Building Trust in the State with Information: Evidence from Urban Punjab*

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Abstract

Can communication designed to increase support for government policy and shift perceptions of state capacity redress deep-rooted mistrust in state institutions? This paper finds providing information on past state effectiveness, highlighting citizens' cooperation in enabling past effectiveness or appealing to religious authorities' support for government policy have limited impact on support for policy, perceptions of state capacity and trust in the state in Pakistan. This holds true on average and across important dimensions of heterogeneity after comparing treatment effects to those induced by an experimenter demand treatment. This paper highlights the limits of using information to build trust in state institutions, and the importance of measuring experimenter demand.

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1 Introduction

Citizens in developing countries often distrust state institutions and their ability to provide public services. When citizens distrust public institutions, they may fail to cooperate with the state – unless the state coerces them to cooperate (Besley, 2020a; Levi, 1988). For example, distrustful citizens might avoid paying taxes for public goods or settling disputes through the judicial system – actions that entail individual, immediate costs in exchange for public, long-term benefits. Increasing public trust becomes ever more critical in times of crises such as pandemics or wars when states must act swiftly and rely on its citizens to cooperate with potentially costly state measures. In fact, the containment of Covid-19 outbreaks depends crucially on whether citizens voluntarily comply with government directives that limit civil liberties and thus on whether citizens trust the government and the state.

In this paper, we provide evidence on the extent to which communication designed to *(i)* encourage support for government policy and *(ii)* improve perceptions of state capacity can redress deep-rooted mistrust in elected governments and state institutions, and thereby persuade citizens to engage in more cooperative behaviors. Estimating the causal link between such communication and attitudes towards the state from observational data poses challenges as governments strategically adjust their communication in response to public opinion.

To address our research questions, we leverage randomly assigned informational treatments shared with Pakistani citizens through a phone survey. We conducted our experiment during the early stages of the Covid-19 pandemic (in May and June 2020) with 5,771 respondents in Lahore and Faisalabad, the two most-populous cities in Pakistan's Punjab province. Pakistan provides an excellent setting to explore our research questions since many Pakistanis distrust the state and increasingly rely on non-state actors for basic services (Cheema et al., 2017, Acemoglu et al., 2020).

We designed the informational treatments to increase citizens' support for the government's Covid-19 policies and improve how citizens perceive the state's capacity to implement these policies. We focus on two different types of information: *(i)* information about past state success in managing crises, and *(ii)* information about non-state actors' support for state policy. Governments frequently deploy both strategies to spur citizens to support their policies or build citizens' trust in the state.

All respondents received basic information about the government's directives as part of the survey. We provided additional information to respondents assigned to a treatment group. Referring to truthful information about how the government successfully managed a large-scale dengue fever outbreak in 2011, the first treatment informs respondents that the

government selected the right policies to address a public health emergency in the past, and that it possessed the capacity to successfully implement these policies. This treatment tests whether citizens infer present state capacity from the performance of previous administrations.

The second treatment complements the first treatment. It emphasizes that, according to experts' assessments, the government successfully tackled the dengue outbreak because in addition to the government identifying and undertaking appropriate actions, citizens substantially cooperated with the government's policies.

The third treatment represents an appeal to religious authority, a common strategy in Islamic countries' politics. The treatment provides information that religious authorities support the government's policy. We informed respondents about a fatwa issued by Al-Azhar University in Egypt – considered one of the highest authorities on Sunni Islamic thought by many Muslims – permitting a ban on congregational prayers and urging citizens to hold confidence in their respective government's Covid-19 policy.[1]

Given concerns about potential experimenter demand effects in phone surveys, we include an additional treatment group that allows us to compare estimated treatment effects to explicitly induced experimenter demand effects. This comparison precludes misleading interpretations of estimated treatment effects.

We collected rich demographic data (e.g. on partisanship, belief in conspiracy theories, religiosity and economic exposure to the Covid-19 crisis) before sharing any information with the respondents. After providing respondents the respective informational treatments, we collected data on three sets of outcomes: support for the government's Covid-19 related directives and policies, perceptions of state capacity, and trust in the state. We specified all outcome measures and the variables used in the heterogeneity analysis in a pre-analysis plan.[2]

We find that, on average, the information treatments have little effect on support for government policy. Informing respondents that the state succeeded in managing a health crisis in the past does not affect their attitudes towards the government's current directives on hand-washing, social distancing, and avoiding congregational prayers. Stressing that the state succeeded because citizens cooperated with its directives makes no difference to respondents' attitudes either. Compared to the control group, respondents in the religious

[1]While most major media outlets in Pakistan featured an article on the fatwa issued by Al-Azhar University (on March 25 or 26), there are no mentions of support by Al-Azhar (and few mentions of support by other non-state actors in Saudi Arabia) in the news flow from April 15 onwards as proxied by all tweets posted by the two main TV networks in Pakistan. In addition, we do not find any mentions, explicit references or comparisons to the state's effective management of the earlier dengue crisis in the tweets data. This suggests that the information treatments were unlikely to have been common knowledge.

[2]The empirical specifications were pre-specified in the AEA RCT registry (RCT-ID: AEARCTR-0005744).

authority group are more likely to say they intend to avoid congregational prayers in the future and more likely to say they believe doing so can help minimize the spread of coronavirus. Yet, we observe only small (3.4% of the control mean) and marginally significant average treatment effects. When we compare the treatment effect estimate to the estimated effect of the experimenter demand treatment, we find that the small positive treatment effects are not significantly different from the demand effects induced by the experimenter demand condition.[3] These results stand in contrast to Banerjee et al. (2020) which reports relatively large effects on support for Covid-19 related public health directives in India.[4,5]

Similarly, we find no treatment effects on perceptions of state capacity – which we measure as the state's capacity to manage the ongoing pandemic, provide public goods, and enforce regulations. The treatments have little effect on these outcomes on average. If anything, some of the treatments may have caused a small *decline* in perceived state capacity to enforce regulations. The state positive and religious authority treatments lower perceptions by 3.6% and 5.3% of the control mean, respectively. The first effect suggests that highlighting the state's competence in the past can undermine perceptions of the state's capacity in the present. Stressing the role of citizens in increasing state capacity may mitigate this impact since we do not detect a similar effect in the citizen cooperation treatment. The second effect suggests that highlighting the state's reliance on external actors can undermine perceptions of the state's own capacity.

Next, we turn to the estimated effects on trust in the state. Since respondents may

[3]These results add to the literature on the links between Islam and economic and political performance (Kuran, 2018). A subset of this literature investigates the role of Islam as a source of political legitimacy (see Platteau (2017), Rubin (2017) and Cosgel, Miceli and Rubin (2012) for a historical perspective). Our paper contributes to this literature by providing experimental evidence on the effects of communicating religious authorities' explicit support for government policies on citizens' compliance with state directives, perceived state capacity and trust in state institutions.

[4]Importantly, there are some key differences between the treatment messages of both studies: Banerjee et al. (2020) share a video in which Abhijit Banerjee, 2019 Nobel laureate in Economics, widely respected as a public intellectual in India, encourages individuals to report symptoms to local health workers and discusses health-preserving behaviors. In contrast, the information in our experiment was provided over the phone, referencing the Pakistani state, but ultimately on behalf of researchers at CERP and LUMS. Moreover, in a context of significant distrust in state institutions, the treatment scripts sought to leverage the Pakistani state's past successes and contemporaneous support for the Pakistani government by non-state, religious actors. Still, the target population was likely to perceive the institutions referenced in our experiment as credible and respected. The mentioning of domestic research institutions is a standard procedure and based on experiences made at CERP in numerous previous field experiments. Past experience suggests that this helps to build trust and rapport with respondents. In fact, Acemoglu et al. (2020) use the exact same way to introduce themselves to respondents in their field experiment in rural Punjab. If anything, it seems reasonable to assume that CERP and especially LUMS, a leading university in the country, are more widely known in urban Punjab.

[5]In Appendix Table A1, we summarize the most related information experiments as a benchmark and to contrast their findings to ours. Our results provide an important caveat to these studies by highlighting information treatments' limitations in influencing citizens' beliefs about and behaviors towards the state.

assess the elected government differently than the bureaucracy, we elicit trust in these two components separately. We also implement a lab-in-field game to measure trust in the state as elicitations may not fully reflect "real" behavior. In this game, respondents allocate Rs. 200,000 to either a government or non-state charity fund to support Covid-19 relief efforts in Pakistan. We use the share of funds allocated to the government as a behavioral measure of trust in the state. Using either measure, we do not estimate any increase in trust in the state. If anything, we find the state positive treatment has a small but negative effect on trust.

Following our pre-analysis plan, we also investigate whether the treatments had heterogeneous effects along a large number of dimensions to ensure that these average effects do not mask large responses by certain subgroups. We observe no significant heterogeneity by education, economic exposure to the Covid-19 pandemic, religiosity or belief in conspiracy theories on the Covid-19 pandemic. However, we document significant heterogeneity by partisanship (measured by past vote choice and present media consumption). Respondents who lean more favorably towards the ruling party lend more support to government policy after receiving the information treatments. This effect is particularly strong for the citizen cooperation treatment, where pro-ruling party respondents increase support for government directives on hand-washing, social distancing, and avoiding congregational prayers by 0.1 to 0.15 standard deviations. However, here is where the experimenter demand condition becomes relevant: we find that these heterogeneity patterns are not robust to accounting for potential demand effects when we compare the treatment groups to the experiment demand group.

Our results provide a caveat to findings from Acemoglu et al.'s (2020) closely related study which shows that informing citizens of reduced delays in state courts increases expected usage of, allocations in high-stakes lab-in-the-field games to, and trust in state courts. State positive information about a specific policy may increase trust in a *specific* institution. However, our results suggest that this finding may not necessarily generalize to *other* policy areas (such as state activities related to public health) or towards *generalized* measures of trust in the state. This has important implications for our understanding of the limitations faced by governments engaging in attempts to foster trust in state institutions.

Our paper contributes to a body of contemporaneous work studying how different forms of communication shape public perceptions about Covid-19 (Allcott et al., 2020; Ajzenman et al., 2020; Banerjee et al., 2020; Barrios and Hochberg, 2020; Bursztyn et al., 2020; Fitzpatrick et al., 2021; Grossman et al., 2020; Rafkin et al., 2020). These studies focus on how people update different types of beliefs when informed about Covid-19. Most related to our work is a study by Rafkin et al. (2020) which explores the effects of highlighting government

inconsistency on trust in the US government. In contrast, within a developing country context, we document the effects of informational treatments that emphasize past government success and support from non-state actors on a wide range of beliefs and attitudes about the state, including perceptions of state capacity and trust in elected and non-elected state officials. Importantly, while applied in the context of the Covid-19 pandemic, our informational treatments represent more general communication strategies deployed by governments in a variety of scenarios.

More generally, our results speak to a growing literature on the role of citizens' trust in state institutions in shaping state capacity.[6] Aside from focusing on a high stakes context offering an opportunity to elicit direct measures of citizens' compliance, we also expand the types of informational treatments used to manipulate attitudes towards the state. The fact that we estimate null treatment effects does not render our results less important, especially since our study design was adequately powered to detect effects on self-reported behavior and post-treatment survey questions indicate that a large share of the respondents in all treatment arms retained the content of the informational treatments.[7] Our findings thus highlight limitations to efforts to shape trust in state institutions through informational campaigns.

[6]In economics, this literature builds on the literature studying the role of civic capital in influencing economic development (Guiso et al. (2016, 2011, 2008, 2004), Knack and Kneefer (1997), Putnam et al. (1994)). The importance of citizens' cooperation for the development of state capacity has been highlighted theoretically in models of states that derive authority from citizens who have the capability to rein them back (Acemoglu and Robinson, 2019). Relatedly, Dell et al. (2018) argue that, historically, the greater state capacity of the North Vietnamese state relative to that of the South Vietnamese state is related to the greater cooperation of citizens with the state which in turn could depend on citizens' trust in the state.

[7]We provide detailed power calculations for our study in section C of the Online Appendix. In addition, it is worth pointing out that the design of our information experiment follows the best practices identified by Haaland, Roth and Wohlfart (2020). The control group receives some information, which implies that treatment and control groups are equally primed allowing us to separate priming effects from information effects. We elicit a behavioral measure of attitudes towards the state using a lab game in addition to the corresponding, self-reported survey questions. Finally, the design includes an additional experimenter demand treatment group. Our work thus relates to recent theoretical considerations with respect to experimenter demand effects and measurement error in experimental data (Blattman et al. 2016). Moreover, our design complements work introducing alternative tests of social desirability effects (Miller, de Paula and Valente, 2021).

2 Experimental Design

2.1 Sample

We conducted our survey experiment with 5,771 (mostly) male residents of Lahore and Faisalabad over five weeks in May and June 2020.[8] The number of new coronavirus cases in Punjab peaked during this time, rising from approximately 1,500 new cases each day at the start of the experiment to 4,000 at the end.[9] We recruited individuals from a pool of 15,000 phone numbers, collected in an ongoing study on property tax and public goods provision (Khan et al., 2020). The phone numbers were randomly ordered and assigned to control or treatment groups. Surveyors called each phone number in the assigned order. If the respondent answered and consented, the surveyor initiated the survey. 47% of the calls were not answered and 21% of respondents (who did answer) did not consent. Neither of these rates are differential across treatment arms.[10]

Residents were selected from a variety of localities within Lahore and Faisalabad - high density, low density, poor, rich. In fact, the survey included any respondent present at the property (residential or commercial establishment, owner or tenant) at the time of the enumerator's visit and who was willing to respond to the survey questions. Men were disproportionately more likely to consent to and provide their phone numbers during the original survey as a result of which they are overrepresented.

Given the sampling frame, our sample also excludes individuals who live in informal settlements and individuals who live in private housing societies, the two extremes of the income distribution. Despite this restriction, in section D of the Online Appendix, we document substantial heterogeneity in wealth and income in the neighborhoods from which our sample is derived. For instance, in the fiscal year 2015, individuals in neighborhoods which ranked at the 10th percentile paid an average of Rs. 3,090 (approximately USD 20) in property tax, while individuals living in neighborhoods ranked at the 90th percentile paid an average of Rs. 16,997 (approximately USD 110) in property tax.

Appendix Table A2 presents additional descriptive statistics. Individuals have an average age of 37.3 years and 72% have completed secondary education. We did not measure income because of respondents' reluctance to provide this information over the phone. However, there is considerable heterogeneity in respondents' ability to smooth income while following state directives on minimizing the spread of Covid-19: 57.9% of respondents report com-

[8]Our study protocols were reviewed and approved by the Institutional Review Board of the Lahore University of Management Sciences (Protocol Number: LUMS-IRB/004202020SN). All the survey materials are available on the authors' personal webpages.

[9]The number of new cases started to decline after our experiment.

[10]Results available upon request.

pliance with state directives would result in at least a 50% loss in weekly income, while 19.1% of respondents report a loss of at most 20% of their weekly income. There is also heterogeneity in compliance with state directives: on average, the average response to past compliance with the directive to avoid congregational prayers is just 0.51 (on a scale from 0 to 1 – meaning the respondent declared not to have followed the directive at all or to have completely followed the directive, respectively).[11] At 13.4%, there is also a sizeable share of the respondents who believe in some version of a conspiracy theory centered around the allegation that the Covid-19 pandemic has non-natural origins.

Finally, our sample reflects political divisions in Punjab and Pakistan more generally. 44% of respondents report voting for the ruling Pakistan Tehreek-e-Insaaf (PTI) in recent elections, while 29.5% of respondents report voting for the opposition Pakistan Muslim League - N (PML-N). Political preferences are also reflected in media consumption: 36.5% of the former group watch ARY News, which tends to favor the ruling party, while 51.8% of the latter group watch GEO News, which tends to oppose the ruling party.

2.2 Power analysis

We provide an overview of the minimum effect sizes that our design allows to detect at both 80 and 90 percent power in Appendix Table A3. We conducted these power calculations separately for all of the six primary outcomes of interest studied in the paper. The results in Panel A indicate that, at 80 percent power, the minimum detectable effects (MDE) for the indices on respondents' compliance with state directives is between 0.11 and 0.12 of a standard deviation (both when comparing to the control or the demand group). Similarly, the MDE on our primary outcome measures of trust in the state and beliefs about state capacity ranges from 0.12 to 0.125 of a standard deviation. Finally, our design is powered to detect differences of 4.5 percentage points in the allocation game. Moreover, our design allows to detect effects in the range of 0.135 to 0.145 standard deviations at 90 percent power. These effect sizes are all below 0.15 standard deviations, a benchmark suggested by Haaland, Roth and Wohlfart (2021). The results displayed in Panels B to D show that our design still has 80 percent power to detect effects smaller than 0.15 standard deviations even under conservative assumptions on non-compliance. For more details, please refer to section

[11] More precisely, Appendix Figure E.1 shows that 92% of respondents either completely follow or mostly follow the directive to wash their hands more frequently than in the past. Appendix Figures E.2 and E.3 show that baseline compliance with the social distancing guideline and adherence to the directive to avoid praying in congregation are substantially lower. In particular, only 51% and 34% of respondents indicate to completely follow these directives, respectively. While self-reported baseline compliance with the social distancing directive is higher (at 81%) when taking into account the share of respondents who either completely follow or mostly follow the directives, it is not universal. Moreover, the level of baseline compliance with the directive to avoid praying in congregation remains relatively low at 45%.

C of the Online Appendix.

2.3 Treatments

All respondents received an overview of the Punjab government's guidelines on minimizing the spread of Covid-19. These guidelines changed over time. In the first half of the experiment, guidelines included washing hands, wearing a mask, maintaining a distance from others when outside, and praying at home instead of at a mosque. In the second half, the government removed the explicit recommendation to avoid congregational prayers, emphasizing social distancing in general instead. The overview reflected whatever guidelines were in place at the time of the survey. The script is shown in section A.1 in the Appendix.

Respondents were likely aware of at least some of these guidelines through other channels prior to the survey experiment. We collected data on all Twitter posts made by two major media groups, ARY and GEO, in the 5 weeks prior to and throughout the duration of our experiment.[12] This data shows that 31% of tweeted articles focused on the coronavirus pandemic. Of these articles, 23% mentioned at least one of the guidelines. The overview therefore reinforced already available information.

Respondents assigned to a treatment group received an *additional* message designed to increase support for these guidelines and improve assessments of the state's capacity to manage the pandemic. Each treatment is described in detail below.[13]

2.3.1 Past state success

Reminding respondents of the state's success in managing a crisis in the past may change their views about the state's ability to manage a crisis today. Respondents may not otherwise remember past successes or even if they do remember, may not link them to similar events in the present (Acemoglu et al., 2020). The treatment tests the idea that citizens infer the

[12]Both media groups jointly published 8766 tweets over this time period. The tweets always link to an article published on the media groups' main website. We used 3 independent human coders to identify mentions of government directives in a random sample of 55% of the articles linked in a tweet that included the following terms: covid, coronavirus, virus, influenza, flu.

[13]We elicited up to three questions about the content of the information treatments at the end of the survey. In Appendix Figure AF1, we document that 81, 84 and 64% of the respondents are able to answer a yes/no question about the nature of the information treatments. Moreover, conditional on answering this question, more than 80% of the respondents in all treatment arms are able to mention a key reason for the government's successful dengue response or Al-Azhar's support for the Covid-19 related state directives, respectively. This suggests there was high information retention for all information treatments. This finding is consistent with recent experimental evidence on manipulation checks by Kane and Barabas (2019). Only 44 percent of respondents assigned to the citizen cooperation treatment condition mentioned citizen cooperation as a key contributing factor to the state's successful handling of the dengue crisis in 2011. While this suggests that in fact the state effectiveness and citizen cooperation treatments could have been perceived as similar, the fact that some estimated effects differ significantly indicates otherwise.

extent of present state capacity from the performance of previous administrations. In this treatment, we remind respondents of the Punjab government's response to a severe dengue outbreak in 2011 that affected thousands of people across the province, especially Lahore. Given the city was a key constituency for the Chief Minister, a substantial part of the state bureaucracy was mobilized to field the government's response. Post hoc, this response was considered by several experts to have been instrumental in containing the outbreak (Bhatti et al., 2015). A World Bank case study, for example, argued government measures such as closing public places for fumigation and testing slowed the spread of dengue and prevented a similar epidemic from happening the following year (World Bank, 2018). These reports draw on analysis generated by the Punjab Information Technology Board, an autonomous body set by the Punjab government. We shared an overview of this report with respondents in this treatment group. The script for this and all other treatments are shown in Appendix 5.

2.3.2 Past state success due to citizen cooperation

A state's ability to implement policy often requires active citizen cooperation. This is especially true for public health policy. In this treatment arm, we provide respondents with the information that citizens cooperated in the past. In response to this information, respondents may change their perceptions of the associated public benefit of cooperation and update their beliefs about others' likelihood of cooperating today. These beliefs are particularly relevant during a pandemic when individuals' behavior affects the well-being of others. Given such externalities, there might be interesting interactions between perceptions of state effectiveness and social norms. Respondents in this group receive the same information detailed above about the Punjab government's success in handling the dengue outbreak – but with an emphasis on the importance of citizen cooperation in achieving this success. We share details from Rehman et al. (2016) showing how citizen hotlines helped the government identify dengue hotspots and target resources more effectively.

2.3.3 Religious authority

Respondents may be more likely to support government guidelines if a credible and respected non-state actor *also* supports government guidelines. This may be particularly true when these guidelines are perceived to conflict with long-held practices, such as congregational prayers. In this case, a religious authority's endorsement of the guideline to avoid congregational prayers may be enough to convince a respondent of its legitimacy. The Pakistan government, perhaps following this line of thinking, tried first to secure the support of re-

ligious authorities within the country. Failing to do so, they requested an edict from the Grand Imam of Al-Azhar University in Egypt, considered by some Muslims to be the highest authority in Sunni Islamic thought. In fact, Al-Azhar regularly issues fatwas considered relevant across the entire Sunni Muslim world.[14, 15] It is worth discussing the salience of this information in the public domain. While most major media outlets in Pakistan reported on the fatwa issued by Al-Azhar (either on March 25 or 26, 2020), the news flow from April 15 onwards (proxied via the tweets sent by ARY News and GEO News, the two major television networks) does not contain any further discussion or reference to the original fatwa, suggesting this information was not common knowledge. The edict provided a religious justification for the suspension of Friday congregational prayers in all Muslim countries and, furthermore, declared unlawful any action undermining confidence in state protective measures.[16] Respondents in this treatment group received an overview of the edict. Note that – while the edict explicitly encourages support for the government's policy – the edict is less focused on information pertaining to perceptions of state capacity.

2.4 Outcomes

At the end of the survey experiment, we asked respondents three sets of questions. First, we asked respondents their intended compliance with state guidelines. Respondents were asked how likely they are to i) wash hands frequently, (ii) social distance, and (iii) avoid congregational prayers on a 5-step Likert scale. We also asked whether each guideline is beneficial, and if the respondent believes others should comply with the guideline. These questions are measured on a 5-step Likert scale.

Second, we measured respondents' support for possible policy responses such as shutting down public spaces and suspending Friday prayers (also on a 5-step Likert scale). This allows

[14]The vast majority of Punjab's Muslim population identifies as Sunni.

[15]According to various news articles, the President of Pakistan requested this edict after leading religious authorities *within* the country refused to support the government's restrictions on congregational prayers. For more information, please refer to the following news articles:
The Dawn (2020). "Egypt's Al-Azhar issues fatwa permitting Juma prayers' suspension in Pakistan" *The Dawn*, March 26. https://www.dawn.com/news/1543801. (last accessed on Sep 1, 2020)
The Nation (2020). "President Alvi's request, Egypt's Al-Azhar issues Fatwa permitting suspension of Friday prayers", March 25. https://nation.com.pk/25-Mar-2020/president-alvi-s-request-egypt-s-al-azhar-issues-fatwa-permitting-suspension-of-friday-prayers. (last accessed on Sep 1, 2020). The fact that the President of Pakistan explicitly sought out the support of Al-Azhar University is a strong indicator that Pakistani state officials believe in the relevance of this type of messaging. More generally, similar actions by government actors around the world suggest a widely held belief that appeals to religious authorities are an effective strategy to achieve compliance and support for government policies.

[16]Bursztyn et al. (2019) study moral suasion in the context of credit card debt repayments in Indonesia. While the information treatment in their study emphasizes a religious, moral argument, our treatment highlights the endorsement of state policy by a religious authority.

us to explore whether the information treatments directly affect policy preferences.

Finally, we asked respondents their perception of state capacity and how much they trust the state. We elicited perceptions of the state's capacity to manage the Covid-19 crisis and, more generally, to provide public services and enforce regulations (also on a 5-step Likert scale). Because respondents may assess the elected government differently than the bureaucracy, we measured trust in these two components separately. As elicitations may not fully reflect "real" behavior, we also implemented a lab-in-field game to measure trust. In this game, respondents are asked to allocate Rs. 200,000 to either a government or non-state charity fund to support Covid-19 relief efforts in Pakistan.[17] Respondents were told their allocations will be averaged, and the Rs. 200,000 donated to each fund according to this average. We use share of funds allocated to the government as an additional measure of trust in the state. Finally, we also elicited respondents' demand for information on the government mandated behaviors by offering them to subscribe to a text-message service summarizing the latest government directives and official recommendations.

3 Results

3.1 Main estimating equation

We estimate the average impact of the information treatments on respondents' support for government policy, perceptions of state capacity and trust in the state using the following specification:

$$Y_i = \beta_0 + \beta_1 S_i + \beta_2 C_i + \beta_3 R_i + \beta_4 D_i + \delta_{c(i)} + \theta_{j(i)} + \omega_{t(i)} + \gamma X_i + \epsilon_i, \tag{1}$$

where Y_i is an outcome variable, S_i, C_i, R_i and D_i are dummy variables indicating whether respondent i was assigned to one of the three treatment groups (past state effectiveness, citizen cooperation, religious authority) or the experimenter demand group, $\delta_{c(i)}$ are city fixed effects, $\theta_{j(i)}$ are enumerator fixed effects, and $\omega_{t(i)}$ is a dummy variable indicating the period after the change in the wording of the public service announcement. X_i is a measure of self-reported past behavior, an additional control variable that we include only when estimating treatment effects on attitudes towards the government's Covid-19 related directives on hand-washing, social distancing and forgoing congregational prayers. Standard

[17]The non-state charity fund was established by the Edhi Foundation. EDHI is a secular and non-political foundation and is widely known as a provider of social welfare services in Pakistan. This implies that the share of funds allocated to the government measures trust in the state relative to a prominent, private provider of public services.

errors are adjusted to account for heteroscedasticity. The coefficients of interest, β_1, β_2, and β_3, measure the average difference in outcomes between treatment and control groups. Likewise, β_4 provides an estimate of the experimenter demand effect.

3.2 Comparison to experimenter demand treatment

One concern with the treatments described above is that respondents may feel obligated to change their survey responses because of experimenter demand, rather than any real change in attitudes or intended behavior.[18] We address this concern by priming respondents to react exactly in this way in a separate treatment group. After sharing the overview of government guidelines, the enumerator tells respondents in this treatment group that he or she thinks the guidelines are "a really good idea."

