

# Public Trust, Policing, and the COVID-19 Pandemic: Evidence from an Electoral Authoritarian Regime \*

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## Abstract

We examine how trust shapes compliance with public health restrictions during the COVID-19 pandemic in Uganda. We use an endorsement experiment embedded in a mobile phone survey to show that messages from government officials generate more support for public health restrictions than messages from religious authorities, traditional leaders, or international NGOs. We further show that compliance with these restrictions is strongly positively correlated with trust in government, but only weakly correlated with trust in local authorities or other citizens. The relationship between trust and compliance is especially strong for the Ministry of Health and—more surprisingly—the police. We conclude that trust is crucial for encouraging compliance but note that it may be difficult to change, particularly in settings where governments and police forces have reputations for repression.

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The COVID-19 pandemic has laid bare the crucial role that trust plays in generating and sustaining compliance with public health directives during times of crisis. It has also brought into stark relief the many “varieties” of trust that shape behavior when public health is at stake. Citizens are expected to trust public health authorities to characterize crises accurately and devise policies to mitigate them effectively. They are expected to trust elected officials to enact those policies quickly, trust law enforcement agencies to enforce them equitably, and trust other citizens to comply with them consistently. They are expected to trust the safety and efficacy of treatments and vaccines, many of which are developed by the private sector (e.g. pharmaceutical companies). Especially in the Global South, citizens are also expected to trust the international NGOs and foreign aid agencies involved in disseminating vaccines and treatments to the public.

Trust matters because it increases the likelihood that citizens will take actions that are costly and disruptive for them as individuals, but necessary for public health (Blair, Morse and Tsai 2017; Kahan 2003). Especially in the early stages of the COVID-19 pandemic, when access to testing was limited and treatments and vaccines had not yet been developed, compliance with social distancing policies and other public health measures was indispensable for curbing the spread of the virus (Haug et al. 2020; Kraemer et al. 2020). Because these policies imposed tight constraints on citizens’ social and economic lives, compliance was inevitably imperfect, and some degree of resistance was likely unavoidable. But the consequences of non-compliance can be severe, and refusal to adhere to COVID-19 public health restrictions has been linked to spikes in caseloads in countries around the world (Flaxman et al. 2020; Yilmazkuday 2021).

A small but growing body of research has documented the importance of trust as a predictor of compliance during previous public health emergencies, especially the 2014-15 Ebola epidemic in West Africa (Blair, Morse and Tsai 2017; Tsai, Morse and Blair 2020) and the 2018-19 Ebola crisis in the Democratic Republic of Congo (Vinck et al. 2019). A more recent extension of this literature has demonstrated the importance of trust during the COVID-19 pandemic (Bargain and Aminjonov 2020). These studies have taught us much about the relationship between trust and compliance with public health measures. But most of them have operationalized trust in rather

coarse ways, ignoring potentially significant variation in the types of agencies and authorities that citizens do and do not trust, and the types of public health messages they do and do not find persuasive (c.f. Arriola and Grossman 2020; Kao et al. 2021).

Understanding this variation is essential. Some citizens trust their doctors to prescribe treatments, but do not trust the pharmaceutical companies responsible for developing the treatments that doctors prescribe; others trust their neighbors to comply with social distancing policies, but do not trust elected officials to enact policies that will protect them from harm. Most existing studies use measures of trust that are too broad to capture these subtle but crucial distinctions. For example, one study correlates mobility data at the country level with a trust measure derived from the European Social Survey, which asks respondents about their trust in politicians in the country on a scale of 0 to 10 (Bargain and Aminjonov 2020). Moreover, existing studies typically overlook the importance of trust in institutions that are only tangentially involved in public health in the Global North, but that serve as the primary (and sometimes only) enforcers of public health restrictions in much of the Global South—in particular, the police.

In this paper we extend the existing literature by asking two interrelated questions. First, which authorities are most effective in persuading citizens to accept costly and disruptive restrictions on their behavior during public health emergencies? Are messages from local religious leaders more effective than messages from international NGOs? In the Global South in particular, are messages from traditional (or “customary”) authorities more persuasive than messages from the government? Second and related, of the varieties of trust described above, which is most important in generating actual compliance with public health restrictions? In the context of low-income countries where reliable information is often hard to come by, is trust in public health authorities more important than trust in government as a whole? Is trust in the police more important than trust in other community members? Which of these varieties of trust is most strongly correlated with compliance?

We answer these questions through interconnected observational and experimental studies in Uganda. Using an endorsement experiment embedded in a mobile phone survey conducted at

the height of the pandemic, we first show that messages from government officials are more effective at generating support for public health restrictions than messages from religious authorities, traditional leaders, or international NGOs. We then show that compliance with these restrictions is strongly positively correlated with trust in government, but only weakly (and in some cases negatively) correlated with trust in local authorities or other citizens.

