Experiment Instructions for: "When Guidance Changes: Government Inconsistency and Public Beliefs"

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In this document, we present screenshots of the experiment instructions/survey instruments for "When Guidance Changes: Government Inconsistency and Public Beliefs." See the main paper here.

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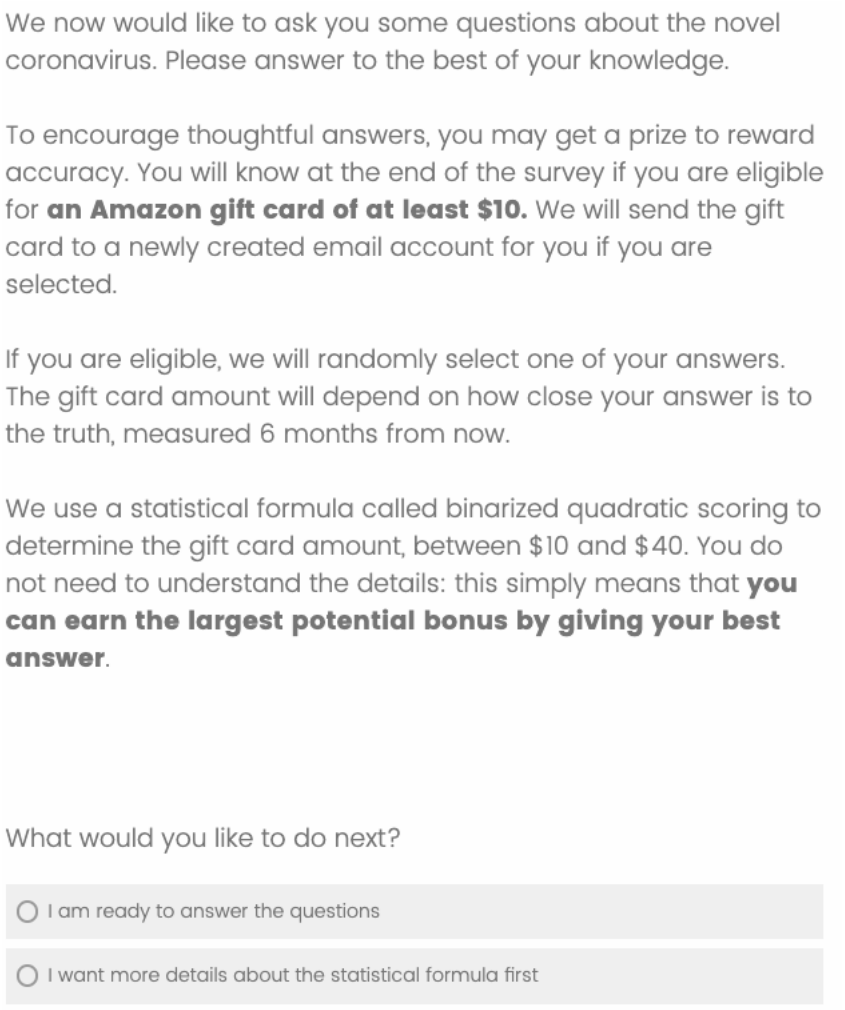
1 Incentives

After obtaining consent, the experiments started with an explanation of accuracy incentives and the lottery system, captured in the screenshots below.

Figure 1: Incentives Presentation



The spirit of the incentives, rewarding accurate answers, was explained in the first page, but details were made available on an optional page. This is a common practice in experimental economics, since many participants would find the detailed calculations of incentives too long and might disengage. For instance, Danz et al. (2020) show that providing no quantitative information about incentives (but incentivizing via the Binarized Scoring Rule) reduces the elicitation error rate.

Figure 2: Incentives Details, Part 1

Below is a more detailed explanation of how we will evaluate your answers. **Please continue the survey at the bottom of the page**. Your chance of winning the bonus prize is 1 in 1,000 (0.1%). If you win, we will randomly **select one of your predictions and compare it to the truth in 6 months**. We will ask you to predict the number of deaths and death rates from coronavirus over the next 6 months and the Dow Jones Industrial Average index level 6 months from now. Again, **the best way to earn the largest reward is to give your best prediction for each question**. Understanding these details is not important for your bonus or our survey.

We will score using quadratic scoring rules. While the bonuses may look strange, we use them to ensure that it is **always in your best interest to answer your best guess** about the truth. **One of the questions below will be selected randomly and the corresponding bonus calculation applied.**

If you have concerns about the payment details, you can contact the Principal Investigator at (312) 533-8205.

1) Your estimate for the total number of deaths or the Dow Jones Industrial Average Index:
You will get $10 for sure. You may get an additional $30, depending on how close your answer is to the truth.
A perfectly correct guess gives an extra $30 for sure
If you are off by 10% of the truth, you have a 99% chance of an extra $30
If you are off by 20% of the truth, you have a 96% chance of an extra $30
If you are off by 50% of the truth, you have a 75% chance of an extra $30
If you are off by 70% of the truth, you have a 49% chance of an extra $30
If you are off by 90% of the truth, you have a 19% chance of an extra $30

Figure 3: Incentives Details, Part 2

2) Your estimate of how death rate from coronavirus compares to death rate from the flu for adults aged 20-50 or 50-80:

You will get $10 for sure. You may get an additional $30, depending on how close your answer is to the truth. We will calculate the death rate per 1000 cases implied by your answer compared to the death rate from the flu of 0.02% for people aged 18-49 and 0.3% for people aged 50+.

For example:

A perfectly correct guess gives the extra $30 for sure

If you are off by 10% of the truth, you have a 99% chance of an extra $30

If you are off by 20% of the truth, you have a 96% chance of an extra $30

If you are off by 50% of the truth, you have a 75% chance of an extra $30

If you are off by 70% of the truth, you have a 49% chance of an extra $30

If you are off by 90% of the truth, you have a 19% chance of an extra $30

3) If we randomly select your confidence for the total number of deaths:

You will get $10 for sure. If the true number is between the low and high estimates implied by your guess and confidence, you may get an additional $30, depending on how far apart the high and low estimates are. For example, if the truth falls between your high and low estimates:

If your estimates are apart by a distance equal to 5% of the truth, you have a 95% chance of an extra $30