In section B of the Online Appendix, we show that the comparison of outcomes for individuals assigned to any of the information treatments to outcomes for individuals assigned to the control group identifies the sum of the real treatment effect associated with the particular information treatment, β_{treat}, and an eventual experimenter demand effect induced by the treatment message, δ_{treat}.

$$\mathbb{E}[Y_i|treated] - \mathbb{E}[Y_i|control] = \beta_{treat} + \delta_{treat}$$

In contrast, the comparison of outcomes for individuals assigned to the experimenter demand condition relative to outcomes for individuals assigned to the control group identifies the demand effect associated with the experimenter demand condition, δ_{exp}:

$$\mathbb{E}[Y_i|exp.demand] - \mathbb{E}[Y_i|control] = \delta_{exp}$$

By comparing the estimated treatment effects to the estimated demand effects, we are able to test whether respondents in each treatment group update their beliefs above and beyond respondents in the experimenter demand group. More formally, we conduct the following hypothesis test:

$$H_0 : \beta_{treat} + \delta_{treat} = \delta_{exp}$$
$$H_1 : \beta_{treat} + \delta_{treat} \neq \delta_{exp}$$

Importantly, in case that $\delta_{treat} = \delta_{exp}$, rejecting this hypothesis test implies that the average treatment effect of the respective informational treatment is different from zero.

[18] Haaland, Roth and Wohlfart (2020) emphasize the importance of accounting for potential demand effects.

However, the treatment conditions may have induced demand effects of a different magnitude than the experimenter demand condition. Given that the experimenter demand treatment explicitly consists of a favorably worded opinion about the government, it is plausible that the demand effect created by the experimenter demand treatment outweighs the implicit demand effects associated with the information treatments.

The above comparison then tests whether the average treatment effect of the information treatments is statistically different from the difference in demand effects associated with the information and experimenter demand treatments, respectively. In this case, and as long as the experimenter demand effect is estimated to be of limited magnitude, the hypothesis test provides a useful benchmark. In particular, failing to reject the null hypothesis implies that the treatment effects do not differ significantly from the effects induced by simply providing respondents with a positively worded opinion about the government.

We note that different subgroups of respondents might be differentially susceptible to experimenter demand effects, which may have important implications for the interpretation of any analysis of heterogeneous treatment effects, especially when comparing respondents assigned to the different treatment groups to those that were exposed to the experimenter demand treatment. We touch on this in section 3.7.2 and further investigate the issue in section B of the Online Appendix.

3.3 Impact on attitudes towards state directives

We first test the hypothesis that our information treatments increase support for the government's Covid-19-related policies and directives by estimating the average impact of the information treatments on respondents' attitudes towards different state directives to minimize the spread of coronavirus.

We focus on the following three state directives: frequent hand-washing, social distancing, and forgoing congregational prayers at the mosque. We measure attitudes by asking respondents their intended compliance with the directive, beliefs about whether others should comply with the directive, and beliefs about whether the directive is beneficial. Each outcome is measured on a 5-step Likert scale ranging from 0 to 1, with higher values indicating a more favorable attitude. Our primary outcomes are the z-score indices of the three measures, one for each recommended behavior. We use equation (1) to estimate average treatment effects, including respondents' self-reported behavior in the last week as an additional control.

Table 1 shows the information treatments have little to no impact on attitudes towards recommended behaviors on average. In Panel A, we find no statistically significant effects on compliance with frequent hand-washing (column 4). The point estimates for each treatment

group are small and precise, ruling out positive effects larger than 0.05 standard deviations. Given high compliance at baseline (the control mean for intended compliance with the hand-washing directive is 0.93 (measured on a 0 to 1 scale), possibly due to social desirability bias), this result is not surprising. In Panel B, we find similarly small and insignificant effects on social distancing, though baseline compliance is lower at 0.83. Finally, Panel C shows the religious authority treatment had small, but marginally significant effects on respondents' attitudes towards forgoing congregational prayers at the mosque. In the upper part of this panel we compare respondents in the religious authority treatment to respondents in the control group. Baseline compliance with this recommended behavior is only 0.54 on average, reflecting the state's difficulty in imposing recommendations perceived to conflict with religious practices. The comparison suggests that the religious authority treatment improves attitudes by 0.046 standard deviations (column 4). This effect is not particularly large, however, and statistically indistinguishable from that of the state positive and citizen cooperation treatments. The confidence intervals for the state positive, citizen cooperation, and religious authority treatments rule out positive effects larger than 0.08, 0.06, and 0.1 standard deviations, respectively.[19]

Moreover, the estimated effect could – in parts – be explained by experimenter demand effects. To address this concern, we test whether the estimated treatment effect for the religious authority treatment differs significantly from the estimated experimenter demand effect. The p-value on this comparison equals 0.299. Following our discussion in section 3.2, this result implies that the average treatment effect of the information treatment is estimated not to differ significantly from the small demand effect generated by the experimenter demand treatment. In case that experimenter demand effects associated with the treatment were as strong as the experimenter demand effects induced by the explicit experimenter demand condition, the results imply that the average treatment effect is not significantly different from zero.

In Appendix Table A4, we investigate whether the information treatments affected additional, related beliefs. We document that the information treatments did not change beliefs about the effectiveness of different government policies such as the shutdown of public places

[19]Appendix Figures AF3.1 to AF3.5 present the distribution of our main outcome variables separately for each treatment group. The black line represents the density distribution within the control group, while the distributions within the different treatment groups are highlighted in color. For instance, Appendix Figure AF3.2 shows the corresponding distributions for the index measuring intended compliance and attitudes towards the state's directive to avoid praying in congregation. All of the distributions are close to each other indicating that the information treatments did not result in substantial shifts in the responses. Overall, this non-parametric representation highlights that for each of the main outcomes, we observe a sizeable share of respondents who could have updated their respective beliefs and attitudes in response to the information treatments, but only a small fraction of the respondents did.

(Column 1) and the suspension of Friday prayers (Column 2). In addition, the informational treatments did not change beliefs about social sanctions faced by individuals who decide not to comply with the state directives (Column 3). All of these outcomes are also measured on a 5-step Likert scale ranging from 0 to 1, with higher values indicating a higher perceived effectiveness or probability to face social sanctions, respectively. All estimated average treatment effects are small and statistically insignificant.

3.4 Impact on perceptions of state capacity

Next, we estimate the average impact of each information treatment on perceptions of state capacity. Table 2, Panel A reports estimated effects on perceptions of state capacity to provide public goods, enforce regulations, and manage the coronavirus pandemic competently. Conceptually, we view perceptions of the capacity to enforce regulations as a measure of citizens' perceptions of legal capacity, the reach of the state in establishing the rule of law.[20] Similarly, we regard perceptions of the capacity to provide public services as a measure of perceptions of collective capacity, the extent to which states have made investments in the structures that are needed to provide public services. We thus elicit perceptions on two of the three main forms of state capacity identified by Besley and Persson (2009, 2011). Each outcome variable is measured on a 5-step Likert scale ranging from 0 to 1, with higher values indicating higher perceived state capacity. Our primary outcome is a z-score index of perceived state capacity to provide public goods and enforce regulations.[21] This capacity index measures respondents' perceptions of *general* state capacity.

All of the treatments have a negligible impact on perceptions of state capacity to manage the coronavirus epidemic (column 1). These null effects are precisely estimated: the confidence interval for each treatment rules out effects larger than 0.04 points on the Likert scale (8% of the control mean). The average impact of each treatment group on the capacity index is small, and for the most part, statistically insignificant (column 4). The one exception is the religious authority treatment, which has a marginally significant negative effect on perceptions of state capacity. The point estimate is small, however, and the confidence interval rules out a negative effect larger than 0.13 standard deviations.

[20] Relatedly, we also elicited respondents' beliefs about the likelihood that a citizen not complying with the Covid-19 related state directives would face sanctions from the state, an additional measure of perceived legal capacity. The information treatments do not alter these beliefs relative to the control group. These results are presented in Appendix Table A4, Column 4.

[21] Primary outcomes are specified in the pre-analysis plan.

3.5 Impact on attitudes towards the state

Table 2, Panel B reports estimated average treatment effects on attitudes towards the state. We measure attitudes towards the provincial government in three ways: trust in elected representatives, trust in civil servants and other government officials, and belief that the provincial government has helped the respondent in the last year. Each of these outcomes is measured on a 5-step Likert scale ranging from 0 to 1, with higher values indicating higher trust and perceived benevolence. Our first primary outcome in this panel is a z-score index of these variables. We also elicit the share of funds respondents prefer to allocate to the government's coronavirus relief fund rather than a well-known charity. This behavioral measure of trust in the state is the second primary outcome in this panel. Finally, we offer respondents' the option to subscribe to a newsletter summarizing the latest directives issued by the provincial government. We analyze respondent's demand for this type of information as our second behavioral measure of interest.[22]

The average impacts of each treatment group on the trust index are all small and statistically insignificant (column 8). The point estimates range from -0.030 standard deviations (religious authority treatment) to 0.028 standard deviations (citizen cooperation treatment), though all three estimates are statistically indistinguishable at the 5% level. The confidence intervals of these estimates rule out effects larger than 0.09 standard deviations. We also find limited impact on the behavioral measure of trust in the state (column 9).[23] The state positive treatment has a marginally insignificant negative effect on the share of funds allocated to the government, but the effect size is small (2.5 percentage points or 7% of the control mean) and the confidence interval rules out negative effects larger than 6 percentage points. Lastly, the treatments do not affect respondents' demand for information about government-issued directives. The confidence intervals rule out positive effects larger than 4.9 percentage points (12.5% of the control mean).

Overall, Table 2 shows that the information treatments neither improved perceptions of state capacity nor increased trust in the state. These results suggest that respondents' perceptions of state inefficiency and distrust towards the state are deeply engrained and difficult to manipulate, even with strong appeals to credible state-positive information and religious authority.

[22] We view this measure as conceptually interesting, yet acknowledge that it is not only a measure of trust in the state.

[23] We also document that respondents assigned to different treatment conditions are not differentially likely to refuse engaging in the fund allocation exercise. These results are presented in Appendix Table A7.

3.6 Robustness Checks

We also present results from regression models that explicitly control for baseline covariates selected using the post-double-selective LASSO procedure (Belloni et al., 2012). Appendix Tables A5 and A6 show that the results are unaffected by the inclusion of additional control variables.

3.7 Heterogeneous effects

In this section, we present different heterogeneity analyses to provide a more detailed investigation into potential mechanisms underlying the null results documented above. To further increase precision, all of the subsequent heterogeneity results include controls for baseline covariates selected using the post-double-selective LASSO procedure.

3.7.1 Heterogeneity by content of basic information script

We first investigate whether the estimated treatment effects differ before and after the change in the way in which the Government of Pakistan communicated the Covid-19 related state directives (see discussion in section 2.3). In Appendix Table A8, we show the differential average treatment effects of our information treatments in the period after the change in the basic information script read out to all participants (reflecting the change in the government's information campaign). It is important to highlight that the key change in the basic information script relates to the degree of specificity in government messaging. In particular, the basic information script no longer *explicitly* advised citizens to avoid praying in congregation, and rather focused on the directive to socially distance as much as possible in general.

It appears that this change in the government's messaging weakened the effectiveness of the appeal to a foreign religious authority. In particular, prior to the change in the basic message, the estimated treatment effect for the religious authority treatment on the "avoiding mosque" index is positive and statistically significant at the 1% level. Moreover, the effect remains significant when using respondents assigned to the experimenter demand treatment as a comparison group instead. In contrast, the total effect after the change in the information script is no longer statistically different from zero (p-value: 0.51). It is plausible that the treatment message was slightly more effective when both Al-Azhar's fatwa and the government's basic recommendations referred to the directive to avoid praying in congregation *specifically*. While we cannot rule out that there were other changes over time which affected the way in which our information treatments were perceived, one explanation for this pattern might be that once the government focused on a broader message, the

content of Al-Azhar's fatwa may have been perceived as less relevant to the situation in Pakistan. However, it is worth noting that the estimated effect prior to the change in the basic information script remains relatively small.

When we next turn to the estimated effects on perceptions of state capacity and trust in the state, we find that the small increase in compliance comes along with more negative beliefs about state capacity (shown in Appendix Table A9). This negative effect is driven by respondents holding more negative beliefs about the state's ability to enforce rules and regulations. This finding suggests that an appeal to an external, in this case religious, authority may be effective in increasing short-term compliance with state directives as long as the messages of both the state and the external actor are clearly connected. Yet, this short-term increase in compliance may come at the cost of undermining perceptions of state capacity.

3.7.2 Heterogeneity by baseline demographics

We also investigate whether the treatments had heterogeneous effects along a large number of dimensions to ensure that these average effects do not mask large responses by certain subgroups. In Figure 1, we study whether partisanship (measured using past vote choice) affect who responds to the treatment and who does not.

For each treatment condition, we plot the total effects and the corresponding 95% confidence intervals for four different comparisons. The first total effect displayed is the estimated treatment effect for the base group (in the case of Figure 1, the base group is comprised of respondents who had indicated not to have voted for PTI in the previous election; effects for respondents in the base group are always displayed in blue). The second total effect shown is the estimated total effect for the interaction group (in the case of Figure 1, the interaction group is comprised of respondents who had indicated to have voted for PTI in the previous election; effects for respondents in the interaction group are always displayed in red). The next two total effects now take into account that these total effects might (in part) be explained by experimenter demand effects. In particular, the third total effect displayed for each treatment condition displays the total effect of the treatment minus the estimated demand effect for respondents in the base group. Likewise, the fourth total effect displayed for each treatment condition shows the total effect of the treatment minus the associated estimated demand effects for respondents in the interaction group. We repeat this exercise for each of the primary outcomes pre-specified in the pre-analysis plan.

In Figure 1, for instance, the total effects of the citizen cooperation treatment on the social distancing index is close to zero for those respondents who had indicated not to have voted for PTI in the past. In contrast, the estimated total effect for respondents who

had indicated to have voted for PTI in the previous election is positive and statistically significant. However, when taking into account demand effects by subtracting the estimated demand effects for this subgroup, the total effect is substantially reduced in magnitude and no longer statistically significant.

In fact, a similar pattern holds for all of the three treatment conditions and the attitudes towards the three different state directives. The total effect for supporters of the ruling PTI party is positive and (sometimes) statistically significant. However, when one takes into account the (heterogeneous) demand effects for this subgroup, the estimated total effects are small and not statistically significant. This result is explained by strong, positive and significant heterogenous demand effects for PTI supporters for these outcomes. Appendix section B discusses this issue in further detail.

We also explored education, economic exposure to the Covid-19 pandemic, religiosity, belief in conspiracy theories related to the Covid-19 pandemic or partisanship based on present media consumption as additional dimensions.[24] Appendix Figures AF4 to AF8 show the corresponding estimated total effects. None of these other investigated dimensions provide evidence of heterogeneous treatment effects.

3.7.3 Heterogeneity by baseline news consumption

We also analyze whether there are heterogeneous treatment effects by the level of news consumption at baseline. One may be concerned that respondents were already aware of the information provided as part of the information treatments and therefore did not update their intentions and views. While we believe this is unlikely (there is no indication that major media outlets reported related information in the time period of interest based on an analysis of their twitter feeds),[25] to further address this concern, we focus on the extent to which there are heterogeneous treatment responses to the information treatments among the group of individuals which do not consume any news (neither from TV channels nor from newspapers). It is plausible that this subset of respondents are the least likely to have been exposed to the information presented as part of the information treatments via some outside source.

Appendix Table A10 shows the results. The estimated coefficients indicate that there

[24] Due to IRB restrictions, we are unable to link our sample with the original data collected in Khan et al. (2020)'s property tax study. This prevents us from using the amount of property tax paid as a proxy for income in the analysis of heterogenous treatment effects.

[25] Analog to the analysis of the main TV channels' Twitter feeds presented in section 2.3.3, we also verified that the discussion of the government's management of the ongoing covid-19 crisis did not reference experts' judgement of the government's capacity in dealing with past public health emergencies like the 2011 dengue outbreak. Hence, we believe that the information provided is very likely new information for the majority of the respondents in our sample.

are no heterogeneous treatment effects on compliance with the state directives related to hand-washing and social distancing. There appear to be small, positive effects of the past state effectiveness treatment on compliance with the state directive to avoid praying in congregation (heterogenous effects of both other information treatments are also positive, but imprecisely estimated). However, the magnitude of the estimated effect is small, and the effects are not statistically distinguishable from the demand effects induced by the experimenter demand treatment which serves again as a useful benchmark. Moreover, there are no differential effects on perceptions of state capacity or attitudes towards the state in general – with the religious authority treatment being the exception again.[26] This evidence highlights that – even for the subset of the population which arguably has the smallest probability to have previously been confronted with the information presented as part of the information treatments – the information treatments do not cause meaningful shifts in beliefs and attitudes.

3.7.4 Heterogeneity by baseline compliance

Next, we also investigate the extent to which there are heterogeneous treatment effects by the level of compliance with the different state directives at baseline. One may be concerned that respondents' compliance with the state directives was already high at baseline, leading to muted effects as a consequence of the limited scope for adjustment. To address this concern, we restrict the sample to the set of respondents who expressed low levels of baseline compliance with the state directives (indicated by responding "did not follow at all", "did not follow" or "neutral"). Relatively few respondents report not to comply with the state directive encouraging frequent hand-washing. In contrast, the number of people not complying with the social distancing and in particular with the directive to avoid praying in congregation are sizeable. Appendix Table A11 shows that, on average, there are only small and insignificant effects even for these subsamples. For instance, the treatment effects of the different information treatments on the index of respondents' compliance with the directive to avoid congregational prayers are estimated to range between 0.02 and 0.06 standard deviations. This finding underscores that the information treatments did not induce a sizeable shift in intentions and norms even for the subset of individuals who would have been most able to increase their compliance.

[26] Consistent with our earlier findings, we show that respondents who consume news from some type of mainstream media outlet and were randomly assigned to the religious authority treatment hold more negative beliefs about the state's capacity to enforce rules and regulations.

3.7.5 Heterogeneity by city

Next, we explore whether the estimated treatment effects vary significantly between Lahore and Faisalabad. As we discuss in section 2.3.1, Lahore was more affected by the dengue outbreak in 2011. Ahmad et al. (2016) show that the outbreak started in Lahore in March 2011. Even after the outbreak had spread to other districts across the province of Punjab between April and November, the dengue exposure in Lahore was almost twenty-fold compared to Faisalabad which only registered 875 cases in this time period. This evidence is suggestive that Lahore was more heavily affected by the dengue outbreak in 2011. However, some of the difference in incidence between Lahore and Faisalabad could result from salience and reporting biases. Overall, we would like to emphasize that it is not clear ex-ante how this prior experience might affect participants' response to the information provided as part of the state effectiveness and citizen cooperation treatments.[27]

In Appendix Table A12, we first study the extent to which there are heterogeneous treatment effects on the different compliance indices. To isolate the differences in prior experience between Lahore and Faisalabad, we use the most rigorous specification which includes LASSO selected controls (the baseline effects for this specification are shown in Appendix Table A5). The estimated coefficients indicate that there were no substantial differences between Lahore and Faisalabad in terms of the effects of our information treatments on compliance with the different government-issued social distancing directives. If anything, the treatment effects of the state effectiveness and citizen cooperation treatments for respondents in Faisalabad on compliance with social distancing and the directive to avoid praying in congregation are positive, and (in part) marginally significant. In contrast, the estimated differential treatment effect for respondents in Lahore that were randomly assigned to these treatment conditions is negative and approximately of the same magnitude. Moreover, the estimated pattern of differential treatment effects is not robust to comparing the effects to the estimated experimenter demand effects.

In Appendix Table A13, we next study the extent to which there are heterogeneous treatment effects on perceptions of state capacity and attitudes towards the state. The estimated coefficients in Column 4 and 8 indicate that, if anything, the treatment effects of the state effectiveness treatment for respondents in Lahore on perceptions on capacity as

[27] Lahore is the capital of provincial government and highly salient for politicians. The Punjab government had set up a crisis management centre at the chief minister's office and for more than three months, the then chief minister presided over daily early morning meetings of all heads of government departments (administrative secretaries), and all MNAs (Member National Assembly) and MPAs (Members of Provincial Assembly) for monitoring the situation and issuing directives. High salience and supervision could have resulted in higher reported numbers in Lahore. Given this extensive government response, it is plausible that respondents, especially those living in Lahore, perceived and remembered the provincial government's handling of the dengue outbreak as generally positive.

well as trust in the state are negative and statistically significant. Yet, the comparison to the estimated demand effects reveals that the differential treatment effects are not estimated to differ significantly from those induced by our simple demand message. The differential effects of the citizen cooperation treatment follow a similar pattern, but are smaller in magnitude and statistically insignificant.

The absence of treatment effects of the state effectiveness and citizen cooperation treatment on respondents' compliance with state directives in Lahore, as well as the suggestive evidence on negative effects on perceptions of state capacity and trust in the state for respondents in Lahore suggests that the information treatment actually generated backlash among respondents in Lahore. The following mechanism might be at play: it is plausible that respondents perceived and remembered the provincial government's handling of the dengue outbreak as generally positive. Relative to this positive prior belief, respondents may have perceived the current implementation of the COVID-19 policies to be less successful, especially when provided with information about experts' positive assessment of the government's past handling of another public health crisis, which could then lead respondents to negatively update their attitudes about the state's current actions.

We identified Gallup survey data collected in September-October 2011 which provides some evidence on the positive perception of the government's managing of the dengue outbreak *at the time*. In particular, 58% of respondents viewed the Chief Minister Shabaz Sharif's response to the dengue outbreak to be very good or good, and another 18% thought the response was satisfactory. However, 78% of the respondents (in the same poll) indicated that the government should do more to combat the dengue epidemic. It is therefore unclear what constituted the set of prior beliefs about the government's past performance in 2020.

4 Conclusion

This paper provides experimental evidence on the effects of informational treatments designed to increase support for Covid-19-related state directives on citizens' attitudes towards these directives, perceptions of state capacity and trust in state institutions. To study these effects, we contacted 5,771 citizens living in Lahore and Faisalabad, the two most populous urban centers in Pakistan's eastern province of Punjab. We find that, on average, the information treatments have little effect on support for government policy, perceptions of state capacity or trust in state institutions. Moreover, we rule out heterogeneous treatment effects along a series of important dimensions. These findings have important implications for our understanding of the limitations faced by governments seeking to build trust in state institutions.

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5 Figures

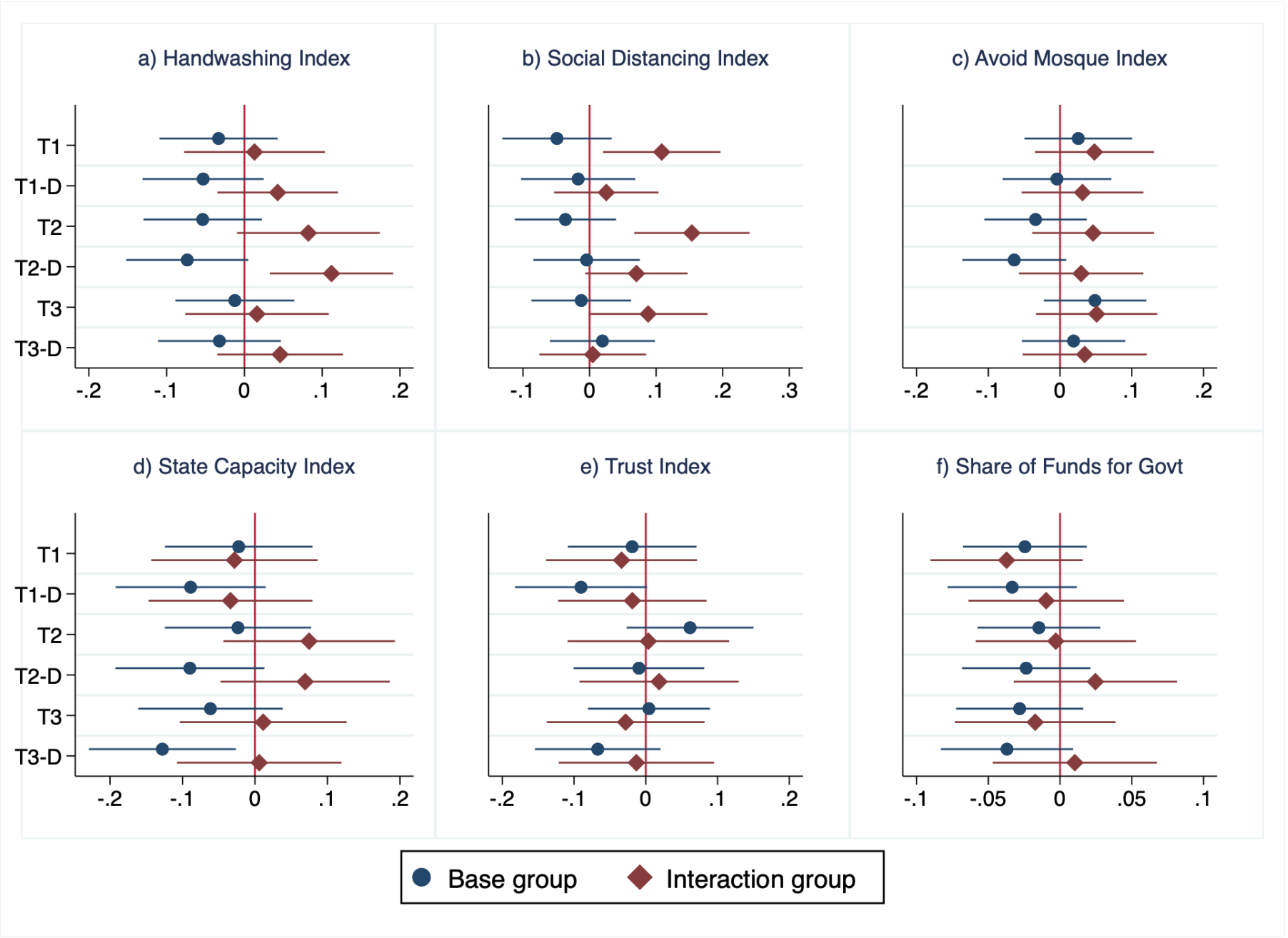


Figure 1: Treatment Effects by Vote Choice (PTI Party)

Notes: Each panel plots the total effects and the corresponding 95% confidence intervals for four different comparisons for each treatment group. T1 is the *past state success* treatment; T2 is the *citizen cooperation* treatment and T3 is the *religious authority* treatment. The first total effect displayed is the estimated treatment effect for the base group. The second total effect shown is the estimated total effect for the interaction group. The next two total effects now take into account that the preceding effects might (in part) be explained by experimenter demand effects. These are indicated by $T - D$. In particular, the third total effect displayed for each treatment condition displays the total effect of the treatment minus the estimated demand effect for respondents in the base group. Likewise, the fourth total effect displayed for each treatment condition shows the total effect of the treatment minus the associated estimated demand effects for respondents in the interaction group. In this figure, the base group consists of respondents who self-report voting for a party other than PTI in the last general elections. The interaction groups consists of respondents who self-report voting for PTI.

