- 301 included
- 637 non-eligible

913 completed
- 33 left
- 301 included
- 637 non-eligible

1,026 were assigned to the placebo statement
1,273 eligible
775 non-eligible
773 completed
- 291 included
- 327 no answer
- 651 eligible
- 402 non-eligible
- 22 left
- 5 left

913 completed
- 33 left
- 301 included
- 637 non-eligible

913 completed
- 33 left
- 301 included
- 637 non-eligible

1,022 were assigned to a non-discordant physician
1,255 eligible
606 non-eligible
817 completed
- 291 included
- 327 no answer
- 651 eligible
- 402 non-eligible
- 22 left
- 5 left

913 completed
- 33 left
- 301 included
- 637 non-eligible

913 completed
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1,022 were assigned to a non-discordant physician
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817 completed
- 291 included
- 327 no answer
- 651 eligible
- 402 non-eligible
- 22 left
- 5 left

913 completed
- 33 left
- 301 included
- 637 non-eligible

913 completed
- 33 left
- 301 included
- 637 non-eligible

8,185 were assigned to the AMA intervention arm
4,090 were randomized
1,256 eligible
784 non-eligible
775 completed
- 291 included
- 327 no answer
- 651 eligible
- 405 non-eligible
- 22 left
- 5 left

913 completed
- 33 left
- 301 included
- 637 non-eligible

913 completed
- 33 left
- 301 included
- 637 non-eligible

4,095 were assigned to the non-discordant physician
1,255 eligible
784 non-eligible
784 completed
- 291 included
- 327 no answer
- 651 eligible
- 405 non-eligible
- 22 left
- 5 left

913 completed
- 33 left
- 301 included
- 637 non-eligible

913 completed
- 33 left
- 301 included
- 637 non-eligible

8,185 were assigned to the AMA intervention arm
4,090 were randomized
1,256 eligible
784 non-eligible
784 completed
- 291 included
- 327 no answer
- 651 eligible
- 405 non-eligible
- 22 left
- 5 left

913 completed
- 33 left
- 301 included
- 637 non-eligible

913 completed
- 33 left
- 301 included
- 637 non-eligible

4,095 were assigned to the non-discordant physician
1,255 eligible
784 non-eligible
784 completed
- 291 included
- 327 no answer
- 651 eligible
- 405 non-eligible
- 22 left
- 5 left

913 completed
- 33 left
- 301 included
- 637 non-eligible

913 completed
- 33 left
- 301 included
- 637 non-eligible

4,090 were randomized

5,534 were excluded

14,569 were excluded

20,460 were randomized

44,743 were assessed for eligibility
24,283 were excluded
- 14,569 were excluded due to quotas being met
- 5,534 due to participant or tasked data collection of data
- 53 due to being a non-eligible
- 10 were missing

Participants who completed the knowledge assessment included for the knowledge assessment analysis.

Participants who completed the survey included for analysis for the survey.

Participants who completed the knowledge assessment included for the knowledge assessment analysis.

Participants who completed the knowledge assessment included for the knowledge assessment analysis.

Participants who completed the follow-up survey.

Participants who completed follow-up and those no follow-up on baseline completed, includes for follow-up on action.

Participants who completed follow-up and those no follow-up on baseline completed, includes for follow-up on action.

Participants who completed follow-up and those no follow-up on baseline completed, includes for follow-up on action.

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Participants who completed follow-up and those no follow-up on baseline completed, includes for follow-up on action.

Participants who completed follow-up and those no follow-up on baseline completed, includes for follow-up on action.
Treatment Statement RI (Racial Justice):

The American Medical Association recognizes that racism in its systemic, structural, institutional, and interpersonal forms is an urgent threat to public health, the advancement of health equity, and a barrier to excellence in the delivery of medical care. The American Medical Association opposes all forms of racism. The American Medical Association denounces police brutality and all forms of racially-motivated violence. The American Medical Association will actively work to dismantle racist and discriminatory policies and practices across all of health care.

