Can Policy Responses to Pandemics Reduce Mass Fear?

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Abstract

To successfully address large-scale public health threats such as the novel coronavirus outbreak, policymakers need to limit feelings of fear that threaten social order and political stability. We study how policy responses to an infectious disease affects mass fear using data from a survey experiment conducted on a representative sample of the adult population in the United States (N=5,461). We find that fear is affected strongly by the final policy outcome, mildly by the severity of the initial outbreak, and minimally by policy response type and rapidity. These results hold across alternative measures of fear and various subgroups of individuals regardless of their level of exposure to coronavirus, knowledge of the virus, and several other theoretically relevant characteristics. Remarkably, despite accumulating evidence of intense partisan conflict over pandemic-related attitudes and behaviors, we show that effective government policy reduces fear among Democrats, Republicans, and Independents alike.

Keywords

fear; panic; policy response; policy design; policy approval; public health; pandemic; affectedness; partisanship; covid-19

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The outbreak of the novel coronavirus (COVID-19) has caused one of the largest public health threats in human history. The ability of governments to cope with this challenge hinges on designing and successfully implementing policies that curb the pandemic and, as a result, minimize the likelihood of fear and resulting social instability. Mass fear undermines human wellbeing and can cause individuals to seek a sense of security and political stability (Hetherington and Suhay 2011; Lupia and Menning 2009). This may increase trust in political institutions (Bol et al. 2021), but it could also undermine norm compliance (Jørgensen et al. 2021) and raise support for authoritarian leaders and restrictive, aggressive, even anti-democratic policies (Feldman and Stenner 1997; Hetherington and Suhay 2011; Kakkar and Sivanthan 2017).

Prior research on the political drivers of mass fear has focused on terrorism (Boscarino, Figley, and Adams 2003; Duckitt and Fisher 2003; Vasilopoulos, Marcus, and Foucault 2018) or economic insecurity (Kakkar and Sivanthan 2017) and has largely ignored other types of threats, such as public health emergencies. Emerging research on COVID-19 has established links between the virus, perceptions of fear (Didar-Ul Islam et al. 2020), and panic-related behavior (Prentice, Chen, and Stantic 2020) but has not explored whether government responses to infectious disease, e.g., SARS, Ebola, or Nipah virus, could prevent these outcomes. A related area of research has examined how policy responses to natural disasters affect evaluations of incumbent performance (Bol et al. 2021; Chen 2013; Healy and Malhotra 2009) rather than fear as the outcome. As a result, we lack systematic knowledge about whether government responses during crises can reduce feelings of fear among the mass public. The urgency of finding answers to this question is underscored by the repeated spikes in COVID-19 infections occurring across

the globe. At the same time and beyond its relevance for the current crisis, our study carries broader implications for our understanding of the linkages between government action, mass fear, and incumbent approval.

Policy Responses and Feelings of Fear

Policy responses to a public health threat can be conceptualized as a dynamic policy decision under uncertainty, with three phases of policymaking (Gilligan and Krehbiel 1987). The first phase represents the initial conditions, which, in the case of an infectious disease, refer to the severity of the initial outbreak. The second phase is the policy response, where policymakers decide (a) how quickly to act and (b) what action to take. Actions include doing nothing, responding with a mild intervention (e.g., social distancing), or with a strong intervention (e.g., full lockdown). The third phase represents the outcome, i.e., the effectiveness of the policy decision in terms of whether the infection rates are decreasing, remaining constant, or increasing.

We are interested in how the three phases of policy response affect individuals' feelings of fear in the context of a public health crisis. We define fear in the conventional way as "a basic, intense emotion aroused by the detection of imminent threat" (VandenBos, 2015, 413). While previous work has not studied the relationship between fear and policy responses to pandemics, research on both natural disasters (including pandemics) and terrorism demonstrates that collective threats induce feelings of fear because of heightened uncertainty and loss of control (e.g., Brooks et al. 2020; Vasilopoulos and Brouard 2020). This suggests that government responses that restore a sense of order, control, and predictability have the potential to reduce fear amid a pandemic.

Which phase of policymaking is likely to matter and why? Prior work on the consequences of collective threats argues that to cope with the fear that major threats produce, people tend to prefer restrictive, even authoritarian policies (Hetherington and Suhay 2011; Jost et al. 2003). This suggests that policy design (phase two of the policy response) should affect feelings of fear: a rapid and strong response (with severe restrictions) offers a coping mechanism – a promise to restore control and predictability – and should thereby reduce fear.

However, policy design choices are only an effort by the government to try to restore order, not a guarantee. Arguably, a clear policy effort may heighten expectations about the ability to alleviate threat-related uncertainty. Yet, even very invasive policy responses can sometimes prove insufficient to curb the spread of a collective threat such as an infectious disease. Therefore, the third phase – the effectiveness of the government policy – may offer the highest potential to affect fear. Interventions followed by a falling rate of infections reduce beliefs about the severity of the collective threat, restore a sense of control and predictability, and may thereby effectively reduce feelings of fear. In short, we expect that the effectiveness of the policy response (phase 3) matters more for reducing fear than the precise policy measures that have been implemented (phase 2). Our focus on how policy responses impact fear does not take away from potential individual-level differences, which we take care to control for in the empirical analysis.

Methods and Data

Disentangling the potentially competing effects of the outbreak of an infectious disease, the policy response, and the policy outcome is difficult with non-experimental data. This

is because incumbents will likely implement policy measures that are endogenous to the initial severity of the outbreak and a multitude of political, social, and economic factors that are related to the causes of the public health emergency, its expected impact, and the anticipated effectiveness of the policy response. To overcome this problem, we devised a randomized vignette experiment embedded in a survey that we fielded in June 2020 to a representative sample of the adult population in the United States (N=5,461); see the Supplemental Information 1 (SI.1) for details on sampling, design, and measurement.[1] The research questions, experimental design, and survey questions were pre-registered with EGAP (Preregistration Plan #20200529AB). The modeling strategy was not pre-registered. The survey instrument contained several items to evaluate a range of research questions, some of which we have not explored yet. Here, we document how the design of policy responses to public health threats affects mass fear and policy support using a randomized experiment (see Q3.3 and 3.4 in the Preregistration Plan).

Our experimental design avoids deception while providing information that is both theoretically plausible and able to capture scenarios that were relevant empirically at the time that the survey was fielded. The experiment described the outbreak of a hypothetical, potentially deadly infectious disease and provided information about how the state government responded and the impact of that response. The study field period (June 2020) represented the period immediately after the first wave of coronavirus cases in the United States. Initial stay-at-home orders had just or were in the process of

[1] Table S1 reports sociodemographic margins for the raw sample and the weighted sample along with population margins.

expiring for many states while coronavirus cases had begun to reach rural areas with previously low exposure. In other words, the pandemic was in its early stages, and state governments were grappling with decisions regarding whether and how to act, meaning that the hypothetical experiment was plausible.

Fielding our study during an actual pandemic is important given our interest in how policy responses to infectious diseases affect mass fear. In contrast, if one were to perform the same study during non-pandemic times, one would attempt to answer the illogical question of how policy responses to a pandemic would affect mass fear in the absence of a pandemic. Moreover, this would potentially confuse respondents who might deem the scenarios unrealistic.

Our focus on policy action at the state level is based upon state governments' abilities to implement direct policy responses to potentially curb the spread of infection. This was followed by information about the three phases of policymaking (outbreak severity, policy response, and policy outcome) that randomly varied the precise attributes of the scenario, using values that were empirically observable or plausible in the summer of 2020. The question wording we used for this monadic vignette experiment was as follows:

1. Outbreak Phase: "Suppose there has been an outbreak of an infectious, potentially deadly disease such as the coronavirus. The disease is spreading [**very slowly/ at a moderate rate/ very quickly**]. So far, [**10,000/ 100,000/ 1,000,000**] individuals have been infected in the U.S."
2. Policy Response Phase: "The state government has been monitoring the outbreak for [**10/ 30/ 60**] days without taking action. It has then decided to implement the

following measure: [**do nothing/ social distancing order with businesses and schools allowed to remain open (no large gatherings)/ stay-at-home order with only essential businesses allowed to remain open**]."

3. Outcome Phase: "Two weeks later the number of new cases has [**decreased a lot/ remained the same/ increased a lot**]."

For each attribute, we randomly selected one level that was presented to respondents and reach respondent sequentially assessed four scenarios.

For each scenario, participants indicated their level of agreement with several statements on a 5-point scale ranging from "strongly disagree" to "strongly agree." We used four measures to capture feelings of fear and closely related mental states and behavior. Two statements captured feelings of fear (Forsell et al. 2019): "I feel worried, fearful, or frightened" and "I have thoughts of losing control or bad things happening." A third item expressed feelings of fear about the future: "I am afraid that the situation could worsen." The fourth statement captured fear-related behavior in the form of panic buying: "I feel the need to stock up on essential products (for example, food)." Finally, we included a statement to elicit government approval: "The state government is handling the situation well." Each respondent assessed four scenarios. For the empirical estimation, we generated agreement indicator variables that equaled one if the answer was "somewhat agree" or "strongly agree" and zero otherwise.[2] We also created a fear index that equaled the average level of agreement across the four items and a binary fear

[2] The means of our raw fear measures are: Feel Fear = 3.5, Lose Control = 3.2, Concern: Worsen = 3.8, Stock Up = 3.4. The fear index average is 3.5. The correlations between the individual fear measures range from 0.62 to 0.78 and are all significant at the 1% level. Cronbach's alpha is also very high: 0.9.

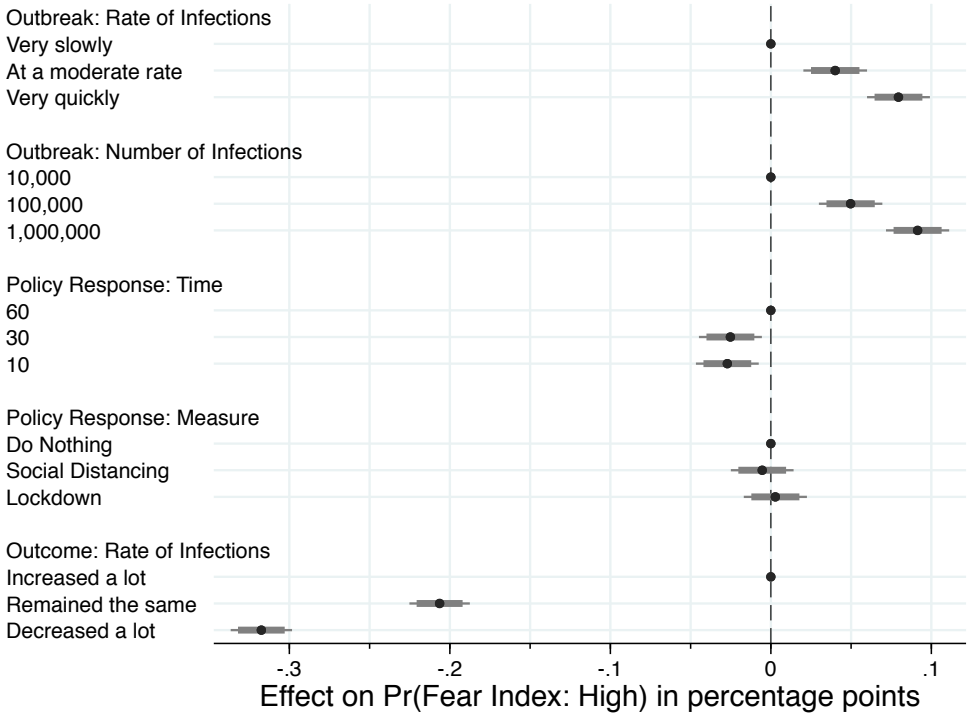
indicator that is one if the average exceeded the midpoint of the scale and zero otherwise. All results remain substantively unchanged when we use the raw outcome variables, see Figure S1.

Results

We estimate the causal effects non-parametrically by regressing measures of fear on indicator variables for each attribute level (using one level as the reference category). All regressions include sociodemographic covariates that control for four age groups, four education levels, five income groups, and three residence categories (rural, urban, suburban). To simplify exposition, Figure 1 shows the causal effects on our binary fear index indicator along with 95% and 99% percent respondent-clustered confidence intervals. Focusing on this index is justifiable given the very high inter-item correlation and the homogeneity of the results when estimating the effects separately for each of the four constitutive fear measures (see Figure S1).[3] We find that the initial outbreak severity increases all four measures of fear by about 2 to 8 percentage points when moving from a scenario where the rate of infections increases very slowly to one where the rate of infections increases very quickly. We find similar sensitivities when conceptualizing outbreak severity in terms of the number of infections.

Figure 1. Causal Effects of Pandemic Policy Response on Fear

[3] The few exceptions include: (a) stricter policy responses increase the desire to stock up on supplies and (b) the policy outcome has a somewhat stronger effect on feeling fearful than on other items (see Figure S1).



Note: Dots with horizontal lines are point estimates with 95% and 99% respondent-clustered confidence intervals from a linear least squares regression of a binary indicator of fear (that equals 1 if the average level of fear across four fear measures exceeds 3, which is the midpoint of the underlying 1 to 5 (strongly disagree to strongly agree) scale) on randomly assigned infection scenario and policy response attributes. N(scenarios) = 21,844, N(respondents) = 5,461. The results are very similar when analyzing the continuous fear index (Figure S1) and when re-estimating the effects separately for each of the four individual fear items, (Figure S2). The results are also very similar when using survey weights (Figure S3).