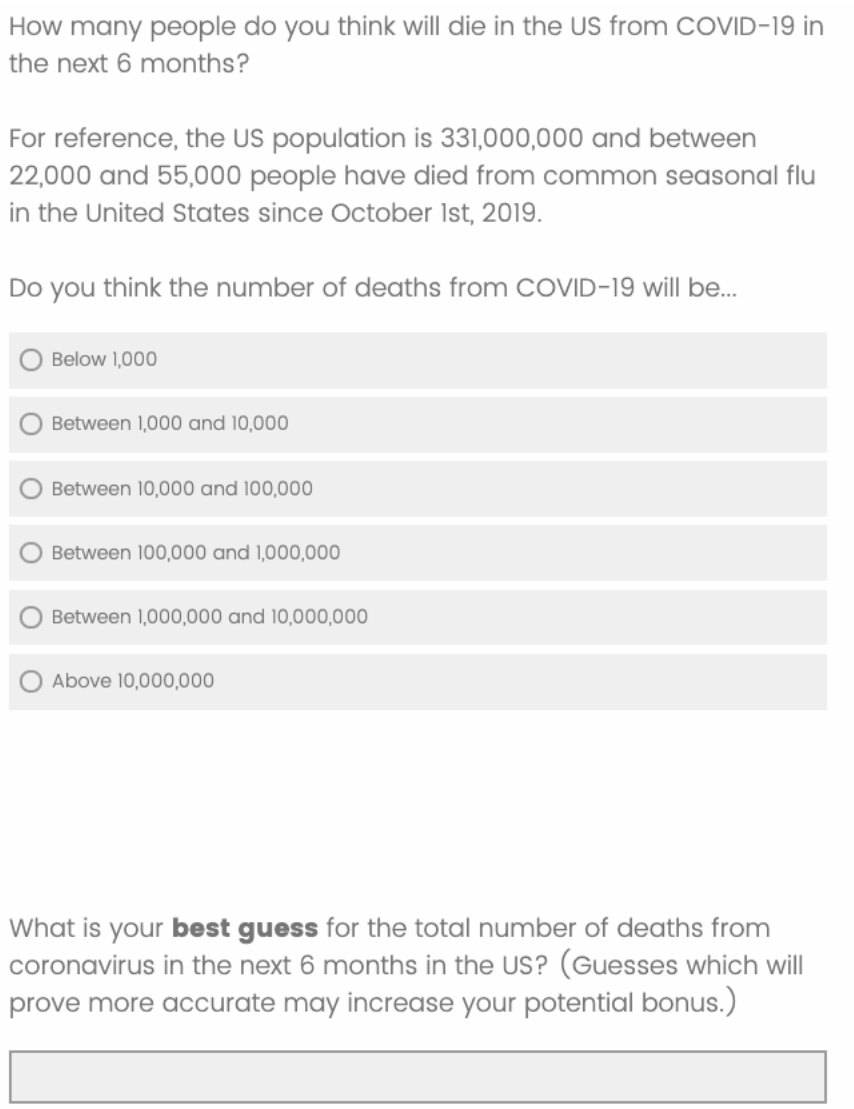
If your estimates are apart by a distance equal to 20% of the truth, you have a 75% chance of an extra $30

If your estimates are apart by a distance equal to 60% of the truth, you have a 25% chance of an extra $30

2 Prior Beliefs

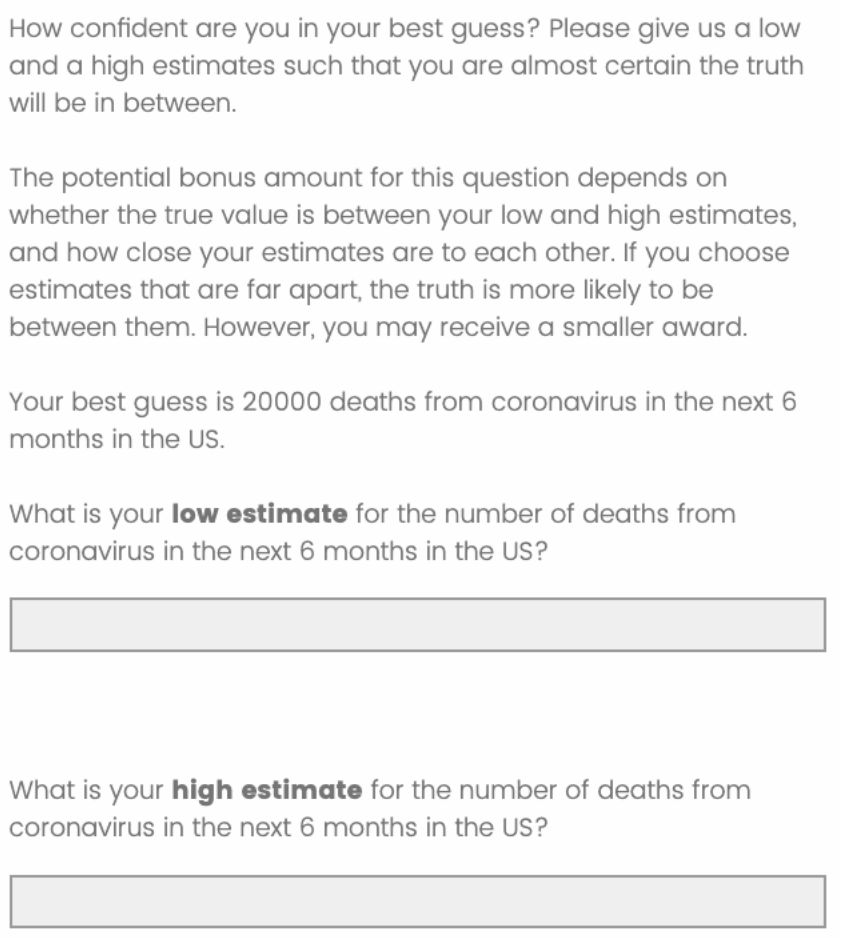
We then elicited prior beliefs about the severity of COVID, along with confidence bounds for some of these. To reduce response noise and help respondents form a coherent answer that reflect their beliefs, we first asked in which order of magnitude they thought the number of deaths would lie, and then to report a point estimate. The point estimate had to be consistent with this order of magnitude:

Figure 4: Prior beliefs about total deaths



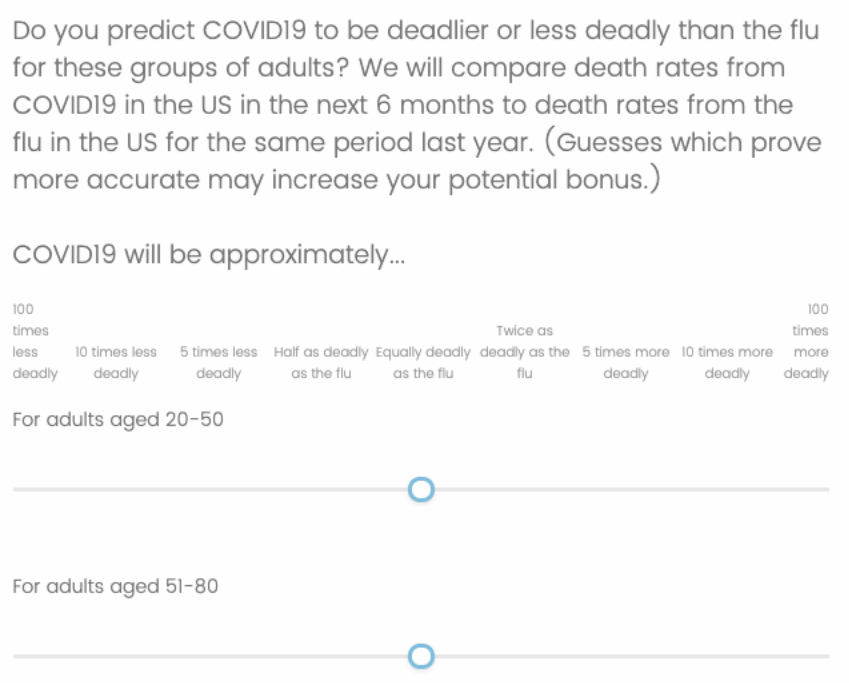
We then also elicited confidence bounds:

Figure 5: Prior beliefs about total deaths, confidence intervals



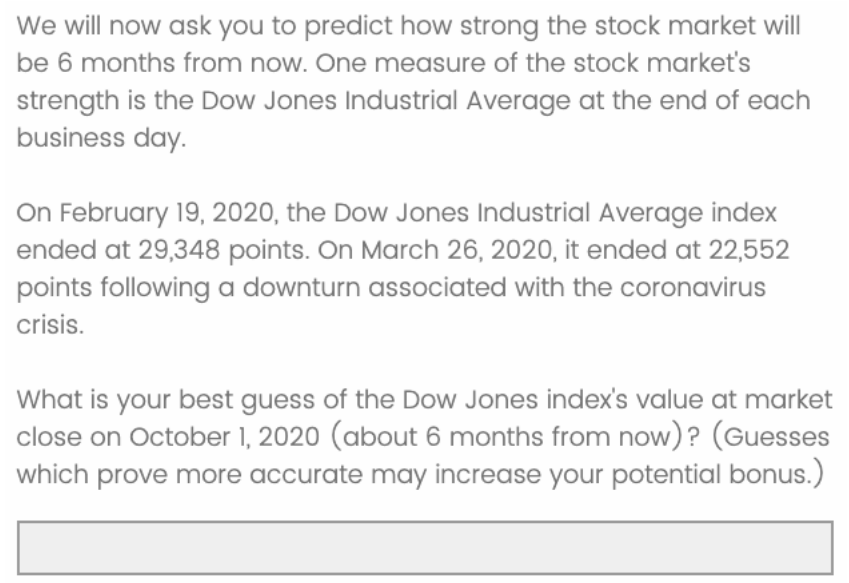
To elicit the death rate, we asked separately about death rate for people below and above 50 years old, and we elicited in terms of comparisons to the flu death rate:

Figure 6: Prior beliefs about death rate



Finally, we also elicited prior beliefs about the future value of the Dow Jones Industrial Average Index:

Figure 7: Prior beliefs about DJI index value in 6 months



3 Political Leaning and Prior Opinions About Government

We then asked participants about their vote in the 2016 Presidential election, along with their opinions about the government's handling of the COVID crisis.