Placebo Statement DP (Drug Pricing):

The American Medical Association believes in transparency in prescription drug pricing, and we are pleased the House Ways & Means Committee moved the issue forward. Patients and their physicians want to be armed with more information, yet the current situation is opaque if not impenetrable. The committee is rightfully determined to expose factors that lead to high drug prices, and we look forward to continuing our efforts in that regard.
Hello, I’m Dr [YOUR LAST NAME HERE] from [YOUR INSTITUTIONAL AFFILIATION HERE], and I’d like to tell you a little about Coronavirus or COVID-19. COVID-19 is a new virus that can infect the respiratory tract and lungs. Although many people who get sick from COVID will get better, some people who get it become very ill and some even die.

Although there’s no cure, there are ways medical professionals have found to protect you and your community from COVID. I hope that this message can give you information that will help you protect you or someone you love from COVID infection.

First, I would like to tell you about the symptoms of COVID-19. The most common symptoms of COVID-19 are cough, fever, and trouble breathing. Another odd symptom some people have is loss of taste or smell. A large number of people who have COVID-19 actually don’t show any symptoms at all. Unfortunately, people can still spread the disease to others even with no symptoms. The next video will provide you with more information on how you can protect yourself and others.
You may be looking for ways to resume some activities as safely as possible.

However, COVID-19 remains contagious and shows no signs of disappearing. In fact, during the week of July 6 there were 58,000 new COVID cases per day diagnosed in the United States.

[ONLY FOR ACKNOWLEDGMENT SUB-TREATMENT T2A] Black Americans and other minority groups are three times as likely to get and, when you account for age, four times as likely to die from COVID as white Americans.

Without a safe and effective vaccine or therapy, our only option is to continue taking precautionary measures to protect ourselves, our communities, and the most vulnerable among us.
While there is no way to ensure zero risk of infection from COVID-19, observing these three practices will help to protect you and others.

First, continue to practice social distancing whenever possible: Try to stay outdoors, and to the maximum extent possible, please stay 6 feet apart. If you must be indoors, use visual reminders-like signs, chair arrangements, markings on the floor, or arrows-to help remind you to keep your distance from others, and maintain physical barriers whenever possible.

Second, continue to wash your hands often for at least 20 seconds with soap and water, especially before going out, and every time you return home.

Third, wear a mask when in public at all times, especially when indoors or when it is difficult to stay 6 feet away. The next video will tell you a bit more about masks.
Hello, I am doctor [YOUR LAST NAME HERE] from [YOUR INSTITUTIONAL AFFILIATION HERE], and I will tell you a bit more about masks. Wearing a mask is a key way to prevent the spread of COVID-19. You are not just protecting yourself but also your grandma and your community, just in case you have COVID-19 but don’t know it.

Even if wearing a mask may sometimes put you in a difficult situation, it is important to protect you and the community from COVID-19 disease. As medical professionals, I am committed to delivering the best care I can to every patient. My goal is to make sure that you and everyone you love survives this COVID-19 pandemic. Thank you for listening to these messages.
Most adults need to sleep between 6 and 8 hours a night. Now, there are some people who get five hours a night and they are fine, so there is some variation across people. But for most adults, we need 6 to 8 hours in order to function well the next day. If you feel sleep deprived you might not be able to function as well as you would normally like.

It’s important to have something called sleep hygiene which is a routine you follow at bedtime and can help you fall asleep. Things that can disrupt sleep hygiene include caffeine or alcohol too close to bedtime. Eating late at night can also cause indigestion. So keep a routine and trying to get 6-8 hours is important.
Sugar is found in many different food items. Natural sugars are those that can be found in fruits, vegetables and dairy products like milk. Sugars like these that are natural are not really problematic because they are coming alongside lots of other vitamins and minerals.

There are other sugars, though, that are processed and added to a food item. These are called additive sugars. A good rule of thumb is to eat foods with less than than 5g of sugar per serving. Avoid buying products where one of the first five products is a sugar.