In terms of the effect of the policy response, we find that the rapidity of action significantly reduces fear, while the precise measure that is implemented in response to the outbreak has little to no systematic effect. The strongest effects, by far, come from the policy outcome, i.e., the impact of the policy response on how the infection develops. If the policy response stabilizes the rate of infections, fear decreases substantially and significantly. A decreasing rate of infections further reduces average levels of fear by 30 to 35 percentage points. These results can be viewed as consistent with the attentive

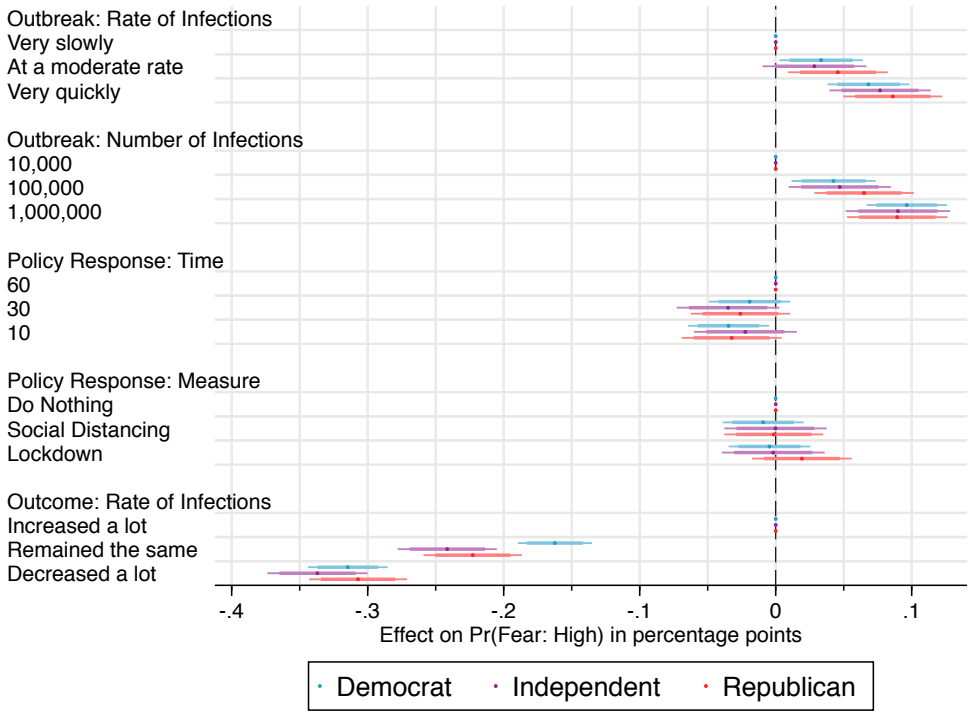
electorate argument, given that feelings of fear appear to be strongly linked to the policy outcome.[4]

Effects by Partisanship and Other Subgroups

We explored various factors that might account for our findings. First, we considered partisanship. The COVID-19 crisis hit the U.S. during a period with very high partisan polarization (e.g., Baldassarri and Park 2020; Martherus et al. 2021; Simas et al. 2020). Indeed, emerging research on COVID-19 documents strong partisan differences in elite communication (Green et al. 2020) as well as mass attitudes toward the virus and public health measures (Druckman et al. 2021, Gagan 2020; Pickup, Stecula, and van der Linden 2020), leading pollsters to declare the sharp partisan divide "the biggest takeaway about U.S. public opinion in the first year of the coronavirus outbreak" (Deane et al. 2021). Republicans have been considerably more skeptical of the severity of the virus; they tend to share a general preference for limiting government intervention and reducing public spending (Rudolph and Evans 2005); and they may be more likely to perceive government responses to public health threats as imposing overly fierce restrictions on civil liberties. It is therefore possible that fear among Republicans is not as sensitive to either the type or outcome of the policy response or the initial infection severity.

Figure 2: Causal Effects of Pandemic Policy Response on Fear by Partisanship

[4] Our findings remain unchanged when computing Bonferroni-corrected p-values, see Table S2.



Note: Dots with horizontal lines are point estimates with 95% and 99% respondent-clustered confidence intervals from a linear least squares regression of a binary fear indicator variable on randomly assigned policy design and infection scenario attributes. N(scenarios | Democrats)=7,728; N(respondents | Democrats)=1,932; N(scenarios | Independents) = 5,972; N(respondents | Independents) = 1,439; N(scenarios | Republicans) = 6,724; N(respondents | Republicans) = 1,681.

Figure 2, however, shows that the estimated effects are strikingly similar for Democrats, Republicans, and Independents, indicating that partisanship plays no systematic role in how policy interventions affect feelings of fear. Table S3 offers statistical tests of the null hypothesis of no partisan differences in the treatment effects. These results further confirm that the impact of pandemic policy features on fear are quite similar for Democrats and Republicans.[5] This is a noteworthy null finding given the high

[5] The only significantly different causal effect is that fear is reduced more strongly in response to an unchanged rate of infections among Republicans than among Democrats.

levels of partisan polarization in the U.S. in general (e.g., Baldassarri and Park 2020; Martherus et al. 2021; Simas et al. 2020) and regarding the pandemic in particular (Deane et al. 2021). While Democrats and Republicans are often strongly divided in political attitudes and behavior, it appears that they are united in how government failure to contain the virus affects their feelings of fear. This, of course, does not demonstrate that respondents are immune to partisan biases in how the media communicates large-scale public health threats. Therefore, we further explore the effect of a closely related phenomenon – exposure to partisan news (Green et al. 2020; Hart, Chinn, and Soroka 2020) – and find no profound differences between consumers of right-wing media (Fox News or One America News Network) and other respondents (see Figure S7). Better understanding the reasons behind these null findings requires a separate study. It is possible that the sources of a primal emotion such as fear were less subject to the kinds of biases that affect expressed attitudes, especially early in the pandemic when the nature of partisan divisions on the coronavirus response had not yet fully formed.

We further investigate heterogeneity in the main results across a number of other theoretically interesting subgroups (see SI.2). Moreover, we assess whether the causal effects we document are themselves conditioned by outbreak severity (Figures S12 to S14) and policy measures (Figure S15). The exploration of these interactions between context and policy response indicates that while outbreak severity does shift feelings of fear somewhat, the policy outcome remains far more influential.

We find that the treatment effects do not systematically vary by exposure to COVID-19 (Figure S8) or knowledge of COVID-19 symptoms (Figure S9). The effects are also strikingly similar when grouping respondents by gender (Figure S10), age

(Figure S11), and subjective perceptions of COVID-19 infection risk (Figure S16). Fear is most strongly driven by the effectiveness of the policy response to the outbreak of an infectious disease for all of these subgroups of respondents. In terms of race, we find that the effects are somewhat less pronounced for non-white respondents but are generally in the same direction (Figure S17). We also explore the stability of the treatment effects by performing the split-by-round test (Bechtel and Liesch 2021) and find that the effects are quite similar across rounds (Figure S18).

Finally, we assess whether the design of pandemic policy responses also drives government approval (Figure S19). Consistent with our main results, we find that the policy outcome is the most powerful driver of incumbent approval, as a successful response increases government support by 26 percentage points. At the same time, respondents are also quite sensitive to outbreak severity as well as response rapidity and type. The only striking difference is that Democratic respondents are considerably more supportive of more invasive policy interventions. Yet, we note that the sensitivities are still in the same direction, i.e., individuals generally prefer stricter interventions irrespective of their partisan identity.

Conclusion

How can governments effectively respond to large-scale societal threats that evolve over time and require repeated interventions? Answering this question is challenging using observational data. Our approach relied on a randomized experiment that distinguished between outbreak, response, and outcome to offer a comparative perspective on how these features affect feelings of fear and policy approval. The results reveal several key

findings. First, policymakers can reduce fear among the public during a crisis if their interventions prove effective. In contrast, the rapidity and type of policy response remain largely inconsequential. Such a pattern is consistent with a modified attentive electorate model: while voters do pay attention to policy responses, design features such as response type and rapidity have smaller effects on fear than policy effectiveness. This may reflect that the latter (i.e., the impact of government policy on the rate of infections) is the most informative feature of a policy response for relatively uninformed individuals. Other features such as the appropriateness of the response type and rapidity of the response are more difficult for citizens to assess without having access to highly specialized knowledge (e.g., knowing the particular characteristics of the disease, how it is transmitted, and how it affects humans) which most individuals lack. These features are therefore less likely to matter for emotional reactions such as fear as well as for policy approval.

Second, and perhaps most importantly, our null effects on partisanship are particularly interesting in the context of a growing literature that has documented widespread and intensifying partisan differences in public attitudes, behavior, and evaluations in general (Bisgaard 2015) as well as very noticeably in the context of the pandemic (Deane et al. 2021). Here, we unearth a rare instance where such differences are absent. While further research is needed to fully understand the reasons behind the absence of partisan differences, taken together, our findings have important practical implications. They suggest that an outcome-oriented policy response to pandemics that prioritizes policy effectiveness is likely to result in decreased fear (and, possibly, improved social stability) even across partisan divides. This knowledge may provide

incentives for opposing political sides to work together to produce an effective response. At the same time, an unfavorable policy outcome incentivizes incumbents to obfuscate information that would reveal their policy failure while office-seeking opposition parties may attempt to discredit policy responses even if they have been effective. Overall, this would imply that partisan cleavages over policy responses to public health threats originate from polarized political elites, not from voters applying different evaluative standards depending on their own partisan identity. Recent research documenting that elite communication on the COVID-19 pandemic is strongly polarized along party lines (Green et al. 2020) is consistent with this argument.

Last but not least, our study provides an example of how to explore a complex and important phenomenon – dynamic policy response to a pandemic – in a tractable and realistic way. Using hypothetical vignettes allows scholars to employ a randomized experiment for drawing causal inferences while running the experiment in the middle of a global health crisis added the needed realism that would be absent during non-pandemic times. Future work can borrow the logic of this design to study the consequences of crises responses in different contexts.

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Data and code availability

Data and replication materials are available at the Journal of Experimental Political Science Dataverse within the Harvard Dataverse Network, at: https://doi.org/10.7910/DVN/UMVB6G.

Conflicts of Interest

The authors report no conflicts of interest.

Ethics Statement

The study was approved by the Institutional Review Board at Washington University in St. Louis (Protocol #202004256). See the Supplemental Information 1 (SI.1) for details on sampling, recruitment of subjects, data collection, experimental design, and measurement.

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Supplemental Information

Can Policy Responses to Pandemics Reduce Mass Fear?

Data and replication materials are available at the Harvard Dataverse.

SI.1: Methods and Measurement

Sample

We carried out our survey among a quota sample of adults living in the United States from June 8 through June 29, 2020 (N=5,461). The survey was conducted by Respondi, a survey firm operating an opt-in incentive-based Internet survey panel. Respondi maintains managed online-panels that employ a combination of online and offline recruitment methods to ensure that the panels can be used for conducting representative surveys (Respondi 2015). We derived socio-demographic population margins (age, gender, and education) from the 2016 US Current Population Census. Table S1 provides information about the distribution of socio-demographic characteristics in the raw sample, the weighted sample, and the voter population.

Potential participants for our survey were drawn from Respondi's existing panels. Since the Institutional Review Board at Washington University in St. Louis determined our study exempt from further review (see ethics oversight information below), neither documentation nor waiver of informed consent was required. However, our study still included two distinct layers of consent. Individuals were asked to sign-up and provide their consent to Respondi. Second, when potential study participants were sent our study by Respondi, our survey additionally asked for informed consent. Respondi compensated respondents for their time taking our survey with points that can be redeemed for prizes.

Ethics Oversight

This study was approved by the Institutional Review Board at Washington University in St. Louis and determined exempt from further review (IRB ID 202004256).

Experimental Design

We employed a vignette experiment about a hypothetical, potentially deadly infectious disease designed to mention the key aspects of a policy response. Before the vignette experiment began, respondents were shown a page of introductory text that read: "We will now provide you with several scenarios which describe a set of policies in response to an outbreak of an infectious disease such as the coronavirus. We then ask several questions to better understand what you think about these policies. In total, we will show you 4 scenarios. People have different opinions about this issue, and there are no right or wrong answers. Please read the descriptions carefully." What followed was a description of the policy response that randomly varied policy features and infection severity. We then asked a set of questions to measure our outcome variables. Each respondent repeated the vignette experiment and answered the outcome variable questions four times. The vignette attribute levels were fully randomized. All outcome variables were measured on a 5-point Likert scale where 1 was strongly disagree and 5 was strongly agree. The four items were:

- Feel Fear: "I feel worried, fearful, or frightened."
- Lose Control: "I have thoughts of losing control or bad things happening."
- Concern Worsen: "I am afraid that the situation could worsen."
- Stock Up: "I feel the need to stock up on essential products (for example, food)."
- Policy Approval: "The state government is handling the situation well."

Estimation

We estimate all causal effects non-parametrically by regressing whether a respondent agreed with a given statement on indicator variables for each attribute level (using one level as the reference category). We use robust standard errors clustered by respondent. All regressions include sociodemographic covariates that control for four age groups, four education levels, and residence (rural, urban, suburban).

Measurement of socio-demographic, political, and other variables

- Age: "In what year were you born?" Recoded into 18-35, 35-49, 50-64, and 65 and above. Reference level is 18-35.
- Female: "Please indicate whether you are male, female, or other." Dichotomous variable where 1 is female.
- Education: "What is the highest level of education you have completed? (Did not complete elementary and middle school, completed elementary and middle school, attended high school, high school graduate, some college, Associate's degree, Bachelor's degree, Master's degree, Professional school degree, Doctorate degree)." Recoded into dummy variables for below completing high school, high school, some college or Associate's degree, and Bachelor's degree or higher. Reference level is not completing high school.
- Party Identification: "Generally speaking, do you usually think of yourself as a Democrat, a Republican, an Independent, or what? (Republican, Democrat, Independent, Other)." Dummy variables for Republican, Independent, and Democrat. Reference level is Democrat.
- Income: "Thinking back over the last year, what was your family's annual income? (Less than $10,000, $10,000-19,999, $20,000-29,999, $30,000-39,999, $40,000-49,999, $50,000-59,999, $60,000-69,999, $70,000-79,999, $80,000-89,999, $90,000-99,999, $100,000-119,999, $120,000-149,999, $150,000-199,999, $200,000-249,999, $250,000-349,999, $350,000-499,999, $500,000 or more)." Recoded into low, lower-middle, upper-middle, and high based on percentiles where low is below 25th percentile, lower-middle is 25th to 50th percentile, upper-middle is 50th to 75th percentile, and high is above 75th percentile. Reference level is low.
- Unemployed: "Which of these descriptions best describes your situation (in the last seven days)? (In paid work; In education; Unemployed and actively looking for a job; Unemployed, wanting a job, but not actively looking; Permanently sick or disabled; Retired; In military service; Doing housework; Don't know; None of these)." Dummy variable 1 if unemployed and actively looking for a job and unemployed, wanting a job, but not actively looking for a job and 0 otherwise. Reference level is 0.
- Ethnicity: "What racial or ethnic group best describes you? (White; Black or African American; Hispanic, Latino, or Spanish; Asian; American Indian or Alaska Native; Other)." Dummy variable 1 if not white 0 otherwise. Reference level is 0.
- Political Knowledge: "For how many years is a United States Senator elected --- that is, how many years are there in one full term of office for a U.S. Senator? (type the number)" Dummy variable 1 if answered 6, 0 otherwise. Reference level is 0.
- Coronavirus Knowledge: "Which of the following are common symptoms of COVID-19 (coronavirus)? (Fever, cough, and shortness of breath; Frequent urination, increased thirst, and increased hunger; Heartburn, upper abdominal pain, and nausea)." Dummy variable 1 if answered fever, cough, and shortness of breath 0 otherwise. Reference level is 0.
- "On a scale from 0 to 100, how unlikely or likely do you think it is that you will be infected by coronavirus in the next several months?" 0 (very unlikely), 100 (very likely).
- State: "In which state or territory do you live?".
- County: "In which county or independent city do you live?" (record FIPS code).
- Fox news consumption: "When you watch national television news, which station do you most often watch?" (ABC, NBC, CBS, PBS, CNN, FOX, MSNBC, One America News Network, I

never watch national television news.). Dummy variable where 1 is FOX and One America News Network viewers and 0 otherwise.

Coronavirus Case Information

County and state-level coronavirus case data collected from Johns Hopkins University (JHU) Coronavirus Resource Center from May 24 to June 29, 2020. This data is updated daily at around 2AM the day following new case data. We downloaded daily updates in order to ensure that contemporaneous information was being used, as some case data is updated post hoc. Data is updated based on information from government health departments (county and state).