Figure 8: Following the news

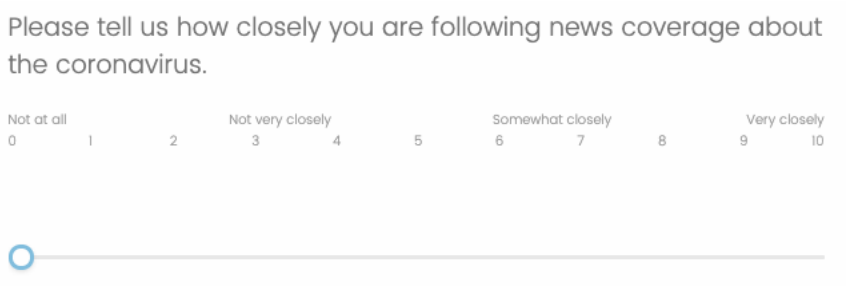


Figure 9: Past vote

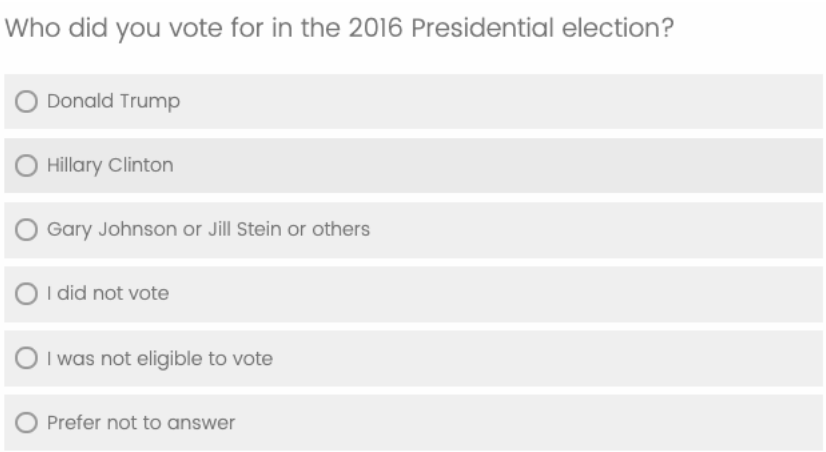
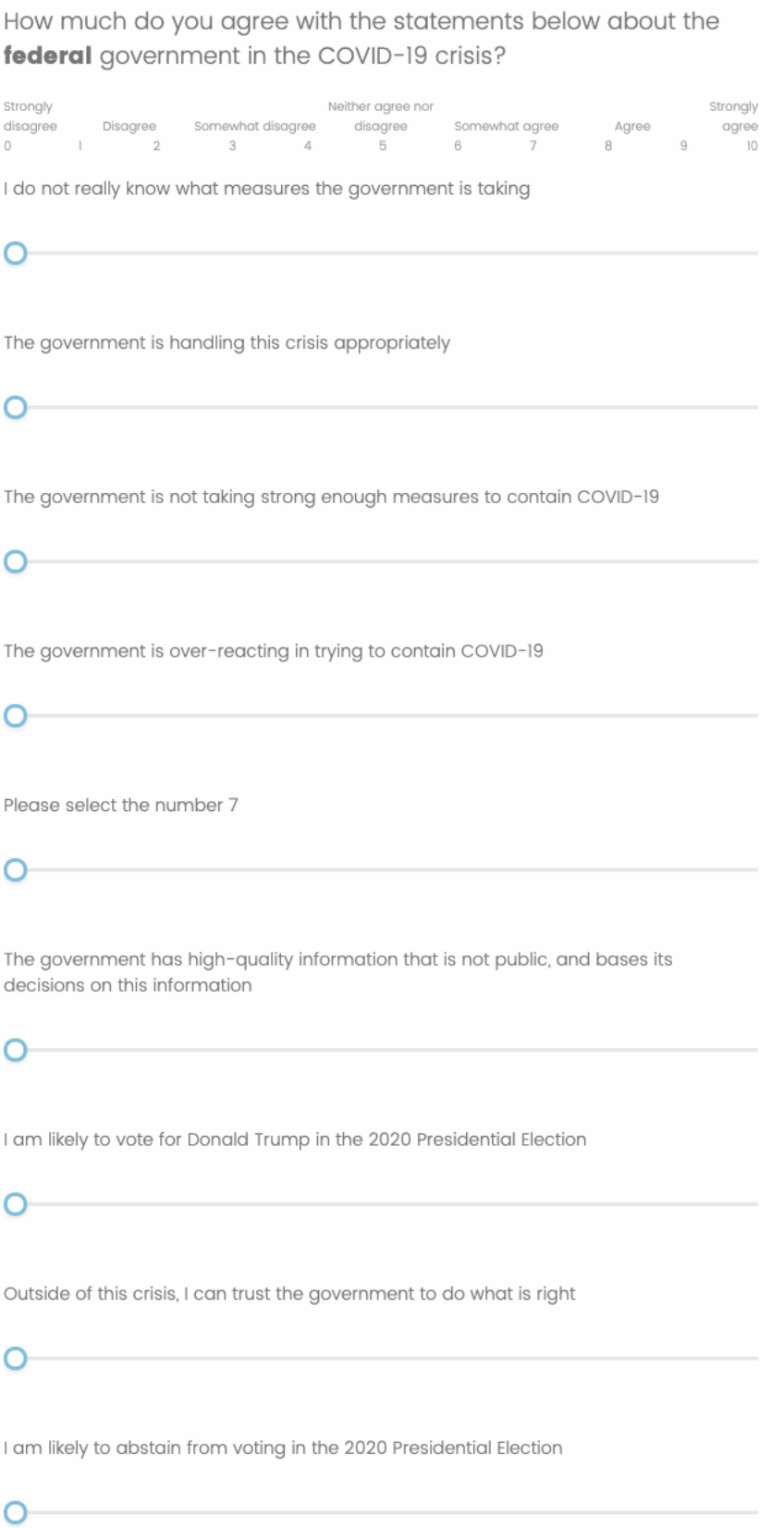


Figure 10: Prior opinions about government



4 Treatment, First Dose

All participants received information about a contemporaneous government projection that up to 240,000 Americans would die from COVID:

> On March 31 government officials projected that between 100,000 and 240,000 people could die from COVID-19 in the United States.

Participants in the Consistent group received two additional statements:

1. The novel coronavirus has affected American life. On March 29, President Trump announced social distancing measures would last until at least May 1st.
2. The novel coronavirus played a large role in the news. On March 31, President Trump said the coronavirus is a "great national trial unlike any we have ever faced before."