The correlation between compliance and trust in government does not appear to be an artifact of misinformation or misunderstanding of the virus among less trusting respondents: if anything, respondents who express less trust in government are *more* knowledgeable about the symptoms of COVID-19. This echoes similar findings from research on the Ebola epidemic in Liberia (Blair, Morse and Tsai 2017). It is also in line with the fact that more educated Ugandans tend to be, on average, less trusting of the ruling National Resistance Movement (NRM) party. While compliance is higher among NRM supporters, controlling for party affiliation does not attenuate the relationship between compliance and trust in government. The correlation also does not appear to be an artifact of social desirability bias: using a pair of list experiments, we show that respondents do not overreport compliance with public health restrictions in the context of the survey.

Disaggregating these results further, we show that while trust in all government agencies is positively correlated with compliance, the relationship appears to be especially strong for trust in the Ministry of Health and—perhaps more surprisingly—the police. This latter result may reflect the pivotal and highly controversial role that the police have played in enforcing social distancing policies in Uganda (and in other developing countries). However, as a recent study of community policing in six developing countries—including Uganda—suggests, it is far from easy to build trust in state institutions where it is lacking (Blair, Weinstein, Christia, Arias, Badran, Blair, Cheema, Farooqui, Fetzer, Grossman, Haim, Hameed, Hanson, Hasanain, Kronick, Morse, Muggah, Nadeem, Tsai, Nanes, Slough, Ravanilla, Shapiro, Silva, Souza and Wilke 2021). We conclude that trust is crucial but sticky, and that changing it may require more intensive interventions before a crisis strikes (Haim, Ravanilla and Sexton 2021).

## THEORETICAL FRAMEWORK

The COVID-19 pandemic has posed unique challenges for governments and public health officials around the world. Authorities have been tasked with persuading large numbers of individuals to engage in costly, disruptive behaviors in order to slow the spread of a virus that was (initially) poorly understood. Because the virus was new, guidelines for curtailing its spread inevitably shifted over time. In the US, for example, citizens were initially discouraged from wearing masks in order to ensure sufficient supply for doctors and other frontline workers; as the pandemic progressed, masks were eventually recognized as an effective tool for preventing infection, and the original guidelines were reversed (Howard et al. 2021). These reversals compounded the challenge of persuading individuals to comply with public health guidelines, as misinformation and conspiracy theories proliferated (Milosh et al. 2020).

Trust is especially important in times of crisis and uncertainty because it helps sustain compliance even as public health restrictions evolve. Theoretically, citizens who trust public health authorities should be less likely to interpret changes in their recommendations as evidence of incompetence or malevolence (Gonzalez and Maffioli 2021). Citizens who trust elected officials should be less likely to defy restrictions on movement, commerce, and public gatherings as unnecessary impositions. Especially in the Global South, citizens who trust foreign donors and international NGOs should be less likely to reject the treatments they offer as alien and dangerous. Of course, it is possible that citizens can be *too* trusting, for example if they naively embrace treatments that actually *are* dangerous. In settings where governments routinely prey on their citizens, some degree of distrust is warranted. But citizens who are so distrustful that they ignore public health guidelines altogether are likely to pose a threat to their own safety, and to the safety of others.

Consistent with these intuitions, recent studies have documented the myriad ways that trust has shaped citizens' willingness to comply with public health directives during the COVID-19 pandemic. In the US, for example, one study finds high-trust counties decreased their mobil-

ity significantly more than low-trust counties after lockdown measures were imposed (Brodeur, Grigoryeva and Kattan 2020). Similarly, in the UK, another study demonstrates that citizens who expressed greater trust in government were more likely to comply with government-imposed social distancing policies. Trust has been shown to correlate with COVID-19 mortality and other important outcomes as well. For example, scholars find that trust in government is negatively correlated with COVID-19 deaths across 25 European countries (Oksanen et al. 2020).

Other studies have shown that the relationship between trust and compliance is conditioned by partisanship, especially in the US (Kubinec et al. 2020). Trust in other citizens (or “social trust”) is positively correlated with compliance, but the strength of the correlation is lower in Republican-leaning counties, where many residents rejected social distancing measures as oppressive (Goldstein and Wiedemann 2021). A related study finds that social distancing policies were more effective in reducing mobility in Democratic-leaning counties than in Republican-leaning ones (Grossman et al. 2020). These studies complement and extend an existing (smaller) literature focused on the relationship between trust and compliance during earlier epidemics, including Ebola (Blair, Morse and Tsai 2017; Dhillon and Kelly 2015; Tsai, Morse and Blair 2020), HIV/AIDS (Dionne and Poulin 2013), and H1N1 (Freimuth et al. 2014).

