Polarization and Public Health: Partisan Differences in Social Distancing during COVID-19

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1 Introduction

Mobilizing an effective public response to an emerging pandemic requires clear communication and trust (Holmes 2008; Taylor et al. 2009; van der Weerd et al. 2011; Vaughn and Tinker 2011). Key measures such as social distancing and self-quarantine can rarely be enforced entirely by coercion, particularly in democratic societies. The public must understand what is required of them and be persuaded of the importance of complying.

In this sense, partisan differences could be a key risk factor in the US response to the COVID-19 pandemic. Prominent officials have sent conflicting messages about the crisis, with the President and other Republican officials sometimes saying it was less severe, and Democrats giving more emphasis to its dangers (Beauchamp 2020; Stanley-Becker and Janes 2020; Coppins 2020; McCarthy 2020). Partisan media have tended to echo this division (Aleem 2020; Kantrowitz 2020). The result could be gaps between citizens on the right and left in their compliance with public health measures such as social distancing, possibly leading to large human and economic costs.

We test these hypotheses by collecting new survey data, and running an experiment, to test whether Republicans and Democrats indeed differ in their self-reported evaluation of the severity of the crisis. Previous survey evidence conducted on March 19-20 on Facebook suggest that there were noticeable differences between Republicans and Democrats along both prediction- and action-dimensions. We test how differences in beliefs and actions about COVID-19 are related to differences in political attitudes and media consumption.

We plan to recruit 2,000 participants via CloudResearch's Prime Panels, a market research firm with access to 50 million participants. To better represent typical attitudes in the United States today, we ensure that the distribution of responses are nationally representative along the dimensions of age, gender, race, and political party affiliation. We collect participants' demographics, news consumption behavior and attitudes, belief in COVID-19 myths, assessments of economic tradeoffs, self-reported social distancing due to COVID-19, and predictions of future COVID-19 cases. We randomize whether predictions are incentivized or not, in order to test whether stated survey beliefs are more due to partisan cheerleading or due to true beliefs as the stake in such beliefs rise.

Other tests include whether news consumption and trust in news has changed during the COVID-19 pandemic, whether differences in beliefs can be partly explained by politically-motivated reasoning, whether seeing a question about Donald Trump's handling of the outbreak changes beliefs about future cases, and how people assess the tradeoff between going out to help the economy and staying inside to avoid spreading COVID-19.

Sections 2 details the survey and experiment design, and Section 3 discusses results from the Facebook survey.

2 Survey and Experiment Design

2.1 Demographics for Quotas

We recruit participants starting on April 4, 2020. We screen such that only current US residents who are at least 18 years old can participate. We implement quotas to ensure a representative sample across age, gender, race/ethnicity, and political party lines. Representative sample quotas mimic the 2010 US Census data for the first three categories. Politics quotas mimic the relative responses from the most recent Gallup survey, from March 13-22, 2020 (Gallup 2020).

In particular, we ask the following demographic questions for screening and quota purposes:

- Do you currently live in the United States?
- What is your age?
- What is your gender? Subjects may answer Male, Female, or Other/Non-binary.
- What race/ethnicity best describes you? Subjects may answer White (Not Hispanic or Latinx), Hispanic or Latinx, Black or African American (Not Hispanic or Latinx), Asian or Pacific Islander, American Indian or Alaska Native, or Other.
- Do you consider yourself a Republican, a Democrat, or an Independent? Subjects may answer Strongly Democratic, Weakly Democratic, Independent (lean Democratic), Independent (do not lean towards either party), Independent (lean Republican), Weakly Republican, Strongly Republican, or Other.

Age quotas are: 48.1 percent 18-39, 34.8 percent 40-59, and 17.1 percent 60+. Gender quotas are: 49.2 percent male, 50.8 percent female. Race/Ethnicity quotas are: 61.5 percent White (not Hispanic or Latinx), 17.6 percent Hispanic or Latinx, 12.3 percent Black (not Hispanic or Latinx), 5.3 percent Asian, 3.3 percent Other. Politics quotas are: 31.25 percent Republican, 31.25 percent Democrat, and 37.5 percent Independent. All respondents, regardless of demographics, are paid by CloudResearch.