Table 1: **Attitudes towards State Directives**

	I intend to...	I believe others should...	I believe ... is beneficial.	Attitudes Index
	(1)	(2)	(3)	(4)
Panel A: Frequent hand-washing				
Past state success	0.005	-0.004	-0.004	**-0.013**
	(0.004)	(0.004)	(0.005)	**(0.026)**
Citizen cooperation	-0.003	-0.000	-0.003	**-0.020**
	(0.005)	(0.004)	(0.005)	**(0.027)**
Religious authority	0.001	0.001	-0.003	**-0.006**
	(0.005)	(0.004)	(0.005)	**(0.026)**
Experimenter demand	0.001	-0.002	-0.005	**-0.023**
	(0.005)	(0.004)	(0.005)	**(0.026)**
$\beta_E = \beta_{SS}$	0.383	0.738	0.845	**0.690**
$\beta_E = \beta_C$	0.346	0.626	0.747	**0.893**
$\beta_E = \beta_R$	0.978	0.464	0.770	**0.511**
N	5754	5733	5751	**5713**
Mean of control group	0.933	0.952	0.950	**0.026**
Panel B: Social distancing				
Past state success	0.008	-0.004	-0.002	**0.002**
	(0.007)	(0.006)	(0.007)	**(0.027)**
Citizen cooperation	0.006	-0.004	0.004	**0.012**
	(0.007)	(0.006)	(0.007)	**(0.026)**
Religious authority	0.003	-0.003	-0.005	**-0.004**
	(0.007)	(0.006)	(0.007)	**(0.026)**
Experimenter demand	-0.004	-0.004	-0.001	**-0.015**
	(0.007)	(0.007)	(0.007)	**(0.026)**
$\beta_E = \beta_{SS}$	0.088	0.984	0.880	**0.551**
$\beta_E = \beta_C$	0.149	0.927	0.437	**0.332**
$\beta_E = \beta_R$	0.325	0.879	0.577	**0.704**
N	5677	5702	5744	**5594**
Mean of control group	0.825	0.881	0.880	**0.012**
Panel C: Avoiding mosques				
Past state success	0.014	0.002	0.019*	**0.027**
	(0.011)	(0.011)	(0.012)	**(0.025)**
Citizen cooperation	-0.005	0.010	0.009	**0.010**
	(0.011)	(0.012)	(0.012)	**(0.025)**
Religious authority	0.019*	0.016	0.020*	**0.046***
	(0.011)	(0.011)	(0.012)	**(0.025)**
Experimenter demand	0.008	0.008	0.008	**0.019**
	(0.011)	(0.012)	(0.012)	**(0.025)**
$\beta_E = \beta_{SS}$	0.608	0.592	0.335	**0.774**
$\beta_E = \beta_C$	0.230	0.869	0.965	**0.719**
$\beta_E = \beta_R$	0.338	0.488	0.324	**0.299**
N	5563	5490	5596	**5310**
Mean of control group	0.544	0.596	0.581	**0.004**

Notes: OLS regressions of intended behavior, norms, and benefits on treatment. The unit of observation is the individual. The specification estimates the effect of each treatment group and the experimenter demand group. *I intend to...* measures how likely the respondent is to follow a behavior (wash hands more frequently, social distance, or avoid praying at mosque) on a 5-point Likert scale with higher values indicating a higher likelihood. *I believe others should...* measures how much the respondent believes others should follow the behavior on a 5-point Likert scale. *I believe... is beneficial.* measures how beneficial the respondent believes the behavior to be on a 5-point Likert scale. The *attitudes index* is the average of the z-scores of these three outcome variables. The index is set to missing if any of the included outcome variables is missing. The **highlighted columns** are the treatment effect on the attitudes index. All specifications include stratum fixed effects, enumerator fixed effects, *post* dummy, and past behavior (measured at baseline). The bottom panel presents p-values from different hypothesis tests comparing each estimated treatment coefficient to the estimated experimenter demand coefficient. Robust standard errors are in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table 2: **Attitudes towards the State**

	Panel A: State Capacity				**Panel B: General Attitudes**					
	Manage pandemic	Provide public goods	Enforce regulations	Capacity Index	Trust in Elected Officials	Trust in State	Perceived Benevolence	Trust Index	Govt Share	Demand for Govt Info
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Past state success	0.006	-0.007	-0.022	**-0.039**	-0.014	-0.027**	0.011	**-0.021**	**-0.025**	0.014
	(0.013)	(0.014)	(0.014)	**(0.036)**	(0.013)	(0.013)	(0.011)	**(0.032)**	**(0.016)**	(0.018)
Citizen cooperation	0.008	0.004	0.003	**0.011**	0.017	-0.003	0.006	**0.028**	**-0.011**	0.008
	(0.014)	(0.014)	(0.014)	**(0.036)**	(0.014)	(0.013)	(0.011)	**(0.033)**	**(0.016)**	(0.018)
Religious authority	-0.003	-0.011	-0.032**	**-0.059***	-0.009	-0.013	-0.009	**-0.030**	**-0.019**	0.007
	(0.014)	(0.014)	(0.014)	**(0.035)**	(0.013)	(0.013)	(0.011)	**(0.032)**	**(0.016)**	(0.018)
Experimenter demand	0.008	-0.009	0.003	**-0.005**	0.014	-0.008	0.003	**0.016**	**-0.012**	0.016
	(0.014)	(0.014)	(0.014)	**(0.036)**	(0.014)	(0.013)	(0.011)	**(0.032)**	**(0.016)**	(0.019)
$\beta_E = \beta_{SS}$	0.869	0.887	0.076	**0.340**	0.040	0.126	0.483	**0.243**	**0.420**	0.932
$\beta_E = \beta_C$	0.986	0.359	0.996	**0.646**	0.811	0.702	0.769	**0.720**	**0.916**	0.657
$\beta_E = \beta_R$	0.398	0.908	0.015	**0.127**	0.092	0.686	0.282	**0.149**	**0.675**	0.634
N	5472	5582	5536	**5450**	5306	5287	5674	**5084**	**4648**	5771
Mean of control group	0.495	0.459	0.603	**0.010**	0.351	0.413	0.229	**0.005**	**0.345**	0.393

Notes: OLS regressions of state capacity on treatment. The unit of observation is the individual. In Panel A, beliefs on state capacity to *provide public goods*, *enforce regulations*, and *manage the coronavirus pandemic* are measured on a 5-point Likert scale with higher values indicating higher perceived state capacity. The *capacity index* is the average of the z-scores of *provide public goods* and *enforce regulations*. The index is set to missing if any of the included outcome variables is missing. The **highlighted column** is the treatment effect on the capacity index. In Panel B, *trust in elected officials*, *trust in the state*, and *perceived state benevolence* are measured on a 5-step Likert scale with higher values indicating higher trust. The *trust index* is the average of the z-scores of these three outcome variables. The index is set to missing if any of the included outcome variables is missing. *Govt share* is the proportion of funds the respondent allocated to government coronavirus relief efforts in a lab-in-the-field game. *Demand for information from the government* is a dummy variable indicating whether the respondent wants to receive a text message summarizing the latest official recommendations and directives issued by the Government of Pakistan. The **highlighted columns** are the treatment effect on the trust index and the share of funds allocated to government coronavirus relief efforts. All specifications include stratum fixed effects, enumerator fixed effects, and the *post* dummy. The bottom panel presents p-values from different hypothesis tests comparing each estimated treatment coefficient to the estimated experimenter demand coefficient. Robust standard errors are in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Appendix (For Online Publication Only)

A Treatment Messages

In this section, we provide the exact content of all information treatments shared with respondents throughout the experiment.

A.1 Basic information

Prior to the change in guidelines:

> *I would like to take a break from the survey now to convey this public service announcement from the provincial Government of Punjab. The Government of Punjab recommends that you follow the following directives:*
>
> 1. *Wash your hands frequently, and wear a mask when outside if available.*
> 2. *Avoid shaking hands, and maintain distance from others when outside or at work.*
> 3. *Offer prayers (including taraveh and itekaf during Ramadan) at home instead of at the mosque*

After the change in guidelines:

> *I would like to take a break from the survey now to convey this public service announcement from the provincial Government of Punjab. The Government of Punjab recommends that you follow the following directives:*
>
> 1. *Stay at home as much as possible. If you HAVE to go out, maintain distance from others avoid shaking hands.*
> 2. *You must wear a mask when outside.*
> 3. *Wash hands frequently.*

A.2 Past state effectiveness

> *Experts at PITB (Punjab Information Technology Board) have shown that the provincial government's handling of a past public health crisis was successful. They analyzed the provincial government's response to the dengue outbreak in*

2011. Punjab saw a massive outbreak of dengue fever in 2011 with 21,000 reported cases and 352 deaths. The government then introduced aggressive measures to control the outbreak which included:

- *Closing down educational institutions to fumigate premises*
- *Identifying and fumigating potential breeding sites*
- *Introducing aggressive testing*

According to the experts, as a result of effective government measures, the total number of reported cases in Punjab declined to 255 in 2012.

A.3 Past state effectiveness due to citizen cooperation

{*Repeat past state effectiveness message.*}

While these measures are certainly important, experts also point out that citizen cooperation is necessary to contain these kinds of outbreaks.

An instance of such cooperation during the dengue outbreak is how citizens shared information with state institutions via the government hotline about where people showed symptoms of the disease. In the first 3 years of this operation, the system recorded more than 300,000 calls. The experts estimate that this high level of cooperation significantly slowed down the outbreak as it allowed the government to better identify disease hotspots and to then target resources more efficiently.

According to the experts, as a result of effective government measures and citizens' cooperation, the total number of reported cases in Punjab declined to 255 in 2012.

A.4 Religious authority

Religious authorities across the world are also recommending these measures to be followed. In fact, Supreme Ulema Council of Al Azhar University issued a fatwa at the beginning of the outbreak which disallowed holding Friday prayers in mosques.

They state public gatherings, including congregational prayers, can spread the coronavirus. The fatwa further states "it is unlawful to make people lose confidence in the measures taken by the governments to protect their homelands and citizens."

A.5 Experimenter demand

This is what the provincial government is recommending. I have been thinking about this lately and I think this is a really good idea.

B Experimenter Demand Treatment

In this section, we provide additional discussion of the interpretation of the experimenter demand treatment. We begin this section with a brief conceptual discussion of the underlying data generating process for an outcome of interest Y_i. In particular, in the control group, this process can be described as follows:

$$Y_i = \gamma_0 + \delta_{c(i)} + \theta_{j(i)} + \omega_{t(i)} + \gamma X_i + \epsilon_i, \tag{2}$$

where $\delta_{c(i)}$ are city fixed effects, $\theta_{j(i)}$ are enumerator fixed effects, and $\omega_{t(i)}$ is a dummy variable indicating the period after the change in the wording of the public service announcement. X_i is a measure of self-reported, past behavior, an additional control variable that we include only when estimating treatment effects on attitudes towards the government's Covid-19 related directives on hand-washing, social distancing and forgoing congregational prayers.

Similarly, the data generating process for the same outcome Y_i in the experimenter demand group can be described in the following way:

$$Y_i = \gamma_0 + \delta_{exp} + \delta_{c(i)} + \theta_{j(i)} + \omega_{t(i)} + \gamma X_i + \epsilon_i \tag{3}$$

where the additional component δ_{exp} represents the experimenter demand effect associated with the treatment message shared with respondents assigned to the experimenter demand group.

Finally, the data generating process for the same outcome Y_i in any of our information treatment groups can be described in the following way:

$$Y_i = \gamma_0 + \beta_{treat} + \delta_{treat} + \delta_{c(i)} + \theta_{j(i)} + \omega_{t(i)} + \gamma X_i + \epsilon_i \tag{4}$$

where β_{treat} is the treatment effect of the information treatment and δ_{treat} is the experimenter demand effect associated with the treatment message read out to respondents assigned to the particular information treatment.

As shown in equation 5 below, the comparison of outcomes for individuals assigned to any of the information treatments to outcomes for individuals assigned to the control group

identifies the sum of the real treatment effect associated with the particular information treatment, β_{treat}, and an eventual experimenter demand effect induced by the treatment message, δ_{treat}.

$$\mathbb{E}[Y_i|treated] - \mathbb{E}[Y_i|control] = \beta_{treat} + \delta_{treat} \tag{5}$$

In contrast, the comparison of outcomes for individuals assigned to the experimenter demand condition relative to outcomes for individuals assigned to the control group identifies the demand effect associated with the experimenter demand condition, δ_{exp}:

$$\mathbb{E}[Y_i|exp.demand] - \mathbb{E}[Y_i|control] = \delta_{exp}$$

By comparing the estimated treatment effects to the estimated demand effects, we are able to test whether respondents in each treatment group update their beliefs above and beyond respondents in the experimenter demand group. More formally, we conduct the following hypothesis test:

$$H_0 : \beta_{treat} + \delta_{treat} = \delta_{exp}$$
$$H_1 : \beta_{treat} + \delta_{treat} \neq \delta_{exp}$$

Importantly, in case that $\delta_{treat} = \delta_{exp}$, rejecting this hypothesis test implies that the average treatment effect of the respective informational treatment is different from zero. To be more precise, the comparison of outcomes for individuals assigned to an information treatment and those individuals that were assigned to the experimenter demand condition identifies the average treatment effect of the information treatment as long as demand effects generated by the information treatments, δ_{treat}, are identical to the demand effect generated by the experimenter demand treatment,δ_{exp}.

However, one may argue that the assumption of equal demand effects across information treatment arms and the explicit experimenter demand condition appears strong. In particular, given that the experiment demand treatment explicitly consists of a favorably worded opinion about the government, it is plausible that the demand effect created by the experimenter demand treatment outweighs the implicit demand effects associated with the information treatments.

In this scenario, the above comparison tests whether the average treatment effect of the information treatments is statistically different from the difference in demand effects associated with the information and experimenter demand treatments, respectively. In this case,

and as long as the experimenter demand effect is estimated to be of limited magnitude, the hypothesis test provides a useful benchmark. In particular, failing to reject the null hypothesis implies that the treatment effects do not differ significantly from the effects induced by simply providing respondents with a positively worded opinion about the government.

The comparison of outcomes for individuals assigned to the experimenter demand group to those for individuals that were assigned to the control group allows us to document the magnitude of this benchmark, δ_{exp}. In Appendix Figures AF9 and AF10, we visualize the magnitude and direction of these average demand effects for our main outcome indices and the individual components entering the pre-specified indices. In Appendix Figure AF9, we can see that – in terms of point estimates – the average demand effects for handwashing and social-distancing related outcomes are negative, while we document positive demand effects for the outcomes associated with the directive to avoid praying in congregation. It is important to emphasize that all estimated demand effects are small and statistically insignificant. In fact, the largest estimated demand effects are not greater than 0.05 standard deviations (in absolute values). In conjunction with the fact that the estimated treatment effects are not statistically different from the estimated experimenter demand effect (as evidenced in Table 1), these results underscore the estimated treatment effects are small in magnitude themselves.

Similarly, in Appendix Figure AF10 we document that the estimated demand effects on perceptions of state capacity and trust in the state are small, statistically insignificant and oscillate around zero. Hence, the same logic as above applies.

Explicitly documenting these demand effects helps to interpret the p-values on the hypothesis tests displayed in all of our main tables. These p-values are derived from the above hypothesis tests which compare the estimated treatment effects to the estimated demand effects. For instance, in Panel C of Table 1, the effect of the religious authority treatment on compliance with the state's directive to avoid praying at the mosque is positive and marginally significant when compared to the control group. The p-value of the comparison of the estimated treatment effect relative to the estimated demand effect is 0.299. In other words, the treatment effect estimate is not significantly different from the estimated demand effect. This is explained by the direction and magnitude of the demand effects induced by the experimenter demand treatment. As we can see from Appendix Figure AF9, the induced experimenter demand effect is also positive (albeit non-significant). Under the assumption that $\delta_{treat} = \delta_{exp}$, this finding implies that the treatment effect associated with the religious authority treatment is not distinguishable from zero.

The fact that we are able to explicitly estimate experimenter demand effects allows us to also investigate whether certain subgroups within the sample are more susceptible to

experimenter demand effects. In particular, we can investigate heterogeneity of the experimenter demand effect across a large set of baseline characteristics. We show the results of this analysis in Appendix Figures AF11 to AF15. To be precise, we estimate the following specification:

$$Y_i = \beta_0 + \beta_1 D_i + \beta_2 Baseline_Var + \beta_3 D_i x Baseline_Var + \delta_{c(i)} + \theta_{j(i)} + \omega_{t(i)} + \epsilon_i, \quad (6)$$

where D_i equals 1 if a respondent was randomly assigned to the experimenter demand group and 0 if a respondent was assigned to the control group. $Baseline_Var$ represents a series of predetermined, baseline characteristics of interest. Each figure shows both β_1 and β_3 for the pre-specified primary outcomes of interest. It is important to note that our design is not sufficiently powered for the small magnitudes of demand effects that we estimate.

Appendix Figure AF11 shows the results when interacting the demand group indicator with a dummy for female respondents. With the exception of one interaction term, all estimated coefficients are negative, but statistically insignificant. While imprecisely estimated, these results would imply that female respondents might be slightly less susceptible to experimenter demand treatments. Appendix Figure AF12 focuses on the interaction with an indicator for respondents with low levels of education. While none the estimated coefficients on the interaction term are statistically significant, it is interesting to observe that most of the estimated interaction effects are negative. While speculative, one potential interpretation of these results would be that respondents with lower levels of education might react more skeptical to such simple demand treatments.

Appendix Figure AF13 describes the results when interacting the demand treatment dummy with a variable indicating whether respondents voted for PTI (the ruling party) in the past. We document strong, positive and significant heterogenous demand effects for PTI supporters for the social distancing index. Please note how these results relate to the findings documented in Figure 1. The estimated total effects in Figure 1 suggest that all three information treatments increased PTI supporters' compliance with the directive to engage in social distancing. The strong, positive and significant heterogeneous demand effects for PTI supporters explain why the estimated total effect taking into account demand effects is no longer statistically significant.

Appendix Figures AF14 to AF15 present this evidence for additional baseline variables such as an indicator for respondents who voted in the past election or an indicator for respondents who know someone that was infected with Covid-19. Similar to the results that we discussed previously, the figures indicate that there may be muted, heterogeneous demand

effects for these subgroups of the population. While we regard these results as interesting, we caution that they should be interpreted carefully. We believe that these issues merit further attention (with appropriate sample sizes).

C Power Calculations

In this section, we provide additional discussion of the statistical power of our experimental design for a variety of assumptions.

We aimed to include 1,150 observations in each treatment and control group. Due to logistical considerations for phone surveys (respondents were contacted up to 3 times with some time gap between attempts), we reached this target in each group except for the experimenter demand group – with 1,110 observations – and the citizen cooperation group – with 1,144 observations. To be precise, the number of individuals in each treatment group ranges from 1110 to 1179. In Appendix Table A3, we denote the minimum detectable effect size implied by the individual comparisons for each of our primary outcome variables and for power of both 80 and 90 percent, respectively.

The results in Panel A indicate that the minimum detectable effects (MDE) for our primary outcomes of interest at 80 percent power are as follows: the MDE for the indices on respondents' compliance with state directives is between 0.11 and 0.12 of a standard deviation (both when comparing to the control or the demand group). Similarly, the MDE on our primary outcome measures of trust in the state and beliefs about state capacity ranges from 0.12 to 0.125 of a standard deviation. Finally, our design is powered to detect differences of 4.5 percentage points in the allocation game. In fact, our design allows to detect effects in the range of 0.135 to 0.145 standard deviations at 90 percent power. These effect sizes are thus all below 0.15 standard deviations, a benchmark suggested by Haaland, Roth and Wohlfart (2021).[28]

To be conservative, we next take into account the possibility of imperfect compliance. In particular, the ex-post knowledge checks implemented after the treatment and outcome measurement indicate that approximately 80% of the respondents in any of the treatment groups were able to correctly answer a question about the content of the information treatment. We use these knowledge measures as proxies for respondents' non-compliance by

[28]Haaland, Roth and Wohlfart (2021) provide a detailed set of guidelines on the design of information provision experiments, including a section on "typical effect sizes and recommended sample sizes." They conclude that effect-sizes on self-reported attitudes and behavioral measures are typically smaller than belief updating. After reviewing a large number of studies, they state that typical effect sizes are around 0.15 standard deviations. Accordingly, they recommend sample sizes of at least 700 respondents per treatment arm which yields an MDE of exactly 0.15 standard deviations.

thinking of those who do not recall the information treatment as non-compliers. We then perform the power calculations again under the assumption of 20% non-compliance. For robustness, we then also provide the implied minimum detectable effect sizes with 10 and 30 % non-compliance. These results are shown in Panels B to D of Appendix Table A3.

Panel D indicates that even when assuming 30% non-compliance, our design still has 80 percent power to detect effects smaller than 0.15 standard deviations. In fact, as we can see from the MDEs presented in Panels B and C, if non-compliance rates range from 10 to 20 percent, our design offers 90 percent statistical power to detect effects just below and just above the 0.15 standard deviations level, respectively. Overall, these MDEs show that the experiment was well powered to detect small, but meaningful effects, even under demanding assumptions on non-compliance.

D More Details on Sample Characteristics

In this section of the Online Appendix, we provide additional discussion of the characteristics of the sample used in our study. As noted in the main body of the paper, our sample does not include a representative share of the female population in urban Punjab. This is due to the fact that our sampling relied on the larger sampling frame developed by Khan et al. (2020). Khan et al. (2020) collected phone numbers via a property survey. The fact that men were disproportionately more likely to consent to the survey and provide their phone numbers explains why they are over-represented.

While the sampling frame builds on a property survey, it is important to note that our sample does not only include affluent property owners. In fact, the survey included any respondent present at the property (residential or commercial establishment) at the time of the enumerator's visit and was willing to respond to the survey questions. Importantly, this implies that the sample includes both owners and tenants. To further establish the broad representativeness of our sample, we analyze additional data from CERP's Economic Vulnerability Assessment. The respondents surveyed for the Economic Vulnerability Assessment were also drawn from the sample frame developed by Khan et al. (2020). In other words, this data provides us with information on the socio-economic characteristics of individuals who live next to the respondents who participated in our experiment. The first round of this survey was also fielded during the early stage of the Covid-19 outbreak in Pakistan (to be more precise, at the exact same time as our study). Moreover, CERP fielded two additional rounds of the Economic Vulnerability Assessment in September 2020 and in January 2021. Below, we present data across this time period to describe the characteristics of individuals living in the neighborhoods from which our sample is recruited.

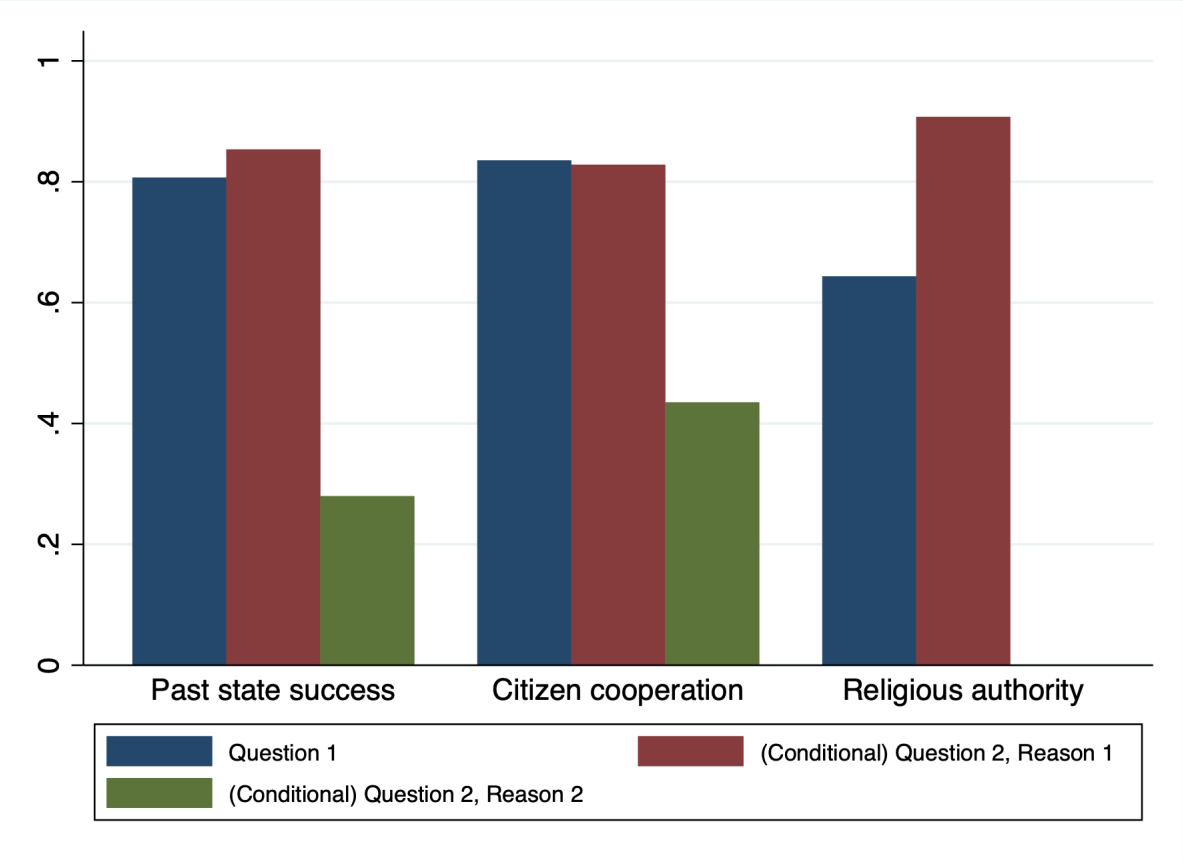
The data shows that between 30 and 45% of respondents earned less than Rs. 17,500 (approximately USD 115; the median monthly household income is approximately USD 340) in the past month and between 20 and 35% were unemployed. In June 2020, about 45% of respondents had missed at least one payment. Moreover, across the three survey rounds, between 20 and 30% of respondents had borrowed money in the past 2 months and 9 to 15% of households had to compromise on food. These statistics underscore that there is significant variation in income and wealth in our sample.

We also turn to neighborhood-level tax statistics (provided by Khan et al. 2020). Our sample covers individuals who live across 250 different neighborhoods within Lahore and Faisalabad. In the fiscal year 2015 (the most recent version of the data available to researchers at this stage), individuals in neighborhoods which ranked at the 10th percentile paid an average of Rs. 3,090 (approximately USD 20) in property tax, while individuals living in neighborhoods ranked at the 90th percentile paid an average of Rs. 16,997 (approximately USD 110) in property tax. Importantly, these figures are very similar when restricting the sample to neighborhoods which are predominantly ($> 80\%$) residential. This data highlights the large extent of variation in wealth in our sample.

Moreover, please note that the CERP Economic Vulnerability Assessment was also fielded in parts of rural Punjab. The evidence shows that the pandemic affected rural and urban places slightly differently (urban areas are more affected in terms of some indicators such as unemployment, rural areas are more impacted in terms of other indicators such as the need to borrow money). If anything, we believe the evidence shows that urban areas were somewhat more affected by the pandemic (and the ensuing government restrictions) economically and in terms of Covid-19 prevalence. We highlight that our study is set in urban Punjab and therefore provides evidence on the effectiveness of the information treatments in an urban, developing country environment. We believe that the focus on an urban setting is particularly appropriate given the nature of the the public health crisis and the type of state directives examined in our paper. In particular, public health concerns about Covid-19 are more pressing in densely populated, urban areas.