Our study aims to address two limitations of this emerging literature. First, much of the research on trust and compliance during the COVID-19 pandemic focuses on rich consolidated democracies (Barrios et al. 2021; Chan et al. 2020; Devine et al. 2021). Certainly, there are some exceptions—for example, several studies include developing countries in cross-national analyses (Arriola and Grossman 2020; Kao et al. 2021; Bosancianu et al. 2020; Brück et al. 2020). Nonetheless, the general focus on the Global North is a potentially important shortcoming, as political and institutional configurations in the Global South often differ dramatically from those in the Global North. In Niger, for example, chiefs and other traditional leaders have played a prominent role as conduits of information during the pandemic, partnering with international NGOs to encourage masking, hand washing, and social distancing at the community level (Haro and Gosmane 2020). The same is true in Nigeria (Warigon 2021) and other sub-Saharan African countries.

Traditional leaders have played similarly influential roles during earlier vaccination drives on the continent (Grossman, Phillips and Rosenzweig 2018). Trust in these authorities is arguably less relevant in most rich industrialized countries, but it may be crucial in the developing world.

Similarly, while the police have been only tangentially involved in enforcing social distancing policies in the United States and Western Europe, they have played a much more central (and much more contentious) role in Kenya (Mearak and Ombuor 2020), South Africa (Parkinson and Bariyo 2020), and other countries in the Global South. Criminologists have long argued that citizens' willingness to obey the law and cooperate with the police hinges crucially on their perceptions of the police as legitimate and procedurally fair (Bottoms and Tankebe 2012; Tyler 2006). This same insight may apply to compliance with public health restrictions that are enforced by the police. Trust in the police may be unrelated to compliance with public health restrictions in more developed countries. But—again—it may be essential in less developed ones.

Second and related, most studies of trust and compliance during the COVID-19 pandemic focus on very generalized measures of trust in government (Bargain and Aminjonov 2020) or other citizens (Goldstein and Wiedemann 2021). There are again exceptions; for example, one study uses a conjoint experiment in Malawi to show that citizens are more responsive to some authorities over others (Kao et al. 2021). But in general, existing measures disguise significant variation in citizens' attitudes towards different individuals and institutions. Variation of this sort may have important implications for compliance, especially in settings where different authorities at different levels of government enact conflicting policies. In Brazil, for example, state governors and city mayors imposed restrictions on public gatherings that would have forced many churches to close, at least temporarily. Church leaders resisted these measures, encouraging their congregations to worship in person. The Brazilian Supreme Court sided with the governors and mayors; President Jair Bolsonaro sided with the church (Pooler 2021). Similar clashes over policy emerged in many countries, including the US. Under these conditions, the magnitude and even the direction of the correlation between trust and compliance may depend entirely on the object of that trust—a possibility that existing scholars generally have not explored (Devine et al. 2021).

We address these complexities through a combination of observational and experimental research designs. We begin by testing whether endorsements of public health restrictions are more persuasive when they are delivered by government officials, rather than by religious authorities, traditional leaders, or international NGOs. Next, we distinguish trust in government (e.g. the Ministry of Health) from trust in local authorities (e.g., in the Ugandan context, Local Council chairpeople) and other citizens. We then disaggregate trust in government further, distinguishing between trust in the central government, the district government, the Ministry of Health, and the police. These analyses extend the relatively narrow scope of existing studies by disaggregating trust and incorporating actors and institutions that play a pivotal role in COVID-19 prevention in the Global South, despite their more peripheral role in most of the Global North.

## SETTING

Our study focuses on Uganda, an electoral authoritarian regime that has been ruled by the same party (the National Resistance Movement, or NRM) and president (Yoweri Museveni) since 1986. Uganda is an instructive setting for our study due to its similarities with many other low-income countries. Uganda is in the mid-range of the World Bank's ranking of low-income countries in terms of economic growth (as captured by GDP per capita) and human development (as captured by HDI). Authoritarian regimes that hold periodic elections like the one in Uganda are common throughout the Global South, and are the modal regime type in sub-Saharan Africa. As with any study of a single country, we cannot know for certain how far our results will travel. Nonetheless, these similarities suggest that lessons learned in Uganda may be generalizable to other African countries, and potentially to other developing countries as well.

During the COVID-19 pandemic the Ugandan central government, including the President and Prime Minister, oversaw the implementation of public health directives in partnership with district governments, which are the highest tier of government below the national level. On March 24, 2020, three days after the pandemic was formally announced in Uganda, the government published



a comprehensive set of regulations to control the spread of the virus (*The Public Health Control of COVID-19 Rules 2020*). These rules specified the responsibilities of government officials and health and medical practitioners, and also imposed a set of restrictions on individual behavior punishable by law. These include a duty to report COVID-19 cases to the authorities (article 3) and a ban on attending large public gatherings such as bars and movie theaters (article 9b), churches and mosques (article 9c), wedding parties, vigils, and funerals (article 9e), and political rallies and cultural conferences (article 9f). The regulations also mandate quarantines for anyone with direct contact with COVID-19 patients. On May 4, Museveni announced a mask mandate and extended a lockdown that had already been in place since April 1 (*Reuters 2020; XinhuaNet 2020*).