Insofar as we do not exactly meet these quotas, we weight observations so that we have these distributions.

2.2 Other Demographics

We ask the following questions to collect other demographics:

- How many children under the age of 18 do you have?
- What is the highest degree or level of schooling that you have completed? We treat education as continuous, from "Less than a high school diploma" coded as 11, up to "Graduate degree" coded as 18.

- What was your total income in 2019? Please include only employment income (wages, salary, bonuses, tips, and any income from your own businesses). Subjects are given 12 categories: "I did not earn income in 2019" (coded as 0), ten categories of "$X to $Y" (coded as (X+Y)/2000), and "$150,000 or more," (coded as 200). We take log(1+coded value) as log income.

- What is your ZIP code? (We match ZIP code to US state and population density.)

We collect self-reported health measures to have an indicator for the risk that participants could face if they caught COVID-19:

- In general, how would you rate your OVERALL health? Subjects answer on a 5-point scale: Excellent / Very Good / Good / Fair / Poor

- Has a doctor ever told you that you had the following conditions (Yes/No)? Diabetes or high blood sugar; Lung disease such as chronic bronchitis or emphysema; A heart attack, coronary heart disease, angina, congestive heart failure, or other heart problems.

- Have you smoked at least 100 cigarettes in your entire life?

- Have you smoked at least 10 cigarettes in the past week?

We also ask the following yes/no question in order to understand participants' work-required social distancing:

- In the past week, have you had to go to a work environment in which you were within six feet of others?

2.3 Media Consumption and Trust

Next, we ask about participants' media consumption and trust. There are four questions: level of media consumption before COVID-19 and about COVID-19; and trust in news sources before COVID-19 and about COVID-19. We ask about three types of news sources:

1. News providers (New York Times, MSNBC, CNN, Network news, Wall Street Journal, Fox News, Breitbart). These sources are sorted by political slant using a Pew survey of the ideological placement of their audiences (Pew Research Center 2014).

2. User-created content (Twitter, Facebook, Wikipedia)

3. Health organizations (Centers for Disease Control, World Health Organization)

Specifically, we ask the following four questions about each of the 12 sources:

- **Last year,** how much **trust and confidence** did you have in each of the following sources when it comes to **reporting about politics and current events fully, accurately, and fairly?** Subjects answer on a 4-point scale: A great deal / A fair amount / Not very much / None at all, or answer Not familiar with this outlet.

- How much **trust and confidence** did you have in each of the following sources when it comes to **reporting about the coronavirus fully, accurately, and fairly?** Subjects answer on a 4-point scale: A great deal / A fair amount / Not very much / None at all, or answer Not familiar with this outlet.

- **Last year,** how **frequently did you get news and information** from each of the following sources **about politics and current events** through any medium (including reading online, watching on TV, etc.)? Subjects answer on a 4-point scale: Often / Sometimes / Rarely / Never, or answer Not familiar with this outlet.

- How **frequently are you getting news and information** from each of the following sources **about the coronavirus** through any medium (including reading online, watching on TV, etc.)? Subjects answer on a 4-point scale: Often / Sometimes / Rarely / Never, or answer Not familiar with this outlet.

In addition to the news consumption measures, we will define a separate variable "news consumption difference" as the difference in News Consumption during COVID-19 and News Consumption last year.

2.4 Social Distancing

Next, we ask about social distancing. We ask participants how they have socially distanced, how they have perceived the impact of social distancing on the likelihood of catching COVID-19, and the costs of social distancing.