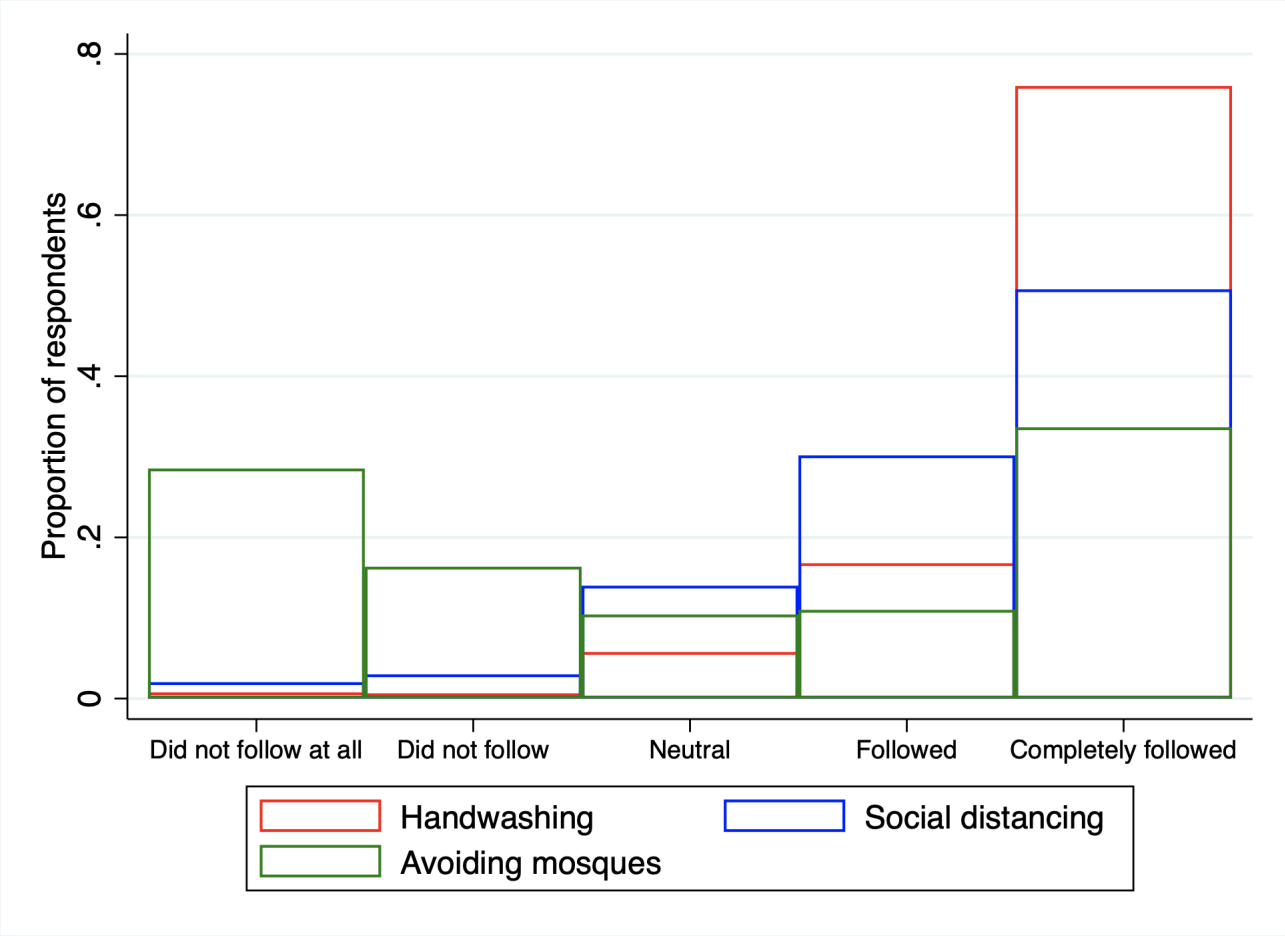
E Appendix Figures

Figure AF1: Knowledge of treatments



Notes: This figure shows average retention of information across treatment groups. We asked respondents in each treatment group two questions at the end of the survey starting from June 5, 2020 onwards. In the **past state success** and **citizen cooperation** groups, we asked *Question 1: Was the provincial government's handling of the dengue outbreak successful?* and *Question 2: Why was it successful?*. Question 2 is asked only if the respondent answers Question 1 correctly. The enumerator did not provide answer options for Question 2. The correct answer for Question 2 depends on the treatment: In the past state success group, any response mentioning the government's introduction of measures to control the outbreak is marked correct. In the citizen cooperation group, any response mentioned BOTH the government's introduction of measures to control the outbreak AND citizen cooperation with the government is marked correct. In the **religious authority** group, we asked respondents *Question 1: Does the Supreme Council of Al Azhar support the government's recommendation to offer Friday and congregational prayers at home instead of the mosque?* and *Question 2: Why?*. Question 2 is asked only if the respondent answers Question 1 correctly. The enumerator did not provide answer options for Question 2.

Figure AF2: Baseline Compliance with State Directives



Notes: This figure shows baseline compliance with the three different state directives (pooled across all respondents). Compliance is elicited on a 5-point Likert scale ranging from "Did not follow at all" to "Completely followed".

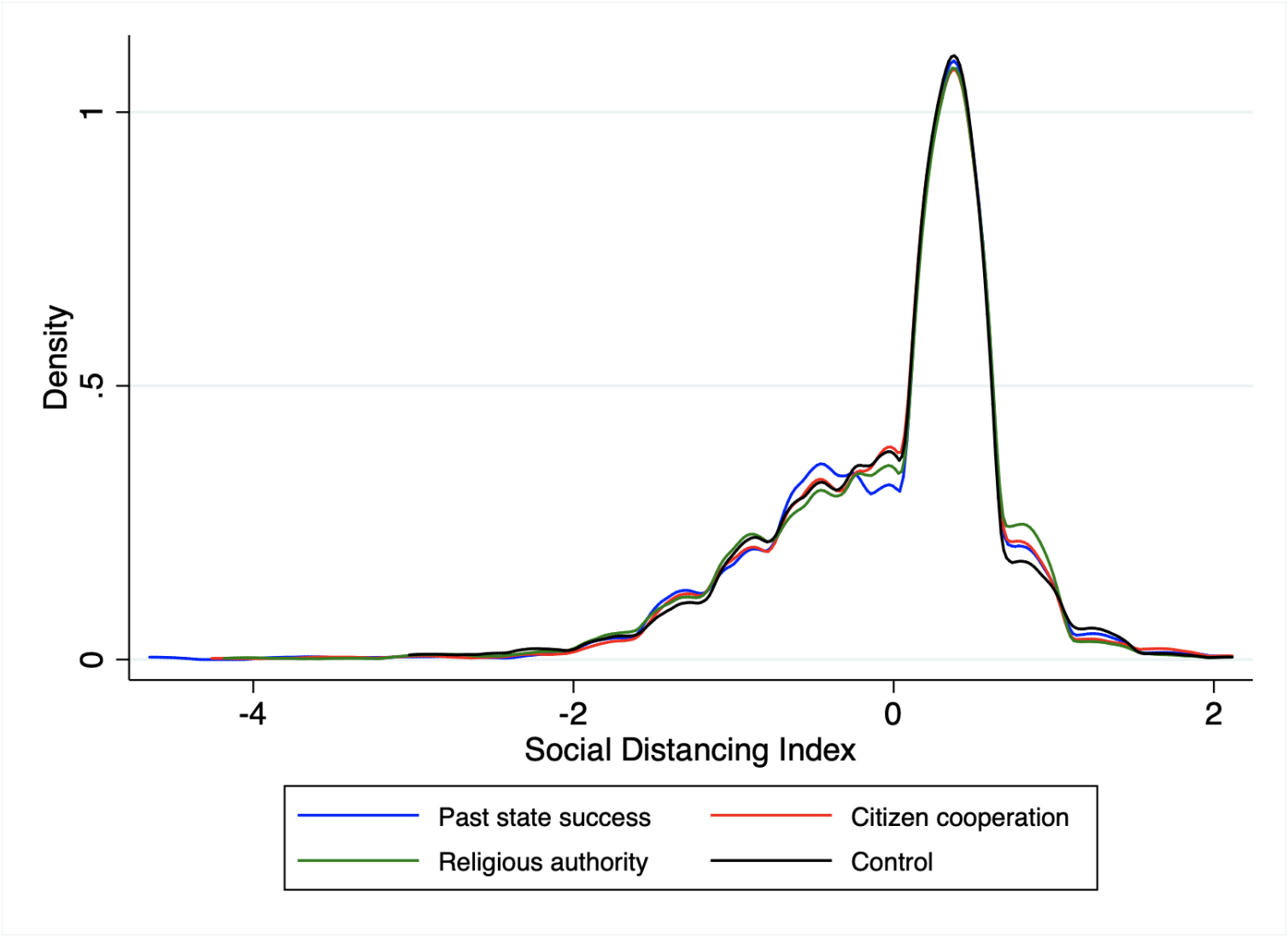


Figure AF3.1: Distribution of Social Distancing Index by Treatment Group

Notes: This figure presents the distribution of the Social Distancing Index separately for each treatment group. The black line represents the density distribution within the control group, while the distributions within the different treatment groups are highlighted in color.

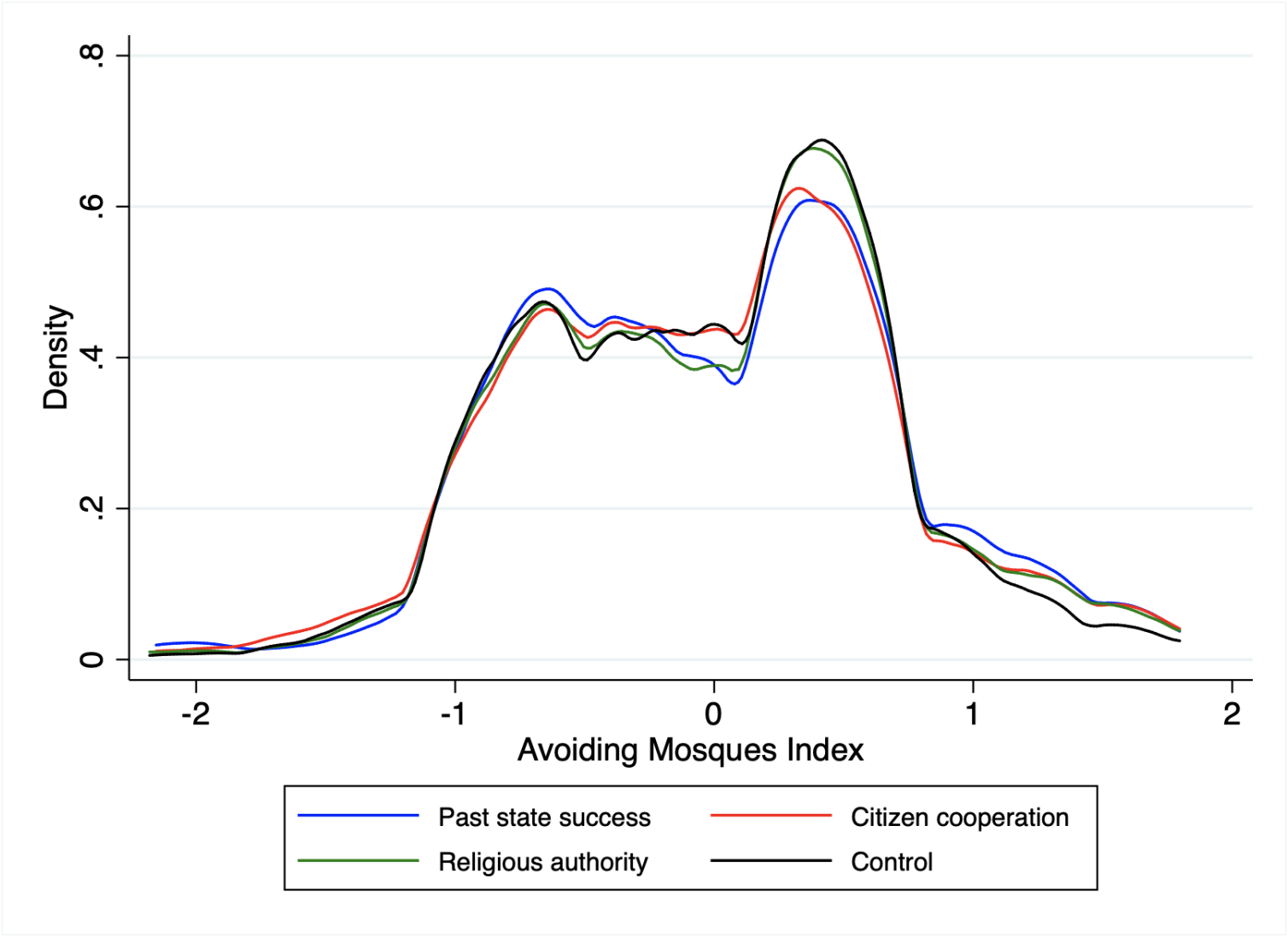


Figure AF3.2: Distribution of Avoiding Mosques Index by Treatment Group

Notes: This figure presents the distribution of the Avoid Mosques Index separately for each treatment group. The black line represents the density distribution within the control group, while the distributions within the different treatment groups are highlighted in color.

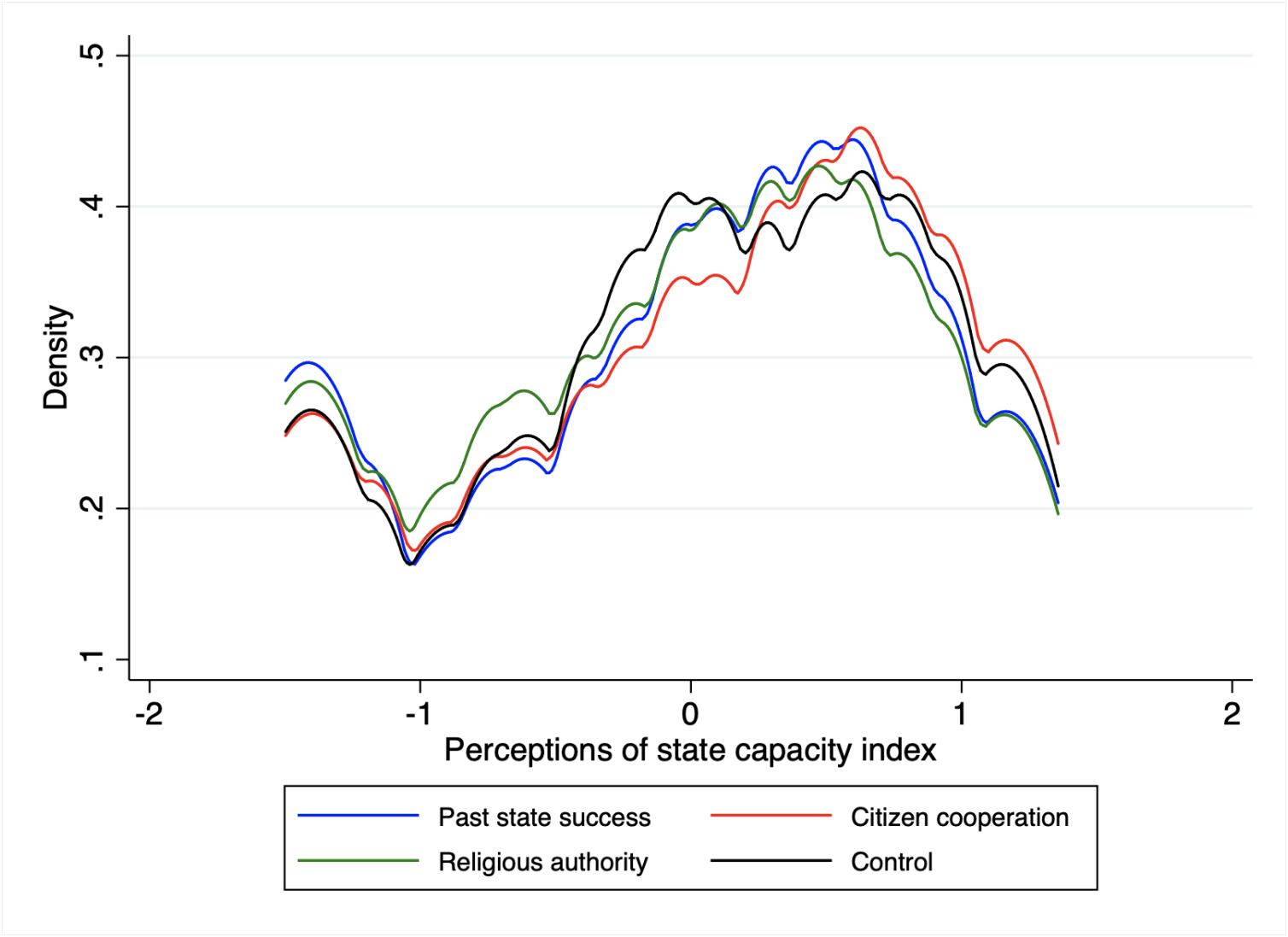


Figure AF3.3: Distribution of Perceptions of State Capacity Index by Treatment Group

Notes: This figure presents the distribution of the Perceptoins of State Capacity Index separately for each treatment group. The black line represents the density distribution within the control group, while the distributions within the different treatment groups are highlighted in color.

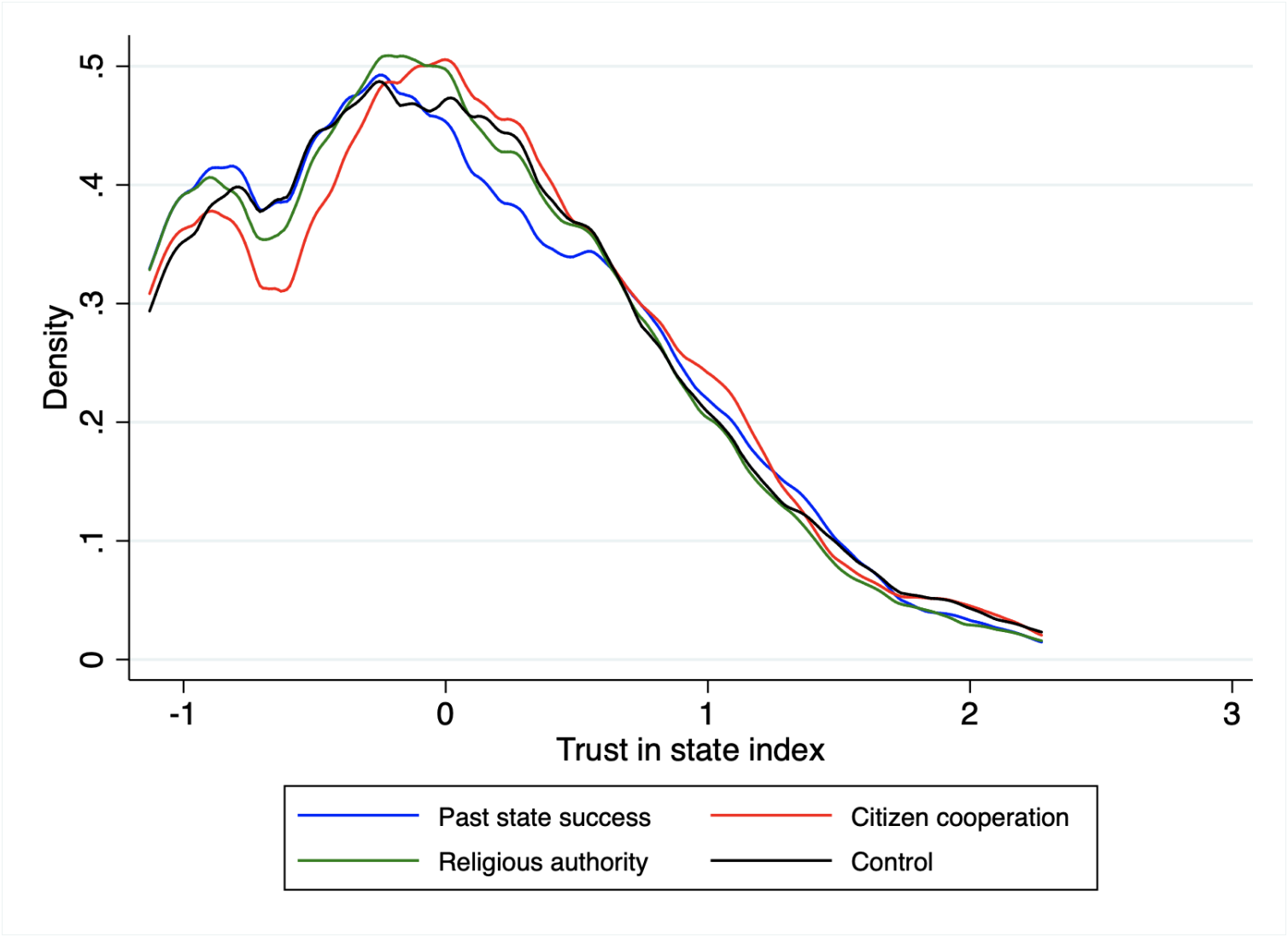


Figure AF3.4: Distribution of Trust Index by Treatment Group

Notes: This figure presents the distribution of the Trust Index separately for each treatment group. The black line represents the density distribution within the control group, while the distributions within the different treatment groups are highlighted in color.

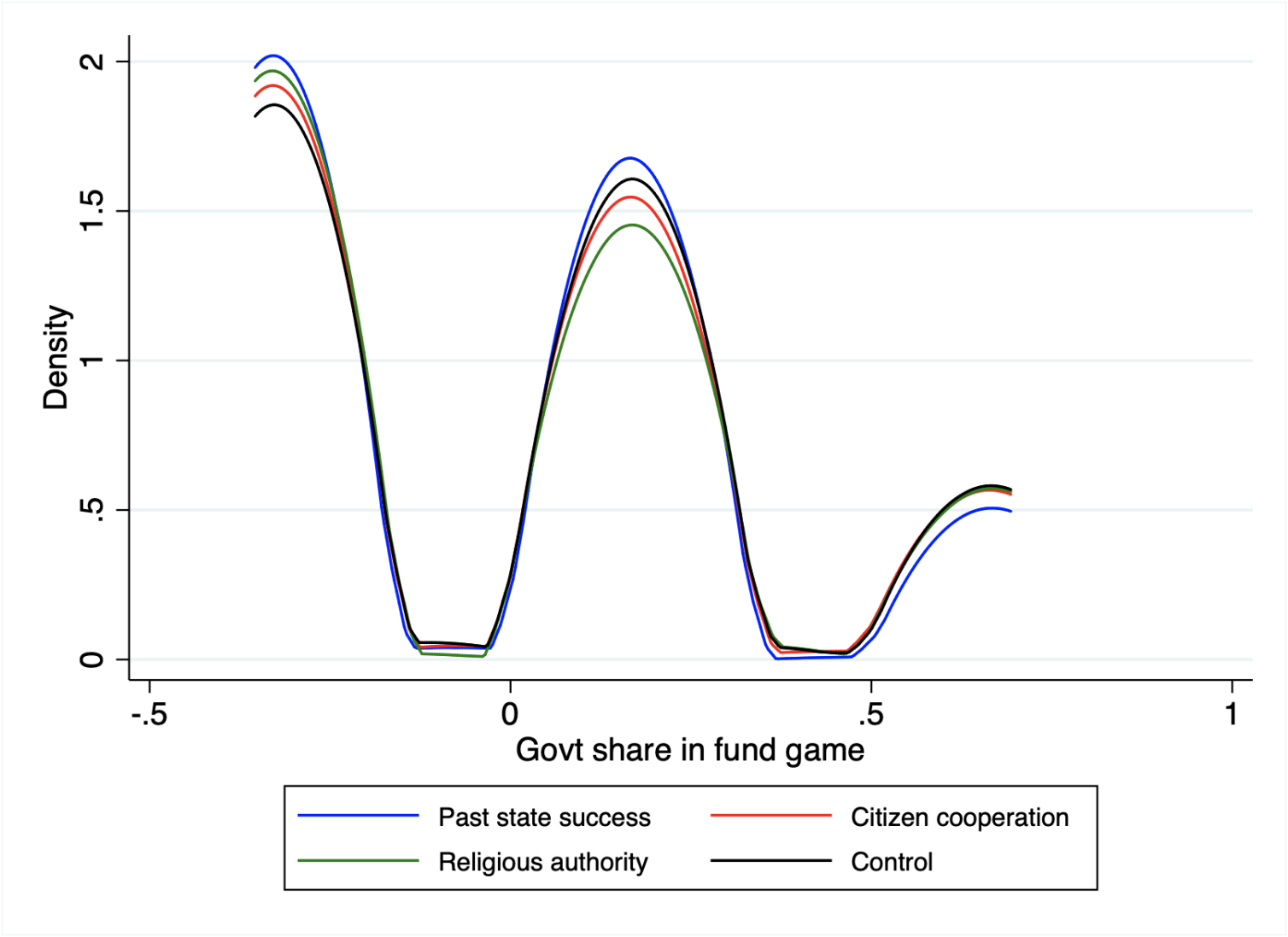


Figure AF3.5: Distribution of Govt Share of Funds by Treatment Group

Notes: This figure presents the distribution of the Govt Share of Funds outcome variable separately for each treatment group. The black line represents the density distribution within the control group, while the distributions within the different treatment groups are highlighted in color.