The Uganda Police Force (UPF) has been actively involved in efforts to enforce these policies, and has in some cases engaged in excessive force to punish non-compliance. UPF officers have also used the pandemic as a pretext to suppress protests by opposition politicians and their supporters, including, most notably, the musician-turned-activist Bobi Wine (*Burke and Okiror 2020*). The police have justified these abuses as necessary to contain the spread of the virus, but in many cases their actions have disproportionately targeted critics of the ruling party (*Okiror and Burke 2020*). This is part of a more general pattern in which President Museveni and the NRM deploy the UPF to harass, intimidate, imprison, and in some cases kill members of the opposition (*Curtice and Behlendorf 2021*). Some UPF officers also helped distribute food aid, at least early in the crisis.

In addition to the central government (including the Ministry of Health and UPF), other actors and institutions played a key role in educating the public about ways to reduce the risk of COVID-19 transmission. These include Local Council chairpersons (LC1s), traditional leaders, religious authorities, and local and international NGOs. Following the government guidelines, several traditional leaders—most notably the Kabaka (king) of the Buganda Kingdom, Ronald Muwenda Mutebi II—issued public statements about the importance of respecting social distancing measures and mask mandates (*The Independent 2020*). Top clerics of various Christian denominations also issued proclamations banning church gatherings across the country (*Isiko 2020*).

These efforts by traditional and religious leaders are ongoing. In March 2021, for example, the Archbishop of the Church of Uganda, Dr. Stephen Kaziimba Mugalu, appealed to leaders at all levels to help debunk fears and misconceptions about the AstraZeneca vaccine and to encourage their followers to get vaccinated ([The Independent 2021](#)). Whether these messages have been effective remains an open question.

## RESEARCH DESIGN

To test which authorities are most effective in generating support for public health restrictions, we use an endorsement experiment that was embedded in an original mobile phone survey of 2,587 respondents across 288 villages spanning 13 districts and all four regions of Uganda (north, central, east, and west). Uganda is divided into 134 districts; our survey covers Mbarara, Lira, Mbale, Gulu, Mityana, Kamuli, Jinja, Tororo, Iganga, Kabale, Rakai, Arua, and Ntungamo. We selected these districts in coordination with the government to insure equal representation of Uganda's four regions in an unrelated community policing study completed prior to the onset of the pandemic. We randomly sampled six male and six female respondents in each of 288 villages to participate in a baseline survey in June and July 2018. These same respondents were resurveyed in December 2019 (midline), then again between July and September 2020 (endline). All surveys were implemented by Innovations for Poverty Action (IPA), Uganda.

The first two survey waves were conducted in person; the third was implemented at the height of the pandemic amidst the government's recently imposed restrictions on travel and public gatherings, and was therefore conducted by mobile phone in order to mitigate any potential risks to the health of our enumerators and respondents. Wherever possible we interviewed the same respondents in each wave, replacing them only when they were unavailable or had died or moved away. We surveyed 3,456 respondents at baseline. In total, we replaced 510 respondents between baseline and midline, for an attrition rate of about 15%. Given the upheaval of the pandemic and the change in format, it is perhaps unsurprising that we observed an attrition rate of roughly 30%

between baseline and endline. Of the 3,456 respondents interviewed at midline, 2,370 could be reached to complete the mobile phone survey at endline. An additional 217 baseline respondents who could not be reached at midline also responded to the mobile phone survey.

The endorsement experiment allows us to test whether respondents' support for public health guidelines varies with the identity of the authority with whom those guidelines are associated. Respondents were randomly assigned to hear two messages attributed to one of four authorities: the government, international NGOs, traditional leaders, or religious authorities. The two messages included endorsements of two policies: a ban on public gatherings and a recommendation that citizens maintain six feet of social distance while interacting with anyone other than family members. Respondents were randomly assigned to the same condition (and thus the same endorser) in both experiments. They were then asked how much they support each of the two policies on a 5-point scale. Specifically, they were asked, first, "[Government / International NGOs / Traditional leaders / Religious leaders] say there can be no large public gatherings and no church/mosque at this time. Do you disagree or agree with this rule?" And second, "[Government / International NGOs / Traditional leaders / Religious leaders] say we should maintain a distance of 2 meters between people outside of the same household. Do you disagree or agree with this suggestion?"

The survey also included modules of questions on trust in a variety of state and non-state actors, knowledge of COVID-19, perceptions of public health restrictions, and compliance with those restrictions. We use these modules to test the observational relationship between compliance and different "varieties" of trust, and between trust and knowledge of COVID-19. To measure knowledge of COVID-19, respondents were asked a series of simple factual questions about who can contract the virus, whether there is a "cure," and the symptoms of infection. To measure public health compliance, respondents were asked seven questions about their behavior over the preceding seven days, including avoiding large public gatherings and wearing masks. We describe our approach to operationalizing these variables in further detail below.