The two social distancing questions are:

- Think about the ways you may have changed your daily routine over the past month specifically because of the coronavirus. For example, you may be washing your hands more, avoiding restaurants and other public places, and/or reducing interactions with friends and family. By what percent have you reduced your overall contact with other people over the past month as a result of the coronavirus outbreak? Please enter a percentage from 0 to 100.

- Think back to two weeks ago. Two weeks ago, by what percent had you reduced your overall contact with other people over the past month as a result of the coronavirus outbreak? Please enter a percentage from 0 to 100.

Social Distancing is measured by an average of the percent reduction in contact with others and the percent reduction as of two weeks ago in contact with others.

The impact of social distancing question is:

- Imagine that starting today and for the next month, you went back to your normal daily routine from before the coronavirus. What do you think is the probability that you would catch the coronavirus in the next month? Please enter a percentage from 0 to 100. (Note: If participants said they had not reduced their overall contact with other people, "went back to" is replaced with "continued with.")

This allows us to test whether Democrats and Republicans find that social distancing is more or less effective in reducing the spread of COVID-19.

Finally, we elicit subjects' cost for social distancing (overall costs, including time, money, and inconvenience). Specifically, we ask:

- Consider a hypothetical situation in a normal month in the future, after the coronavirus outbreak is completely over. Imagine you had a choice between: (A) following your normal routine for one month, OR (B) cutting off all in-person contact with people outside your household for one month, AND receiving $X cash. Presumably if you were offered a large amount of cash ($X is large), you'd be willing to cut off all social contact. If you weren't offered any cash ($X is 0), you'd prefer to stick with your normal routine. What value of X would make you equally happy with these two options? Please answer in dollars.

2.5 Economic Trade-offs

We also ask about participants' relative weights of helping the economy and avoiding spreading COVID-19. In particular, we ask:

- When there was no "stay-at-home" order for your area, what did you think was the best way to help the country in this time of crisis? Participants answer along a 7-point scale, ranging from "Go out more to help the economy" to "Go out less to avoid spreading the coronavirus."

2.6 Beliefs on Future COVID-19 Severity and Trump Approval

We then ask participants to predict future COVID-19 cases, and to predict the future approval rating of Donald Trump's response to the pandemic. We ask the following two questions in a random order:

1. We want to know how well you think the U.S. will limit the spread of the coronavirus in the next month.

   There had been 177,226 known cases of coronavirus in the U.S. by March 31. How many additional known cases will there be in the U.S. in the month of April?

2. RealClearPolitics reports polling data on public approval of President Trump's handling of the coronavirus outbreak. What percent of people will say they approve of Trump's handling of the coronavirus outbreak on the latest poll that ends before April 30?

We code the beliefs as follows:

- **Predictions of Future Cases** is measured by taking the answers for the "How many additional known [COVID-19] cases" question and normalizing the winsorized predictions.
- **Predictions of Trump Approval** is measured by taking the answers for the Trump approval question and normalizing the winsorized predictions.

2.6.1 Incentivized belief elicitation

In addition to documenting the potential existence of partisan differences in beliefs, we also want to examine whether such differences, if exist, are due to true differences in beliefs, or due to a form of partisan cheerleading. As such, we randomize whether participants are incentivized or unincentivized to give predictions close to the correct answer. Both groups are told: "You will now be asked to make a few predictions." In addition, the incentivized group is given the following statement:

"Think carefully! We'll randomly select 10 participants for an accuracy reward. If you're selected, we'll pay you up to $100 depending on how accurate your prediction was. For example:

- If your answer is exactly right, we'll give you $100
- If your answer is 1% off, we'll give you $99
- If your answer is 2% off, we'll give you $98
- ...
- If your answer is 50% off, we'll give you $50
- etc."

This incentive structure incentivizes participants' median beliefs about their answers to these two questions.

2.6.2 Partisanship priming

In order to examine whether beliefs about COVID-19 severity is affected by one's partisanship salience, we randomize the order of the two belief elicitation questions: for subjects who are asked the Trump approval rating question first, their partisanship could be primed by answering this question. We code **Trump Question First** as a binary dummy taking 1 if subjects see the Trump approval question before the future cases questions, and 0 otherwise.