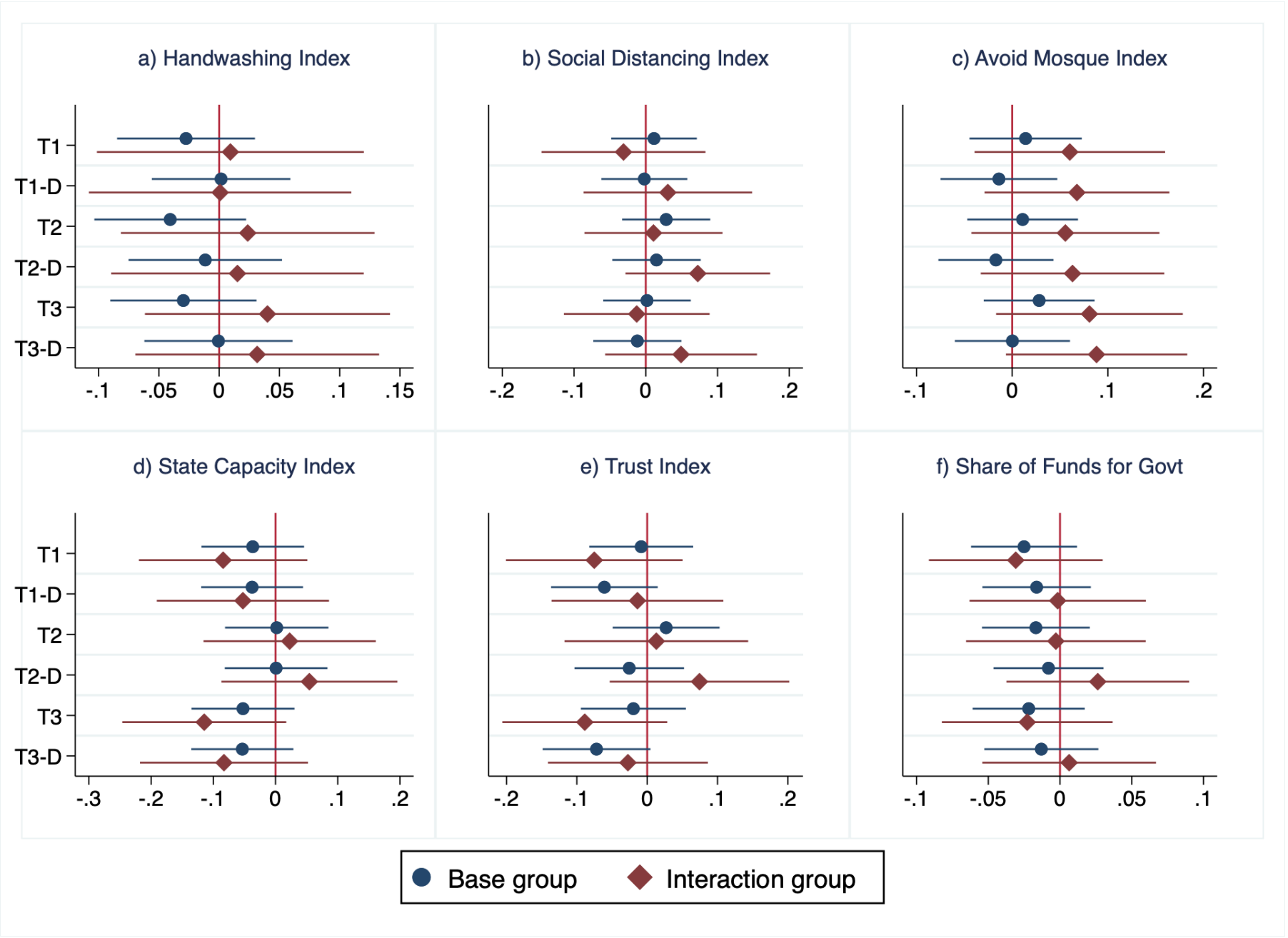


Figure AF4: Heterogeneity by Level of Education

Notes: Each panel plots the total effects and the corresponding 95% confidence intervals for four different comparisons for each treatment group. T1 is the *past state success* treatment; T2 is the *citizen cooperation* treatment and T3 is the *religious authority* treatment. The first total effect displayed is the estimated treatment effect for the base group. The second total effect shown is the estimated total effect for the interaction group. The next two total effects now take into account that the preceding effects might (in part) be explained by experimenter demand effects. These are indicated by $T - D$. In particular, the third total effect displayed for each treatment condition displays the total effect of the treatment minus the estimated demand effect for respondents in the base group. Likewise, the fourth total effect displayed for each treatment condition shows the total effect of the treatment minus the associated estimated demand effects for respondents in the interaction group. In this figure, the base group consists of respondents who have completed at least secondary education. The interaction groups consists of respondents who have not completed secondary education.

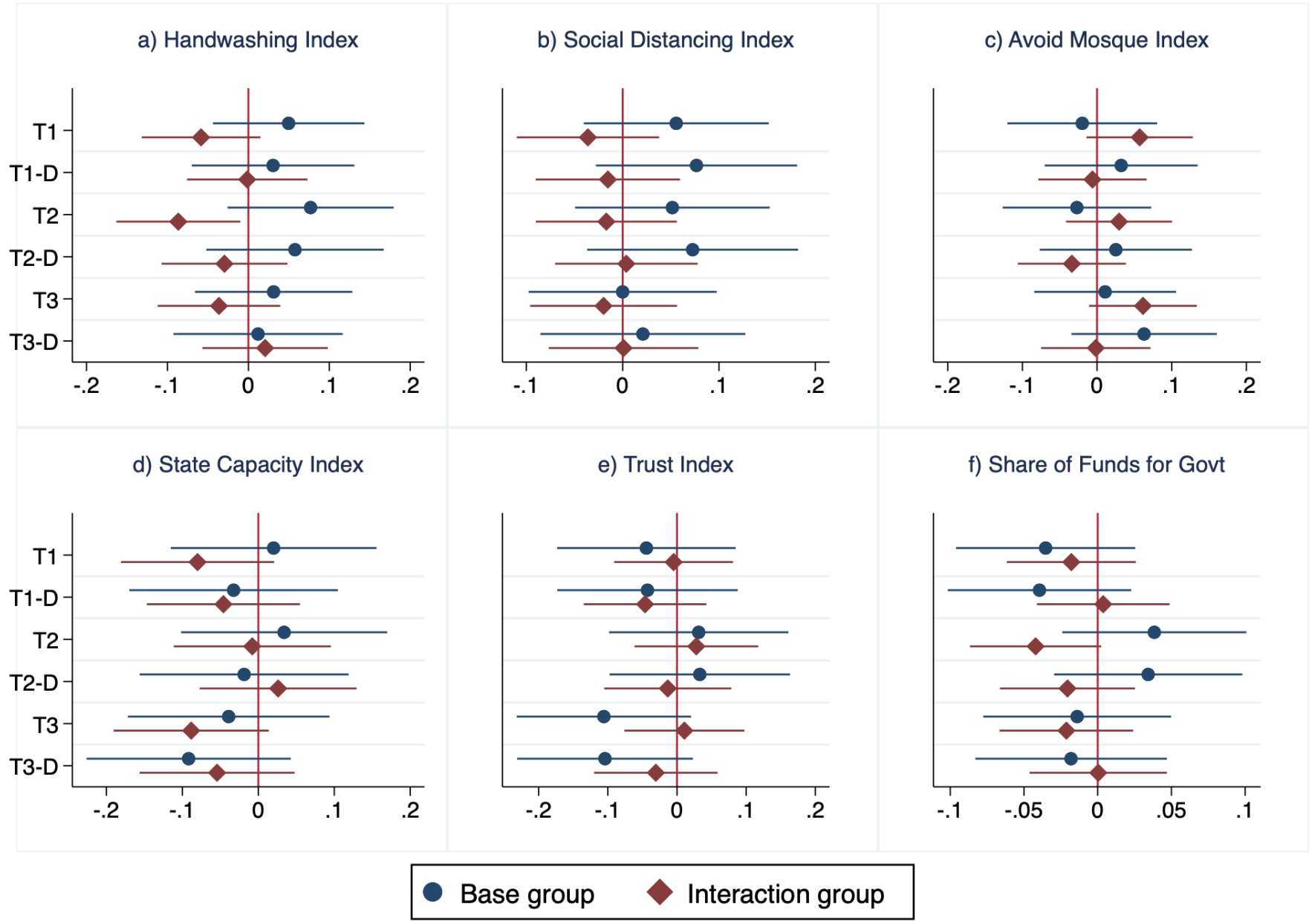


Figure AF5: Heterogeneity by Economic Exposure to Covid-19 Pandemic

Notes: Each panel plots the total effects and the corresponding 95% confidence intervals for four different comparisons for each treatment group. T1 is the *past state success* treatment; T2 is the *citizen cooperation* treatment and T3 is the *religious authority* treatment. The first total effect displayed is the estimated treatment effect for the base group. The second total effect shown is the estimated total effect for the interaction group. The next two total effects now take into account that the preceding effects might (in part) be explained by experimenter demand effects. These are indicated by $T - D$. In particular, the third total effect displayed for each treatment condition displays the total effect of the treatment minus the estimated demand effect for respondents in the base group. Likewise, the fourth total effect displayed for each treatment condition shows the total effect of the treatment minus the associated estimated demand effects for respondents in the interaction group. In this figure, the base group consists of respondents who report they would experience no loss in weekly household income in case they were to comply with all state directives. The interaction group consists of respondents who report some loss in weekly household income in case they were to comply with all state directives.

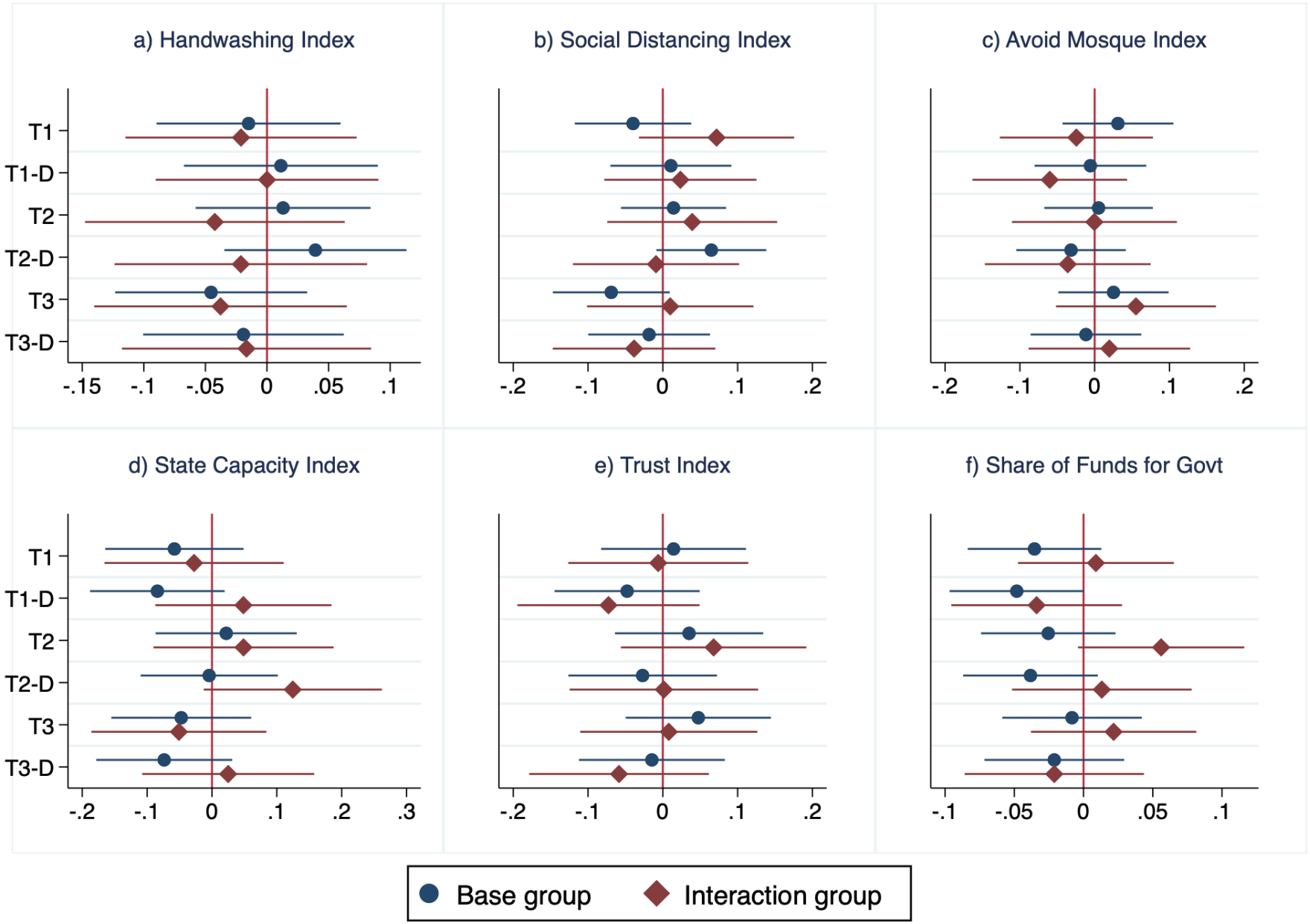


Figure AF6: Heterogeneity by Religiosity

Notes: Each panel plots the total effects and the corresponding 95% confidence intervals for four different comparisons for each treatment group. T1 is the *past state success* treatment; T2 is the *citizen cooperation* treatment and T3 is the *religious authority* treatment. The first total effect displayed is the estimated treatment effect for the base group. The second total effect shown is the estimated total effect for the interaction group. The next two total effects now take into account that the preceding effects might (in part) be explained by experimenter demand effects. These are indicated by $T - D$. In particular, the third total effect displayed for each treatment condition displays the total effect of the treatment minus the estimated demand effect for respondents in the base group. Likewise, the fourth total effect displayed for each treatment condition shows the total effect of the treatment minus the associated estimated demand effects for respondents in the interaction group. In this figure, the base group consists of respondents whose children do not participate in any religious extracurricular activities. The interaction groups consists of respondents whose children do participate in religious extracurricular activities.

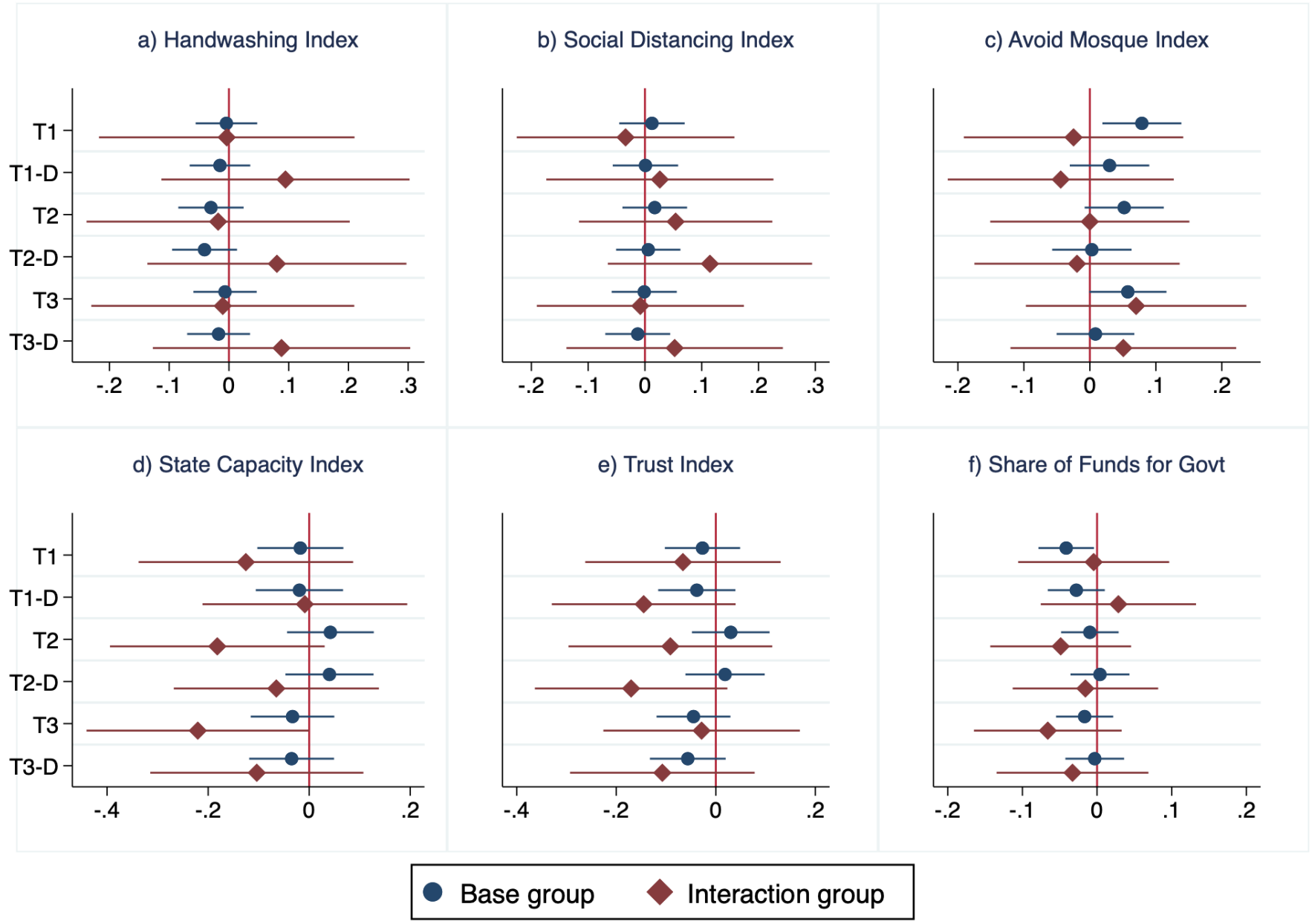


Figure AF7: Heterogeneity by Belief in Conspiracy Theory

Notes: Each panel plots the total effects and the corresponding 95% confidence intervals for four different comparisons for each treatment group. T1 is the *past state success* treatment; T2 is the *citizen cooperation* treatment and T3 is the *religious authority* treatment. The first total effect displayed is the estimated treatment effect for the base group. The second total effect shown is the estimated total effect for the interaction group. The next two total effects now take into account that the preceding effects might (in part) be explained by experimenter demand effects. These are indicated by $T - D$. In particular, the third total effect displayed for each treatment condition displays the total effect of the treatment minus the estimated demand effect for respondents in the base group. Likewise, the fourth total effect displayed for each treatment condition shows the total effect of the treatment minus the associated estimated demand effects for respondents in the interaction group. In this figure, the base group consists of respondents who believe the Covid-19 pandemic has natural origins. The interaction groups consists of respondents who do not believe the Covid-19 pandemic has natural origins.

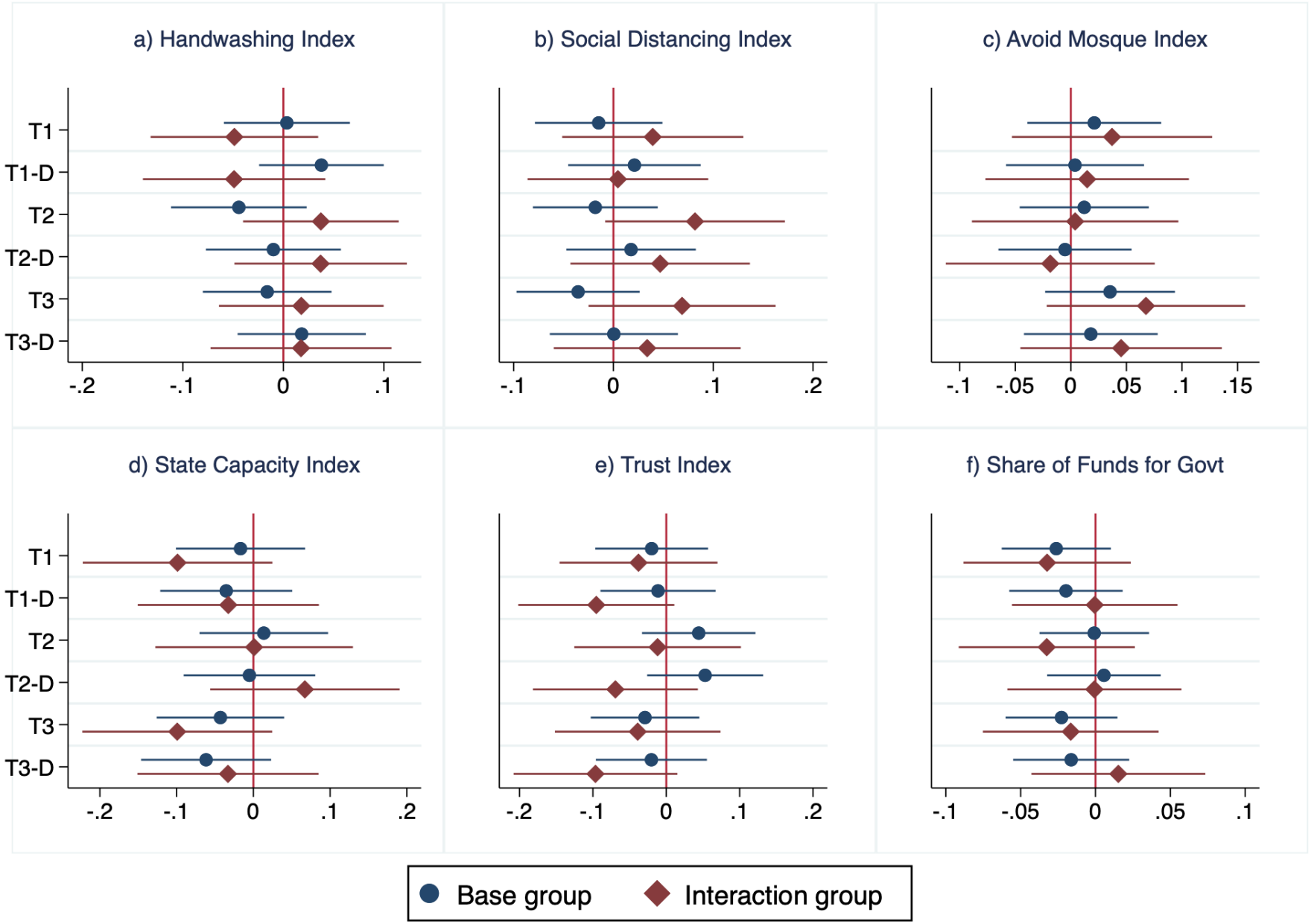


Figure AF8: Heterogeneity by Partisanship (Based on Media Consumption)

Notes: Each panel plots the total effects and the corresponding 95% confidence intervals for four different comparisons for each treatment group. T1 is the *past state success* treatment; T2 is the *citizen cooperation* treatment and T3 is the *religious authority* treatment. The first total effect displayed is the estimated treatment effect for the base group. The second total effect shown is the estimated total effect for the interaction group. The next two total effects now take into account that the preceding effects might (in part) be explained by experimenter demand effects. These are indicated by $T - D$. In particular, the third total effect displayed for each treatment condition displays the total effect of the treatment minus the estimated demand effect for respondents in the base group. Likewise, the fourth total effect displayed for each treatment condition shows the total effect of the treatment minus the associated estimated demand effects for respondents in the interaction group. In this figure, the base group consists of respondents who do not watch the ARY news channel, a pro-government TV station. The interaction groups consists of respondents who do watch the ARY news channel.

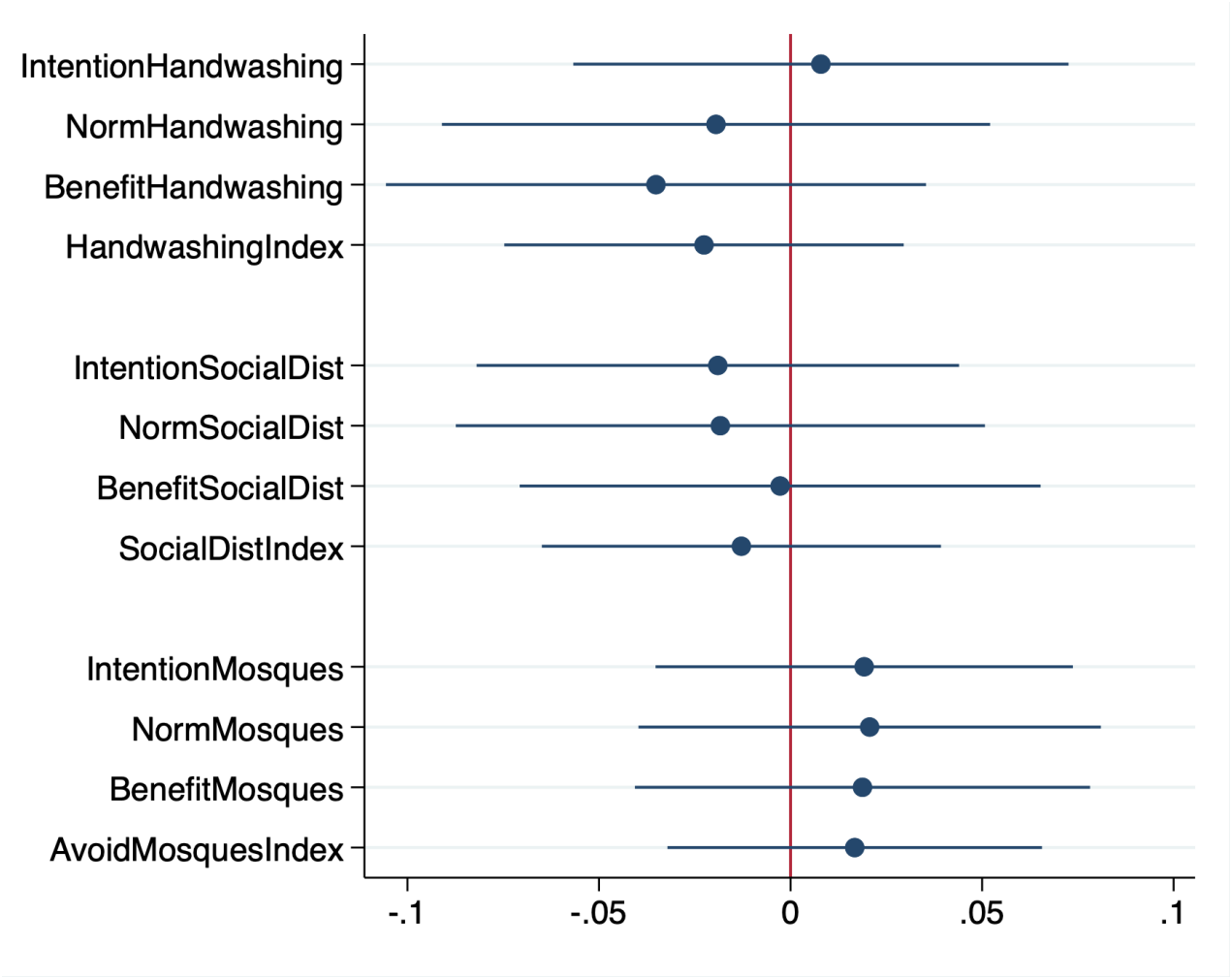


Figure AF9: Visualization of Experimenter Demand Effects on Compliance with State Directives

Notes: The coefficients in this figure originate from the comparison of outcomes in the experimenter demand treatment to control. Each coefficient represents the estimated experimenter demand effect associated with the experimenter demand treatment on the particular outcome described on the left-hand side. The horizontal lines indicate 95% confidence intervals.

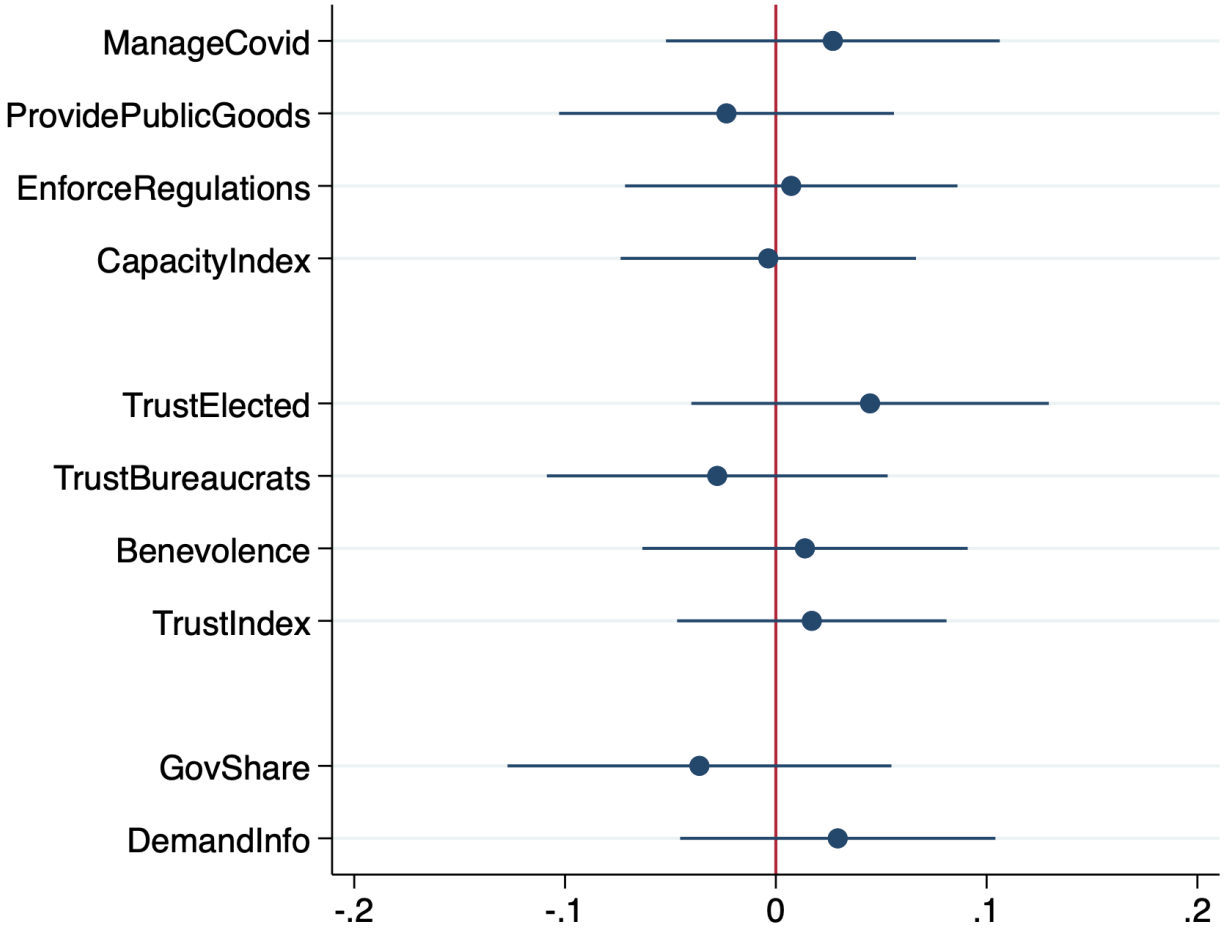


Figure AF10: Visualization of Experimenter Demand Effects on Attitudes towards the State

Notes: The coefficients in this figure originate from the comparison of outcomes in the experimenter demand treatment to control. Each coefficient represents the estimated experimenter demand effect associated with the experimenter demand treatment on the particular outcome described on the left-hand side. The horizontal lines indicate 95% confidence intervals.