To help address potential over-reporting of compliance, we also administered two separate list experiments designed to measure violations of Uganda's mask mandate and its ban on at-

tending religious services outside the home. Respondents were randomly assigned to the same condition, treatment or control, for both experiments. In the first experiment, respondents were asked whether they had engaged in each of four activities in the last seven days. The list included three non-sensitive items (“You went for a stroll outside the house;” “You asked a relative for a small loan;” “You sent someone mobile money”) and one sensitive item (“You walked around the village without a face mask”). For the second experiment, respondents were again asked whether they had engaged in each of four activities in the last seven days, including three non-sensitive items (“You were asked by a relative for a large loan;” “You had to skip some meals;” “You spoke about coronavirus with a friend or family member”) and one sensitive item (“You attended church or mosque service”). Respondents were asked to report the number of activities they had engaged in without specifying which ones, thus allowing them to report any non-compliance indirectly. We use these experiments in our observational analysis to rule out significant over-reporting of compliance as measured via direct survey questions.

## RESULTS

### ENDORSEMENT EXPERIMENT

Are some authorities more effective than others at convincing citizens to embrace restrictions on their behavior during public health crises? Our endorsement experiment is designed to address this question. Table 1 presents our results. The dependent variables in columns 1 and 2 are 5-point Likert scales measuring support for the government’s ban on large public gatherings (column 1) and its recommendations for social distancing outside the home (column 2). Both Likert scales are standardized for ease of interpretation. The dependent variable in column 3 is a standardized additive index of support for the two policies. We regress each dependent variable on dummies indicating endorsement by international NGOs, religious authorities, and traditional leaders; the base category is endorsement by the government. Standard errors are clustered at the village level. We do not include any control variables, though our results are substantively similar if we do.

Table 1: Endorsement Experiment

	(1) Support for Ban on Gatherings	(2) Support for Social Distancing Rules	(3) Index of Support
Base category: Government			
International NGOs	-0.09 <sup>+</sup> (0.05)	-0.06 (0.06)	-0.09 <sup>+</sup> (0.06)
Religious leaders	-0.15 (0.05)	-0.07 (0.05)	-0.14 (0.05)
Traditional leaders	-0.10 (0.05)	-0.04 (0.05)	-0.09 <sup>+</sup> (0.05)
Constant	0.09 (0.04)	0.04 (0.04)	0.08 (0.04)
Observations	2584	2584	2584

Notes: OLS regression models with standard errors clustered at the village level.

DVs: (1) Agreement with ban on gatherings; (2) Agreement with social distancing rules; (3) Index of agreement with ban and social distancing rules.

<sup>+</sup>  $p < 0.10$ ,  $p < 0.05$ ,  $p < 0.01$ ,  $p < 0.001$

Figure 1 plots fitted values and 95% confidence intervals based on the results in column 1 of Table 1, using an unstandardized 5-point Likert scale to better illustrate base rates of support.

On average, we find that respondents expressed greater support for the ban on gatherings when it was endorsed by the government than when it was endorsed by any of the other three authorities (column 1). The difference is largest for religious leaders, though as we show in Figure 1, predicted levels of support for the ban are not statistically distinguishable across the three non-governmental treatment groups. A similar but weaker pattern holds for social distancing guidelines (column 2), though in this case our treatment effect estimates are not statistically different from one another at conventional thresholds. This could be due in part to ceiling effects, since overall support for social distancing was higher than support for the ban on gatherings. The ban on gatherings is also arguably more onerous than the guidelines on social distancing; it could be that government endorsement is especially important for public health restrictions that severely curtail citizens' activities. Respondents also expressed greater support for the two policies combined when they were endorsed by the government, rather than by international NGOs, traditional leaders, or religious

authorities (column 3).