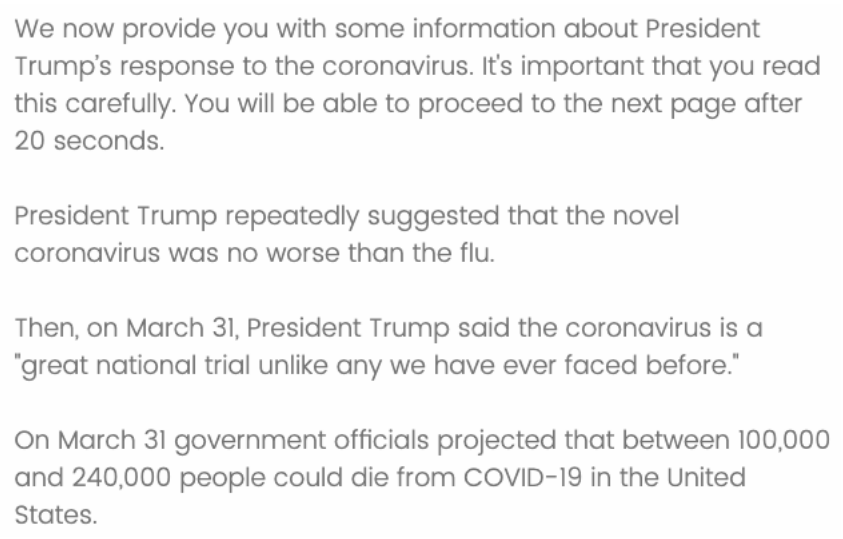
Participants in the Inconsistent group received the following statements.

1. President Trump originally said that he wanted to re-open the country by April 12. Then, on March 29, he announced social distancing measures would last until at least May 1st.
2. President Trump repeatedly suggested that the novel coronavirus was no worse than the flu. Then, on March 31, President Trump said the coronavirus is a "great national trial unlike any we have ever faced before."

In each group, we presented one of these statements (chosen randomly) directly after the information about the government projection, before eliciting prior belifes. We presented the other statement before eliciting our data entry task. Participants received the common projection before eliciting posterior beliefs.

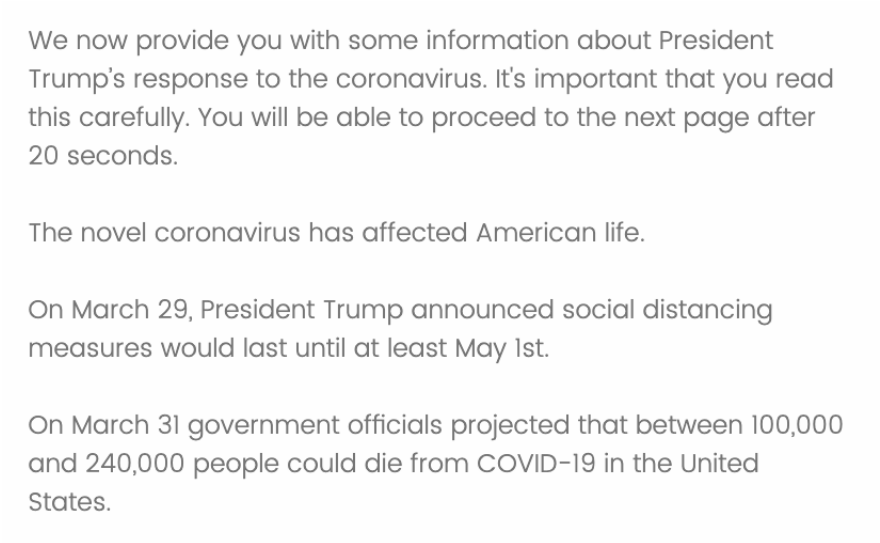
Below is an example of the Inconsistent treatment:

Figure 11: Inconsistent Treatment, first presentation



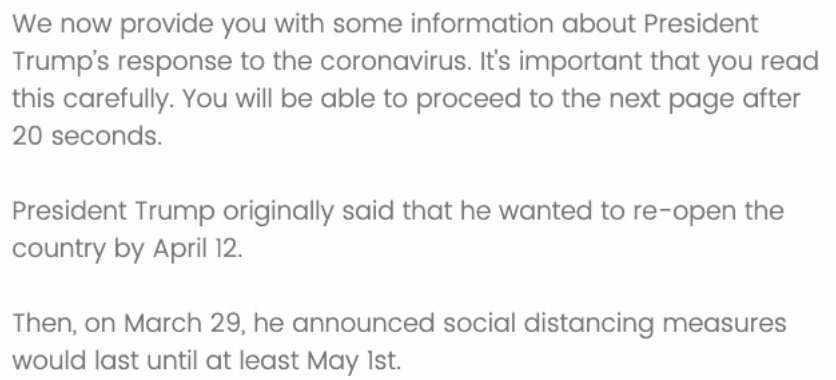
Below is an example of the Consistent treatment:

Figure 12: Consistent Treatment, first presentation



The second time we present the treatment, we show the other randomly chosen statement within treatment. We do not show the government projection twice. We provide an example for the Inconsistent treatment.

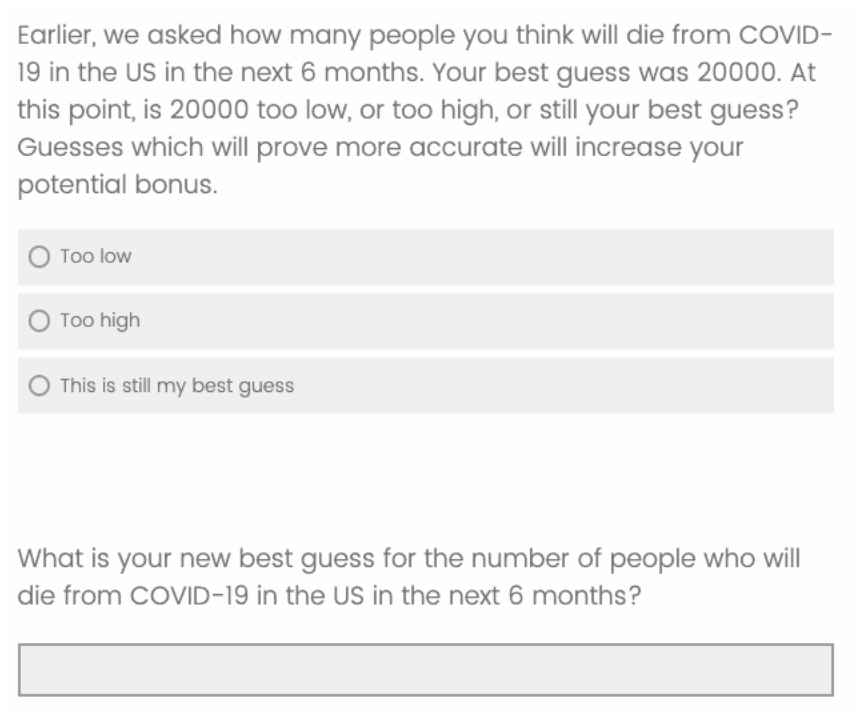
Figure 13: Inconsistent Treatment, second presentation



5 Posterior Beliefs about the Crisis's Severity

Posterior beliefs about severity of COVID, both in terms of death rates and total number of deaths, were then elicited using very similar instructions as those to elicit prior beliefs, along with posterior about the DJI Index value. We explicitly asked participants whether they thought their prior was too high, too low or still their "best guess," to isolate intentional belief updates from updating due to various forms of elicitation error. The participants who reported their prior was too low or too high then then report new posterior beliefs (which were consistent with their view about the prior being too high or too low).

Figure 14: Belief Updates (Posterior Number of Deaths)



Below, we provide an example if the participant reports that the prior was her "best guess," but then enters posterior beliefs that are different than the survey. In this case, the participant cannot advance in the survey until she either changes the report that the priors were her best guess, or aligns her posteriors to be identical to her priors. This design ensures that participants who do not update were intentionally ignoring the information.