There are several instances of missing cases wherein the JHU data do not report cases for a given FIPS code that contains a survey respondent. Most of the missing cases are also missing for other coronavirus datasets like that of the New York Times. Missing cases were dropped. Substantively, the impact is quite small other than considering that New York City area cases were completely dropped. Case counts were merged with survey respondent data using the day the respondent took the survey. Survey start times were converted into local time zones to determine the local date when the survey was started. That date was used to merge with the coronavirus case data. Case counts are logged. Instances of joint reporting and missingness were:

- 36005 (Bronx, NY): New York cases reported together in 36061.
- 36047 (Kings, NY): New York cases reported together in 36061.
- 26081 (Queens, NY): New York cases reported together in 36061.
- 36085 (Richmond, NY): New York cases reported together in 36061.
- 72139 (Trujillo Alto, PR): Both NYT and JHU use only one FIPS code for PR. Changing the FIPS code here would make this respondent's unit of analysis the entire territory instead of just a county.
- 36061 (New York, NY): JHU reports cases in 36061 as Exception type 2, replacing New York County FIPS codes.
- 20203 (Wichita, KS): Missing from both JHU and NYT.
- 49015 (Emery, UT): missing.
- 49033 (Rich, UT): missing.
- 49047 (Uinath, UT): missing.
- 49053 (Washington, UT): missing.
- 49057 (Weber, UT): missing.

SI.2: The Effects of Policy Response and Infection Severity on Mass Fear: Subgroup Results

Local exposure to coronavirus may explain the treatment effects we document since individuals living in areas where COVID-19 is more widespread may perceive the threat from an infectious disease as more realistic. We tested this conjecture by re-estimating the causal effects separately for respondents living in counties with high vs. low COVID-19 case counts. The results in Figure S8 indicate that the effects are very similar for these two groups of respondents, suggesting that exposure plays no systematic role in accounting for how the policy outcome affects feelings of fear and anxiety.

Knowledge about the symptoms and associated health risks of COVID-19 could account for the strong sensitivity to policy effectiveness: those who know more about COVID-19 may also be more concerned about the impact of infectious disease which makes them more likely to express feelings of fear and anxiety in response to failed policy interventions. Figure S9 presents the results separately for respondents who are more knowledgeable about the disease by being able to correctly identify three of its major symptoms and those who are less knowledgeable. Our results confirm that more knowledgeable individuals are systematically more likely to report feelings of fear and anxiety if policy interventions remain ineffective than those who know less about coronavirus. That said, the general patterns remain consistent across both groups.

	Population	Raw Sample	Weighted Sample
Age: 18-24 years	12.3	15.2	12.3
Age: 25-44 years	32.5	36.2	32.5
Age: 45-64 years	34.7	35.3	34.7
Age: 65+ years	20.5	13.3	20.5
Gender: Male	48.2	48.1	48.2
Gender: Female	51.8	51.9	51.8
Education: Less than High School	9.5	9.8	9.5
Education: Completed High School	29.2	23.6	29.2
Education: Some College	30.0	29.2	30.0
Education: BA or higher	31.2	37.4	31.3

Table S1. Distributions of socio-demographic characteristics in the target population, the raw sample, and the weighted sample. Population margins were obtained from the 2016 Current Population Survey.

Outbreak: Rate of Infections	
Very slowly	*Reference group*
At a moderate rate	0.040***
	(0.000)
Very quickly	0.080***
	(0.000)
Outbreak: Number of Infections	
10,000	*Reference group*
100,000	0.049***
	(0.000)
1,000,000	0.091***
	(0.000)
Policy Response Time: Days	
60	*Reference group*
30	-0.025**
	(0.020)
10	-0.028***
	(0.007)
Policy Response: Measure	
Do nothing	*Reference group*
Social Distancing	-0.005
	(1.000)
Lockdown	0.003
	(1.000)
Outcome: Rate of Infections	
Increased a lot	*Reference group*
Remained the same	-0.207***
	(0.000)
Decreased a lot	-0.318***
	(0.000)
Sociodemographic Controls	Yes
Constant	0.710***
	(0.000)
Observations	21,844
R-squared	0.097

Table S2. Causal effects of infection severity and policy response on multiple measures of fear (Bonferroni-corrected p-values). Linear regression coefficients shown with Bonferroni-adjusted standard errors to account for multiple comparisons. Sociodemographic control variables are: Gender: Female,

Education: Some College, Education: BA or higher; Region: Suburban, Region: Urban, Age: 25-44, Age: 45-64, Age: 65 or more, Income: Lower Middle, Income: Upper Middle, Income: High, Income: Missing. *** p<0.01, ** p<0.05, * p<0.1.

	(1) Republicans	(2) Democrats	(3) Democrat vs Republican
Outbreak: Rate of Infections			
Very slowly		*Reference Group*	
At a moderate rate	0.045***	0.034***	0.034***
	(0.014)	(0.012)	(0.012)
Very quickly	0.085***	0.069***	0.069***
	(0.014)	(0.012)	(0.012)
Outbreak: Number of Infections			
10,000		*Reference Group*	
100,000	0.064***	0.042***	0.042***
	(0.014)	(0.012)	(0.012)
1,000,000	0.089***	0.096***	0.095***
	(0.014)	(0.011)	(0.011)
Policy Response Time: Days			
60		*Reference Group*	
30	-0.026*	-0.019*	-0.019*
	(0.014)	(0.012)	(0.012)
10	-0.033**	-0.035***	-0.034***
	(0.014)	(0.012)	(0.012)
Policy Response: Measure			
Do nothing		*Reference Group*	
Social Distancing	-0.001	-0.009	-0.008
	(0.014)	(0.012)	(0.012)
Lockdown	0.020	-0.004	-0.004
	(0.014)	(0.012)	(0.012)
Outcome: Rate of Infections			
Increased a lot		*Reference Group*	
Remained the same	-0.223***	-0.163***	-0.163***
	(0.014)	(0.011)	(0.011)
Decreased a lot	-0.307***	-0.315***	-0.315***
	(0.014)	(0.011)	(0.011)
Interactions Terms: Partisan Differences			
Rate of Infections: Moderate X Republican			0.011
			(0.019)
Rate of Infections: Very quickly X Republican			0.016
			(0.018)
Number of Infections: 100,000 X Republican			-0.021

			(0.019)
Number of Infections: 1,000,000 X Republican			-0.027
			(0.018)
Response Time: 30 X Republican			-0.007
			(0.018)
Response Time: 10 X Republican			0.000
			(0.018)
Measure: Social Distancing X Republican			0.006
			(0.018)
Measure: Lockdown X Republican			0.023
			(0.018)
Outcome Rate: Same X Republican			-0.059***
			(0.018)
Outcome Rate: Decreased a lot X Republican			0.009
			(0.018)
Republican			-0.164***
			(0.024)
Sociodemographic Controls	Yes	Yes	Yes
Constant	0.707***	0.796***	0.829***
	(0.035)	(0.029)	(0.024)
Observations	6,724	7,728	14,452
R-squared	0.097	0.103	0.135

Table S3. Causal effects of infection severity and policy response on fear by partisanship. Linear regression coefficients shown with robust standard errors in parentheses. Sociodemographic control variables are: Gender: Female, Education: Some College, Education: BA or higher; Region: Suburban, Region: Urban, Age: 25-44, Age: 45-64, Age: 65 or more, Income: Lower Middle, Income: Upper Middle, Income: High, Income: Missing.
*** p<0.01, ** p<0.05, * p<0.1.

Additional Analyses and Robustness Checks

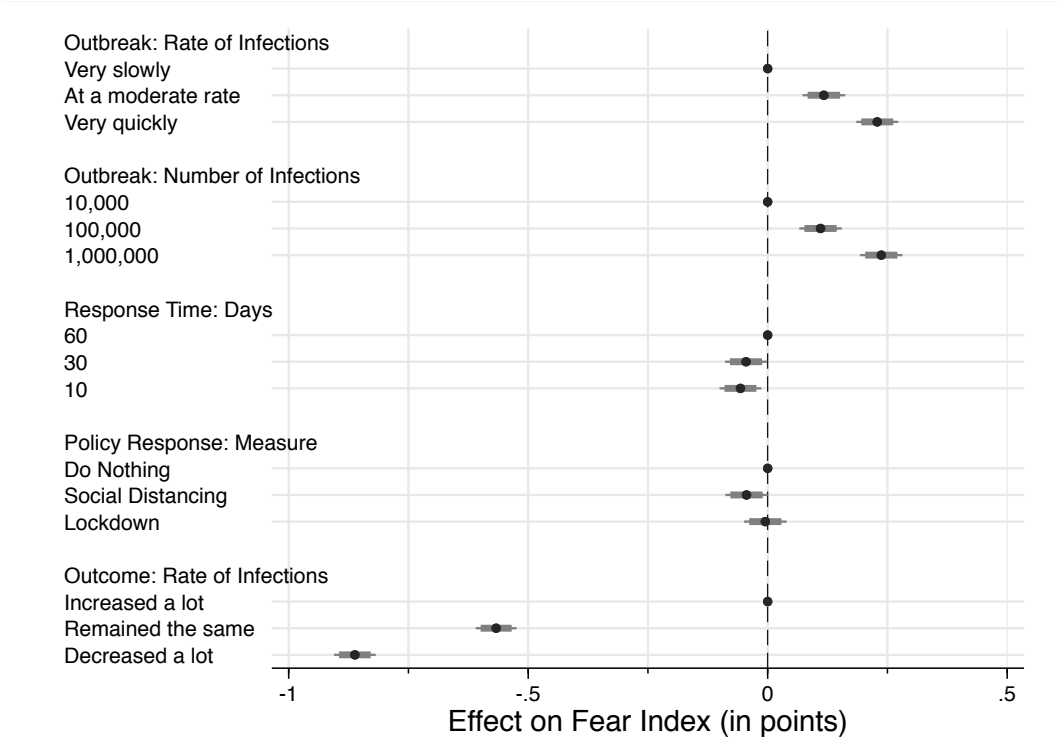


Figure S1. Causal effects of infection severity and policy response on fear index. Dots with horizontal lines are point estimates with 95% and 99% confidence intervals from a linear least squares regression of the fear level on randomly assigned infection scenario and policy response attributes. N(scenarios) = 21,844, N(respondents) = 5,461.

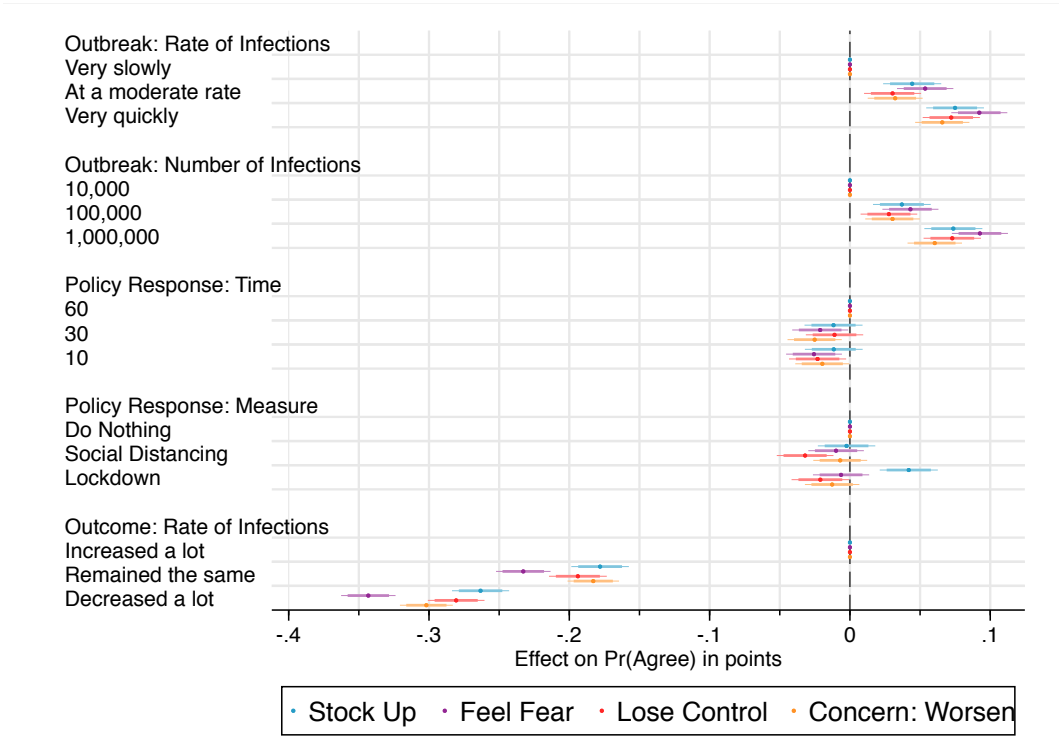


Figure S2. Causal effects of infection severity and policy response on four measures of fear. Dots with horizontal lines are point estimates with 95% and 99% confidence intervals from a linear least squares regression of a binary agreement indicator on randomly assigned infection scenario and policy response attributes. N(scenarios) = 21,844, N(respondents) = 5,461.

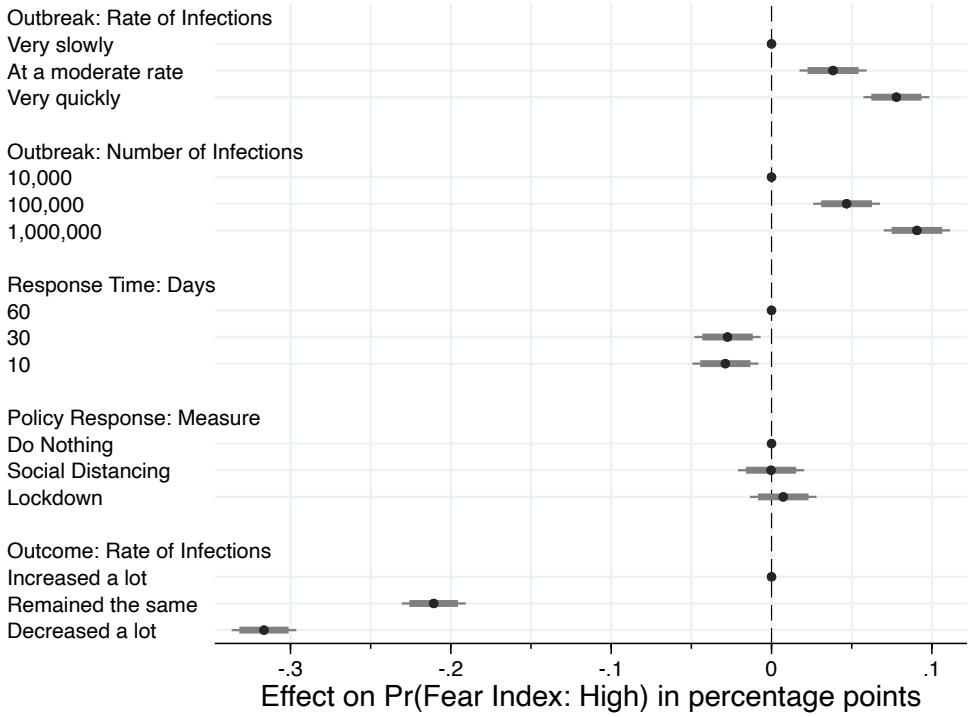
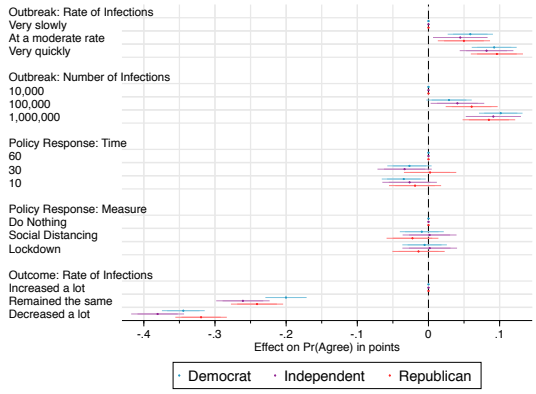
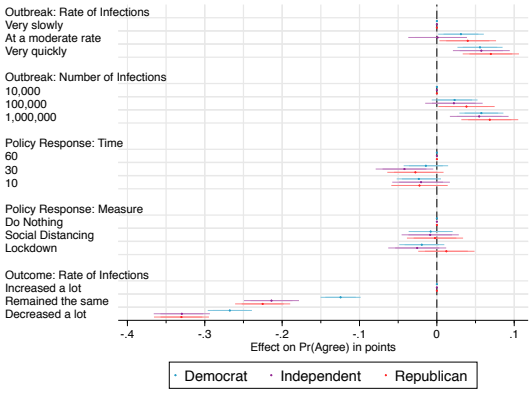


Figure S3. Causal effects of infection severity and policy response on fear, weighted. Dots with horizontal lines are point estimates with 95% and 99% confidence intervals from a linear least squares regression of a binary agreement indicator on randomly assigned infection scenario and policy response attributes. N(scenarios) = 21,844, N(respondents) = 5,461. The results are very similar when analyzing each of the underlying items separately, see Figure S4.