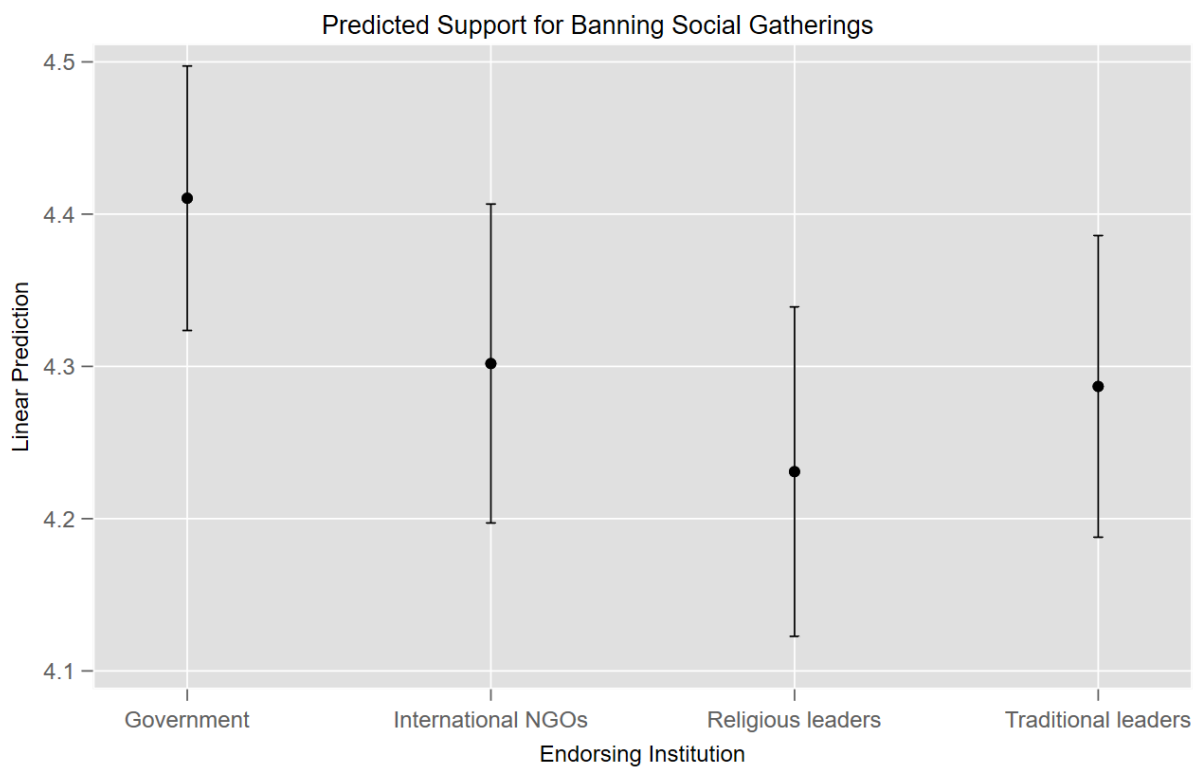
## OBSERVATIONAL ANALYSIS

Our endorsement experiment suggests that government officials are more effective at generating support for public health restrictions than other domestic (e.g. traditional leaders and religious authorities) or foreign (e.g. international NGOs) actors, even in an electoral autocracy in which citizens may have cause to distrust the government. Is trust in government also important for ensuring actual compliance with these public health policies? Is it more important than trust in more localized (and less overtly politicized) authorities? Is it more important than trust in other citizens—i.e. “social trust?” Even within the government, a variety of different actors and agencies are responsible for enacting and enforcing public health restrictions. Which “variety” of trust is most important for promoting compliance? Observational analysis of our mobile phone survey data allows us to answer these questions.

We measure compliance with a standardized additive index comprising seven items, scaled such that larger values indicate greater compliance: 1) number of days spent at home without leaving; 2) number of times attending church or mosque; 3) number of times going to a restaurant, bar, or cafe; 4) number of times attending a community meeting; 5) number of times attending large social gatherings like weddings, funerals, or parties; 6) frequency practicing social distancing; and 7) frequency of using a mask when in public. We measure trust in government with another standardized additive index comprising trust in four government institutions: the central government, the Ministry of Health, the district government, and the police. As we show in Table D.1 in the appendix, there is a positive correlation between these different varieties of trust, but they are not so highly correlated as to suggest that they are simply proxies for the same underlying phenomenon. We also measure trust in other members of the community and trust in the LC1 chairperson. These are potentially important local forms of trust that are less directly related to trust in government, both theoretically and—as we show in Table D.1—empirically.

Table 2 presents results from a series of OLS regressions where the dependent variable is our

Figure 1: Support for Ban on Gatherings by Endorsement Experiment Treatment Condition



Notes: Predicted values estimated from Model 1 in Table 1 with 95% confidence intervals.

Table 2: Correlates of Public Health Compliance

	(1)	(2)	(3)	(4)
	Index of Compliance			
Trust in State (Index)	0.14 (0.04)	0.14 (0.04)	0.14 (0.04)	0.13 (0.04)
Trust in LC1	-0.01 (0.03)	-0.01 (0.03)	-0.01 (0.03)	-0.01 (0.03)
Trust in other community members	0.04 (0.03)	0.04 (0.03)	0.04 (0.03)	0.04 (0.03)
Female	0.27 (0.04)	0.27 (0.04)	0.26 (0.04)	0.26 (0.04)
Age	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Education	-0.01 (0.02)	-0.01 (0.02)	-0.00 (0.02)	-0.00 (0.02)
Religiosity	-0.04 (0.03)	-0.04 (0.03)	-0.04 (0.03)	-0.04 (0.03)
Received government aid		0.01 (0.06)	0.01 (0.06)	0.01 (0.07)
Farmer			-0.01 (0.07)	-0.01 (0.07)
Business owner/self-employed			-0.12 (0.08)	-0.12 (0.08)
Unemployed and looking for work			0.07 (0.12)	0.09 (0.12)
Unemployed and not looking for work			0.07 (0.11)	0.07 (0.11)
Has difficulty accessing food			0.01 (0.01)	0.01 (0.01)
Change in earnings last week			0.05 (0.03)	0.05 (0.03)
NRM supporter				0.08 <sup>+</sup> (0.05)
Constant	0.02 (0.14)	0.02 (0.14)	-0.17 (0.19)	-0.18 (0.19)
Village FE	YES	YES	YES	YES
Observations	2531	2531	2531	2531

Notes: OLS regression models with standard errors clustered at the village level.