Figure 15: Belief Updates (Posterior Number of Deaths)

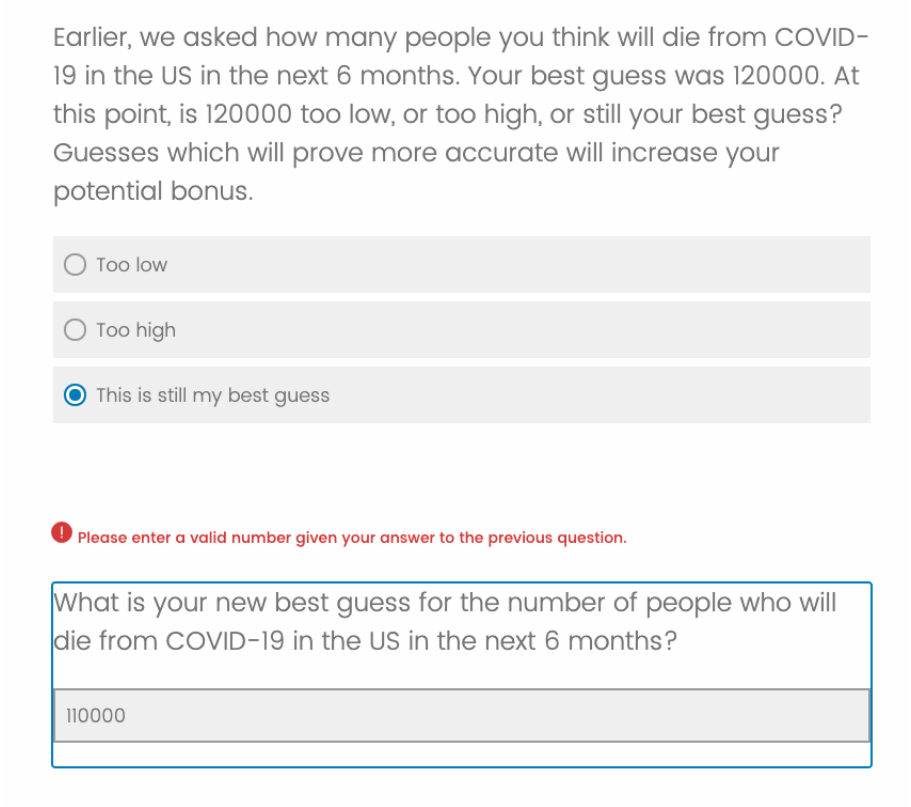


Figure 16: Belief Updates (Posterior Number of Deaths, Confidence Interval)

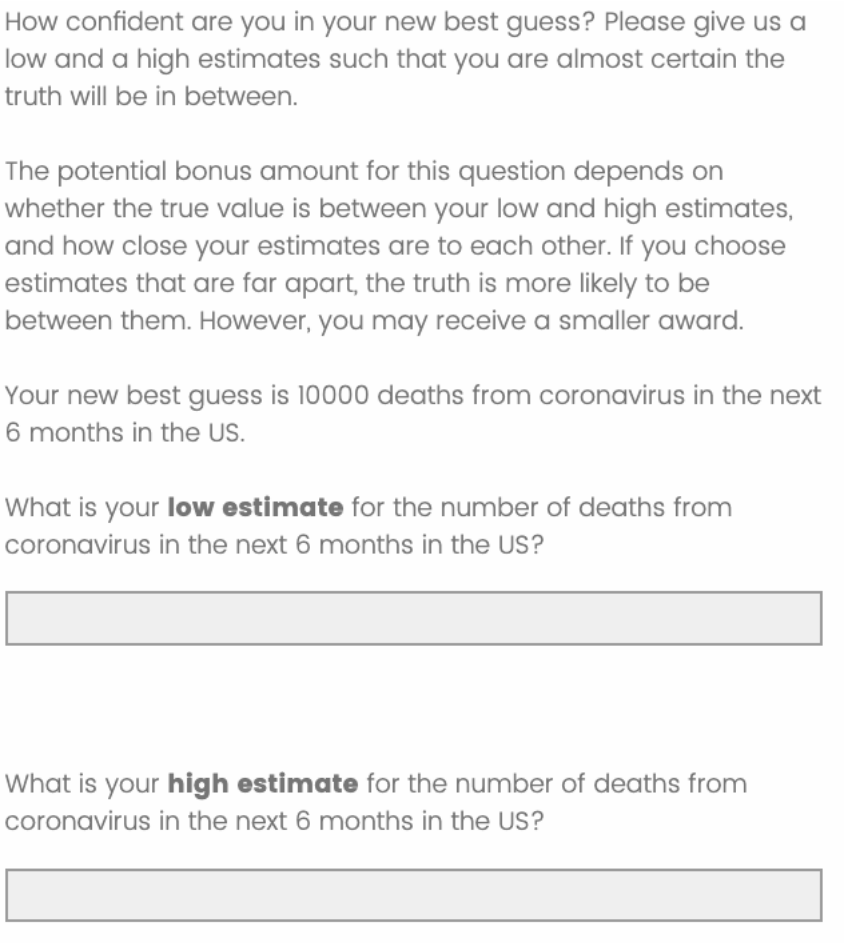


Figure 17: Belief Updates (Posterior Death Rate)

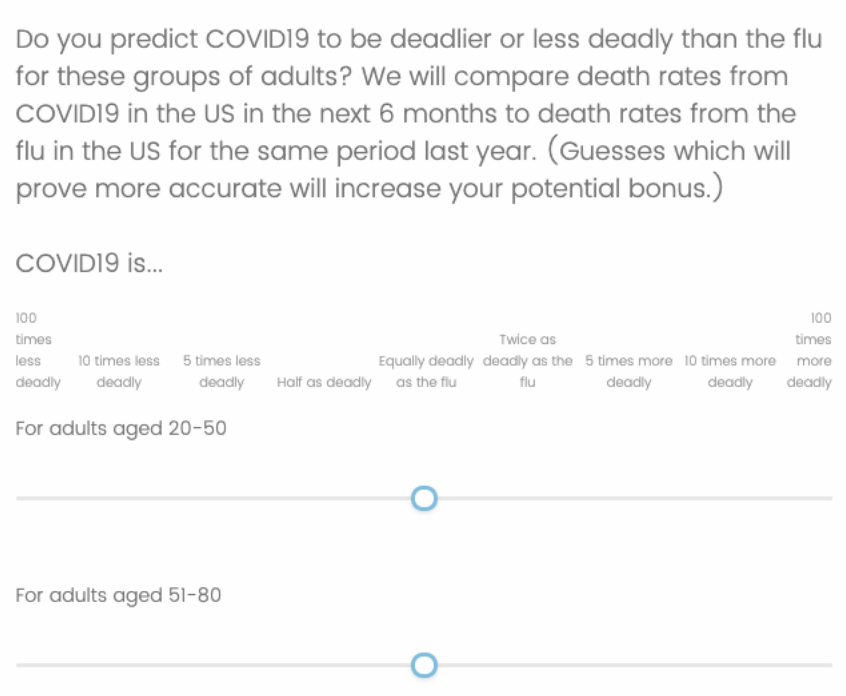
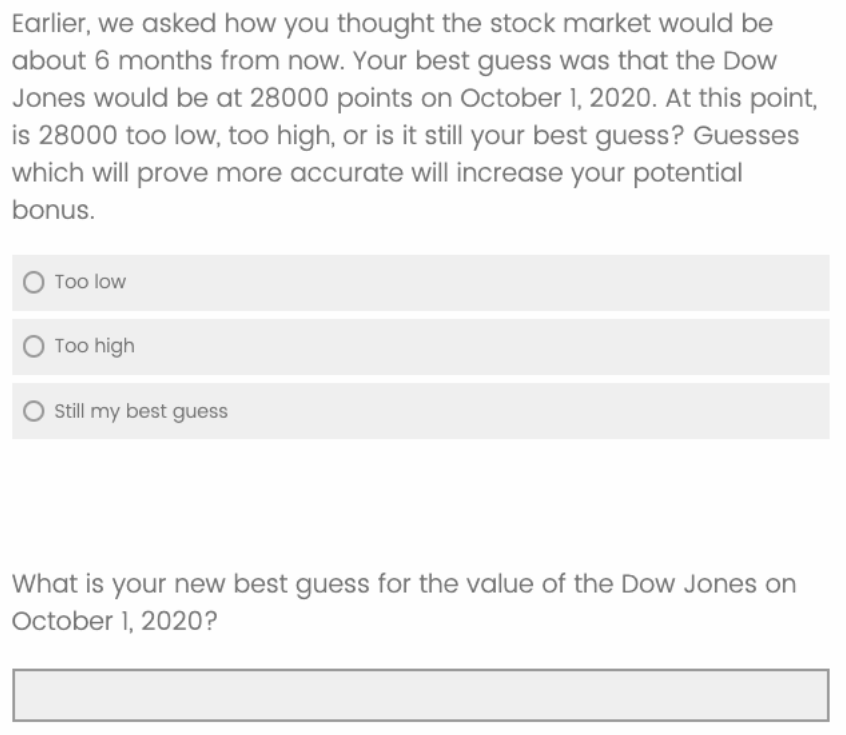