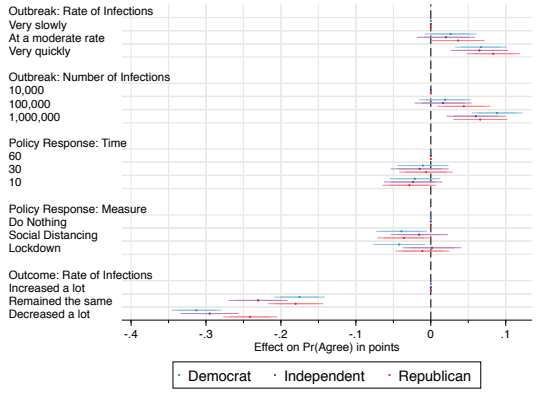
A. Feeling fearful



B. Concern: situation could worsen



C. Lose control



D. Stock up

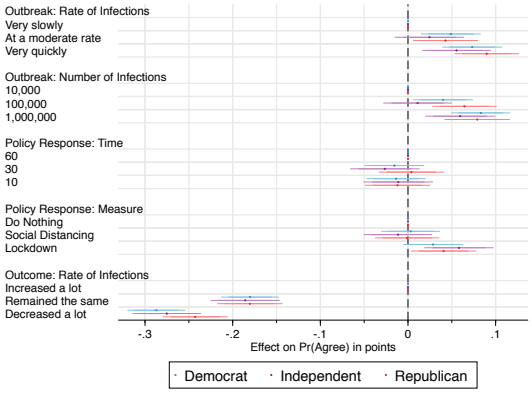
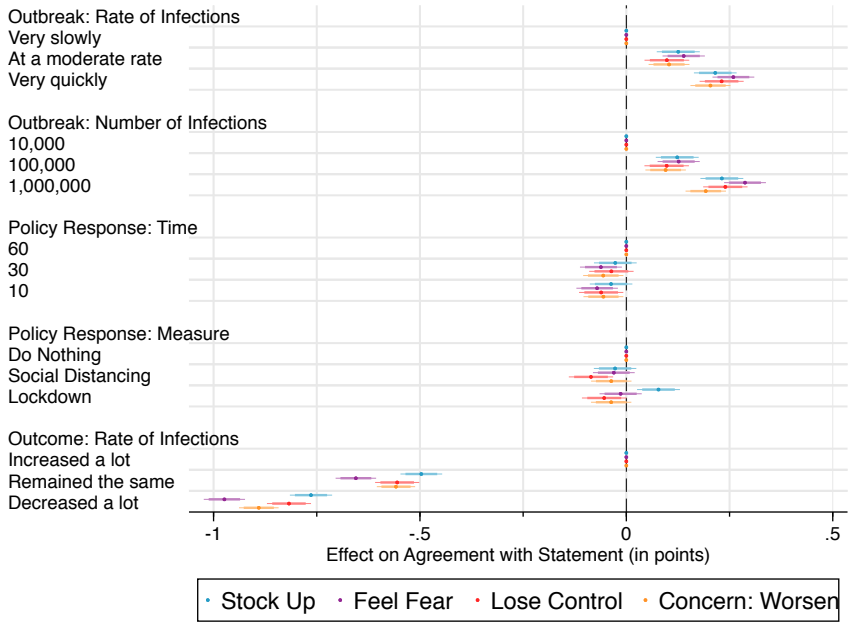


Figure S4. Causal effects of infection severity and policy response on measures of fear by partisanship. Dots with horizontal lines are point estimates with 95% and 99% respondent-clustered confidence intervals from a linear least squares regression of a binary agreement indicator on randomly assigned policy design and infection scenario attributes. The panels report the results for each outcome variable: (**A**) "I feel worried, fearful, or frightened," (**B**) "I am afraid that the situation could worsen," (**C**) "I have thoughts of losing control or bad things happening," (**D**) "I feel the need to stock up on essential products." N(scenarios | Democrats)=7,728; N(respondents | Democrats)=1,932; N(scenarios | Independents) = 5,972; N(respondents | Independents) = 1,439; N(scenarios | Republicans) = 6,724; N(respondents | Republicans) = 1,681.

A. Unweighted



B. Weighted

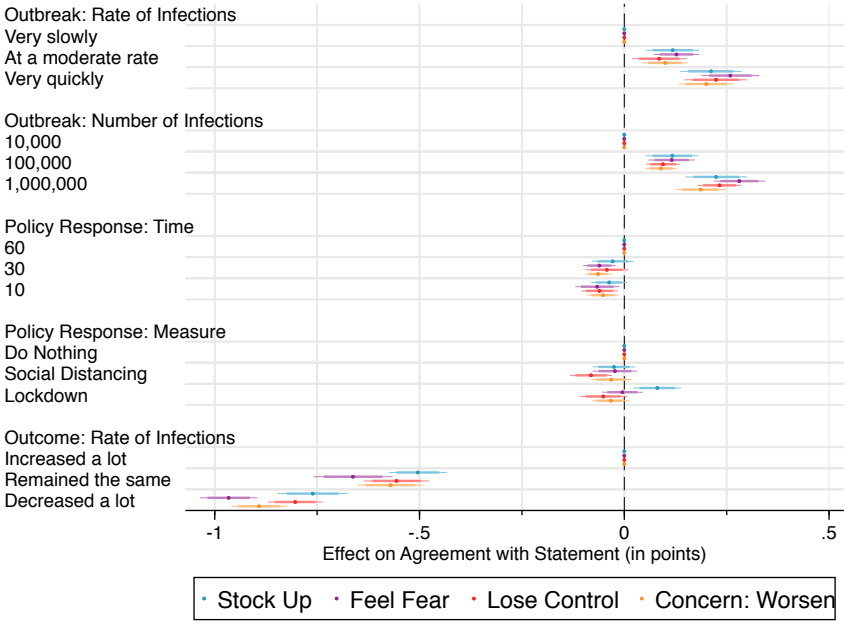


Figure S5. Causal effects of infection severity and policy response on measures of fear using levels of agreement as dependent variables. Dots with horizontal lines are point estimates with 95% and 99% confidence intervals from a linear least squares regression of the agree-disagree (five-point scale) variable on randomly assigned infection scenario and policy response attributes. (**A**) Results without survey weights. (**B**) Results with survey weights. N(scenarios) = 21,844, N(respondents) = 5,461.

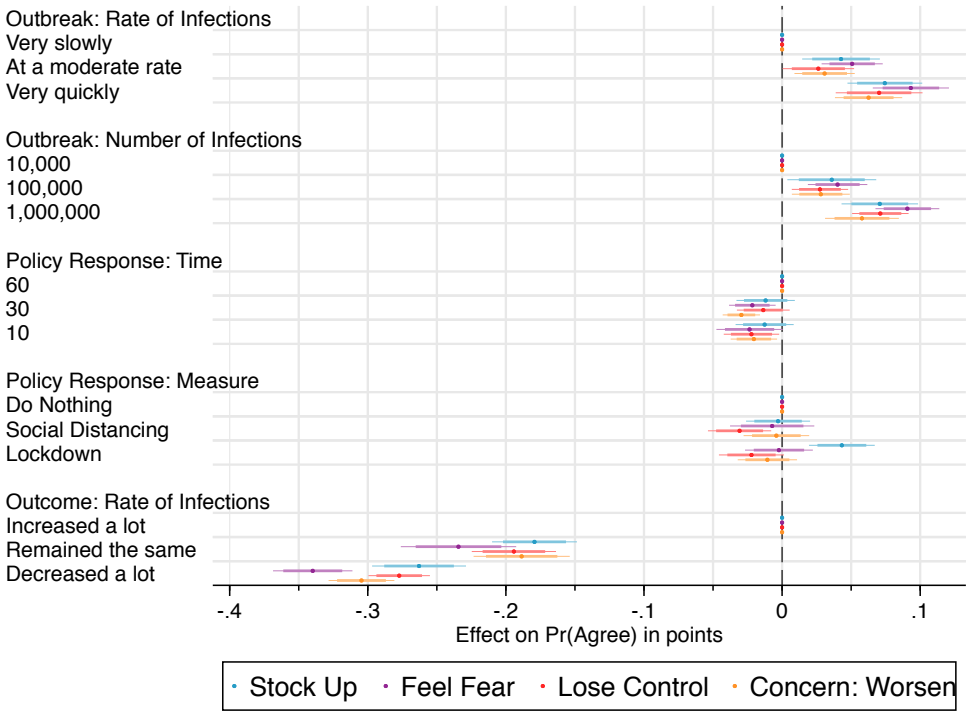
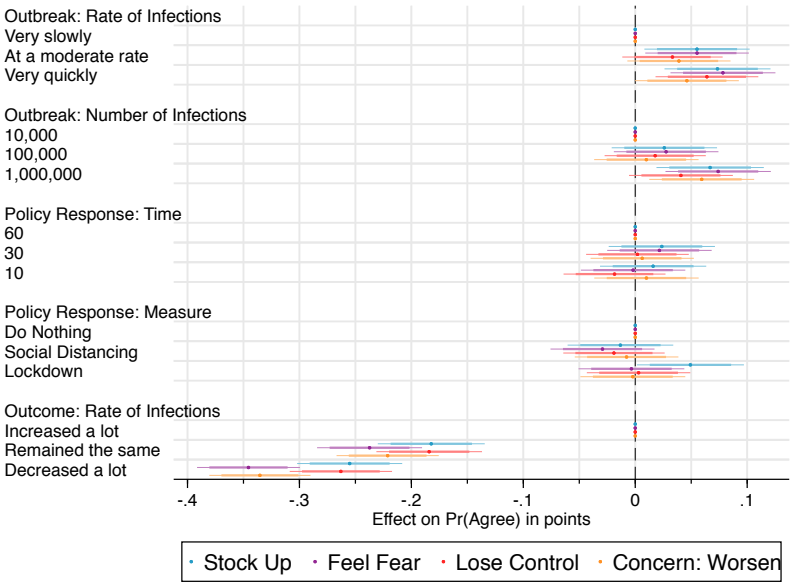


Figure S6. Causal effects of infection severity and policy response on measures of fear, weighted. Dots with horizontal lines are point estimates with 95% and 99% confidence intervals from a linear least squares regression of a binary agreement indicator on randomly assigned infection scenario and policy response attributes. N(scenarios) = 21,844, N(respondents) = 5,461.

A. Consumers of Fox News or One America News Network



B. Media: Other

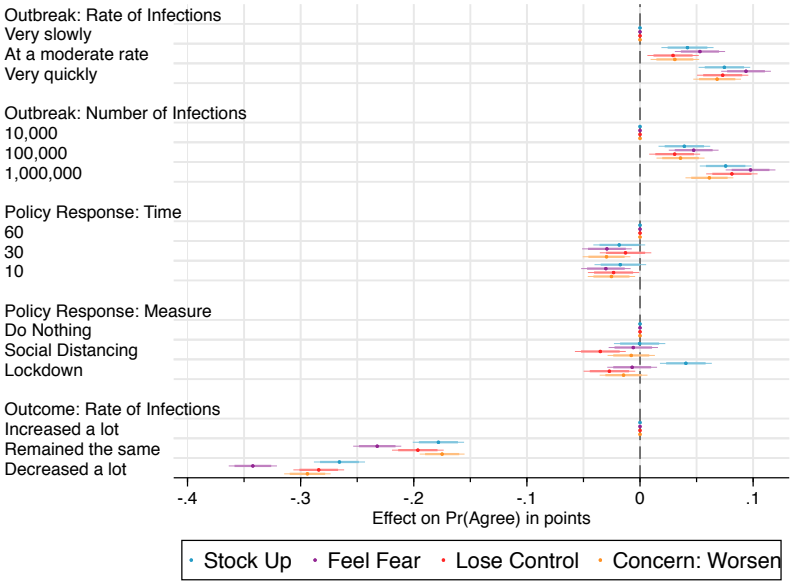
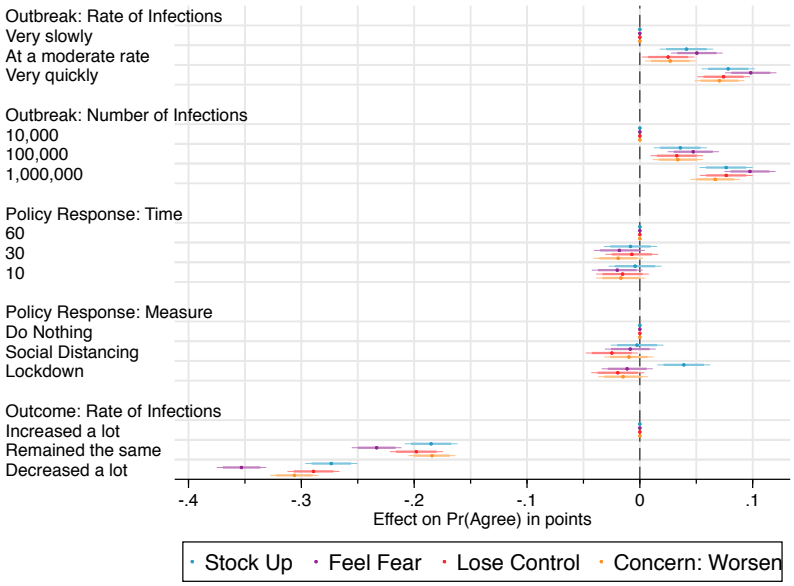


Figure S7. Causal effects of infection severity and policy response on feelings of fear by media consumption. Dots with horizontal lines are point estimates with 95% and 99% respondent-clustered confidence intervals from a linear least squares regression of a binary agreement indicator on randomly assigned policy design and infection scenario attributes. (**A**) Results for respondents watching Fox News or One America News Network, N(scenarios) = 17,844; N(respondents) = 4,461. (**B**) Results for respondents who do not watch Fox News. N(scenarios) = 4,092; N(respondents) = 1,023.