And it can be better to buy an unsweetened product like an unsweetened cereal or oatmeal and then add a teaspoon of sugar to it if you need the sweetness than to buy a heavily sweetened product, like a sugar cereal which can have several teaspoons of sugar per serving.
New fitness guidelines can be summed up as follows: just move and anything counts. Sneaking in a few minutes of physical activity throughout the day adds up in the long run. The guidelines are trying to make it easier for individuals to be fit and drop the rule that activity must be in 10 minute blocks of time. In a nutshell, activity has benefits even if it’s for a short amount of time. Taking the stairs instead of the elevator, parking your car far away from the entrance to a store or walking your dog around the block can all help you be fit. The guidelines still call for at least 150 minutes a week of moderately intense aerobic exercise and two weekly sessions of muscle training activity, like lifting weights or yoga.
## Summary Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Study</th>
<th>Any intervention</th>
<th>Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All</td>
<td>Black</td>
<td>White</td>
</tr>
<tr>
<td>Nb observations</td>
<td>17689</td>
<td>7879</td>
<td>9810</td>
</tr>
<tr>
<td>Age, mean (SD)</td>
<td>40.22 (17.81)</td>
<td>34.12 (15.48)</td>
<td>45.12 (18.04)</td>
</tr>
<tr>
<td>Region, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Region 1</td>
<td>3024 (17.1)</td>
<td>1187 (15.1)</td>
<td>1837 (18.7)</td>
</tr>
<tr>
<td>Region 2</td>
<td>3884 (22.0)</td>
<td>1494 (19.0)</td>
<td>2390 (24.4)</td>
</tr>
<tr>
<td>Region 3</td>
<td>8046 (45.5)</td>
<td>4291 (54.5)</td>
<td>3755 (38.3)</td>
</tr>
<tr>
<td>Region 4</td>
<td>2735 (15.5)</td>
<td>907 (11.5)</td>
<td>1828 (18.6)</td>
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<tr>
<td>Demographic, n (%)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>High school graduate</td>
<td>15016 (84.9)</td>
<td>6125 (77.7)</td>
<td>8891 (90.6)</td>
</tr>
<tr>
<td>HHI above 60k</td>
<td>4206 (23.8)</td>
<td>1657 (21.0)</td>
<td>2549 (26.0)</td>
</tr>
<tr>
<td>Female</td>
<td>9880 (55.9)</td>
<td>4492 (57.0)</td>
<td>5388 (54.9)</td>
</tr>
<tr>
<td>Male</td>
<td>7809 (44.1)</td>
<td>3387 (43.0)</td>
<td>4422 (45.1)</td>
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<tr>
<td>Party, n (%)</td>
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<td></td>
<td></td>
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<tr>
<td>Party dem.</td>
<td>6977 (39.4)</td>
<td>4228 (53.7)</td>
<td>2749 (28.0)</td>
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<tr>
<td>Party rep.</td>
<td>4376 (24.7)</td>
<td>699 (8.9)</td>
<td>3677 (37.5)</td>
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<tr>
<td>Independent</td>
<td>6336 (35.8)</td>
<td>2952 (37.5)</td>
<td>3384 (34.5)</td>
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<tr>
<td>Preventive practices, n (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mask in (always)</td>
<td>12106 (68.4)</td>
<td>5316 (67.5)</td>
<td>6790 (69.2)</td>
</tr>
<tr>
<td>Mask out (always)</td>
<td>5517 (31.2)</td>
<td>3513 (44.6)</td>
<td>2004 (20.4)</td>
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<tr>
<td>Wash hands (always)</td>
<td>10779 (60.9)</td>
<td>5084 (64.5)</td>
<td>5695 (58.1)</td>
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<tr>
<td>Distance (always)</td>
<td>9461 (53.5)</td>
<td>4587 (58.2)</td>
<td>4874 (49.7)</td>
</tr>
</tbody>
</table>
Extra tables
Does race concordance have an effect on knowledge?