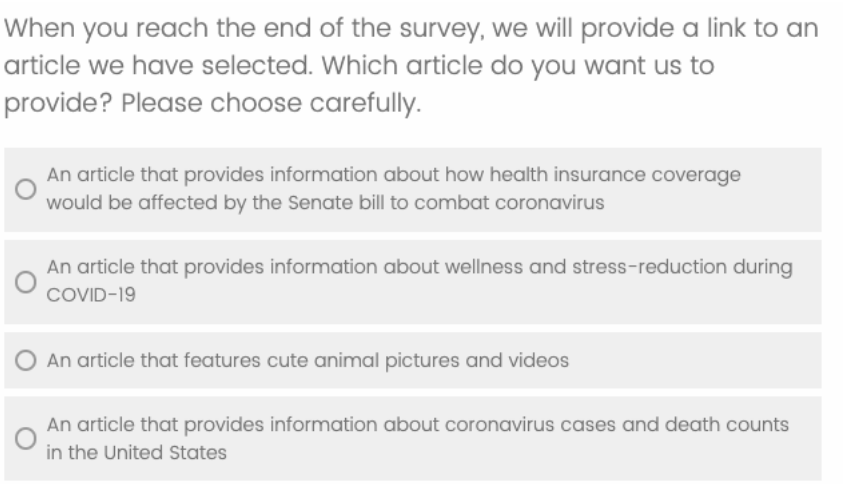
Figure 18: Belief Updates (Posterior Dow Jones Index)



6 Demand for Information

We asked participants to choose between a few informative links to be displayed at the end of the experiment:

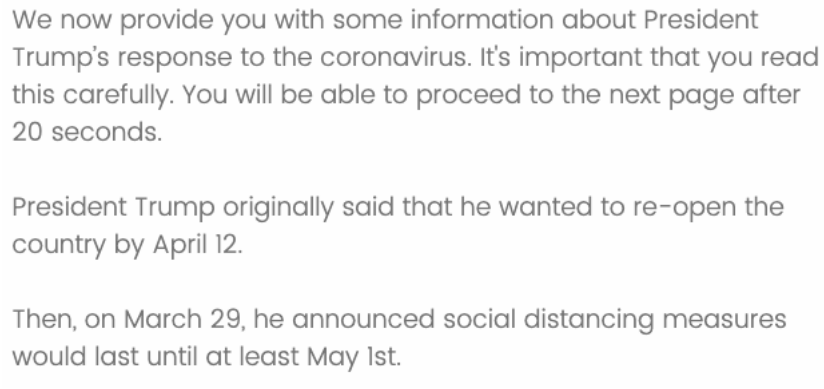
Figure 19: Demand for information



7 Treatment, Second Dose

Participants received the second statement for their treatment group at this time, which was distinct from the (randomly chosen) first statement they saw previously.

Figure 20: Demand for information



8 Posterior Opinions about the Government

Likewise, opinions about the government's handling of the crisis were collected post-treatment using questions that were identical to the pre-treatment measure.

9 Willingness to Pay for Notifications about Goods

Demand for certain COVID-specific, hoarded goods, was proxied by eliciting willingness to pay for notifications about the availability of these goods on Amazon.com.

Figure 21: Willingness to pay for notifications, part 1

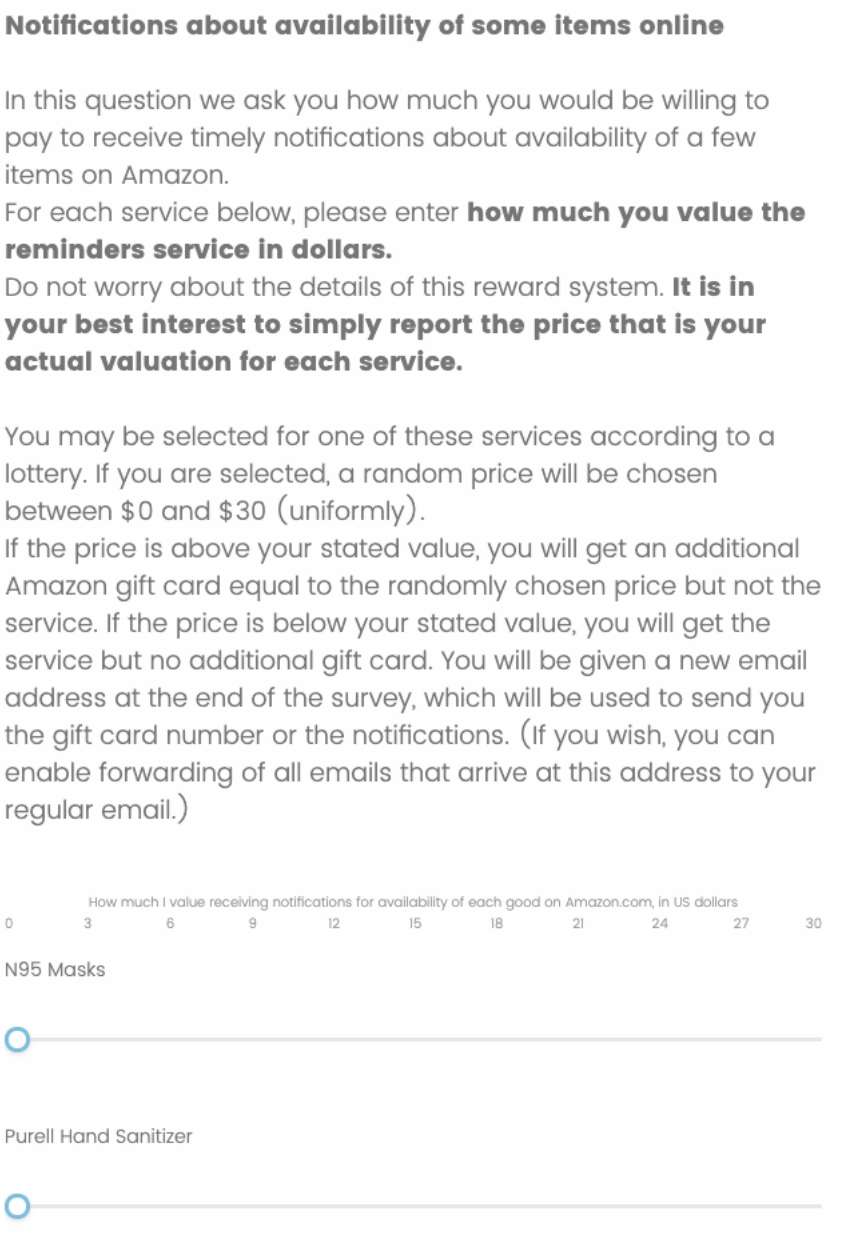
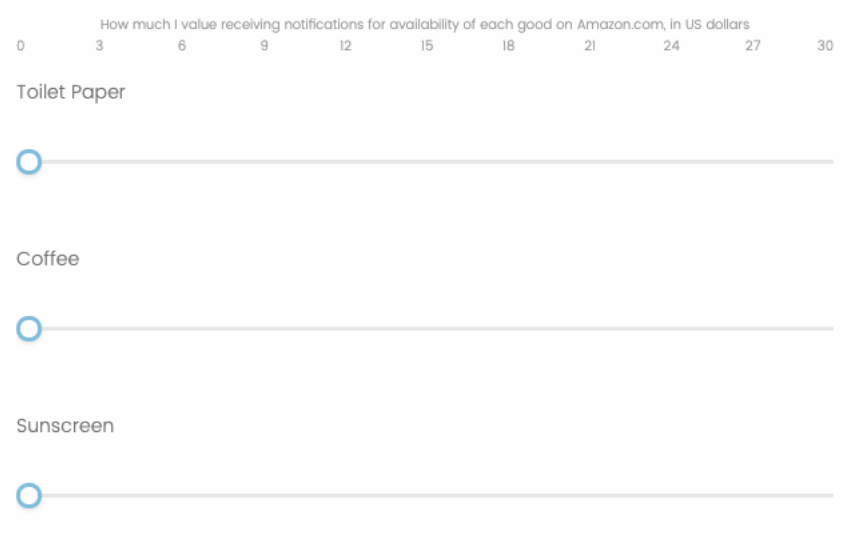