A. COVID-19 Exposure: Low



B. COVID-19 Exposure: High

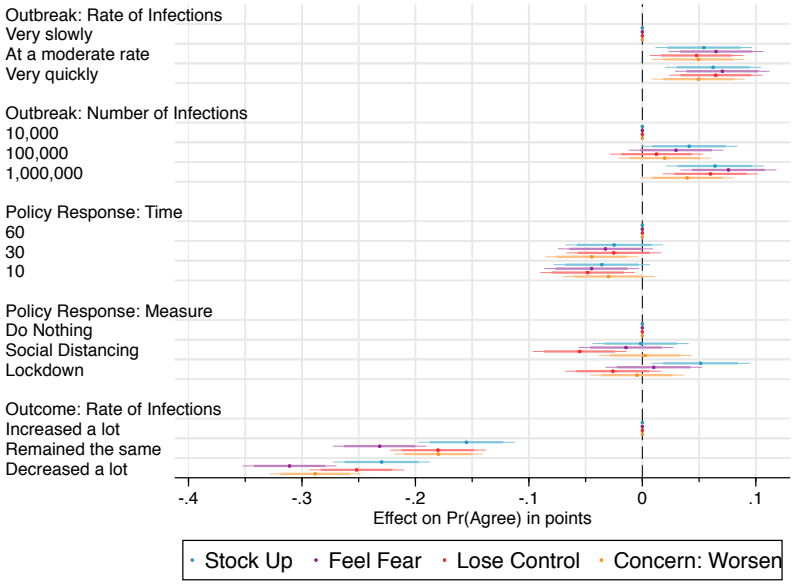
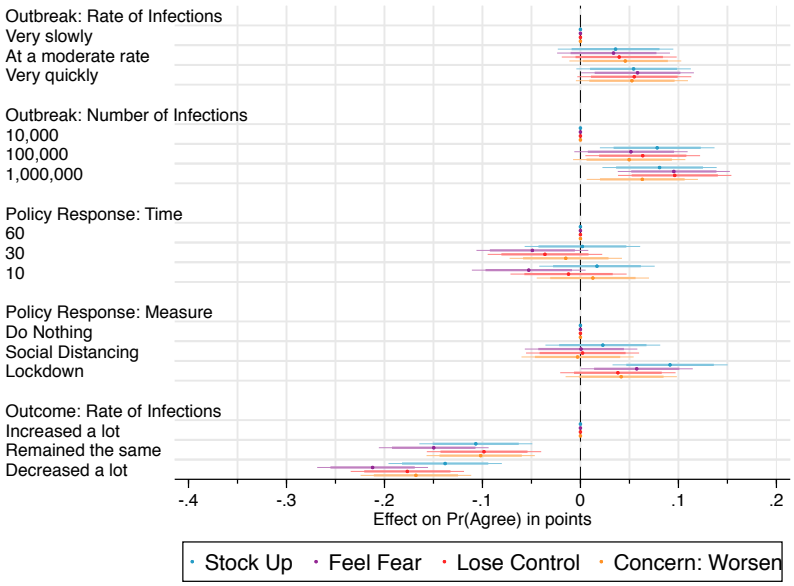


Figure S8. Causal effects of infection severity and policy response on fear by COVID-19 exposure. Dots with horizontal lines are point estimates with 95% and 99% respondent-clustered confidence intervals from a linear least squares regression of the agreement indicator variable on randomly assigned policy design and infection scenario attributes. (**A**) Results for respondents living in a county with above-median number of infections, N(scenarios) = 16,728; N(respondents) = 4,182. (**B**) Results for respondents living in a county where the number of infections is equal to or below the median, N(scenarios) = 5,116; N(respondents) = 1,279.

A. COVID-19 Knowledge: Low



B. COVID-19 Knowledge: High

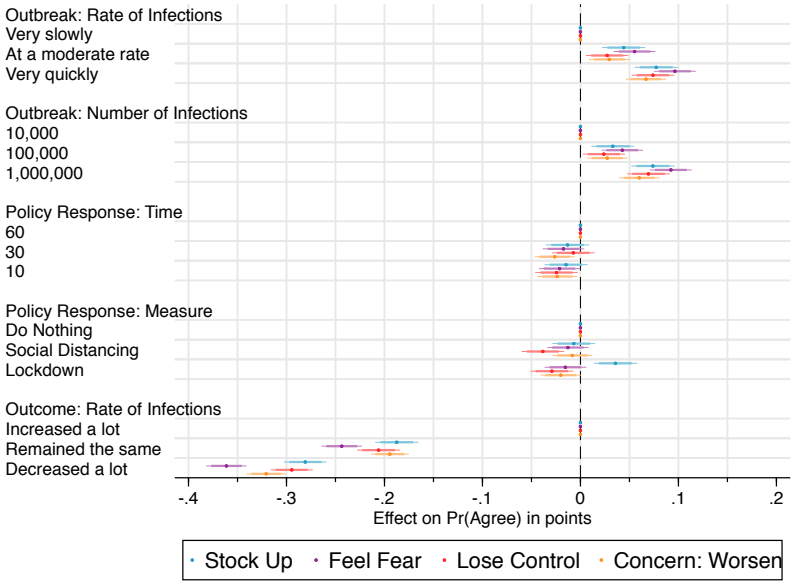
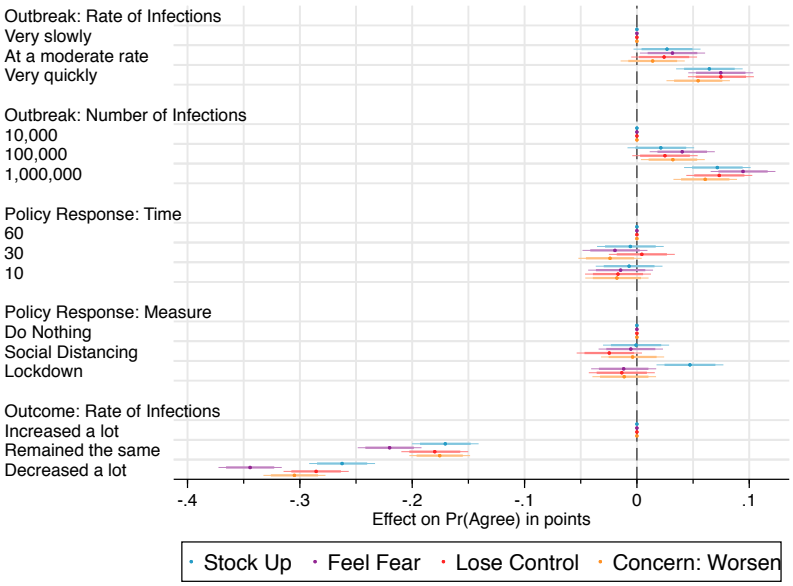


Figure S9. Causal effects of infection severity and policy response on feelings of fear by COVID-19 knowledge. Dots with horizontal lines are point estimates with 95% and 99% respondent-clustered confidence intervals from a linear least squares regression of the agreement indicator variable on randomly assigned policy design and infection scenario attributes. (**A**) Results for respondents with low COVID-19 knowledge, i.e., individuals who were unable to correctly select COVID-19 symptoms, N(scenarios) = 2,696; N(respondents) = 674 and (**B**) respondents with high COVID-19 knowledge. N(scenarios) = 19,148; N(respondents) = 4,787.

A. Male Respondents



B. Female Respondents

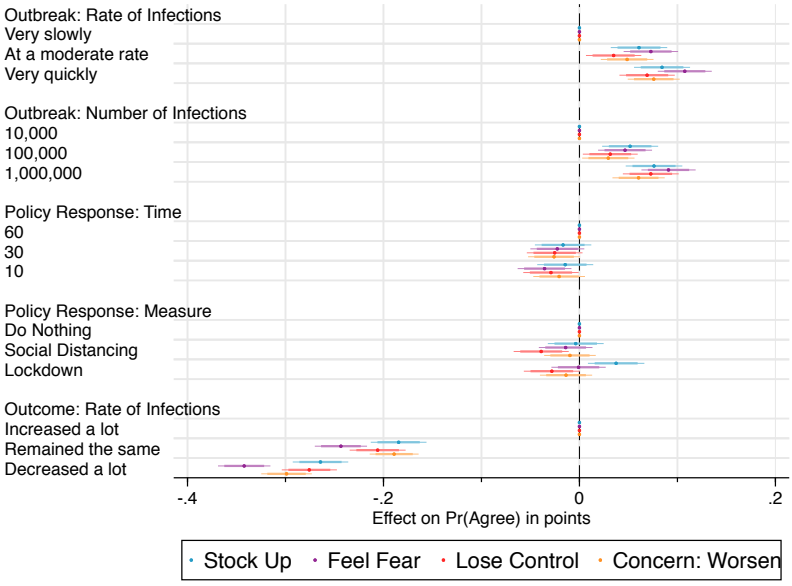


Figure S10. Causal effects of infection severity and policy response on feelings of fear by gender. Dots with horizontal lines are point estimates with 95% and 99% confidence intervals from a linear least squares regression of a binary agreement indicator on randomly assigned infection scenario and policy response attributes. (**A**) Results for male respondents, N(scenarios) = 10,504; N(respondents) = 2,626. (**B**) results for male respondents, N(scenarios) = 11,340; N(respondents) = 2,835.

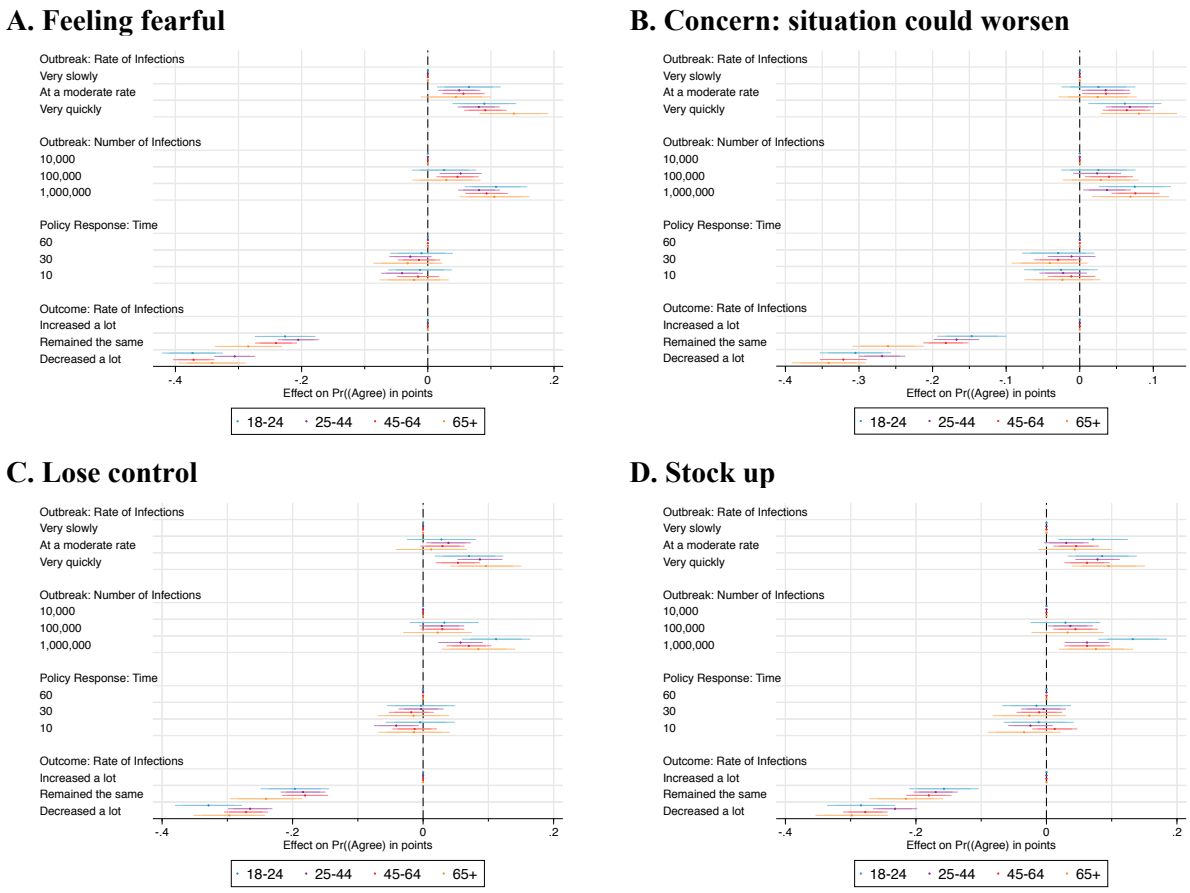


Figure S11. Causal effects of infection severity and policy response on fear by age groups. Dots with horizontal lines are point estimates with 95% and 99% confidence intervals from a linear least squares regression of a binary agreement indicator on randomly assigned infection scenario and policy response attributes. The panels report the results for each outcome variable: (**A**) "I feel worried, fearful, or frightened," (**B**) "I am afraid that the situation could worsen," (**C**) "I have thoughts of losing control or bad things happening," (**D**) "I feel the need to stock up on essential products." N(scenarios|Age: 18-24) = 3,316; N(respondents|Age: 18-24) = 829; N(scenarios|Age: 25-44) = 7,904; N(respondents|Age: 25-44) = 1,976; N(scenarios|Age: 45-64) = 7,716; N(respondents|Age: 45-64) = 1,929; N(scenarios|Age: 65+) = 2,908; N(respondents|Age: 65+) = 727.