DV: Index of public health compliance.

+  $p < 0.10$ ,  $p < 0.05$ ,  $p < 0.01$ ,  $p < 0.001$



compliance index. The key independent variables of interest are 1) trust in government, 2) trust in the LC1 chairperson, and 3) trust in other community members. While these are correlations rather than relationships of cause and effect, we include a host of covariates and village fixed effects to mitigate confounding. Covariates include information on demographics, employment, income, access to food and government aid, and partisanship. To facilitate comparison, all continuous and categorical variables (including our three measures of trust) are standardized such that a one unit increase is equivalent to a shift of one standard deviation on that variable.

As in the endorsement experiment, we find that trust in government is consistently positively correlated with compliance with public health restrictions. Across all models, the point estimate on trust in government is much larger than the point estimates on trust in the LC1 chairperson or trust in other community members. These more local varieties of trust appear to have little to no relationship with compliance. In contrast, trust in government remains strongly positively correlated with compliance even after accounting for demographics (column 1), receipt of government aid (column 2), income and employment (column 3), and partisanship (column 4). This final result is especially important given that NRM membership is key to understanding citizens' perceptions of government in Uganda, where the ruling party systematically favors its own loyalists over supporters of the opposition. Our results suggest that trust in government still helps explain public health compliance even when conditioning on this key predictor of citizens' perceptions.

Table 2 tests the relationship between compliance and trust in government broadly defined. But as noted above, the state is not a unitary actor, and perceptions of different government institutions may vary in systematic ways. It is also possible that specific government agencies may vary in their importance for promoting compliance with public health restrictions. To explore this possibility, in Table 3 we disaggregate our index of trust in government into its four constituent parts: trust in the central government, the Ministry of Health, the district government, and the UPF. While these four measures are moderately positively correlated with one another, there is enough variation in perceptions that we can generate at least suggestive evidence about the relative importance of different varieties of trust for explaining public health compliance.

Perhaps surprisingly, in Table 3 we find that after accounting for the other varieties of trust, trust in the central and district governments is only weakly correlated with compliance. The point estimates for these variables are small across all specifications, and are never statistically significant. Trust in the Ministry of Health and the UPF are more strongly positively correlated with compliance, with larger point estimates that are statistically significant at the 90% confidence level in most specifications. Both of these institutions have been at the forefront of the government's response to COVID-19, though with different roles. The Ministry of Health has led public health messaging about the virus and the need for restrictions to reduce its spread, while the UPF has assumed responsibility for enforcing those restrictions, sometimes brutally.

Our survey also allows us to probe two possible explanations for the results above. First, it is possible that respondents who express higher levels of trust in government are more receptive to the government's public health messaging, and therefore become more knowledgeable about COVID-19 and ways to avoid contracting it. In this case, trust in government may increase compliance through the mechanism of information. We explore this possibility by regressing two indices of knowledge about COVID-19 on our measures of trust. The first index is the sum of respondents' correct answers to a series of three simple true/false questions about the virus; the second index is the sum of COVID-19 symptoms that respondents were able to identify. As we show in Tables D.2 and D.3 in the appendix, respondents who expressed higher levels of trust in government knew as much or *less* about COVID-19 than those who expressed lower levels of trust. While not conclusive, these results suggest that the positive correlation between compliance and trust in government is unlikely to be driven by information alone.

Second, it is possible that the correlation between compliance and trust is an artifact of social desirability bias, especially if more trusting respondents are prone to over-reporting their compliance with government-imposed public health restrictions. To probe this possibility, we use two list experiments that should mitigate social desirability concerns by allowing respondents to report non-compliance indirectly (Tourangeau and Yan 2007). Table D.4 in the appendix reports results from the first list experiment, which includes a sensitive item for "walking around the

Table 3: Correlates of Public Health Compliance Disaggregating Trust in Government