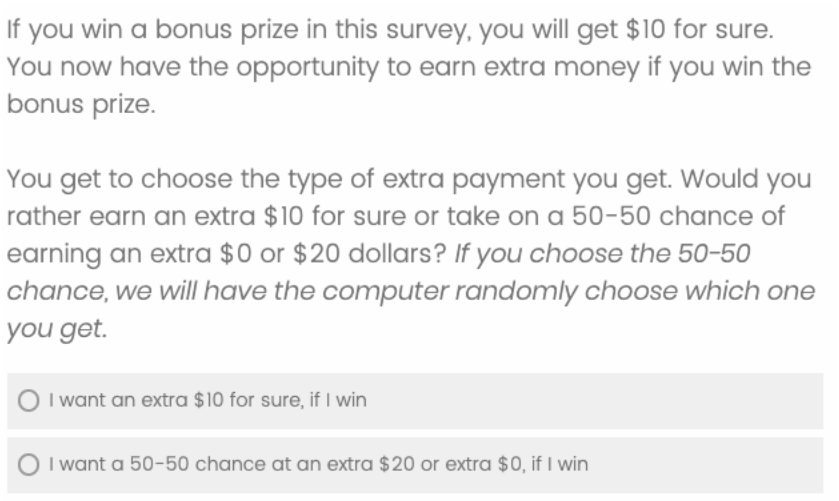
Figure 22: Willingness to pay for notifications, part 2



10 Risk and Social Preferences

We elicited a simple measure of risk preference using a simple choice between a fixed prize and a lottery:

Figure 23: Lottery Choice



11 Data Entry Task

We measured performance on a data entry task, that were randomized to be related to COVID or not:

Figure 24: Data Entry Task Instructions

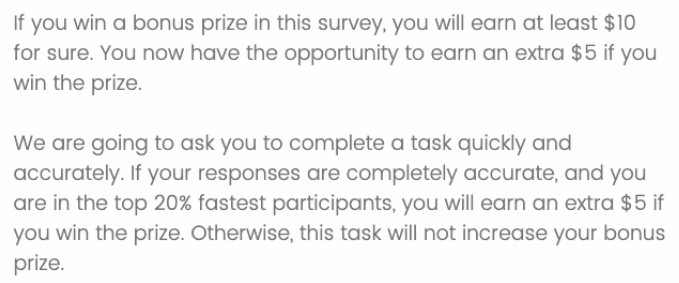
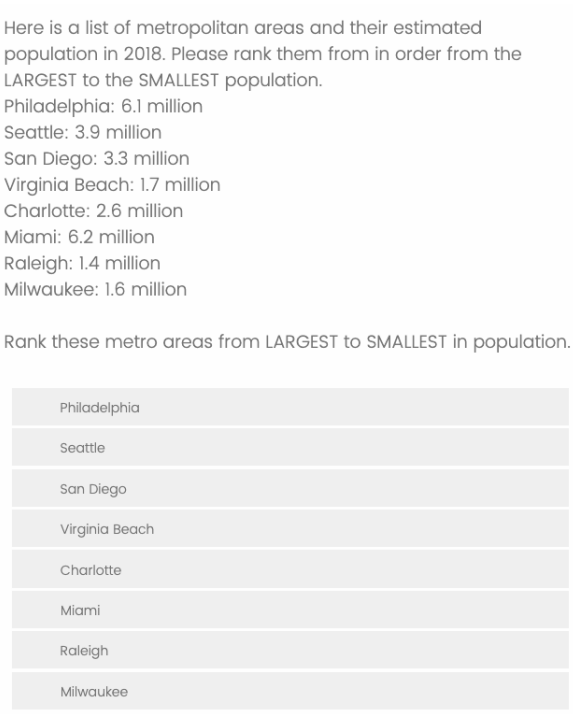
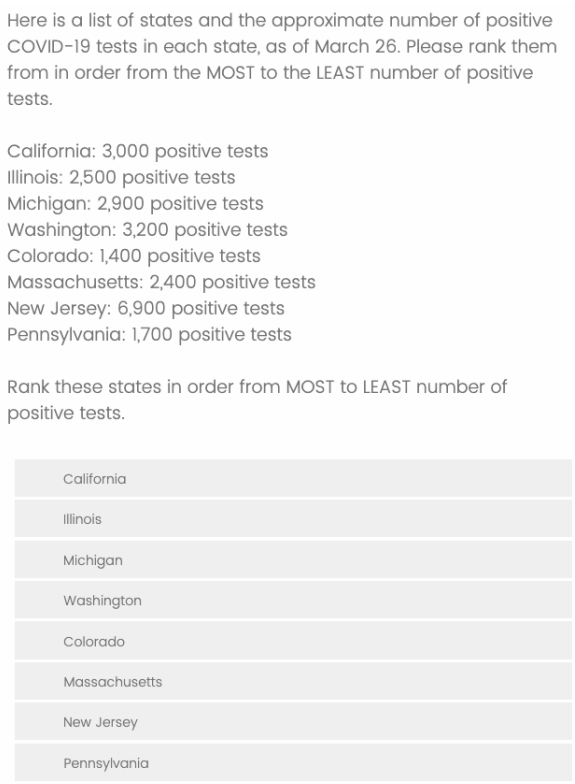