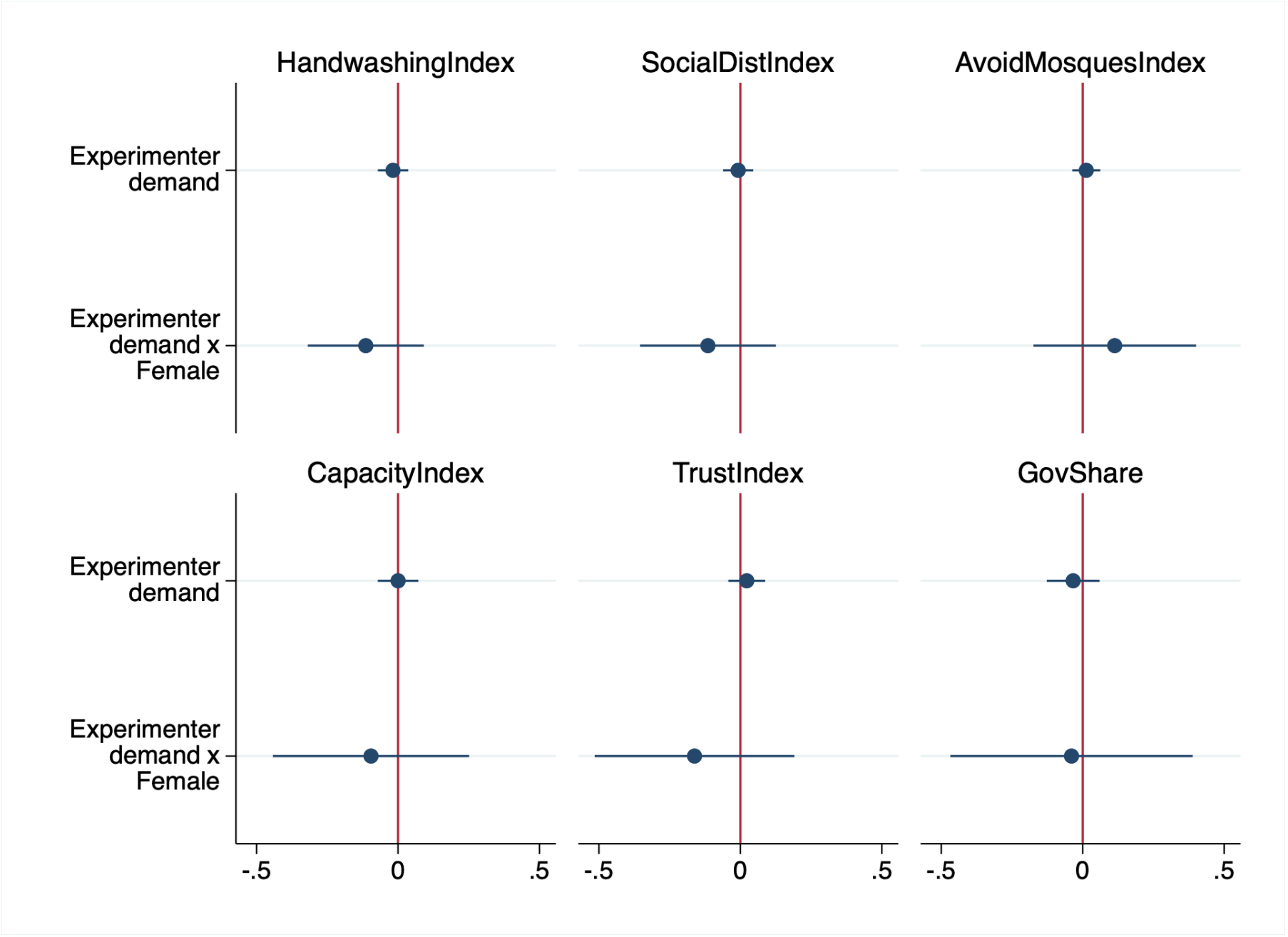


Figure AF11: Heterogeneity of Experimenter Demand Effects by Gender

Notes: The coefficients in this figure originate from the comparison of outcomes in the experimenter demand treatment to control. Each panel plots the estimated differential experimenter demand effect for female respondents on the particular outcomes indicated in the heading of the specific panel.

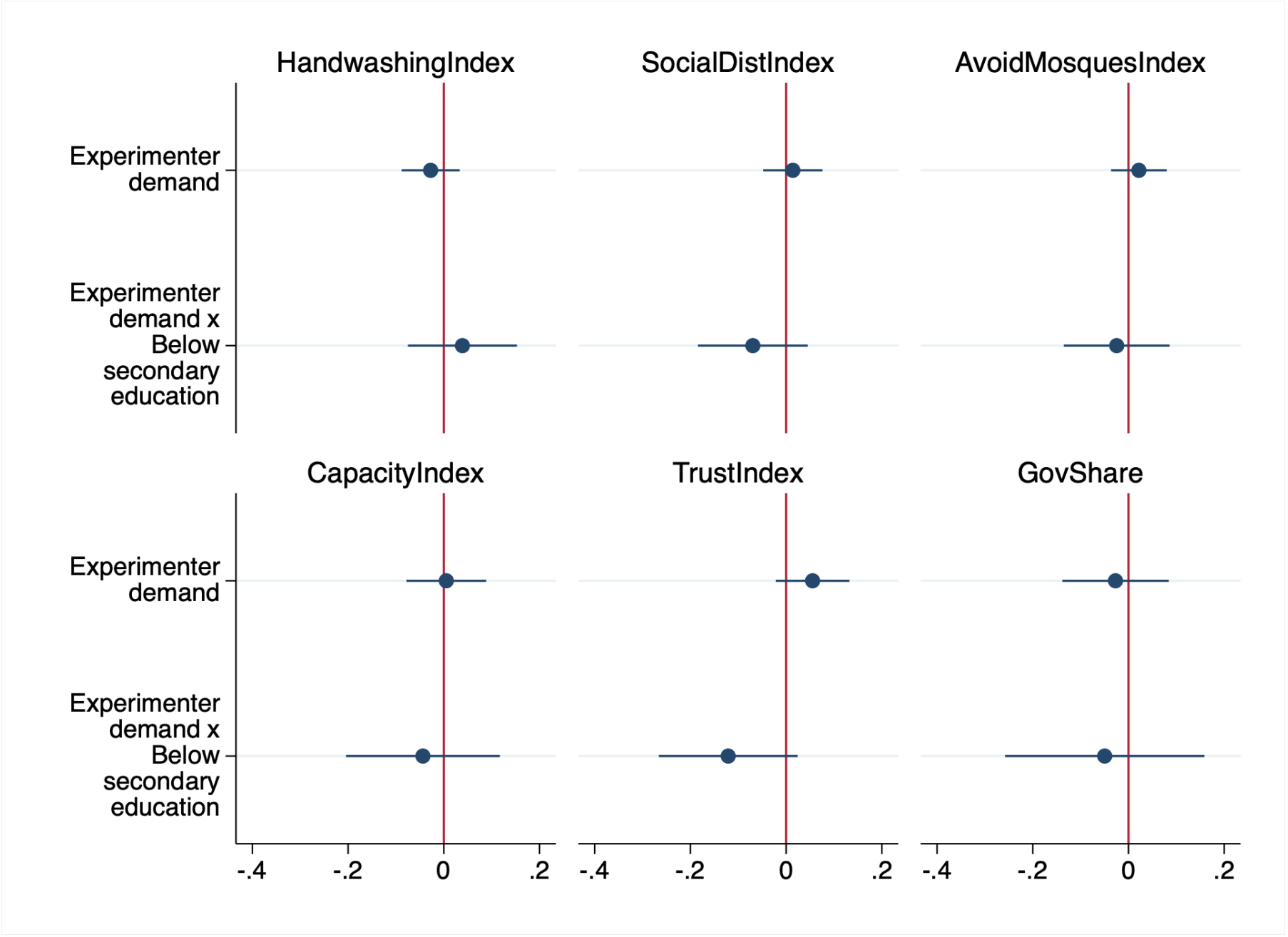


Figure AF12: Heterogeneity of Experimenter Demand Effects by Education

Notes: The coefficients in this figure originate from the comparison of outcomes in the experimenter demand treatment to control. Each panel plots the estimated differential experimenter demand effect for respondents who did not complete secondary education on the particular outcomes indicated in the heading of the specific panel.

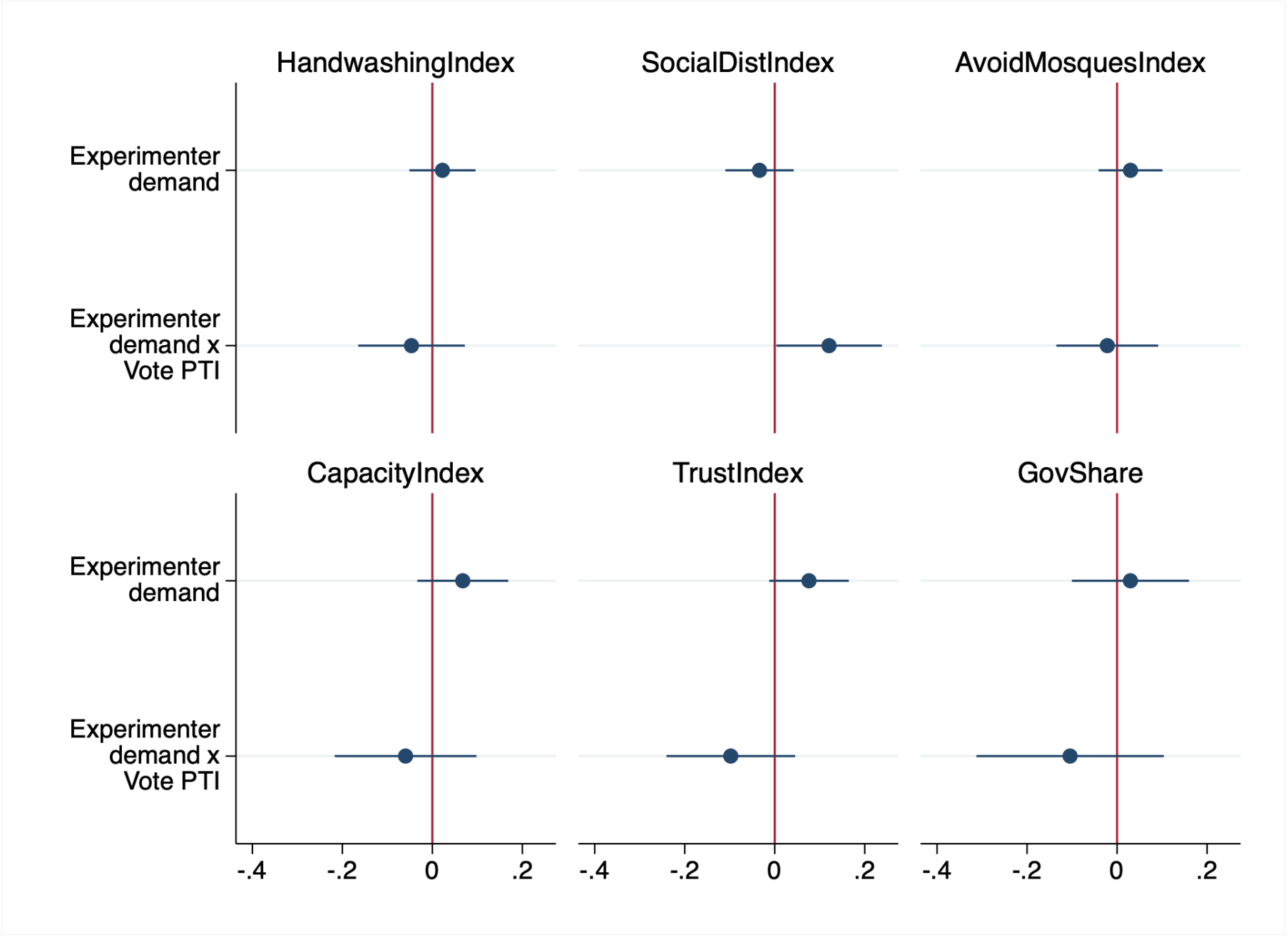


Figure AF13: Heterogeneity of Experimenter Demand Effects by Partisanship

Notes: The coefficients in this figure originate from the comparison of outcomes in the experimenter demand treatment to control. Each panel plots the estimated differential experimenter demand effect for respondents who self-report to have voted for the ruling party on the particular outcomes indicated in the heading of the specific panel.

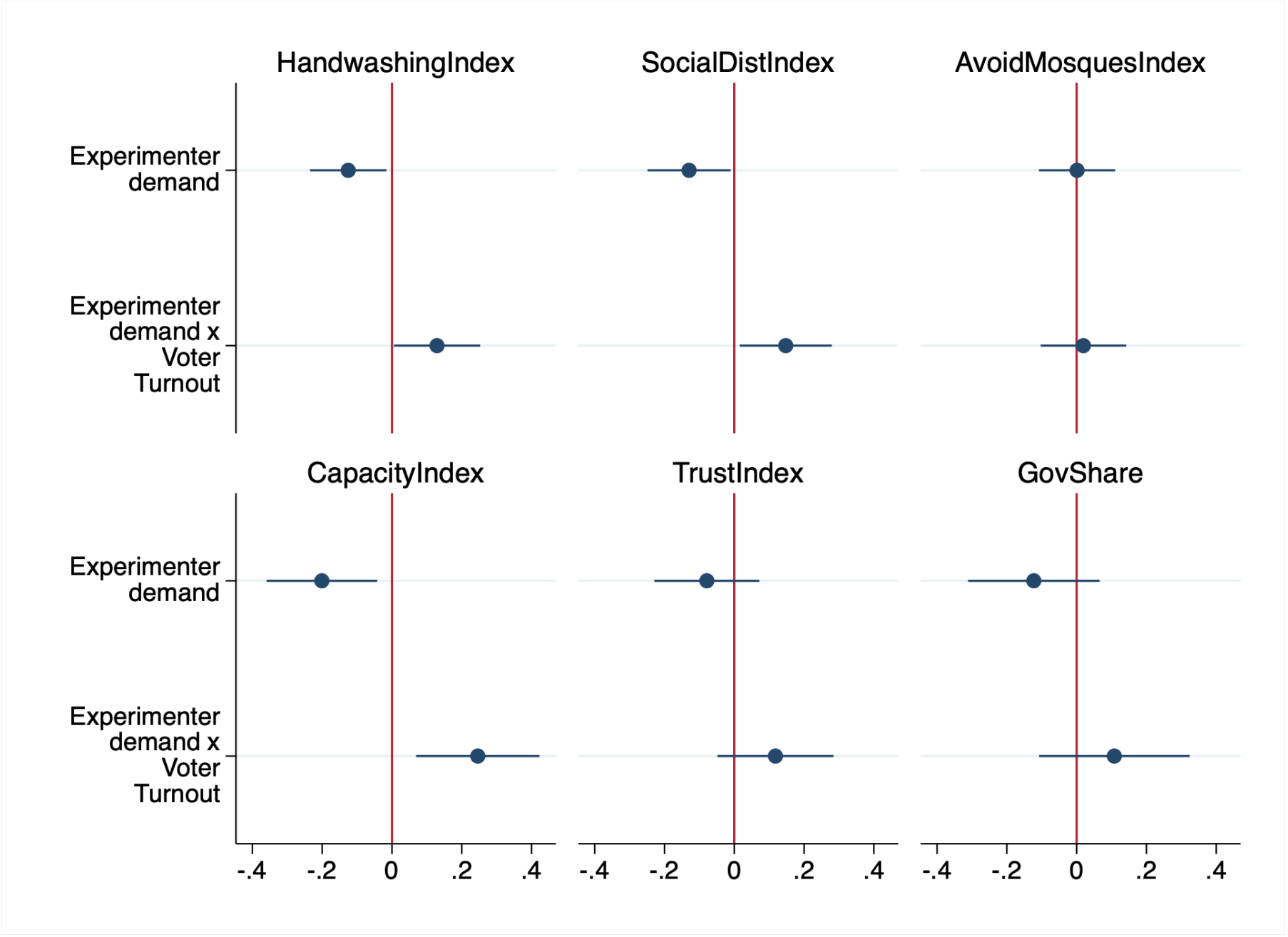


Figure AF14: Heterogeneity of Experimenter Demand Effects by Past Voting Behavior

Notes: The coefficients in this figure originate from the comparison of outcomes in the experimenter demand treatment to control. Each panel plots the estimated differential experimenter demand effect for respondents who self-report to have voted in the past election on the particular outcomes indicated in the heading of the specific panel.

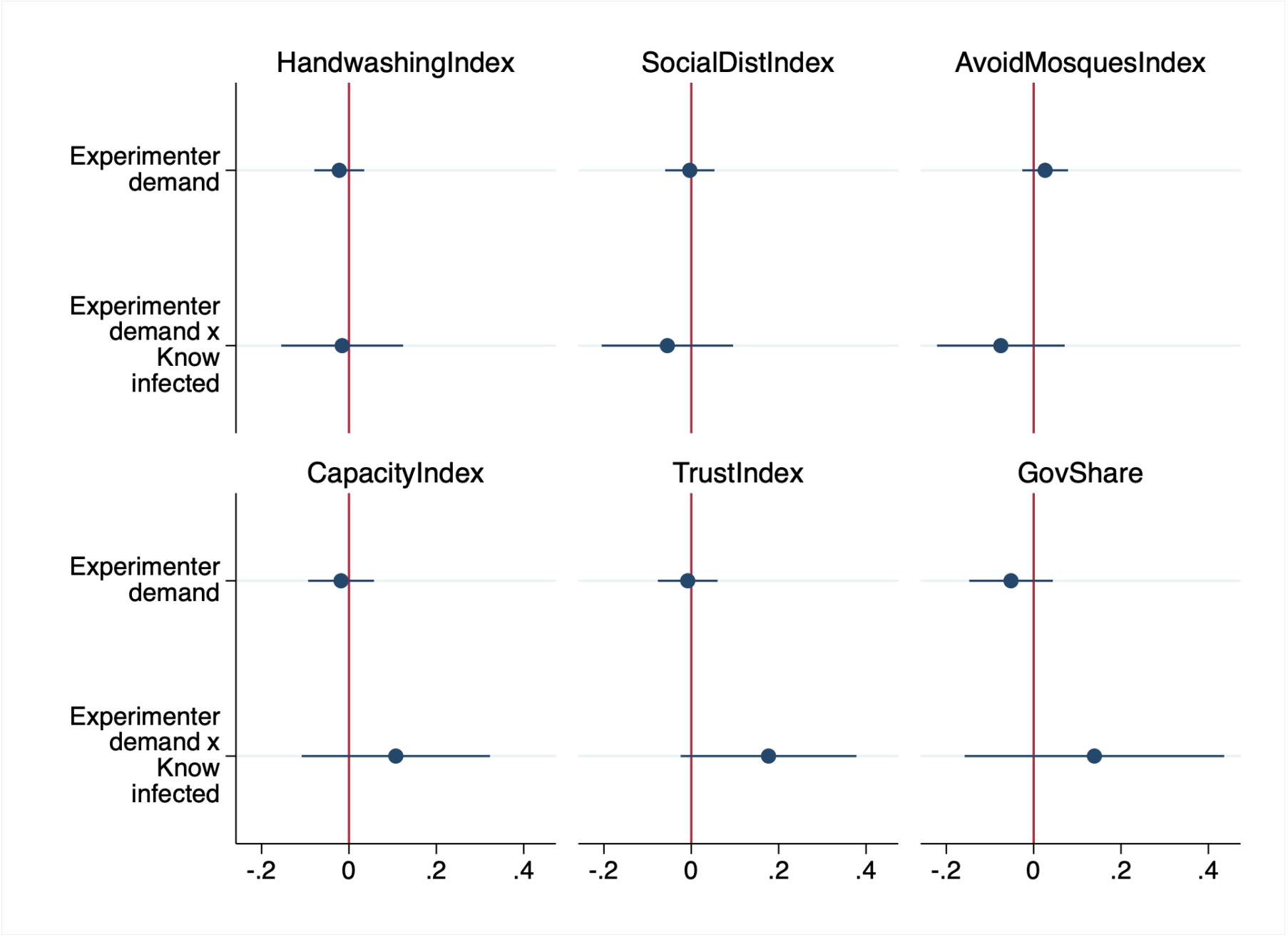


Figure AF15: Heterogeneity of Experimenter Demand Effects by Knowing Someone Infected with Covid-19

Notes: The coefficients in this figure originate from the comparison of outcomes in the experimenter demand treatment to control. Each panel plots the estimated differential experimenter demand effect for respondents who indicate to know someone who was infected with Covid-19 on the particular outcomes indicated in the heading of the specific panel.

F Appendix Tables

Table A1: **Benchmarks from Information Experiments**

Study	**Intervention**	**Sample**	**Effect Size**
Acemoglu et al. 2020. "Trust in State and Nonstate Actors: Evidence from Dispute Resolution in Pakistan"	In-person information about reduced delays in state courts	Approx. 4000 male household heads in four districts in rural Pakistan	0.22 SD increase in expected usage of courts; 0.2 SD increase in amount allocated to state courts in lab-in-field game
Banerjee et al. 2020. "Messages on Covid-19 Prevention in India".	Text message and video encouragement to report Covid-19 symptoms to local health workers and wash hands/social distance	Approx. 2000 former and current local village council members in West Bengal drawn from a publicly available directory of approx. 44,000 19.64% of respondents are active village council members.	20% decrease in travel outside village (control mean = 0.37); no sig. effect on social distancing; 7% increase in handwashing after returning to village (control mean = 0.675, effect is statistically insignificant in main sample and significant in spillover sample)
Rafkin et al. 2020. "When Guidance Changes: Government Inconsistency and Public Beliefs"	Online information about projected Covid-19 death count with random variation in government messaging consistency	Approx. 2000 online survey respondents in US drawn from a nationally representative online survey platform	9% decrease in updating of priors about death count and 0.037 SD decrease in belief in government credibility when receiving inconsistent information vs receiving consistent information

Table A2: **Summary Statistics and Balance**

	(1) Basic Information (Control)		(2) Past state success		(3) Citizen cooperation		(4) Religious authority		(5) Experimenter demand		T-test Difference			
	N	Mean/SD	N	Mean/SD	N	Mean/SD	N	Mean/SD	N	Mean/SD	(1)-(2)	(1)-(3)	(1)-(4)	(1)-(5)
Demographics														
Age	1139	40.299	1164	39.671	1121	39.011	1151	39.460	1085	38.731	0.628	1.289**	0.840	1.569***
		(13.392)		(13.116)		(13.041)		(13.318)		(13.063)				
Female	1169	0.043	1179	0.044	1144	0.032	1169	0.037	1110	0.044	-0.001	0.010	0.006	-0.001
		(0.202)		(0.205)		(0.177)		(0.188)		(0.206)				
Education level	1121	9.106	1129	9.305	1089	9.278	1112	9.188	1056	9.120	-0.199	-0.172	-0.082	-0.014
		(3.685)		(3.318)		(3.419)		(3.499)		(3.555)				
Children engage in religious extracurriculur	767	0.366	809	0.376	775	0.335	782	0.377	775	0.361	-0.009	0.031	-0.011	0.005
		(0.482)		(0.485)		(0.472)		(0.485)		(0.481)				
Covid-19														
Economic cost of compliance, %	1146	0.614	1159	0.628	1118	0.610	1139	0.605	1095	0.632	-0.014	0.003	0.009	-0.018
		(0.383)		(0.381)		(0.376)		(0.371)		(0.376)				
Do you know someone who was infected with the coronavirus?	1159	0.121	1164	0.143	1130	0.143	1147	0.139	1092	0.139	-0.023	-0.023	-0.018	-0.018
		(0.326)		(0.351)		(0.351)		(0.346)		(0.346)				
Do you think the pandemic has natural origins?	916	0.872	896	0.863	860	0.853	906	0.879	854	0.862	0.010	0.019	-0.006	0.010
		(0.334)		(0.344)		(0.354)		(0.327)		(0.345)				
Past behavior (0-1 Likert scale)														
Washed hands more frequently	1167	0.922	1176	0.914	1144	0.909	1169	0.923	1109	0.915	0.009	0.013*	-0.001	0.008
		(0.161)		(0.178)		(0.181)		(0.163)		(0.171)				
Avoided meeting non-household members	1169	0.814	1179	0.816	1144	0.803	1169	0.817	1108	0.808	-0.001	0.012	-0.003	0.006
		(0.233)		(0.233)		(0.243)		(0.231)		(0.239)				
Avoided Friday prayers at mosque	1160	0.518	1168	0.514	1140	0.521	1162	0.500	1104	0.507	0.004	-0.003	0.019	0.011
		(0.419)		(0.413)		(0.411)		(0.417)		(0.417)				
Voting behavior and media consumption														
Turnout in 2018 elections	1169	0.791	1179	0.809	1144	0.810	1169	0.802	1110	0.803	-0.018	-0.019	-0.010	-0.011
		(0.407)		(0.393)		(0.392)		(0.399)		(0.398)				
Vote for ruling party (PTI) in 2018 elections	925	0.418	954	0.472	927	0.434	937	0.451	891	0.424	-0.053**	-0.015	-0.033	-0.006
		(0.494)		(0.499)		(0.496)		(0.498)		(0.495)				
Watch ARY	1169	0.290	1179	0.324	1144	0.300	1169	0.307	1110	0.313	-0.034*	-0.010	-0.017	-0.023
		(0.454)		(0.468)		(0.458)		(0.461)		(0.464)				
F-test of joint significance											0.452	0.866	0.919	0.967
F-test, number of observations											970	943	957	926

Notes: This table reports the mean and standard deviation for each variable in each treatment group. The value displayed for t-tests are the differences in means between the control group and each treatment group. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level. The t-tests show covariates are balanced across treatment groups at baseline: out of the 52 comparisons made (13 variables * 4 columns), 5 are significant at the 10 percent level, 3 are significant at the 5 percent level, and 1 is significant at the 1 percent level. This is to be expected given natural sampling variation.