Immediate Knowledge Gap Score

<table>
<thead>
<tr>
<th>Panel</th>
<th>IRR (95% CI)</th>
<th>p-value</th>
<th>Obs</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>0.995 (0.947,1.045)</td>
<td>0.847</td>
<td>18762</td>
</tr>
<tr>
<td>African-American</td>
<td>1.005 (0.944,1.069)</td>
<td>0.886</td>
<td>9445</td>
</tr>
<tr>
<td>White</td>
<td>0.974 (0.894,1.061)</td>
<td>0.548</td>
<td>9317</td>
</tr>
</tbody>
</table>

Follow-up Knowledge Gap Score

<table>
<thead>
<tr>
<th>Panel</th>
<th>IRR (95% CI)</th>
<th>p-value</th>
<th>Obs</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>0.995 (0.916,1.082)</td>
<td>0.909</td>
<td>6030</td>
</tr>
<tr>
<td>African-American</td>
<td>0.973 (0.861,1.100)</td>
<td>0.661</td>
<td>2097</td>
</tr>
<tr>
<td>White</td>
<td>1.014 (0.905,1.137)</td>
<td>0.806</td>
<td>3933</td>
</tr>
</tbody>
</table>
Does race concordance have an effect on behavior?

### Information Seeking Behavior

<table>
<thead>
<tr>
<th>Panel</th>
<th>IRR (95% CI)</th>
<th>p-value</th>
<th>Obs</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>0.998 (0.908, 1.096)</td>
<td>0.961</td>
<td>18223</td>
</tr>
<tr>
<td>African-American</td>
<td>1.035 (0.919, 1.165)</td>
<td>0.575</td>
<td>9168</td>
</tr>
<tr>
<td>White</td>
<td>0.956 (0.822, 1.112)</td>
<td>0.562</td>
<td>9055</td>
</tr>
</tbody>
</table>

### Safety Gap Score

<table>
<thead>
<tr>
<th>Panel</th>
<th>IRR (95% CI)</th>
<th>p-value</th>
<th>Obs</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>0.968 (0.881, 1.063)</td>
<td>0.490</td>
<td>6035</td>
</tr>
<tr>
<td>African-American</td>
<td>1.008 (0.846, 1.202)</td>
<td>0.928</td>
<td>2099</td>
</tr>
<tr>
<td>White</td>
<td>0.945 (0.841, 1.063)</td>
<td>0.345</td>
<td>3936</td>
</tr>
</tbody>
</table>
Does race concordance have an effect on WTP for masks?

<table>
<thead>
<tr>
<th>Panel</th>
<th>Coefficient (95% CI)</th>
<th>p-value</th>
<th>Obs</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>0.244 (-0.457,0.945)</td>
<td>0.495</td>
<td>16759</td>
</tr>
<tr>
<td>African-American</td>
<td>0.036 (-1.079,1.150)</td>
<td>0.950</td>
<td>7725</td>
</tr>
<tr>
<td>White</td>
<td>0.425 (-0.459,1.309)</td>
<td>0.346</td>
<td>9034</td>
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</tbody>
</table>
Does the AMA systemic-racism acknowledgment have an impact?
Does the AMA acknowledgment have an effect on knowledge?

**Immediate Knowledge Gap Score**

<table>
<thead>
<tr>
<th>Panel</th>
<th>IRR (95% CI)</th>
<th>p-value</th>
<th>Obs</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>0.991 (0.943,1.041)</td>
<td>0.712</td>
<td>18762</td>
</tr>
<tr>
<td>African-American</td>
<td>1.007 (0.946,1.071)</td>
<td>0.836</td>
<td>9445</td>
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<tr>
<td>White</td>
<td>0.957 (0.879,1.043)</td>
<td>0.317</td>
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**Follow-up Knowledge Gap Score**

<table>
<thead>
<tr>
<th>Panel</th>
<th>IRR (95% CI)</th>
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<th>Obs</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>0.980 (0.901,1.065)</td>
<td>0.629</td>
<td>6030</td>
</tr>
<tr>
<td>African-American</td>
<td>0.985 (0.872,1.113)</td>
<td>0.807</td>
<td>2097</td>
</tr>
<tr>
<td>White</td>
<td>0.976 (0.871,1.094)</td>
<td>0.675</td>
<td>3933</td>
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</table>
Does the AMA acknowledgment have an effect on behavior?