Figure 25: Data Entry Task

(a) Neutral Version



(b) COVID Version

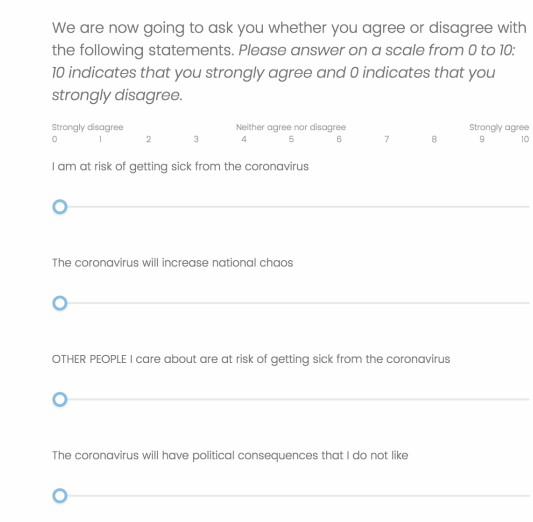


12 Anxiety Decomposition

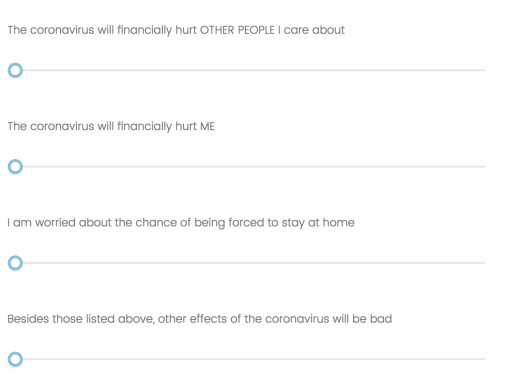
Next, we asked participants to state whether the coronavirus was affecting concerns about their future:

Figure 26: Anxiety

(a) Part 1



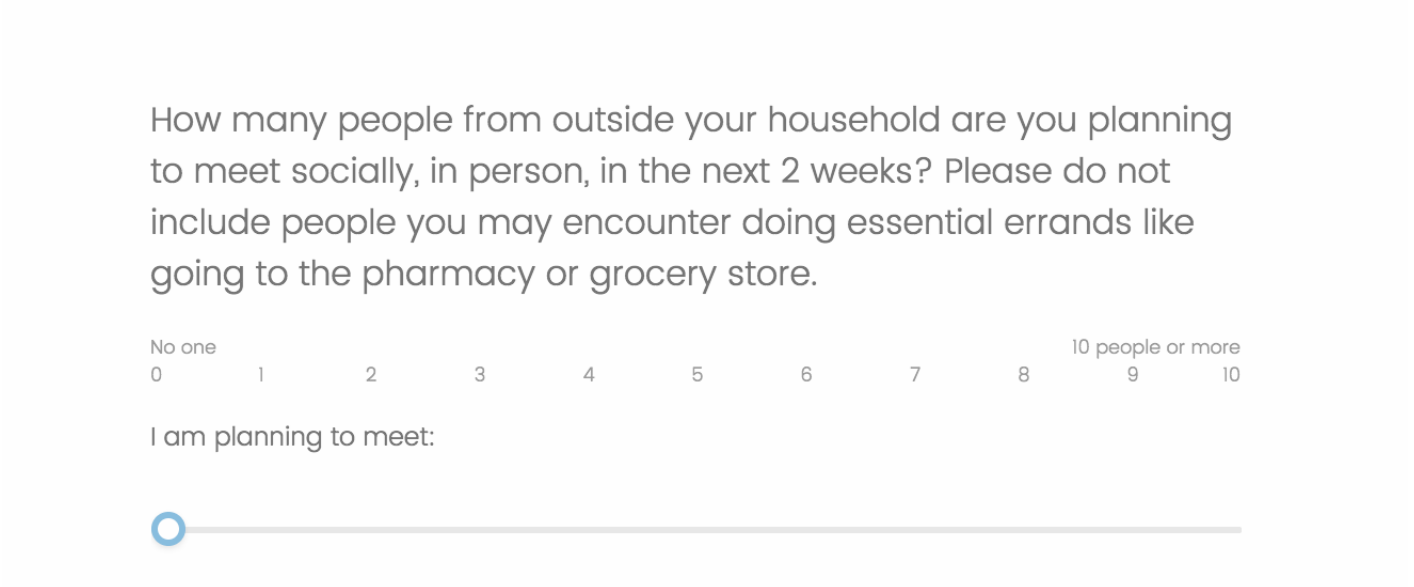
(b) Part 2



13 Intention to Social Distance

We asked participants about their intention to engage in social distancing policies.

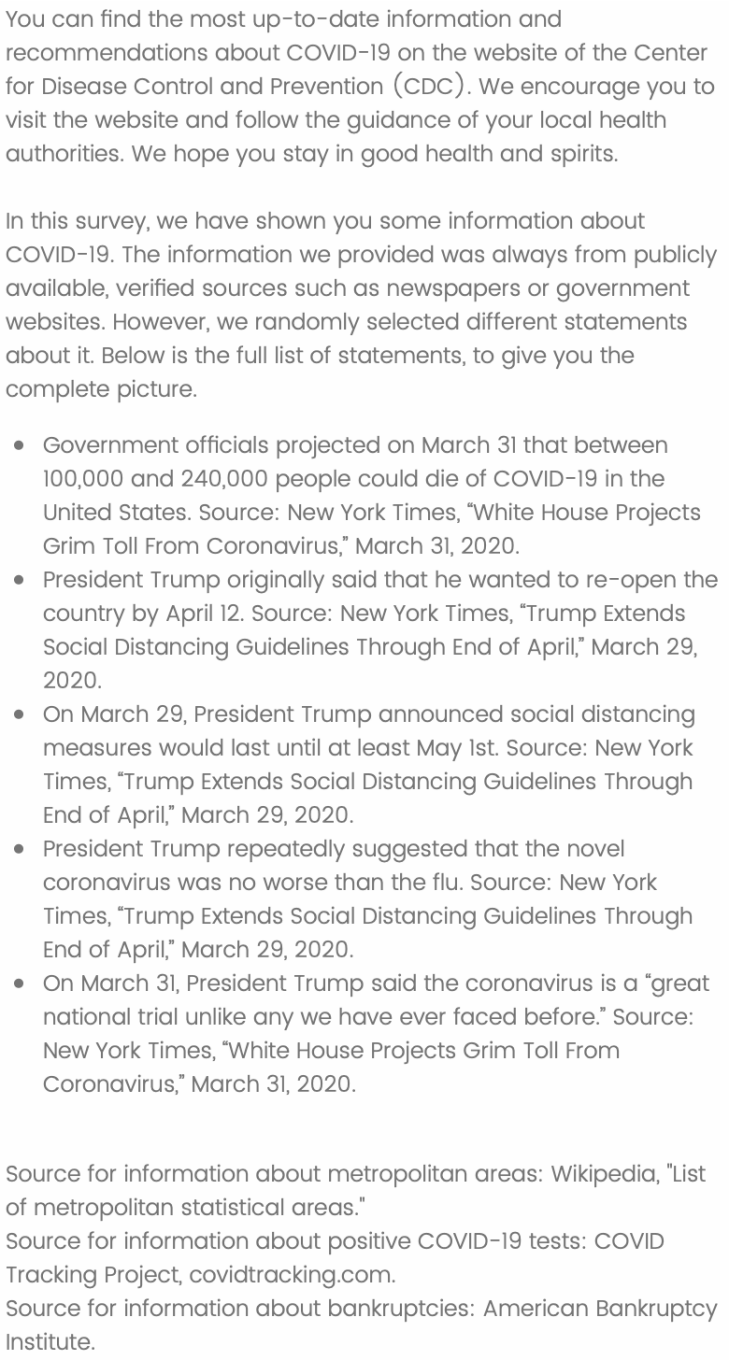
Figure 27: Social Distance



14 Debrief

Finally, participants were debriefed, explained the experiment and shown statements from all treatment arms to present the full picture.

Figure 28: Debrief



References

Danz, David, Lise Vesterlund, and Alistair J. Wilson, "Belief Elicitation: Limiting Truth Telling with Information on Incentives," National Bureau of Economic Research Working Paper 27327, Cambridge, MA June 2020.