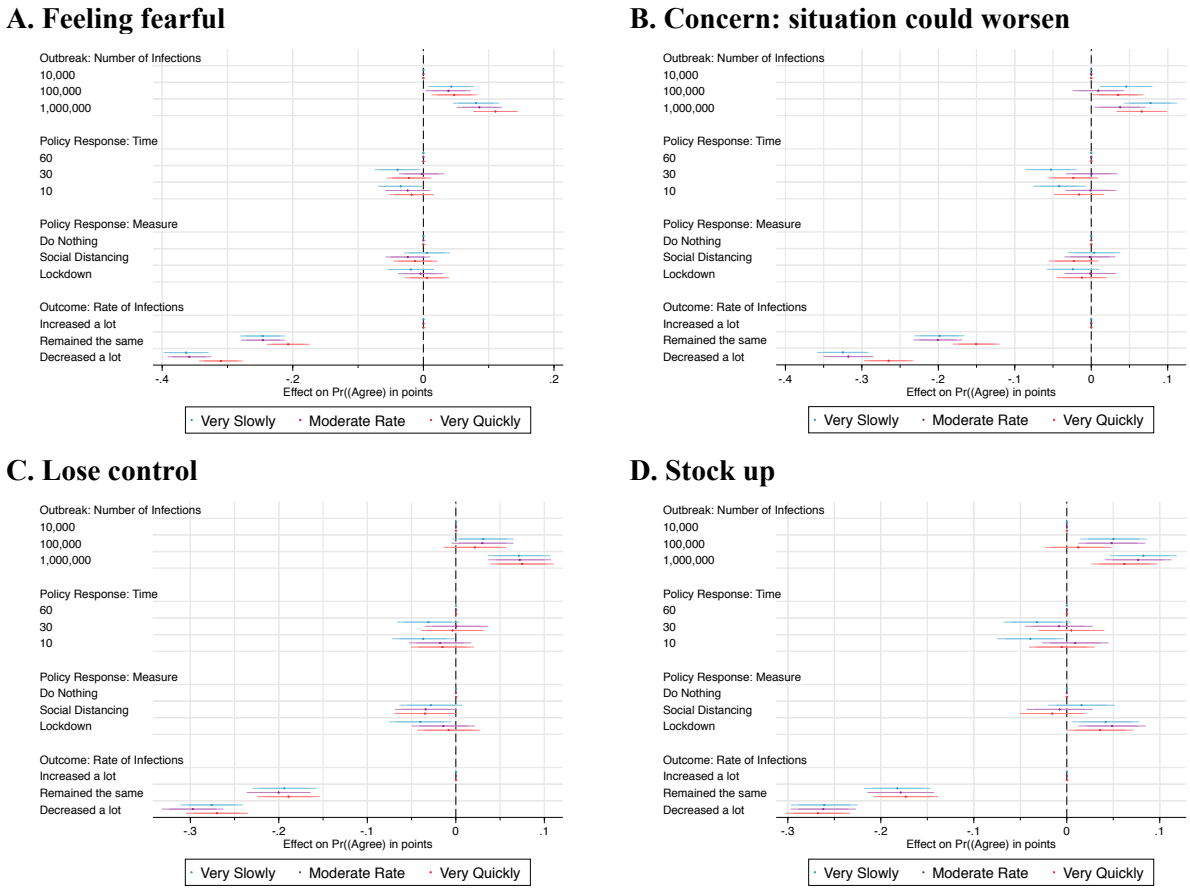


Figure S12. Causal effects of infection severity and policy response on fear by randomly assigned initial rate of infections (growing very slowly, at a moderate rate, very quickly). Dots with horizontal lines are point estimates with 95% and 99% confidence intervals from a linear least squares regression of a binary agreement indicator on randomly assigned infection scenario and policy response attributes. The panels report the results for each outcome variable: (**A**) "I feel worried, fearful, or frightened," (**B**) "I am afraid that the situation could worsen," (**C**) "I have thoughts of losing control or bad things happening," (**D**) "I feel the need to stock up on essential products." N(scenarios) = 21,844; N(respondents) = 5,461.

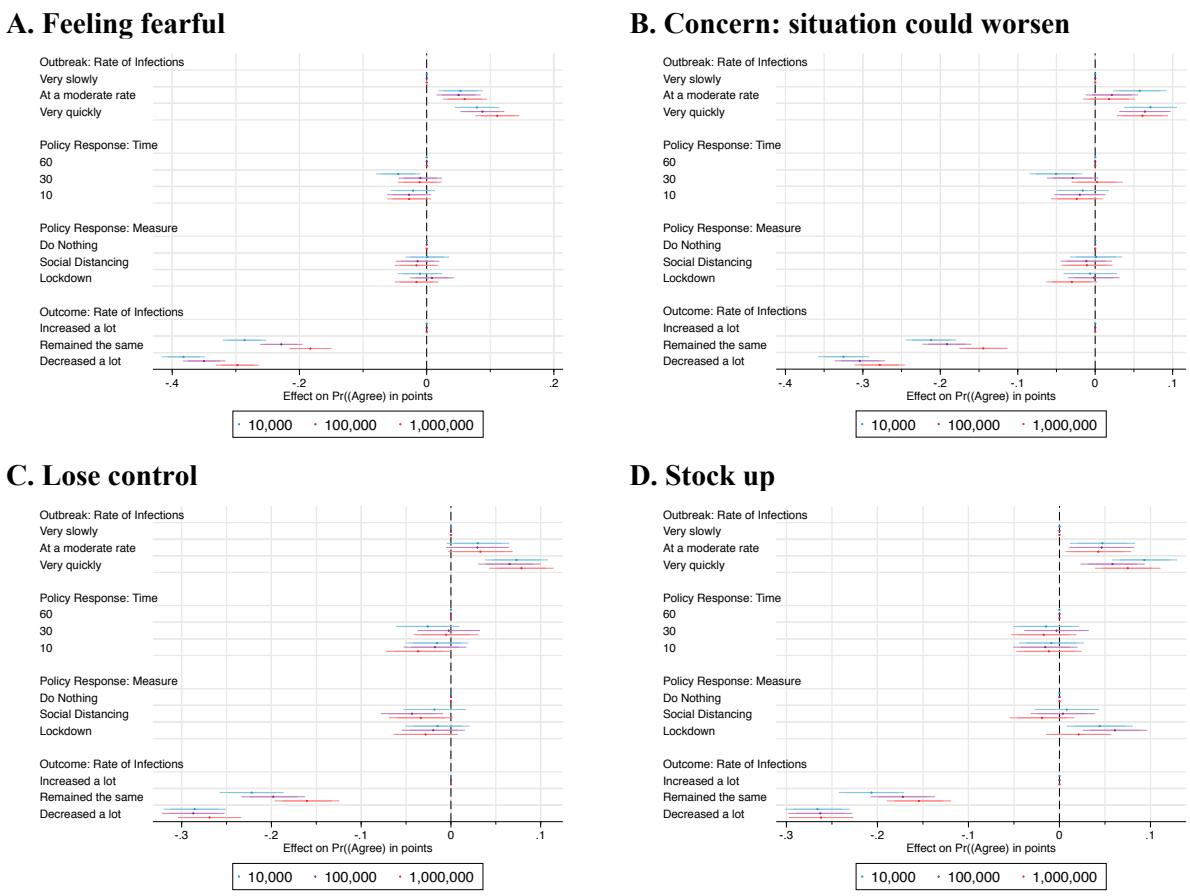


Figure S13. Causal effects of infection severity and policy response on fear by randomly assigned initial number of infections (10,000; 100,000; 1,000,000). Dots with horizontal lines are point estimates with 95% and 99% confidence intervals from a linear least squares regression of a binary agreement indicator on randomly assigned infection scenario and policy response attributes. The panels report the results for each outcome variable: (**A**) "I feel worried, fearful, or frightened," (**B**) "I am afraid that the situation could worsen," (**C**) "I have thoughts of losing control or bad things happening," (**D**) "I feel the need to stock up on essential products." N(scenarios) = 21,844; N(respondents) = 5,461.

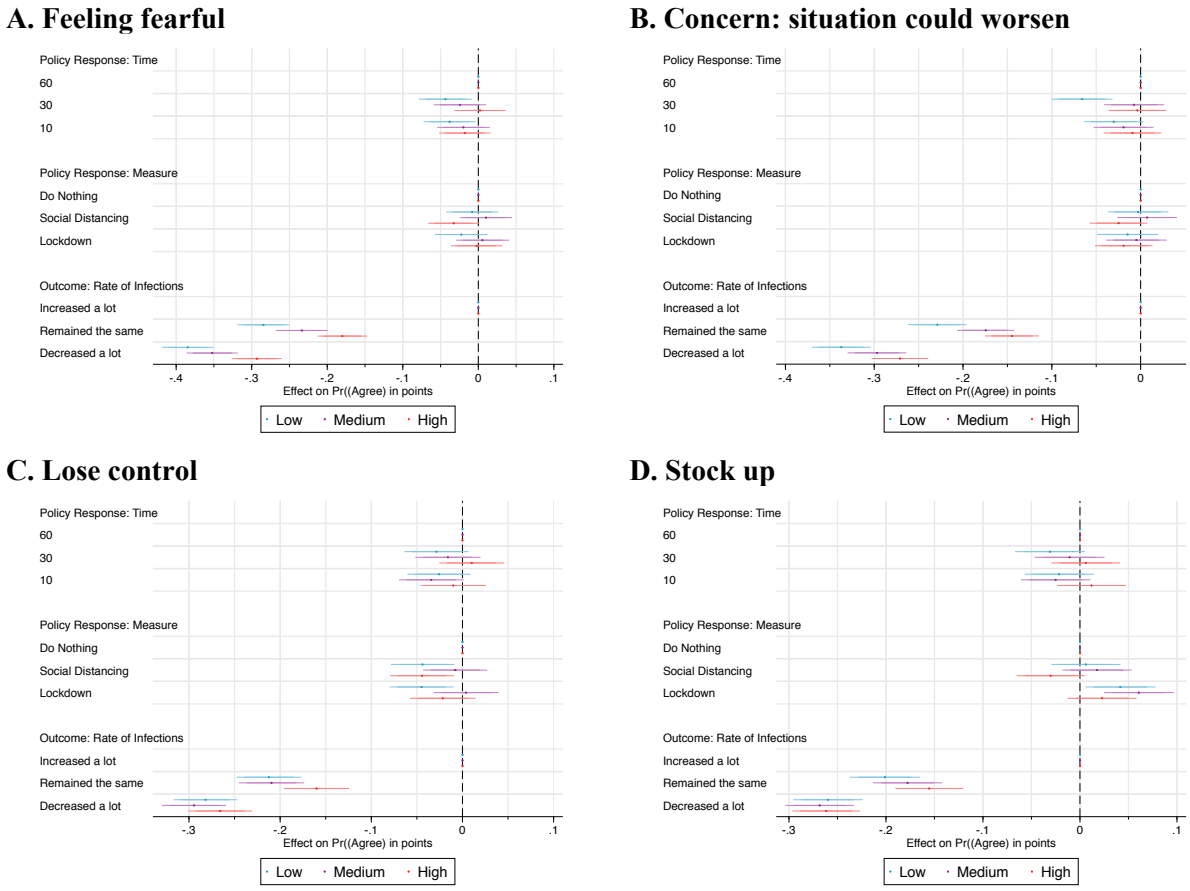


Figure S14. Causal effects of infection severity and policy response on fear by outbreak severity index level (Low, Medium, High). Dots with horizontal lines are point estimates with 95% and 99% confidence intervals from a linear least squares regression of a binary agreement indicator on randomly assigned infection scenario and policy response attributes. The panels report the results for each outcome variable: (**A**) "I feel worried, fearful, or frightened," (**B**) "I am afraid that the situation could worsen," (**C**) "I have thoughts of losing control or bad things happening," (**D**) "I feel the need to stock up on essential products." N(scenarios) = 21,844, N(respondents) = 5,461.

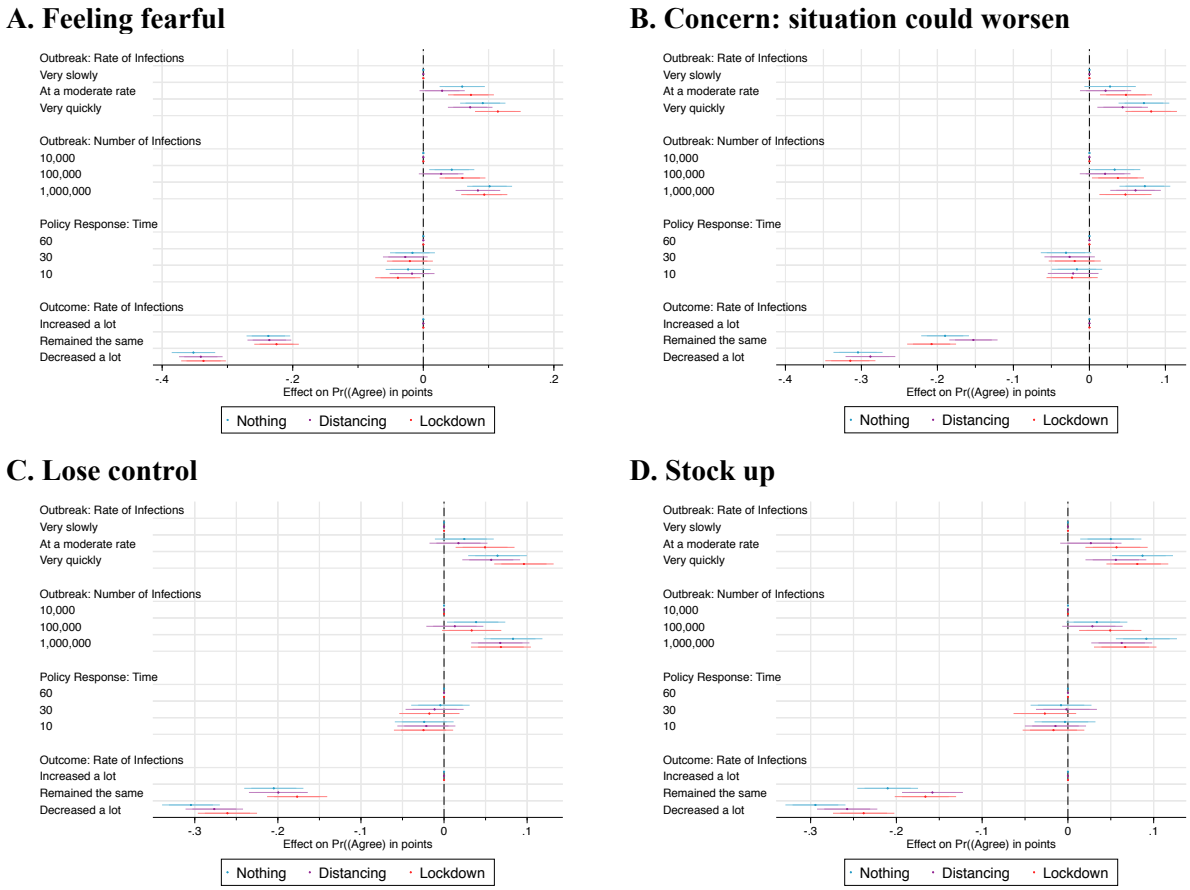
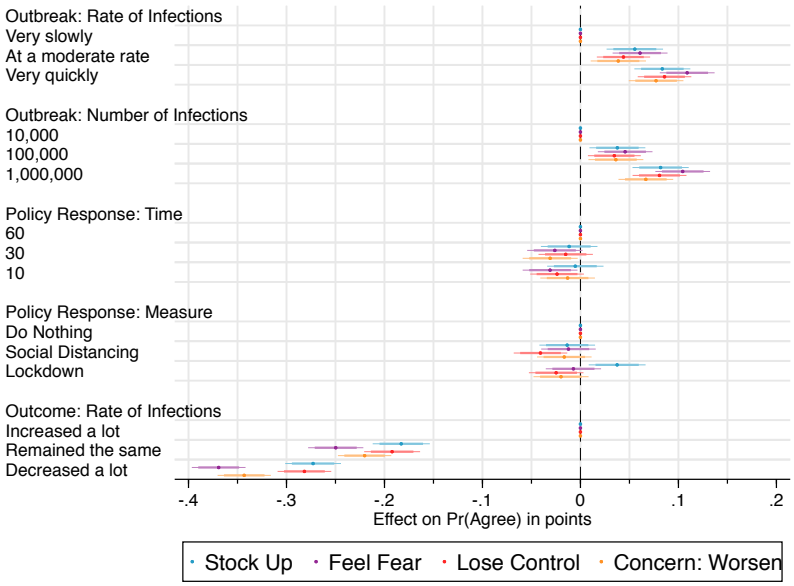


Figure S15. Causal effects of infection severity and policy response on fear by randomly assigned policy response type (do nothing, social distancing, full lockdown). Dots with horizontal lines are point estimates with 95% and 99% confidence intervals from a linear least squares regression of a binary agreement indicator on randomly assigned infection scenario and policy response attributes. The panels report the results for each outcome variable: (**A**) "I feel worried, fearful, or frightened," (**B**) "I am afraid that the situation could worsen," (**C**) "I have thoughts of losing control or bad things happening," (**D**) "I feel the need to stock up on essential products." N(scenarios) = 21,844, N(respondents) = 5,461.