2.7 Factual Questions on COVID-19

We next ask two factual questions related to COVID-19:

- How did the coronavirus originate? Options are: it came about naturally; it was developed intentionally in a lab; it was made accidentally in a lab. Correct answer is: it came about naturally.
- Has President Trump taken a coronavirus test? Options are: Yes, and he tested positive; Yes, and he tested negative; No, he has not taken a test. Correct answer is: Yes, and he tested negative.

2.8 Motivated Reasoning

We next implement a (unincentivized) module of motivated reasoning to examine whether there exists a pattern of motivated reasoning in the context of COVID-19 for the group with unincentivized belief elicitations. If so, we ask whether this differs between Democrats and Republicans, and whether this could account for the underlying partisan beliefs. Specifically, we ask:

- Now suppose that in May, you were given information that was randomly selected to be from either a True News source (one that always reports the truth) or a Fake News source (one that always reports the opposite of the truth). The information will say either that the number of additional known coronavirus cases in the U.S. in the month of April was greater than [answer for previous question on beliefs, shown in Section 2.6] or that it was less than [answer for previous question on beliefs, shown in Section 2.6].
- Suppose the information says that the number of additional known cases in the U.S. in April was **greater than** [answer for previous question on beliefs, shown in Section 2.6]. Would you think that the source was: true news; fake news; equally likely to be both.
- Suppose the information says that the number of additional known cases in the U.S. in April was **less than** [answer for previous question on beliefs, shown in Section 2.6]. Would you think that the source was: true news; fake news; equally likely to be both.

Each subject answers both questions. We code a "true news" answer as 1, an "equally likely" answer as 1/2, and a "fake news" answer as 0. We then construct the following variable:

- **Motivated** is equal to the difference in the subject's answer to the "greater than" question and the "less than" question. It takes values from -1 to 1.

3 Hypotheses and Pilot Results

Before describing hypotheses, we define the following variables:

- **Party** is interpreted continuously, with 0 being Strongly Democrat, 1/6 being Weakly Democrat, ..., and 1 being Strongly Republican. We will use this measure of party for regressions. For figures, we will also have a version of partisan measure that is a dummy that takes 0 for Democratic or Democratic-leaning and 1 for Republican or Republican-leaning.

- **Controls** are as follows: age (continuous), race (dummies), gender (dummy for male), years of education (continuous), state (dummies), log density of ZIP code (continuous), log income (continuous), number of children (continuous, top-coded at 5), self-reported health (continuous), dummies for each of the other yes/no health questions.

We conduct the following main analyses:

1. We test whether there exist partisan differences in: (1) media consumption and trust as in Section 2.3; (2) social distancing as in Section 2.4; (3) belief of the impact social distancing as in Section 2.4; (3) economic trade-offs as in Section 2.5; and (4) beliefs on future COVID-19 cases as in Section 2.6. Each of these categories correspond to the survey module described above, where we also describe outcome variables definition/coding if relevant. We regress these outcomes of interest on the continuous measure of party; we do so both without and with the set of controls described above.

2. We test whether incentivized belief elicitation affects Democrats and Republican subjects differently. We regress belief measures on an indicator on whether the subjects' belief elicitation is incentivized, party, and the interaction between these two; we do with the set of controls described above.

We also explore the following analyses, but do not treat them as main hypotheses:

1. We explore whether the effect of Trump's approval question on beliefs regarding future COVID-19 cases is heterogeneous based on subjects' partisanship. We regress the belief regarding future COVID-19 cases on an indicator of whether the Trump approval question appears first, party, and the interaction between these two; we do so with the set of controls described above.

2. We explore how motivated reasoning differs across parties. We regress the constructed motivated variable on party and the set of controls described above.

3. We explore how media consumption and trust have changed during the COVID-19 pandemic.

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