Table A3: **Minimum Detectable Effect Sizes**

	Past State Success		Citizen Cooperation		Religious Authority	
	vs. control	vs. demand	vs. control	vs. demand	vs. control	vs. demand
Handwashing Index	0.116 (0.135)	0.118 (0.136)	0.117 (0.136)	0.119 (0.137)	0.117 (0.136)	0.119 (0.137)
Social Distancing Index	0.118 (0.136)	0.119 (0.138)	0.118 (0.137)	0.120 (0.138)	0.118 (0.137)	0.119 (0.138)
Avoiding Mosque Index	0.121 (0.140)	0.122 (0.142)	0.121 (0.140)	0.123 (0.142)	0.121 (0.140)	0.122 (0.142)
Capacity Index	0.119 (0.138)	0.121 (0.140)	0.120 (0.139)	0.122 (0.141)	0.119 (0.138)	0.121 (0.140)
Trust Index	0.123 (0.143)	0.125 (0.144)	0.125 (0.144)	0.126 (0.146)	0.124 (0.143)	0.125 (0.145)
Government Share	0.045 (0.052)	0.046 (0.053)	0.045 (0.052)	0.046 (0.053)	0.045 (0.053)	0.046 (0.053)
Handwashing Index	0.123 (0.142)	0.124 (0.144)	0.124 (0.143)	0.125 (0.145)	0.124 (0.143)	0.125 (0.145)
Social Distancing Index	0.124 (0.143)	0.125 (0.145)	0.125 (0.144)	0.126 (0.146)	0.124 (0.144)	0.126 (0.146)
Avoiding Mosque Index	0.127 (0.147)	0.129 (0.149)	0.128 (0.148)	0.130 (0.150)	0.127 (0.147)	0.129 (0.149)
Capacity Index	0.126 (0.145)	0.127 (0.147)	0.127 (0.147)	0.128 (0.148)	0.126 (0.146)	0.127 (0.147)
Trust Index	0.130 (0.151)	0.131 (0.152)	0.131 (0.152)	0.133 (0.154)	0.131 (0.151)	0.132 (0.153)
Government Share	0.047 (0.055)	0.048 (0.056)	0.048 (0.055)	0.048 (0.056)	0.048 (0.055)	0.049 (0.056)
Handwashing Index	0.130 (0.151)	0.132 (0.152)	0.131 (0.152)	0.132 (0.153)	0.131 (0.152)	0.132 (0.153)
Social Distancing Index	0.132 (0.152)	0.133 (0.154)	0.132 (0.153)	0.134 (0.155)	0.132 (0.153)	0.134 (0.155)
Avoiding Mosque Index	0.135 (0.156)	0.137 (0.158)	0.136 (0.157)	0.137 (0.159)	0.135 (0.156)	0.137 (0.158)
Capacity Index	0.133 (0.154)	0.135 (0.156)	0.134 (0.155)	0.136 (0.157)	0.133 (0.154)	0.135 (0.156)
Trust Index	0.138 (0.160)	0.139 (0.161)	0.139 (0.161)	0.141 (0.163)	0.138 (0.160)	0.140 (0.162)
Government Share	0.050 (0.058)	0.051 (0.059)	0.051 (0.058)	0.051 (0.060)	0.051 (0.059)	0.052 (0.060)
Handwashing Index	0.139 (0.161)	0.141 (0.163)	0.140 (0.162)	0.142 (0.164)	0.140 (0.162)	0.142 (0.164)
Social Distancing Index	0.141 (0.163)	0.142 (0.165)	0.141 (0.164)	0.143 (0.165)	0.141 (0.163)	0.143 (0.165)
Avoiding Mosque Index	0.144 (0.167)	0.146 (0.169)	0.145 (0.168)	0.147 (0.170)	0.144 (0.167)	0.146 (0.169)
Capacity Index	0.142 (0.165)	0.144 (0.167)	0.144 (0.166)	0.145 (0.168)	0.143 (0.165)	0.144 (0.167)
Trust Index	0.148 (0.171)	0.149 (0.172)	0.149 (0.172)	0.150 (0.174)	0.148 (0.171)	0.150 (0.173)
Government Share	0.054 (0.062)	0.055 (0.063)	0.054 (0.063)	0.055 (0.064)	0.054 (0.063)	0.055 (0.064)

Table A4: **Additional Beliefs towards State Directives**

	Perceived Effectiveness		**Perceived Sanctions**	
	Shutdown of public places	Suspension of Friday prayers	From Others	From Govt
	(1)	(2)	(3)	(4)
Past state success	0.003	0.009	-0.002	-0.007
	(0.010)	(0.014)	(0.009)	(0.013)
Citizen cooperation	0.001	-0.004	0.013	0.004
	(0.010)	(0.014)	(0.009)	(0.013)
Religious authority	-0.006	0.019	0.008	-0.016
	(0.010)	(0.014)	(0.009)	(0.013)
Experimenter demand	0.001	0.011	-0.002	-0.006
	(0.010)	(0.014)	(0.009)	(0.013)
$\beta_E = \beta_{SS}$	0.871	0.900	0.997	0.908
$\beta_E = \beta_C$	0.963	0.309	0.095	0.436
$\beta_E = \beta_R$	0.490	0.601	0.236	0.441
N	5679	5608	5325	5483
Mean of control group	0.828	0.524	0.762	0.565

Notes: OLS regressions of perceived effectiveness of policies and perceived sanctions for not following policies on treatment. The unit of observation is the individual. Respondent perceptions of the effectiveness of *shutdown public places* and *suspension of Friday prayers* in limiting the spread of coronavirus are measured on a 5-step Likert scale with higher values indicating higher perceived effectiveness. Respondent perceptions of sanctions *from others* and *from the government* are measured on a 5-step Likert scale with higher values indicating higher perceived sanctions. All specifications include stratum fixed effects, enumerator fixed effects, and the *post* dummy. The bottom panel presents p-values from different hypothesis tests comparing each estimated treatment coefficient to the estimated experimenter demand coefficient. Robust standard errors are in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table A5: **Attitudes towards State Directives, Specification with baseline controls**

	I intend to...	I believe others should...	I believe ... is beneficial.	Attitudes Index
	(1)	(2)	(3)	(4)
Panel A: Frequent hand-washing				
Past state success	0.005	-0.005	-0.007	**-0.025**
	(0.005)	(0.004)	(0.005)	**(0.026)**
Citizen cooperation	-0.003	-0.001	-0.006	**-0.025**
	(0.005)	(0.004)	(0.005)	**(0.027)**
Religious authority	0.002	-0.001	-0.005	**-0.011**
	(0.005)	(0.004)	(0.005)	**(0.027)**
Experimenter demand	0.002	-0.002	-0.005	**-0.023**
	(0.005)	(0.004)	(0.005)	**(0.026)**
$\beta_E = \beta_{SS}$	0.435	0.400	0.734	**0.922**
$\beta_E = \beta_C$	0.402	0.873	0.976	**0.929**
$\beta_E = \beta_R$	0.897	0.815	0.852	**0.649**
Double Post-LASSO	X	X	X	**X**
N	5361	5340	5357	**5323**
Mean of control group	0.931	0.950	0.949	**0.016**
Panel B: Social distancing				
Past state success	0.007	-0.003	-0.001	**0.002**
	(0.007)	(0.007)	(0.007)	**(0.027)**
Citizen cooperation	0.010	-0.001	0.007	**0.025**
	(0.007)	(0.006)	(0.007)	**(0.026)**
Religious authority	0.004	-0.002	-0.003	**-0.001**
	(0.007)	(0.007)	(0.007)	**(0.027)**
Experimenter demand	-0.005	-0.001	0.000	**-0.011**
	(0.007)	(0.007)	(0.007)	**(0.026)**
$\beta_E = \beta_{SS}$	0.113	0.770	0.928	**0.660**
$\beta_E = \beta_C$	0.047	0.940	0.323	**0.188**
$\beta_E = \beta_R$	0.232	0.788	0.683	**0.719**
Double Post-LASSO	X	X	X	**X**
N	5286	5307	5348	**5210**
Mean of control group	0.822	0.878	0.877	**-0.003**
Panel C: Avoiding mosques				
Past state success	0.017	0.004	0.019	**0.029**
	(0.012)	(0.012)	(0.012)	**(0.026)**
Citizen cooperation	0.007	0.015	0.013	**0.028**
	(0.011)	(0.012)	(0.012)	**(0.025)**
Religious authority	0.017	0.014	0.019	**0.042**
	(0.011)	(0.012)	(0.012)	**(0.026)**
Experimenter demand	0.007	0.009	0.010	**0.021**
	(0.011)	(0.012)	(0.012)	**(0.025)**
$\beta_E = \beta_{SS}$	0.388	0.631	0.478	**0.770**
$\beta_E = \beta_C$	0.948	0.627	0.789	**0.797**
$\beta_E = \beta_R$	0.383	0.688	0.444	**0.433**
Double Post-LASSO	X	X	X	**X**
N	5213	5136	5244	**4968**
Mean of control group	0.530	0.584	0.570	**-0.030**

Notes: OLS regressions of intended behavior, norms, and benefits on treatment. The unit of observation is the individual. The specifications estimate the effect of each treatment group and experimenter demand group. *I intend to...* measures how likely the respondent is to follow a behavior (wash hands more frequently, social distance, or avoid praying at mosque) on a 5-step Likert scale with higher values indicating a higher likelihood. *I believe others should...* measures how much the respondent believes others should follow the behavior on a 5-step Likert scale. *I believe... is beneficial.* measures how beneficial the respondent believes the behavior to be on a 5-step Likert scale. The *attitudes index* is the average of the z-scores of these three outcome variables. The index is set to missing if any of the included outcome variables is missing. The **highlighted columns** are the treatment effect on the attitudes index. All specifications include stratum fixed effects, enumerator fixed effects, *post* dummy, and past behavior (measured at baseline). Additional controls include gender, education level, economic cost of compliance with Covid-19 directives, past compliance with Covid-19 directives (hand-washing, social distancing, avoiding mosques for communal prayers), primary TV channel source of news, and primary newspaper source of news. These were selected using the double post-LASSO algorithm. This algorithm applies the LASSO to all baseline covariates to select variables that predict the outcome and treatment status. We include the union of these LASSO-selected variables as controls. The bottom panel presents p-values from different hypothesis tests comparing each estimated treatment coefficient to the estimated experimenter demand coefficient. Robust standard errors are in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table A6: **Attitudes towards the State, Specification with baseline controls**

	Panel A: State Capacity				**Panel B: General Attitudes**					
	Manage pandemic	Provide public goods	Enforce regulations	Capacity Index	Trust in Elected Officials	Trust in State	Perceived Benevolence	Trust Index	Govt Share	Demand for Govt Info
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Past state success	0.004	-0.010	-0.026*	**-0.048**	-0.018	-0.026**	0.012	**-0.027**	**-0.022**	0.018
	(0.014)	(0.014)	(0.014)	**(0.036)**	(0.014)	(0.013)	(0.012)	**(0.033)**	**(0.016)**	(0.019)
Citizen cooperation	0.011	0.003	-0.000	**0.005**	0.010	-0.001	0.004	**0.023**	**-0.005**	0.011
	(0.014)	(0.015)	(0.015)	**(0.036)**	(0.014)	(0.013)	(0.012)	**(0.033)**	**(0.017)**	(0.019)
Religious authority	-0.007	-0.017	-0.037**	**-0.075****	-0.018	-0.010	-0.013	**-0.043**	**-0.020**	0.011
	(0.014)	(0.014)	(0.015)	**(0.036)**	(0.014)	(0.013)	(0.011)	**(0.032)**	**(0.017)**	(0.019)
Experimenter demand	0.010	-0.004	0.003	**0.003**	0.013	0.000	0.007	**0.031**	**-0.011**	0.023
	(0.014)	(0.015)	(0.014)	**(0.036)**	(0.014)	(0.013)	(0.012)	**(0.033)**	**(0.017)**	(0.019)
$\beta_E = \beta_{SS}$	0.661	0.678	0.042	**0.154**	0.026	0.040	0.701	**0.079**	**0.524**	0.775
$\beta_E = \beta_C$	0.932	0.616	0.811	**0.947**	0.838	0.945	0.826	**0.824**	**0.725**	0.519
$\beta_E = \beta_R$	0.231	0.347	0.006	**0.028**	0.023	0.415	0.088	**0.021**	**0.588**	0.523
Double Post-LASSO	X	X	X	**X**	X	X	X	**X**	**X**	X
N	5102	5207	5167	**5090**	4959	4945	5298	**4767**	**4335**	5370
Mean of control group	0.493	0.461	0.609	**0.021**	0.352	0.411	0.226	**0.002**	**0.345**	0.392

Notes: OLS regressions of state capacity on treatment. The unit of observation is the individual. The specifications estimate the effect of each treatment group and experimenter demand group. In Panel A, beliefs on state capacity to *provide public goods*, *enforce regulations*, and *manage the coronavirus pandemic* are measured on a 5-step Likert scale with higher values indicating higher perceived state capacity. The *capacity index* is the average of the z-scores of *provide public goods* and *enforce regulations*. The index is set to missing if any of the included outcome variables is missing. The **highlighted column** is the treatment effect on the capacity index. In Panel B, *trust in elected officials*, *trust in the state*, and *perceived state benevolence* are measured on a 5-step Likert scale with higher values indicating higher trust. The *trust index* is the average of the z-scores of these three outcome variables. The index is set to missing if any of the included outcome variables is missing. *Govt share* is the proportion of funds the respondent allocated to government coronavirus relief efforts in a lab-in-the-field game. The **highlighted columns** are the treatment effect on the trust index and the share of funds allocated to government coronavirus relief efforts. All specifications include stratum fixed effects, enumerator fixed effects, and the *post* dummy. Additional controls include gender, education level, economic cost of compliance with Covid-19 directives, past compliance with Covid-19 directives (hand-washing, social distancing, avoiding mosques for communal prayers), primary TV channel source of news, and primary newspaper source of news. These were selected using the double post-LASSO algorithm. This algorithm applies the LASSO to all baseline covariates to select variables that predict the outcome and treatment status. We include the union of these LASSO-selected variables as controls. The bottom panel presents p-values from different hypothesis tests comparing each estimated treatment coefficient to the estimated experimenter demand coefficient. Robust standard errors are in parentheses. Robust standard errors are in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table A7: **Willingness to Participate in Fund Game**

	Govt share of funds	Refuse to play fund game
	(1)	(2)
Past state success	-0.025	0.005
	(0.016)	(0.015)
Citizen cooperation	-0.011	-0.004
	(0.016)	(0.015)
Religious authority	-0.019	0.024
	(0.016)	(0.016)
Experimenter demand	-0.012	0.013
	(0.016)	(0.016)
$\beta_E = \beta_{SS}$	0.420	0.585
$\beta_E = \beta_C$	0.916	0.274
$\beta_E = \beta_R$	0.675	0.513
N	4648	5771
Mean of control group	0.345	0.184

Notes: OLS regressions of willingness to participate in a lab-in-the-field game on treatment. The unit of observation is the individual. The specifications estimate the effect of each treatment group and experimenter demand group. In the game, respondents are asked to allocate Rs. 200,000 to either a government or non-state charity fund to support Covid-19 relief efforts in Pakistan. *Govt share* is the proportion of funds the respondent allocated to government coronavirus relief efforts. *Refuse to play fund game* is a dummy variable equal to 1 if the respondent refused to allocate funds to either the government or the non-state charity fund. All specifications include stratum fixed effects, enumerator fixed effects, and the *post* dummy. The bottom panel presents p-values from different hypothesis tests comparing each estimated treatment coefficient to the estimated experimenter demand coefficient. Robust standard errors are in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table A8: **Attitudes towards State Directives. Heterogeneity by Content of Basic Information Script**

	I intend to...	I believe others should...	I believe ... is beneficial.	Attitudes Index
	(1)	(2)	(3)	(4)
Panel A: Frequent hand-washing				
Past state success	0.003	-0.012**	-0.002	**-0.039**
	(0.007)	(0.006)	(0.007)	**(0.038)**
Past state success , Post	0.005	0.015*	-0.012	**0.029**
	(0.009)	(0.009)	(0.009)	**(0.053)**
Citizen cooperation	-0.002	-0.007	-0.009	**-0.053**
	(0.007)	(0.007)	(0.008)	**(0.043)**
Citizen cooperation, Post	-0.002	0.012	0.008	**0.059**
	(0.010)	(0.009)	(0.010)	**(0.054)**
Religious authority	-0.003	-0.009	-0.004	**-0.043**
	(0.007)	(0.006)	(0.007)	**(0.039)**
Religious authority, Post	0.011	0.016*	-0.001	**0.069**
	(0.010)	(0.008)	(0.010)	**(0.053)**
Exp. demand	-0.003	-0.011*	-0.006	**-0.065***
	(0.007)	(0.006)	(0.007)	**(0.039)**
Exp. demand, Post	0.009	0.019**	0.002	**0.089***
	(0.010)	(0.009)	(0.009)	**(0.053)**
$\beta_E = \beta_{SS}, [\beta_E + \beta_{E,I} = \beta_{SS} + \beta_{SS,I}]$	0.434, [0.786]	0.818, [0.320]	0.497, [0.158]	**0.492, [0.358]**
$\beta_E = \beta_C, [\beta_E + \beta_{E,I} = \beta_R + \beta_{R,I}]$	0.912, [0.116]	0.555, [0.604]	0.715, [0.632]	**0.779, [0.610]**
$\beta_E = \beta_R, [\beta_E + \beta_{E,I} = \beta_C + \beta C, I]$	0.993, [0.765]	0.702, [0.961]	0.778, [0.967]	**0.574, [0.930]**
N	5361	5340	5357	**5323**
Mean of control group	0.931	0.950	0.949	**0.016**
Panel B: Social distancing				
Past state success	0.007	-0.003	0.003	**0.009**
	(0.011)	(0.010)	(0.010)	**(0.041)**
Past state success , Post	-0.001	-0.000	-0.008	**-0.015**
	(0.014)	(0.013)	(0.013)	**(0.054)**
Citizen cooperation	0.013	-0.006	0.003	**0.014**
	(0.010)	(0.010)	(0.010)	**(0.039)**
Citizen cooperation, Post	-0.006	0.011	0.009	**0.022**
	(0.014)	(0.013)	(0.013)	**(0.052)**
Religious authority	-0.005	-0.001	-0.008	**-0.017**
	(0.010)	(0.009)	(0.010)	**(0.038)**
Religious authority, Post	0.019	-0.003	0.012	**0.036**
	(0.014)	(0.013)	(0.013)	**(0.053)**
Exp. demand	-0.013	-0.015	-0.001	**-0.044**
	(0.011)	(0.010)	(0.010)	**(0.039)**
Exp. demand, Post	0.016	0.029**	0.002	**0.070**
	(0.014)	(0.013)	(0.013)	**(0.053)**
$\beta_E = \beta_{SS}.[\beta_E + \beta_{E,I} = \beta_{SS} + \beta_{SS,I}]$	0.078, [0.750]	0.231, [0.040]	0.675, [0.509]	**0.205, [0.365]**
$\beta_E = \beta_C, [\beta_E + \beta_{E,I} = \beta_R + \beta_{R,I}]$	0.019, [0.755]	0.396, [0.223]	0.745, [0.240]	**0.146, [0.758]**
$\beta_E = \beta_R, [\beta_E + \beta_{E,I} = \beta_C + \beta C, I]$	0.466, [0.274]	0.165, [0.029]	0.447, [0.758]	**0.498, [0.843]**
N	5286	5307	5348	**5210**
Mean of control group	0.822	0.878	0.877	**-0.003**
Panel C: Avoiding mosques				
Past state success	0.027	0.023	0.024	**0.058**
	(0.017)	(0.016)	(0.017)	**(0.036)**
Past state success , Post	-0.020	-0.040*	-0.012	**-0.060**
	(0.023)	(0.023)	(0.024)	**(0.052)**
Citizen cooperation	0.005	0.020	0.004	**0.021**
	(0.017)	(0.016)	(0.017)	**(0.036)**
Citizen cooperation, Post	0.004	-0.011	0.019	**0.015**
	(0.023)	(0.024)	(0.024)	**(0.051)**
Religious authority	0.031*	0.035**	0.047***	**0.097*****
	(0.016)	(0.016)	(0.017)	**(0.035)**
Religious authority, Post	-0.030	-0.045*	-0.061**	**-0.122****
	(0.023)	(0.023)	(0.024)	**(0.051)**
Exp. demand	0.008	0.004	-0.002	**0.002**
	(0.017)	(0.016)	(0.016)	**(0.036)**
Exp. demand, Post	-0.001	0.009	0.024	**0.038**
	(0.023)	(0.024)	(0.023)	**(0.050)**
$\beta_E = \beta_{SS}, [\beta_E + \beta_{E,I} = \beta_{SS} + \beta_{SS,I}]$	0.264, [0.971]	0.268, [0.068]	0.122, [0.545]	**0.134, [0.269]**
$\beta_E = \beta_C, [\beta_E + \beta_{E,I} = \beta_R + \beta_{R,I}]$	0.848, [0.867]	0.342, [0.803]	0.709, [0.977]	**0.606, [0.921]**
$\beta_E = \beta_R, [\beta_E + \beta_{E,I} = \beta_C + \beta C, I]$	0.170, [0.743[	0.066, [0.156]	0.004, [0.032]	**0.009, [0.081]**
N	5213	5136	5244	**4968**
Mean of control group	0.530	0.584	0.570	**-0.030**

Notes: OLS regressions of intended behavior, norms, and benefits on treatment. The unit of observation is the individual. The specifications estimate heterogenous treatment effects before and after the change in the basic information script. After the Government of Pakistan revised the way it communicated its directives on minimizing the spread of Covid-19, the basic information script no longer *explicitly* advised citizens to avoid praying in congregation, and rather focused on the directive to socially distance as much as possible in general. *I intend to...* measures how likely the respondent is to follow a behavior (wash hands more frequently, social distance, or avoid praying at mosque) on a 5-step Likert scale with higher values indicating a higher likelihood. *I believe others should...* measures how much the respondent believes others should follow the behavior on a 5-step Likert scale. *I believe... is beneficial.* measures how beneficial the respondent believes the behavior to be on a 5-step Likert scale. The *attitudes index* is the average of the z-scores of these three outcome variables. The index is set to missing if any of the included outcome variables is missing. The **highlighted columns** are the treatment effect on the attitudes index. All specifications include stratum fixed effects, enumerator fixed effects, *post* dummy, and past behavior (measured at baseline). Additional controls include gender, education level, economic cost of compliance with Covid-19 directives, past compliance with Covid-19 directives (hand-washing, social distancing, avoiding mosques for communal prayers), primary TV channel source of news, and primary newspaper source of news. These were selected using the double post-LASSO algorithm. This algorithm applies the LASSO to all baseline covariates to select variables that predict the outcome and treatment status. We include the union of these LASSO-selected variables as controls. The bottom panel presents p-values from different hypothesis tests comparing each estimated treatment coefficient to the estimated experimenter demand coefficient. The p-values outside of brackets correspond to the hypothesis tests for the base group; the p-values in brackets correspond to the hypothesis tests for the interacted group. Robust standard errors are in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table A9: **Attitudes towards the State. Heterogeneity by Content of Basic Information Script**

	Panel A: State Capacity				**Panel B: General Attitudes**					
	Manage pandemic	Provide public goods	Enforce regulations	Capacity Index	Trust in Elected Officials	Trust in State	Perceived Benevolence	Trust Index	Govt Share	Demand for Govt Info
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Past state success	0.014	-0.006	-0.021	**-0.035**	-0.007	-0.024	0.008	**-0.013**	**-0.039***	0.011
	(0.020)	(0.021)	(0.021)	**(0.051)**	(0.019)	(0.018)	(0.017)	**(0.046)**	**(0.023)**	(0.027)
Past state success, Post	-0.022	-0.007	-0.012	**-0.027**	-0.022	-0.005	0.007	**-0.029**	**0.034**	0.015
	(0.027)	(0.029)	(0.029)	**(0.072)**	(0.027)	(0.026)	(0.023)	**(0.065)**	**(0.033)**	(0.038)
Citizen cooperation	0.016	-0.001	-0.013	**-0.017**	0.005	-0.002	-0.001	**0.014**	**-0.020**	0.014
	(0.020)	(0.021)	(0.021)	**(0.053)**	(0.020)	(0.019)	(0.017)	**(0.048)**	**(0.024)**	(0.027)
Citizen cooperation, Post	-0.010	0.008	0.026	**0.047**	0.012	0.004	0.010	**0.020**	**0.028**	-0.006
	(0.028)	(0.030)	(0.029)	**(0.073)**	(0.028)	(0.027)	(0.023)	**(0.067)**	**(0.033)**	(0.038)
Religious authority	0.006	-0.027	-0.047**	**-0.101****	-0.017	-0.010	-0.006	**-0.032**	**-0.036**	0.011
	(0.020)	(0.020)	(0.020)	**(0.050)**	(0.019)	(0.018)	(0.016)	**(0.045)**	**(0.024)**	(0.027)
Religious authority, Post	-0.027	0.022	0.022	**0.057**	-0.003	-0.000	-0.014	**-0.024**	**0.030**	-0.000
	(0.028)	(0.029)	(0.029)	**(0.071)**	(0.027)	(0.026)	(0.022)	**(0.064)**	**(0.034)**	(0.038)
Exp. demand	0.014	-0.003	-0.009	**-0.010**	0.011	-0.004	0.012	**0.040**	**-0.032**	0.001
	(0.020)	(0.021)	(0.021)	**(0.052)**	(0.020)	(0.019)	(0.017)	**(0.048)**	**(0.024)**	(0.028)
Exp. demand, Post	-0.008	-0.003	0.025	**0.026**	0.004	0.009	-0.011	**-0.019**	**0.040**	0.047
	(0.028)	(0.029)	(0.029)	**(0.072)**	(0.028)	(0.026)	(0.023)	**(0.065)**	**(0.033)**	(0.039)
$\beta_E = \beta_{SS}$	0.973	0.848	0.561	**0.613**	0.356	0.278	0.809	**0.266**	**0.762**	0.715
$\beta_E = \beta_C$	0.907	0.928	0.857	**0.885**	0.760	0.933	0.455	**0.595**	**0.617**	0.639
$\beta_E = \beta_R$	0.694	0.213	0.062	**0.065**	0.156	0.737	0.265	**0.122**	**0.874**	0.716
$\beta_E + \beta_{E,I} = \beta_{SS} + \beta_{SS,I}$	0.482	0.675	0.017	**0.117**	0.020	0.067	0.381	**0.162**	**0.565**	0.410
$\beta_E + \beta_{E,I} = \beta_R + \beta_{R,I}$	0.998	0.512	0.885	**0.790**	0.955	0.855	0.602	**0.775**	**0.983**	0.140
$\beta_E + \beta_{E,I} = \beta_C + \beta C, I$	0.165	0.994	0.047	**0.234**	0.072	0.410	0.170	**0.083**	**0.568**	0.176
N	5102	5207	5167	**5090**	4959	4945	5298	**4767**	**4335**	5370
Mean of control group	0.493	0.461	0.609	**0.021**	0.352	0.411	0.226	**0.002**	**0.345**	0.392