A. Perceived Risk of Infection with COVID-19: Low



B. Perceived Risk of Infection with COVID-19: High

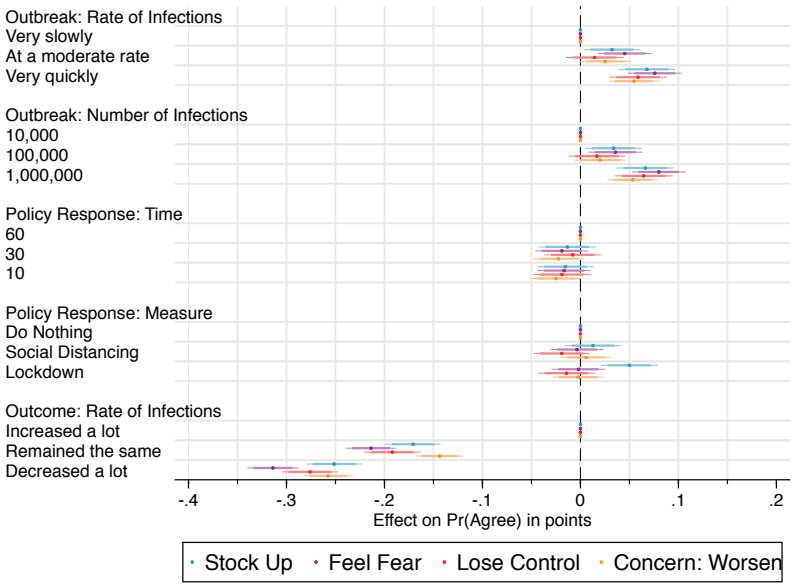
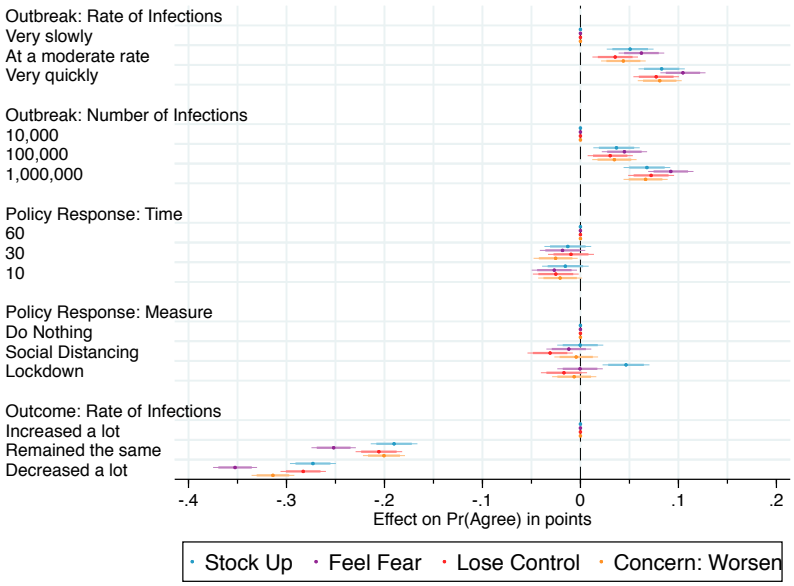


Figure S16. Causal effects of infection severity and policy response on fear by self-assessed covid-19 infection risk. Dots with horizontal lines are point estimates with 95% and 99% respondent-clustered confidence intervals from a linear least squares regression of a binary agreement indicator on randomly assigned policy design and infection scenario attributes. (**A**) Results for respondents who report a personal infection risk below or equal to the median (40), N(scenarios) = 11,076; N(respondents) = 2,769. (**B**) Results for respondents who report a personal infection risk above the median, N(scenarios) = 10,768; N(respondents) = 2,692.

A. Respondent: White



B. Respondent: Non-White

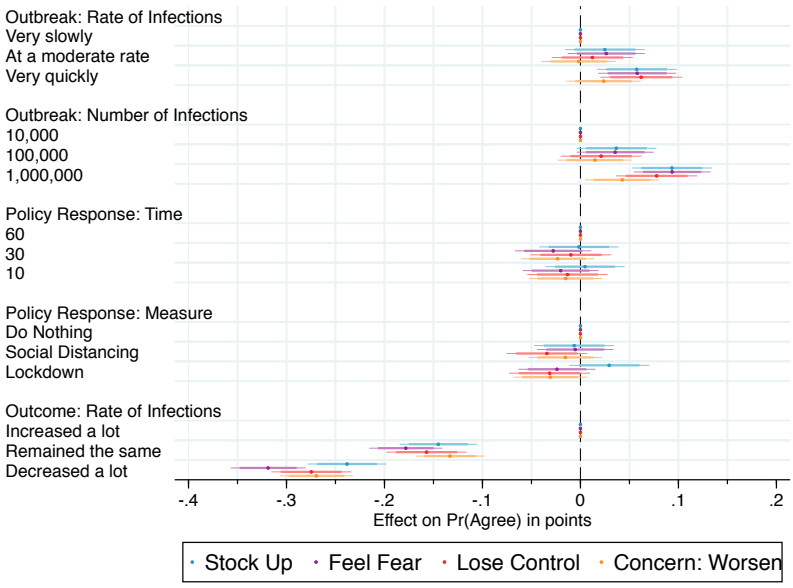


Figure S17. Causal effects of infection severity and policy response on fear by race. Dots with horizontal lines are point estimates with 95% and 99% respondent-clustered confidence intervals from a linear least squares regression of a binary agreement indicator on randomly assigned policy design and infection scenario attributes. (**A**) Results for white respondents, N(scenarios) = 16,372; N(respondents) = 4,093. (**B**) Results for non-white respondents, N(scenarios) = 5,472; N(respondents) = 1,368.

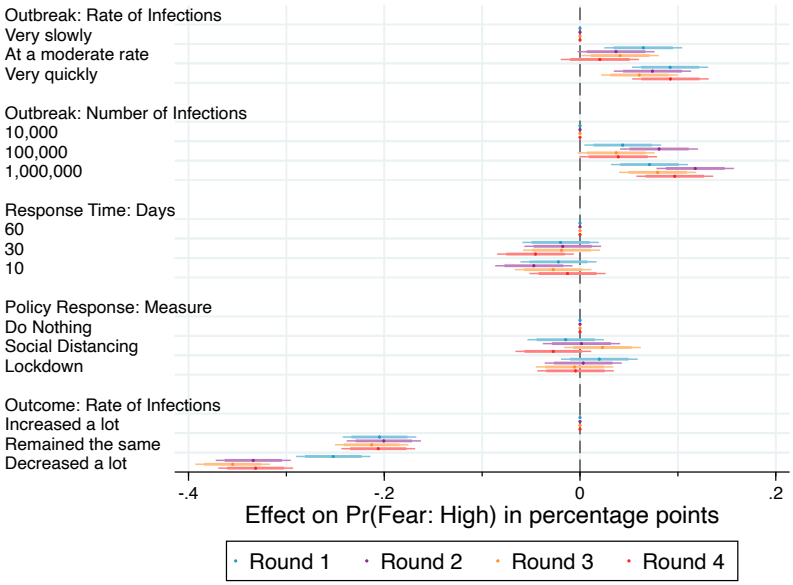
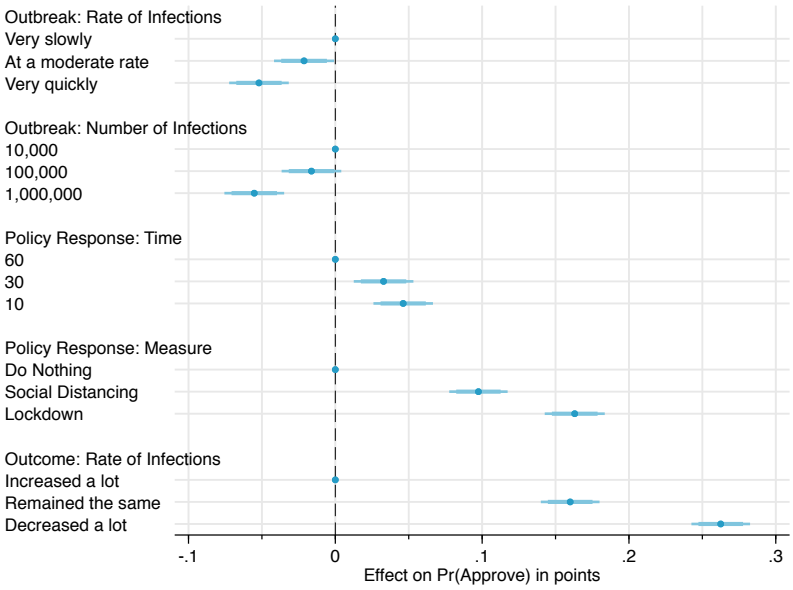


Figure S18. Causal effects of infection severity and policy response on fear by round. Dots with horizontal lines are point estimates with 95% and 99% respondent-clustered confidence intervals from a linear least squares regression of the agreement indicator variable on randomly assigned policy design and infection scenario attributes. For each round: N(scenarios=respondents) = 5,461.

A. Pooled



B. By Partisanship

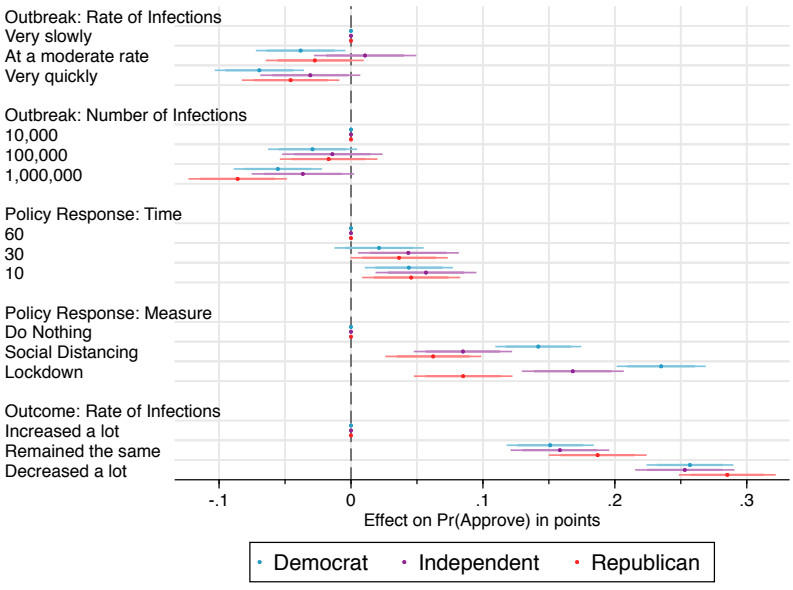


Figure S19. Causal effects of infection severity and policy response on government approval (overall and by party identification). Dots with horizontal lines are point estimates with 95% and 99% respondent-clustered confidence intervals from a linear least squares regression of the agreement indicator variable on randomly assigned policy design and infection scenario attributes. (**A**) Pooled results, N(scenarios) = 21,844, N(respondents) = 5,461 and (**B**) estimated by partisan identification. N(scenarios | Democrats)=7,728; N(respondents | Democrats)=1,932; N(scenarios | Independents) = 5,972; N(respondents | Independents) = 1,439; N(scenarios | Republicans) = 6,724; N(respondents | Republicans) = 1,681.

SI.3: Pre-registration Plan

This study was pre-registered with EGAP on 5/29/2020.

Study Information

1. Title: Public Opinion on Policy Responses to Pandemics
2. Research Questions
    - 2.1. What is the level of support for policy responses to pandemics and government performance evaluations (local, state, federal government)?
    - 2.2. Does support for policy responses to major public health threats and performance evaluations reflect self-interest and risk exposure, other-regarding concerns, identity, scarcity and time pressure, social norms such as trust and altruism, religious habits, gender relations, protest participation, or political information and ideology?
    - 2.3. Do levels of panic, trust in the government, and views on compliance and coping mechanisms reflect pandemic severity, policy response time, policy intervention type, and policy impact?
    - 2.4. Do the sensitivities to threat severity, policy response, and policy impact reflect self-interest and risk exposure, other-regarding concerns, identity, scarcity and time pressure, social norms such as trust and altruism, religious habits, gender relations, protest participation, or political information and ideology?
    - 2.5. What is the correlation between quasi-behavioral measures of trust and altruism and self-assessed measures?
    - 2.6. How does social and anti-social behavior depend on risk exposure, and can this relationship be explained by identity, scarcity, social sanctioning, time pressure, social norms such as trust and altruism, religious habits, gender relations, protest participation, or political information and ideology?

Study Design and Sampling Plan

3. Study design

We implement a single wave cross-sectional survey in an online setting to American respondents.

4. Data

As of the date of submission, the data collection has not started. Therefore, none of the data has been quantified, constructed, observed, or reported by any of the researchers.

5. Data collection procedures.

We will field the online survey to a sample of the adult population in the United States. The sampling procedure includes oversampling respondents in rural areas.

6. Sample size

About 7,000 respondents.

7. Sample size rationale

The sample size is mainly driven by power considerations. Since we include experimental items, we would like to make sure to have enough observations in the various treatment conditions (see survey instrument).

8. Stopping rule

We will stop sampling once we have reached at least the targeted number of observations and the sociodemographic quotas.

9. Blinding

Respondents will not know the treatment group to which they have been assigned.

Survey Instrument follows below.

Pandemic Policy Survey

Questionnaire

Introduction

We invite you to participate in a research study being conducted by investigators from [University]. The purpose of the study is to examine people's thoughts about contemporary political and economic issues. All participants who complete the survey will be entered into several prize drawings for an Amazon gift card. The prize drawings will take place in June 2020. If you have questions for the research team, please contact us at [e-mail]. Thank you very much for your consideration of this research study.