### Information Seeking Behavior

<table>
<thead>
<tr>
<th>Panel</th>
<th>IRR (95% CI)</th>
<th>p-value</th>
<th>Obs</th>
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<tbody>
<tr>
<td>All</td>
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<tr>
<td>African-American</td>
<td>1.019 (0.905,1.147)</td>
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<tr>
<td>White</td>
<td>1.033 (0.888,1.201)</td>
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### Safety Gap Score

<table>
<thead>
<tr>
<th>Panel</th>
<th>IRR (95% CI)</th>
<th>p-value</th>
<th>Obs</th>
</tr>
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<tbody>
<tr>
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<td>1.017 (0.926,1.117)</td>
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<tr>
<td>African-American</td>
<td>1.033 (0.867,1.232)</td>
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<tr>
<td>White</td>
<td>1.008 (0.897,1.133)</td>
<td>0.889</td>
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</table>
Does the AMA acknowledgment have an effect on WTP for masks?

<table>
<thead>
<tr>
<th>Panel</th>
<th>Coefficient (95% CI)</th>
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<th>Obs</th>
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<tr>
<td>All</td>
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<tr>
<td>African-American</td>
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<tr>
<td>White</td>
<td>-0.464 (-1.348, 0.420)</td>
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</table>
Does acknowledging racial disparities in COVID incidence have an impact?
Does acknowledging racial disparities in COVID incidence have an effect on knowledge?

**Immediate Knowledge Gap Score**

<table>
<thead>
<tr>
<th>Panel</th>
<th>IRR (95% CI)</th>
<th>p-value</th>
<th>Obs</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>1.005 (0.982, 1.029)</td>
<td>0.659</td>
<td>18762</td>
</tr>
<tr>
<td>African-American</td>
<td>1.009 (0.980, 1.038)</td>
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<td>9445</td>
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<tr>
<td>White</td>
<td>0.997 (0.956, 1.039)</td>
<td>0.874</td>
<td>9317</td>
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</table>

**Follow-up Knowledge Gap Score**

<table>
<thead>
<tr>
<th>Panel</th>
<th>IRR (95% CI)</th>
<th>p-value</th>
<th>Obs</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>1.014 (0.976, 1.053)</td>
<td>0.469</td>
<td>6030</td>
</tr>
<tr>
<td>African-American</td>
<td>1.051 (0.994, 1.111)</td>
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</tr>
<tr>
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Does acknowledging racial disparities in COVID incidence have an effect on behavior?

### Information Seeking Behavior

<table>
<thead>
<tr>
<th>Panel</th>
<th>IRR (95% CI)</th>
<th>p-value</th>
<th>Obs</th>
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<tbody>
<tr>
<td>All</td>
<td>1.023 (0.981,1.066)</td>
<td>0.297</td>
<td>18223</td>
</tr>
<tr>
<td>African-American</td>
<td>1.021 (0.968,1.076)</td>
<td>0.446</td>
<td>9168</td>
</tr>
<tr>
<td>White</td>
<td>1.026 (0.959,1.097)</td>
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### Safety Gap Score

<table>
<thead>
<tr>
<th>Panel</th>
<th>IRR (95% CI)</th>
<th>p-value</th>
<th>Obs</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>1.008 (0.965,1.051)</td>
<td>0.730</td>
<td>6035</td>
</tr>
<tr>
<td>African-American</td>
<td>1.121 (1.035,1.214)</td>
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<td>2099</td>
</tr>
<tr>
<td>White</td>
<td>0.939 (0.890,0.991)</td>
<td>0.021</td>
<td>3936</td>
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</table>
Does acknowledging racial disparities in COVID incidence have an effect on WTP for masks?

<table>
<thead>
<tr>
<th>Panel</th>
<th>Coefficient (95% CI)</th>
<th>p-value</th>
<th>Obs</th>
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<tr>
<td>African-American</td>
<td>0.001 (-0.498,0.501)</td>
<td>0.996</td>
<td>7725</td>
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<tr>
<td>White</td>
<td>0.133 (-0.263,0.529)</td>
<td>0.511</td>
<td>9034</td>
</tr>
</tbody>
</table>