Notes: OLS regressions of state capacity on treatment. The unit of observation is the individual. The specifications estimate heterogenous treatment effects before and after the change in the basic information script. After the Government of Pakistan revised the way it communicated its directives on minimizing the spread of Covid-19, the basic information script no longer *explicitly* advised citizens to avoid praying in congregation, and rather focused on the directive to socially distance as much as possible in general. In Panel A, beliefs on state capacity to *provide public goods*, *enforce regulations*, and *manage the coronavirus pandemic* are measured on a 5-step Likert scale with higher values indicating higher perceived state capacity. The *capacity index* is the average of the z-scores of *provide public goods* and *enforce regulations*. The index is set to missing if any of the included outcome variables is missing. The **highlighted column** is the treatment effect on the capacity index. In Panel B, *trust in elected officials*, *trust in the state*, and *perceived state benevolence* are measured on a 5-step Likert scale with higher values indicating higher trust. The *trust index* is the average of the z-scores of these three outcome variables. The index is set to missing if any of the included outcome variables is missing. *Govt share* is the proportion of funds the respondent allocated to government coronavirus relief efforts in a lab-in-the-field game. The **highlighted columns** are the treatment effect on the trust index and the share of funds allocated to government coronavirus relief efforts. All specifications include stratum fixed effects, enumerator fixed effects, and the *post* dummy. Additional controls include gender, education level, economic cost of compliance with Covid-19 directives, past compliance with Covid-19 directives (hand-washing, social distancing, avoiding mosques for communal prayers), primary TV channel source of news, and primary newspaper source of news. These were selected using the double post-LASSO algorithm. This algorithm applies the LASSO to all baseline covariates to select variables that predict the outcome and treatment status. We include the union of these LASSO-selected variables as controls. Robust standard errors are in parentheses. The bottom panel presents p-values from different hypothesis tests comparing each estimated treatment coefficient to the estimated experimenter demand coefficient for the base group and interaction group. Robust standard errors are in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table A10: **Heterogeneity by Baseline News Consumption**

	I intend to...	I believe others should...	I believe ... is beneficial.	Attitudes Index
	(1)	(2)	(3)	(4)
Panel A: Frequent hand-washing				
Past state success	0.006	-0.006	-0.008	**-0.028**
	(0.005)	(0.004)	(0.005)	**(0.028)**
Past state success, No media	-0.003	0.003	0.005	**0.012**
	(0.013)	(0.013)	(0.012)	**(0.076)**
Citizen cooperation	0.001	-0.003	-0.004	**-0.017**
	(0.005)	(0.004)	(0.005)	**(0.029)**
Citizen cooperation, No media	-0.017	0.008	-0.010	**-0.043**
	(0.013)	(0.013)	(0.014)	**(0.081)**
Religious authority	0.005	-0.001	-0.004	**-0.001**
	(0.005)	(0.005)	(0.005)	**(0.029)**
Religious authority, No Media	-0.014	0.001	-0.003	**-0.047**
	(0.014)	(0.012)	(0.013)	**(0.071)**
Exp. demand	0.003	-0.001	-0.006	**-0.018**
	(0.005)	(0.005)	(0.005)	**(0.028)**
Exp. demand, No media	-0.008	-0.005	0.005	**-0.024**
	(0.014)	(0.013)	(0.012)	**(0.076)**
$\beta_E = \beta_{SS}, [\beta_E + \beta_{E,I} = \beta_{SS} + \beta_{SS,I}]$	0.589, [0.502]	0.263, [0.766]	0.738, [0.874]	**0.733, [0.704]**
$\beta_E = \beta_C, [\beta_E + \beta_{E,I} = \beta_R + \beta_{R,I}]$	0.663, [0.387]	0.693, [0.301]	0.621, [0.334]	**0.969, [0.805]**
$\beta_E = \beta_R, [\beta_E + \beta_{E,I} = \beta_C + \beta C, I]$	0.733, [0.757]	0.971, [0.502]	0.656, [0.639]	**0.570, [0.921]**
N	5361	5340	5357	**5323**
Mean of control group	0.931	0.950	0.949	**0.016**
Panel B: Social distancing				
Past state success	0.005	-0.007	-0.002	**-0.013**
	(0.008)	(0.007)	(0.007)	**(0.030)**
Past state success, No media	0.009	0.023	0.008	**0.072**
	(0.019)	(0.017)	(0.017)	**(0.073)**
Citizen cooperation	0.012	-0.001	0.009	**0.030**
	(0.008)	(0.007)	(0.007)	**(0.028)**
Citizen cooperation, No media	-0.012	-0.001	-0.012	**-0.029**
	(0.019)	(0.017)	(0.019)	**(0.072)**
Religious authority	0.002	-0.001	-0.002	**0.003**
	(0.008)	(0.007)	(0.007)	**(0.029)**
Religious authority, No Media	0.009	-0.009	-0.002	**-0.019**
	(0.020)	(0.017)	(0.018)	**(0.073)**
Exp. demand	-0.005	-0.004	-0.003	**-0.019**
	(0.008)	(0.007)	(0.008)	**(0.029)**
Exp. demand, No media	-0.001	0.018	0.018	**0.047**
	(0.019)	(0.017)	(0.016)	**(0.068)**
$\beta_E = \beta_{SS}, [\beta_E + \beta_{E,I} = \beta_{SS} + \beta_{SS,I}]$	0.230, [0.251]	0.676, [0.875]	0.888, [0.565]	**0.824, [0.605]**
$\beta_E = \beta_C, [\beta_E + \beta_{E,I} = \beta_R + \beta_{R,I}]$	0.040, [0.730]	0.676, [0.292]	0.099, [0.292]	**0.092, [0.670]**
$\beta_E = \beta_R, [\beta_E + \beta_{E,I} = \beta_C + \beta C, I]$	0.395, [0.342]	0.655, [0.127]	0.882, [0.211]	**0.453, [0.498]**
N	5286	5307	5348	**5210**
Mean of control group	0.822	0.878	0.877	**-0.003**
Panel C: Avoiding mosques				
Past state success	0.007	-0.003	0.013	**0.008**
	(0.013)	(0.013)	(0.013)	**(0.029)**
Past state success, No media	0.052*	0.038	0.032	**0.110***
	(0.030)	(0.030)	(0.030)	**(0.066)**
Citizen cooperation	0.008	0.010	0.006	**0.019**
	(0.013)	(0.013)	(0.013)	**(0.029)**
Citizen cooperation, No media	-0.007	0.028	0.038	**0.046**
	(0.028)	(0.029)	(0.030)	**(0.063)**
Religious authority	0.014	0.009	0.016	**0.031**
	(0.013)	(0.013)	(0.013)	**(0.029)**
Religious authority, No Media	0.019	0.028	0.019	**0.051**
	(0.028)	(0.029)	(0.030)	**(0.064)**
Exp. demand	0.006	0.001	0.003	**0.005**
	(0.013)	(0.013)	(0.013)	**(0.028)**
Exp. demand, No media	0.009	0.042	0.036	**0.085**
	(0.028)	(0.029)	(0.029)	**(0.062)**
$\beta_E = \beta_{SS}, [\beta_E + \beta_{E,I} = \beta_{SS} + \beta_{SS,I}]$	0.885, [0.095]	0.720, [0.739]	0.480, [0.846]	**0.907, [0.630]**
$\beta_E = \beta_C, [\beta_E + \beta_{E,I} = \beta_R + \beta_{R,I}]$	0.849, [0.593]	0.520, [0.823]	0.825, [0.852]	**0.616, [0.674]**
$\beta_E = \beta_R, [\beta_E + \beta_{E,I} = \beta_C + \beta C, I]$	0.528, [0.485]	0.587, [0.796]	0.354, [0.839]	**0.361, [0.902]**
N	5213	5136	5244	**4968**
Mean of control group	0.530	0.584	0.570	**-0.030**

Notes: OLS regressions of intended behavior, norms, and benefits on treatment. The unit of observation is the individual. The specifications estimate heterogeneous treatment effects by media consumption. *No media* is a dummy variable equal to 1 if the respondent does not consume any news (either from TV channels or newspapers). *I intend to...* measures how likely the respondent is to follow a behavior (wash hands more frequently, social distance, or avoid praying at mosque) on a 5-step Likert scale with higher values indicating a higher likelihood. *I believe others should...* measures how much the respondent believes others should follow the behavior on a 5-step Likert scale. *I believe... is beneficial.* measures how beneficial the respondent believes the behavior to be on a 5-step Likert scale. The *attitudes index* is the average of the z-scores of these three outcome variables. The index is set to missing if any of the included outcome variables is missing. The **highlighted columns** are the treatment effect on the attitudes index. All specifications include stratum fixed effects, enumerator fixed effects, *post* dummy, and past behavior (measured at baseline). Additional controls include gender, education level, economic cost of compliance with Covid-19 directives, past compliance with Covid-19 directives (hand-washing, social distancing, avoiding mosques for communal prayers), primary TV channel source of news, and primary newspaper source of news. These were selected using the double post-LASSO algorithm. This algorithm applies the LASSO to all baseline covariates to select variables that predict the outcome and treatment status. We include the union of these LASSO-selected variables as controls. The bottom panel presents p-values from different hypothesis tests comparing each estimated treatment coefficient to the estimated experimenter demand coefficient. The p-values outside of brackets correspond to the hypothesis tests for the base group; the p-values in brackets correspond to the hypothesis tests for the interacted group. Robust standard errors are in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table A11: **Attitudes towards State Directives, Sub-Sample Analysis for Respondents with Low Baseline Compliance**

	I intend to...	I believe others should...	I believe ... is beneficial.	Attitudes Index
	(1)	(2)	(3)	(4)
Panel A: Frequent hand-washing				
Past state success	0.028	0.006	0.027	**0.120**
	(0.039)	(0.032)	(0.034)	**(0.221)**
Citizen cooperation	-0.021	-0.014	-0.009	**-0.132**
	(0.038)	(0.035)	(0.041)	**(0.244)**
Religious authority	-0.020	-0.005	-0.017	**-0.116**
	(0.042)	(0.037)	(0.042)	**(0.247)**
Experimenter demand	0.068	0.018	0.034	**0.268**
	(0.041)	(0.036)	(0.036)	**(0.237)**
$\beta_E = \beta_{SS}$	0.255	0.711	0.830	**0.477**
$\beta_E = \beta_C$	0.011	0.344	0.226	**0.072**
$\beta_E = \beta_R$	0.031	0.538	0.167	**0.094**
N	387	381	383	**376**
Mean of control group	0.686	0.820	0.765	**-1.343**
Panel B: Social distancing				
Past state success	0.020	-0.007	0.009	**0.028**
	(0.024)	(0.020)	(0.022)	**(0.090)**
Citizen cooperation	0.021	-0.002	0.021	**0.091**
	(0.024)	(0.020)	(0.021)	**(0.086)**
Religious authority	0.003	-0.006	-0.017	**-0.047**
	(0.024)	(0.020)	(0.022)	**(0.089)**
Experimenter demand	0.020	0.020	0.023	**0.103**
	(0.023)	(0.020)	(0.020)	**(0.083)**
$\beta_E = \beta_{SS}$	0.981	0.179	0.484	**0.376**
$\beta_E = \beta_C$	0.946	0.260	0.944	**0.889**
$\beta_E = \beta_R$	0.469	0.183	0.056	**0.072**
N	1004	1014	1031	**972**
Mean of control group	0.604	0.755	0.734	**-0.818**
Panel C: Avoiding mosques				
Past state success	0.021	-0.011	0.018	**0.020**
	(0.015)	(0.016)	(0.016)	**(0.035)**
Citizen cooperation	0.022	0.024	0.018	**0.060***
	(0.015)	(0.016)	(0.016)	**(0.034)**
Religious authority	0.023	0.000	0.021	**0.036**
	(0.015)	(0.016)	(0.016)	**(0.033)**
Experimenter demand	0.004	-0.007	-0.000	**-0.005**
	(0.015)	(0.016)	(0.016)	**(0.033)**
$\beta_E = \beta_{SS}$	0.272	0.793	0.273	**0.461**
$\beta_E = \beta_C$	0.226	0.055	0.261	**0.057**
$\beta_E = \beta_R$	0.196	0.630	0.185	**0.214**
N	2909	2875	2936	**2768**
Mean of control group	0.296	0.407	0.381	**-0.561**

Notes: OLS regressions of intended behavior, norms, and benefits on treatment. The unit of observation is the individual. The specifications estimate the effect of each treatment group and experimenter demand group for those with low compliance with each state directive at baseline. Individuals are considered to have low compliance if they report they "did not follow at all", "did not follow", or are "neutral" about each state directive. *I intend to...* measures how likely the respondent is to follow a behavior (wash hands more frequently, social distance, or avoid praying at mosque) on a 5-step Likert scale with higher values indicating a higher likelihood. *I believe others should...* measures how much the respondent believes others should follow the behavior on a 5-step Likert scale. *I believe... is beneficial.* measures how beneficial the respondent believes the behavior to be on a 5-step Likert scale. The *attitudes index* is the average of the z-scores of these three outcome variables. The index is set to missing if any of the included outcome variables is missing. The **highlighted columns** are the treatment effect on the attitudes index. All specifications include stratum fixed effects, enumerator fixed effects, *post* dummy, and past behavior (measured at baseline). Additional controls include gender, education level, economic cost of compliance with Covid-19 directives, past compliance with Covid-19 directives (hand-washing, social distancing, avoiding mosques for communal prayers), primary TV channel source of news, and primary newspaper source of news. These were selected using the double post-LASSO algorithm. This algorithm applies the LASSO to all baseline covariates to select variables that predict the outcome and treatment status. We include the union of these LASSO-selected variables as controls. The bottom panel presents p-values from different hypothesis tests comparing each estimated treatment coefficient to the estimated experimenter demand coefficient. Robust standard errors are in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table A12: **Attitudes towards State Directives. Heterogeneity by City**

	I intend to...	I believe others should...	I believe ... is beneficial.	Attitudes Index
	(1)	(2)	(3)	(4)
Panel A: Frequent hand-washing				
Past state success	0.004	-0.006	-0.006	**-0.039**
	(0.008)	(0.007)	(0.008)	**(0.047)**
Past state success , Lahore	0.002	0.001	-0.002	**0.020**
	(0.010)	(0.009)	(0.010)	**(0.057)**
Citizen cooperation	-0.006	-0.005	0.000	**-0.045**
	(0.009)	(0.008)	(0.009)	**(0.052)**
Citizen cooperation, Lahore	0.005	0.005	-0.008	**0.029**
	(0.011)	(0.009)	(0.011)	**(0.061)**
Religious authority	0.006	-0.009	-0.004	**-0.036**
	(0.008)	(0.007)	(0.009)	**(0.048)**
Religious authority, Lahore	-0.006	0.012	-0.001	**0.037**
	(0.010)	(0.009)	(0.011)	**(0.058)**
Exp. demand	-0.001	-0.006	-0.003	**-0.045**
	(0.008)	(0.007)	(0.009)	**(0.049)**
Exp. demand, Lahore	0.004	0.006	-0.004	**0.032**
	(0.010)	(0.009)	(0.010)	**(0.058)**
$\beta_E = \beta_{SS}, [\beta_E + \beta_{E,I} = \beta_{SS} + \beta_{SS,I}]$	0.515, [0.613]	0.994, [0.310]	0.724, [0.871]	**0.901, [0.832]**
$\beta_E = \beta_C, [\beta_E + \beta_{E,I} = \beta_R + \beta_{R,I}]$	0.623, [0.485]	0.817, [0.980]	0.739, [0.791]	**0.993, [0.911]**
$\beta_E = \beta_R, [\beta_E + \beta_{E,I} = \beta_C + \beta C, I]$	0.329, [0.636]	0.696, [0.559]	0.915, [0.743]	**0.847, [0.672]**
N	5361	5340	5357	**5323**
Mean of control group	0.931	0.950	0.949	**0.016**
Panel B: Social distancing				
Past state success	0.014	-0.003	0.013	**0.025**
	(0.013)	(0.012)	(0.012)	**(0.049)**
Past state success , Lahore	-0.011	-0.000	-0.019	**-0.035**
	(0.016)	(0.014)	(0.014)	**(0.059)**
Citizen cooperation	0.014	0.004	0.027**	**0.067**
	(0.013)	(0.012)	(0.012)	**(0.048)**
Citizen cooperation, Lahore	-0.006	-0.008	-0.030**	**-0.063**
	(0.016)	(0.014)	(0.015)	**(0.057)**
Religious authority	0.007	-0.013	0.006	**-0.013**
	(0.014)	(0.012)	(0.012)	**(0.050)**
Religious authority, Lahore	-0.005	0.016	-0.012	**0.019**
	(0.016)	(0.014)	(0.015)	**(0.059)**
Exp. demand	-0.001	-0.011	-0.001	**-0.035**
	(0.013)	(0.012)	(0.013)	**(0.050)**
Exp. demand, Lahore	-0.005	0.015	0.001	**0.037**
	(0.016)	(0.014)	(0.015)	**(0.059)**
$\beta_E = \beta_{SS}, [\beta_E + \beta_{E,I} = \beta_{SS} + \beta_{SS,I}]$	0.212, [0.292]	0.514, [0.374]	0.300, [0.332]	**0.239, [0.718]**
$\beta_E = \beta_C, [\beta_E + \beta_{E,I} = \beta_R + \beta_{R,I}]$	0.240, [0.109]	0.224, [0.311]	0.028, [0.647]	**0.040, [0.931]**
$\beta_E = \beta_R, [\beta_E + \beta_{E,I} = \beta_C + \beta C, I]$	0.514, [0.320]	0.820, [0.870]	0.630, [0.339]	**0.674, [0.906]**
N	5286	5307	5348	**5210**
Mean of control group	0.822	0.878	0.877	**-0.003**
Panel C: Avoiding mosques				
Past state success	0.030	0.013	0.036*	**0.060**
	(0.020)	(0.021)	(0.021)	**(0.046)**
Past state success , Lahore	-0.019	-0.014	-0.025	**-0.045**
	(0.025)	(0.025)	(0.026)	**(0.056)**
Citizen cooperation	0.037*	0.046**	0.038*	**0.097****
	(0.020)	(0.021)	(0.021)	**(0.047)**
Citizen cooperation, Lahore	-0.044*	-0.045*	-0.036	**-0.101***
	(0.025)	(0.025)	(0.025)	**(0.056)**
Religious authority	0.041**	0.010	0.023	**0.050**
	(0.020)	(0.021)	(0.021)	**(0.045)**
Religious authority, Lahore	-0.034	0.007	-0.005	**-0.010**
	(0.024)	(0.025)	(0.025)	**(0.055)**
Exp. demand	0.038*	0.039*	0.039*	**0.095****
	(0.020)	(0.021)	(0.021)	**(0.045)**
Exp. demand, Lahore	-0.046*	-0.044*	-0.043*	**-0.109****
	(0.024)	(0.025)	(0.025)	**(0.054)**
$\beta_E = \beta_{SS}, [\beta_E + \beta_{E,I} = \beta_{SS} + \beta_{SS,I}]$	0.692, [0.178]	0.212, [0.752]	0.875, [0.328]	**0.448, [0.363]**
$\beta_E = \beta_C, [\beta_E + \beta_{E,I} = \beta_R + \beta_{R,I}]$	0.930, [0.987]	0.747, [0.666]	0.977, [0.706]	**0.956, [0.736]**
$\beta_E = \beta_R, [\beta_E + \beta_{E,I} = \beta_C + \beta C, I]$	0.904, [0.326]	0.161, [0.130]	0.434, [0.138]	**0.315, [0.091]**
N	5213	5136	5244	**4968**
Mean of control group	0.530	0.584	0.570	**-0.030**

Notes: OLS regressions of intended behavior, norms, and benefits on treatment. The unit of observation is the individual. The specifications estimate heterogeneous treatment effects by city of residence. *I intend to...* measures how likely the respondent is to follow a behavior (wash hands more frequently, social distance, or avoid praying at mosque) on a 5-step Likert scale with higher values indicating a higher likelihood. *I believe others should...* measures how much the respondent believes others should follow the behavior on a 5-step Likert scale. *I believe... is beneficial.* measures how beneficial the respondent believes the behavior to be on a 5-step Likert scale. The *attitudes index* is the average of the z-scores of these three outcome variables. The index is set to missing if any of the included outcome variables is missing. The **highlighted columns** are the treatment effect on the attitudes index. All specifications include stratum fixed effects, enumerator fixed effects, *post* dummy, and past behavior (measured at baseline). Additional controls include gender, education level, economic cost of compliance with Covid-19 directives, past compliance with Covid-19 directives (hand-washing, social distancing, avoiding mosques for communal prayers), primary TV channel source of news, and primary newspaper source of news. These were selected using the double post-LASSO algorithm. This algorithm applies the LASSO to all baseline covariates to select variables that predict the outcome and treatment status. We include the union of these LASSO-selected variables as controls. The bottom panel presents p-values from different hypothesis tests comparing each estimated treatment coefficient to the estimated experimenter demand coefficient. The p-values outside of brackets correspond to the hypothesis tests for the base group; the p-values in brackets correspond to the hypothesis tests for the interacted group. Robust standard errors are in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table A13: **Attitudes towards the State. Heterogeneity by City**

	Panel A: State Capacity				**Panel B: General Attitudes**					
	Manage pandemic	Provide public goods	Enforce regulations	Capacity Index	Trust in Elected Officials	Trust in State	Perceived Benevolence	Trust Index	Govt Share	Demand for Govt Info
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Past state success	0.015	0.029	0.012	**0.052**	0.023	0.023	0.031	**0.098***	**-0.039**	0.086**
	(0.024)	(0.026)	(0.025)	**(0.064)**	(0.024)	(0.023)	(0.020)	**(0.056)**	**(0.029)**	(0.034)
Past state success, Lahore	-0.016	-0.058*	-0.056*	**-0.148***	-0.062**	-0.074***	-0.028	**-0.185*****	**0.026**	-0.102**
	(0.029)	(0.031)	(0.031)	**(0.077)**	(0.029)	(0.028)	(0.025)	**(0.069)**	**(0.035)**	(0.041)
Citizen cooperation	0.042	0.037	0.014	**0.064**	-0.006	0.029	0.020	**0.046**	**-0.045**	0.069**
	(0.026)	(0.027)	(0.026)	**(0.066)**	(0.025)	(0.024)	(0.021)	**(0.057)**	**(0.030)**	(0.033)
Citizen cooperation, Lahore	-0.045	-0.049	-0.020	**-0.086**	0.023	-0.043	-0.023	**-0.033**	**0.059**	-0.085**
	(0.031)	(0.032)	(0.031)	**(0.079)**	(0.030)	(0.029)	(0.025)	**(0.070)**	**(0.036)**	(0.041)
Religious authority	-0.019	0.011	-0.026	**-0.033**	0.006	0.022	0.003	**0.043**	**-0.060****	0.032
	(0.025)	(0.026)	(0.025)	**(0.063)**	(0.024)	(0.023)	(0.019)	**(0.055)**	**(0.030)**	(0.033)
Religious authority, Lahore	0.020	-0.042	-0.015	**-0.061**	-0.036	-0.047*	-0.023	**-0.127***	**0.060***	-0.030
	(0.030)	(0.031)	(0.031)	**(0.076)**	(0.029)	(0.028)	(0.024)	**(0.068)**	**(0.036)**	(0.041)
Exp. demand	0.031	0.023	0.028	**0.064**	0.027	0.051**	0.031	**0.121****	**-0.036**	0.069**
	(0.025)	(0.026)	(0.025)	**(0.063)**	(0.025)	(0.023)	(0.020)	**(0.057)**	**(0.030)**	(0.034)
Exp. demand, Lahore	-0.032	-0.039	-0.037	**-0.090**	-0.020	-0.074***	-0.036	**-0.132***	**0.037**	-0.068*
	(0.030)	(0.032)	(0.031)	**(0.077)**	(0.030)	(0.028)	(0.025)	**(0.070)**	**(0.036)**	(0.042)
$\beta_E = \beta_{SS}$	0.487	0.802	0.503	**0.839**	0.882	0.225	0.987	**0.694**	**0.918**	0.629
$\beta_E = \beta_C$	0.676	0.595	0.572	**0.994**	0.197	0.358	0.612	**0.207**	**0.756**	0.978
$\beta_E = \beta_R$	0.038	0.640	0.027	**0.108**	0.394	0.205	0.159	**0.172**	**0.403**	0.266
$\beta_E + \beta_{E,I} = \beta_{SS} + \beta_{SS,I}$	0.956	0.488	0.043	**0.109**	0.007	0.096	0.630	**0.055**	**0.475**	0.471
$\beta_E + \beta_{E,I} = \beta_R + \beta_{R,I}$	0.854	0.807	0.909	**0.925**	0.538	0.560	0.911	**0.545**	**0.535**	0.457
$\beta_E + \beta_{E,I} = \beta_C + \beta C, I$	0.970	0.409	0.070	**0.120**	0.027	0.914	0.275	**0.063**	**0.938**	0.983
N	5102	5207	5167	**5090**	4959	4945	5298	**4767**	**4335**	5370
Mean of control group	0.493	0.461	0.609	**0.021**	0.352	0.411	0.226	**0.002**	**0.345**	0.392

Notes: OLS regressions of state capacity on treatment. The unit of observation is the individual. The specifications estimate heterogeneous treatment effects by city of residence. In Panel A, beliefs on state capacity to *provide public goods*, *enforce regulations*, and *manage the coronavirus pandemic* are measured on a 5-step Likert scale with higher values indicating higher perceived state capacity. The *capacity index* is the average of the z-scores of *provide public goods* and *enforce regulations*. The index is set to missing if any of the included outcome variables is missing. The **highlighted column** is the treatment effect on the capacity index. In Panel B, *trust in elected officials*, *trust in the state*, and *perceived state benevolence* are measured on a 5-step Likert scale with higher values indicating higher trust. The *trust index* is the average of the z-scores of these three outcome variables. The index is set to missing if any of the included outcome variables is missing. *Govt share* is the proportion of funds the respondent allocated to government coronavirus relief efforts in a lab-in-the-field game. The **highlighted columns** are the treatment effect on the trust index and the share of funds allocated to government coronavirus relief efforts. All specifications include stratum fixed effects, enumerator fixed effects, and the *post* dummy. Additional controls include gender, education level, economic cost of compliance with Covid-19 directives, past compliance with Covid-19 directives (hand-washing, social distancing, avoiding mosques for communal prayers), primary TV channel source of news, and primary newspaper source of news. These were selected using the double post-LASSO algorithm. This algorithm applies the LASSO to all baseline covariates to select variables that predict the outcome and treatment status. We include the union of these LASSO-selected variables as controls. Robust standard errors are in parentheses. The bottom panel presents p-values from different hypothesis tests comparing each estimated treatment coefficient to the estimated experimenter demand coefficient for the base group and interaction group. Robust standard errors are in parentheses. * p<0.10, ** p<0.05, *** p<0.01