Please select one of the following options:

- [ ] I agree to participate
- [ ] I do not agree to participate

NEW PAGE

Quota Questions

What is the highest level of education you have completed?

- Did not complete elementary and middle school (grades 1-8)
- Elementary and middle school completed (grades 1-8)
- Attended high school (grades 9-12, no degree)
- High school graduate (or GED)
- Some college (1-4 years, no degree)
- Associate's degree (AA, AS, etc)
- Bachelor's degree (BA, BS, etc)

- Master's degree (MA, MS, MSW, etc)
- Professional school degree (MD, JD, etc)
- Doctorate degree (PhD, EdD, etc)

NEW PAGE

Please indicate whether you are …

- Male
- Female
- Other

Age
In what year were you born?
[Text entry]
NEW PAGE

Please indicate which area you live in:

- Urban (50,000 or more people)
- Suburban (more than 2,500 and less than 50,000 people)
- Rural

NEW PAGE

Corona Policy Views

1. In your opinion, has each of the following done a good job or a poor job to contain the spread of the coronavirus outbreak?
   a. Federal government: 1 Very poor job,…., 5 very good job
   b. State government: 1 Very poor job,…., 5 very good job
   c. Local government: 1 Very poor job,…., 5 very good job

2. In response to the coronavirus outbreak, should the federal government:
   a. implement stricter or less strict social distancing measures (e.g., closing schools, canceling public events, issuing stay-at-home orders)?
      much less strict, less strict, neither/nor, more strict, much more strict
   b. increase or decrease spending on medical equipment (e.g., ventilators, face masks) and research (e.g., vaccine development)?
      1 decrease by a lot, 2 decrease by a little, 3 neither/nor, 4 increase by a little, 5 increase by a lot

NEW PAGE

3. Do you think that in response to the coronavirus outbreak the federal government should…
   a. provide more or less financial assistance to individuals and households?
      1 a lot less, 2 a little less, 3 neither/nor, 4 a little more, 5 a lot more

b. provide more or less financial assistance to small businesses?
1 a lot less, 2 a little less, 3 neither/nor, 4 a little more, 5 a lot more
c. provide more or less financial assistance to large businesses and corporations?
1 a lot less, 2 a little less, 3 neither/nor, 4 a little more, 5 a lot more

NEW PAGE

Corona Affectedness

4. How much do you think the coronavirus outbreak will harm:

	A great deal (4)	A moderate amount (3)	Only a little (2)	Not at all (1)
You personally (1)	❍	❍	❍	❍
Your family (2)	❍	❍	❍	❍
Your community (3)	❍	❍	❍	❍
People in the United States (4)	❍	❍	❍	❍
People in other countries (5)	❍	❍	❍	❍

NEW PAGE

5. On a scale from 0 to 100, how unlikely or likely do you think it is that you will be infected by coronavirus in the next several months?
0 (very unlikely), 100 (very likely)

NEW PAGE

6. And how unlikely or likely do you think it is that a family member or friend will be infected by coronavirus in the next several months?
0 (very unlikely), 100 (very likely)

NEW PAGE

7. Have you been infected by coronavirus?
Yes, No, Don't know/unsure

8. Do you know anyone who has been infected by coronavirus?
Yes, No, Don't know/unsure

NEW PAGE

9. How many people have been infected by coronavirus in the United States so far? Many people do not know the exact answer to this question. Please provide your best guess.
   OPEN TEXT

10. And how many people have been infected by coronavirus in your county or independent city so far? Many people do not know the exact answer to this question. Please provide your best guess.
    OPEN TEXT

NEW PAGE

11. When thinking about the coronavirus outbreak, how strongly do you agree or disagree with the following statements:
    a. There are not enough basic necessities such as food or hygiene products for everyone.
       1 strongly agree to 5 strongly disagree
    b. Acting quickly is the best way to deal with the outbreak.
       1 strongly agree to 5 strongly disagree

NEW PAGE

Dynamic Policy Response Experiment
[Repeat this section 4 times]

We will now provide you with several scenarios which describe a set of policies in response to an outbreak of an infectious disease such as the coronavirus. We then ask several questions to better understand what you think about these policies. In total, we will show you 4 scenarios. People have different opinions about this issue, and there are no right or wrong answers. Please read the descriptions carefully.
NEW PAGE

[DISPLAY PARAGRAPHS SEQUENTIALLY, ONE AT A TIME]

- *Outbreak phase*: "Suppose there has been an outbreak of an infectious, potentially deadly disease such as the coronavirus. The disease is spreading (**very slowly, at a moderate rate, very quickly**). So far, (**10,000; 100,000; 1,000,000**) individuals have been infected in the U.S."

- PROCEED BUTTON

  - *Policy response phase*: "The state government has been monitoring the outbreak for (**10, 30, 60**) days without taking action. It has then decided to implement the following measure: (**do nothing, social distancing order with businesses and schools allowed to remain open (no large gatherings), stay-at-home order with only essential businesses allowed to remain open) order**."

- PROCEED BUTTON

  - *Outcome phase*: "Two weeks later the number of new cases has (**decreased a lot, remained the same, increased a lot**)."

- PROCEED BUTTON

NEW PAGE

[Summarize all this info on one page.]

- Thinking about this scenario, how strongly do you agree or disagree with the following statements:

	Strongly agree (5)	Somewhat agree (4)	Neither agree nor disagree (3)	Somewhat disagree (2)	Strongly disagree (1)
I feel worried, fearful, or frightened.					
I have thoughts of losing control or bad things happening.					
I am afraid that the situation could worsen.					
I feel the need to stock up on essential products (for example, food).					

NEW PAGE

- Again, thinking about this scenario, how strongly do you agree or disagree with the following statements:

	Strongly agree (5)	Somewhat agree (4)	Neither agree nor disagree (3)	Somewhat disagree (2)	Strongly disagree (1)
The state government is handling the situation well.					
Most people will comply with these measures.					
People should do more to help each other.					
People should police each other more to help enforce the policies.					

NEW PAGE

Social Norms (should randomly rotate with gender relations block)

[In this section, randomize the order of the 5 sets of questions]

1. Anti-social behavior
   To what extent do you agree or disagree with the following statements:

[RANDOMIZE THE ORDER OF ITEMS a-e]
Under some conditions it is justified to…

a. claim government benefits to which you are not entitled
b. avoid paying taxes
c. use violence against other people to obtain justice
d. withhold supplies that the U.S. originally planned to send as aid to other countries
e. withdraw from international agreements that the U.S. had originally signed

5 – Strongly agree
4 – Somewhat agree
3 – Neither agree nor disagree
2 – Somewhat disagree
1 – Strongly disagree

NEW PAGE

2. [Randomize so 50% of respondents receive the first question and 50% of respondents receive the second question.]
   a. Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?
      1 - Most people can be trusted,…, 10 - Need to be very careful

   b. Generally speaking, would you say that you need to be very careful in dealing with people or that most people can be trusted?
      1 – Need to be very careful, … , 10- Most people can be trusted

NEW PAGE

3. To what extent do you agree or disagree with the following statements.

[RANDOMIZE THE ORDER OF ITEMS]

a. I help people even if I don't expect anything in return.
b. It is important for me to give money to charity.
c. It is important for me to do volunteer work for my community.

5 – Strongly agree
4 – Somewhat agree
3 – Neither agree nor disagree
2 – Somewhat disagree
1 – Strongly disagree

NEW PAGE

4. a. Suppose that you cut in line at the grocery store, how likely is it that someone would ask you to return to the back of the line?
   5 very likely, 1 very unlikely

   b. Suppose that you did not wear a face mask at work although it is recommended, how likely is it that someone would ask you to wear one?
   5 very likely, 1 very unlikely

NEW PAGE

5. How strongly do you agree or disagree with the following statement: Being American is important to my sense of what kind of a person I am.
   1 strongly disagree to 5 strongly agree

NEW PAGE

[RANDOMIZE ORDER AND EXAMPLES FOR TRUST AND ALTRUISM ITEMS]

6. (Trust) All respondents who complete this question will be entered into a prize drawing for a $100 Amazon gift card. If you win this gift card, you can decide to give a portion of it to another respondent. Any amount that you decide to give will be deducted from your gift card, tripled, and then passed on to the other respondent. The other respondent then has the option of returning any portion of their earnings back to you.

   The following table provides an example [RANDOMIZE WHICH TABLE IS SHOWN]:

Treatment condition 1 (low own/low other)

	Actions	You have	The other respondent has
1	You have $100	$100	$0
2	You give $10 to the other respondent (which we triple: 3x$10 = $30)	$90	$30
3	The other respondent returns $0 to you	$90	$30

Treatment condition 2 (low own/high other)

	Actions	You have	The other respondent has
1	You have $100	$100	$0
2	You give $10 to the other respondent (which we triple: 3x$10 = $30)	$90	$30
3	The other respondent returns $15 to you	$105	$15

Treatment condition 3 (high own/low other)

	Actions	You have	The other respondent has
1	You have $100	$100	$0
2	You give $90 to the other respondent (which we triple: 3x$90 = $270)	$10	$270
3	The other respondent returns $0 to you	$10	$270

Treatment condition 4 (high own/high other)

	Actions	You have	The other respondent has
1	You have $100	$100	$0
2	You give $90 to the other respondent (which we triple: 3x$90 = $270)	$10	$270
3	The other respondent returns $135 to you	$145	$135

How much would you like to give?
[Text response between 0 and 100]
NEW PAGE

(Strategy method) Now suppose you were the other respondent, that is, the one who receives money from the gift card winner. Please indicate how much you would like to return to the gift card winner if you received the following amount from them?

- $15
- $75
- $150
- $225
- $300

For each: How much would you like to return?
[TAILOR THE RESPONSE OPTONS TO MATCH EACH OF THE FIVE SCENARIOS ABOVE.]

NEW PAGE

Gender Relations (should randomly rotate with social norms block)

We would now like to ask for your opinion on some social issues. Please indicate the degree to which you agree or disagree with the following statements:

	Strongly agree	Somewhat agree	Neither agree/nor disagree	Somewhat disagree	Strongly disagree
Fathers should have to provide as much childcare as mothers do.					
When jobs are scarce, men should have more right to a job than women.					
On the whole, men make better political leaders than women do.					
Women often exaggerate normal dispute at home as domestic violence.					

Climate Action Experiment
[RANDOMLY SELECT ITEM 1 OR 2 AND RANDOMIZE TEXT IN BRACKETS]

- ITEM 1: Suppose that [**many/few**] individuals will change their energy consumption to reduce climate change. If limiting your own energy use avoids [**most/few**] of the economically and environmentally damaging consequences of climate change, how strongly do you agree or disagree with the following statements?

- ITEM 2: Suppose that [**many/few**] countries will implement policies to reduce climate change. If limiting national energy use avoids [**most/few**] of the economically and environmentally damaging consequences of climate change, how strongly do you agree or disagree with the following statements?

1. I want to reduce my own energy consumption by doing things like buying more energy-efficient appliances, switching off unused appliances, walking for short journeys, or only using heating and air conditioning when really needed.

2. The U.S. government should introduce policies to reduce greenhouse gas emissions, such as increasing fossil-fuel taxes, subsidizing renewable energy, or banning the least energy-efficient appliances.
[*strongly agree, somewhat agree, neither agree/nor disagree, somewhat disagree, strongly disagree*]

NEW PAGE

Media Consumption

a. When you watch national television news, which station do you most often watch?
Check one (randomize order): ABC, NBC, CBS, PBS, CNN, FOX, MSNBC, One America News Network, I never watch national television news.

b. When you watch local television news from TV stations in your area, which station do you most often watch?
Check one (randomize order): ABC, NBC, CBS, FOX, I never watch local television news.

c. When you read a newspaper, which newspaper do you most often read?
Check one (randomize order): Local newspaper, The New York Times, USA Today, The Wall Street Journal, I never get my news from a newspaper.

NEW PAGE
NEW PAGE

Protest Support
Here are some different forms of political action that people can take. For each, please tell us whether you approve or disapprove of this type of action:

1. Protests against government action
2. Demonstrations and marches against government action
3. Civil disobedience

[Answer scale from 1-strongly approve to 10-strongly disapprove]

Religious Habits
How often do you pray?
Never, once per week, twice per week, three times or more per week.
NEW PAGE

Party Identification
Generally speaking, do you usually think of yourself as a Democrat, a Republican, an Independent, or what?
-Republican
-Democrat
-Independent
-Other

NEW PAGE

Knowledge

The next few questions help us see how much information gets out to the public. Please answer the questions on your own, without asking anyone or looking up the answers. Many people don't know the answers to these questions, but we'd be grateful if you would please answer them, even if you're not sure what the right answer is. You will have 20 seconds to answer each question after it appears on the screen. After 20 seconds, the screen will automatically go on to the next question.

NEW PAGE

a. General Knowledge:
For how many years is a United States Senator elected — that is, how many years are there in one full term of office for a U.S. Senator? (type the number)

b. Specific Knowledge
Which of the following are common symptoms of covid-19 (coronvirus):
[RANDOMIZE ORDER]

- fever, cough, and shortness of breath [correct]
- frequent urination, increased thirst, and increased hunger [false, this is for diabetes]
- heartburn, upper abdominal pain, and nausea [false, this is for early stages of stomach cancer]

NEW PAGE

State of Residence/Zip Code
In which state or territory do you live?
DROP DOWN LIST

In which county or independent city do you live?
DROP DOWN LIST (See FIPS_CountyCodes.csv for fields)
NEW PAGE

Race
What racial or ethnic group best describes you?

- White
- Black or African American
- Hispanic, Latino, or Spanish
- Asian
- American Indian or Alaska Native
- Other (please list)

NEW PAGE

Occupational Status
Which of these descriptions best describes your situation (in the last seven days)?
- ❍ In paid work (or away temporarily) (employee, self-employed, working for your family business)
- ❍ In education, (not paid for by employer) even if on vacation
- ❍ Unemployed and actively looking for a job
- ❍ Unemployed, wanting a job but not actively looking for a job
- ❍ Permanently sick or disabled
- ❍ Retired
- ❍ In military service
- ❍ Doing housework, looking after children or other persons
- ❍ Don't know
- ❍ None of these

Income
Thinking back over the last year, what was your family's annual income?
- Less than $10,000
- $10,000 - $19,999
- $20,000 - $29,999
- $30,000 - $39,999
- $40,000 - $49,999
- $50,000 - $59,999
- $60,000 - $69,999
- $70,000 - $79,999
- $80,000 - $89,999
- $90,000 - $99,999
- $100,000 - $119,999
- $120,000 - $149,999
- $150,000 or more (what was your family's annual income last year? [)
- Prefer not to say

[If previous answer == $150,000 or more] What was your family's income last year?
- $150,000 - $199,999
- $200,000 – $249,000
- $250,000 - $349,000
- $350,000 – $499,999
- $500,000 or more

NEW PAGE

Vote Choice
In the presidential election in 2016, for whom did you vote?
- Hillary Clinton
- Donald Trump
- Other (Please specify)

- Did not vote
- Was not eligible to vote

NEW PAGE

Comments
[open text box]

Thank you for participating in this survey.