	(1)	(2)	(3)	(4)
	Index of Compliance			
Trust in central government	0.03 (0.03)	0.03 (0.03)	0.03 (0.03)	0.02 (0.03)
Trust in police	0.05 <sup>+</sup> (0.03)	0.05 <sup>+</sup> (0.03)	0.05 <sup>+</sup> (0.03)	0.04 (0.03)
Trust in Ministry of Health	0.07 <sup>+</sup> (0.04)	0.07 <sup>+</sup> (0.04)	0.07 <sup>+</sup> (0.04)	0.06 (0.04)
Trust in district government	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)
Trust in LC1	-0.01 (0.03)	-0.01 (0.03)	-0.01 (0.03)	-0.01 (0.03)
Trust in other community members	0.04 (0.03)	0.04 (0.03)	0.04 (0.03)	0.04 (0.03)
Female	0.26 (0.04)	0.26 (0.04)	0.25 (0.04)	0.25 (0.04)
Age	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Education	-0.00 (0.02)	-0.00 (0.02)	-0.00 (0.02)	-0.00 (0.02)
Religiosity	-0.04 (0.03)	-0.04 (0.03)	-0.04 (0.03)	-0.04 (0.03)
Received government aid		0.01 (0.06)	0.00 (0.06)	0.01 (0.07)
Farmer			-0.01 (0.07)	-0.01 (0.07)
Business owner/self-employed			-0.12 (0.08)	-0.12 (0.08)
Unemployed and looking for work			0.08 (0.12)	0.09 (0.12)
Unemployed and not looking for work			0.07 (0.11)	0.08 (0.11)
Has difficulty accessing food			0.01 (0.01)	0.01 (0.01)
Change in earnings last week			0.05 (0.03)	0.05 (0.03)
NRM supporter				0.08 <sup>+</sup> (0.05)
Constant	-0.48 (0.18)	-0.48 (0.18)	-0.67 (0.23)	-0.63 (0.23)
Village FE	YES	YES	YES	YES
Observations	2531	2531	2531	2531

Notes: OLS regression models with standard errors clustered at the village level.

DV: Index of public health compliance.

<sup>+</sup>  $p < 0.10$ ,  $p < 0.05$ ,  $p < 0.01$ ,  $p < 0.001$

village without a mask.” We find that an estimated 51% of respondents reported walking around the village without a mask in the last 7 days. This is in line with our estimate from a direct question in which 47% of respondents said they wore a mask “every time they left the home” in the past 7 days (compared to 26% saying “most of the time,” 14% “sometimes,” and 13% “not at all”).

Table D.5 in the appendix reports results from our second list experiment, which includes a sensitive item for “attending church or mosque service.” Based on the list experiment, we estimate that approximately 5% of respondents attended a religious service in the past week. Again, this is close to our direct question estimate in which 4.68% of respondents reported attending church or mosque at least once in the last 7 days. While we cannot conclusively test whether the gap between our direct and indirect estimates of compliance is larger for more trusting respondents, taken together, our results in Tables D.4 and D.5 suggest that our direct questions are capturing the prevalence of non-compliance relatively accurately, and that social desirability bias is therefore unlikely to explain the correlation between compliance and trust in government in our observational analyses.

## DISCUSSION

In this study we examine the role of trust in shaping citizens’ compliance with public health restrictions in an electoral autocracy. Our study is motivated by the idea that citizens’ responses to public health emergencies is shaped by their trust in multiple state and non-state institutions, not just the government in general. We extend existing research by distinguishing between multiple potential targets of trust, and by assessing whether some of these targets are more important than others in generating support for, and compliance with, costly and disruptive public health policies. We answer these questions in the context of the COVID-19 pandemic in Uganda.

Through interconnected experimental and observational studies, we show that (1) endorsements by the government are more effective in generating support for public health restrictions than endorsements by traditional leaders, religious authorities, or international NGOs; (2) trust in

government is strongly positively correlated with compliance with these restrictions, while trust in local authorities and other citizens is not; (3) the correlation between compliance and trust in government is unlikely to be a function of differential knowledge of COVID-19 among more and less trusting individuals, and is also unlikely to be an artifact of social desirability bias; and (4) trust in the Ministry of Health and trust in the police appear to be especially important predictors of compliance.

Taken together, our results suggest that the relationship between trust and compliance during public health crises is complex and multifaceted. However, the extant literature also suggests that trust is sticky, perhaps especially in a setting where the government in general—and the police in particular—has a reputation for repression. This is indeed the case in Uganda, where a recent community policing program showed no effect on citizen trust in the police (Blair, Weinstein, Christia, Arias, Badran, Blair, Cheema, Farooqui, Fetzer, Grossman, Haim, Hameed, Hanson, Hasanain, Kronick, Morse, Muggah, Nadeem, Tsai, Nanes, Slough, Ravanilla, Shapiro, Silva, Souza and Wilke 2021), though it is of course possible that a more intensive intervention might have yielded a larger and more sustained improvement in police-community relations. Other recent studies similarly point to the difficulties of building trust in widely distrusted police forces in the Global South (Blair, Karim and Morse 2019; Blair, Weinstein, Christia et al. 2021). These findings are especially important given the tendency of governments throughout the developing world to rely on their police forces to ensure compliance in times of crisis. Further exploration of the important but underappreciated link between policing and public health in low-income countries strikes us a fruitful avenue for future research.

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## APPENDIX

<b>A</b>	<b>Descriptive statistics</b>	<b>2</b>
<b>B</b>	<b>Map of study sample</b>	<b>3</b>
<b>C</b>	<b>Ethics</b>	<b>3</b>
<b>D</b>	<b>Additional analyses</b>	<b>4</b>

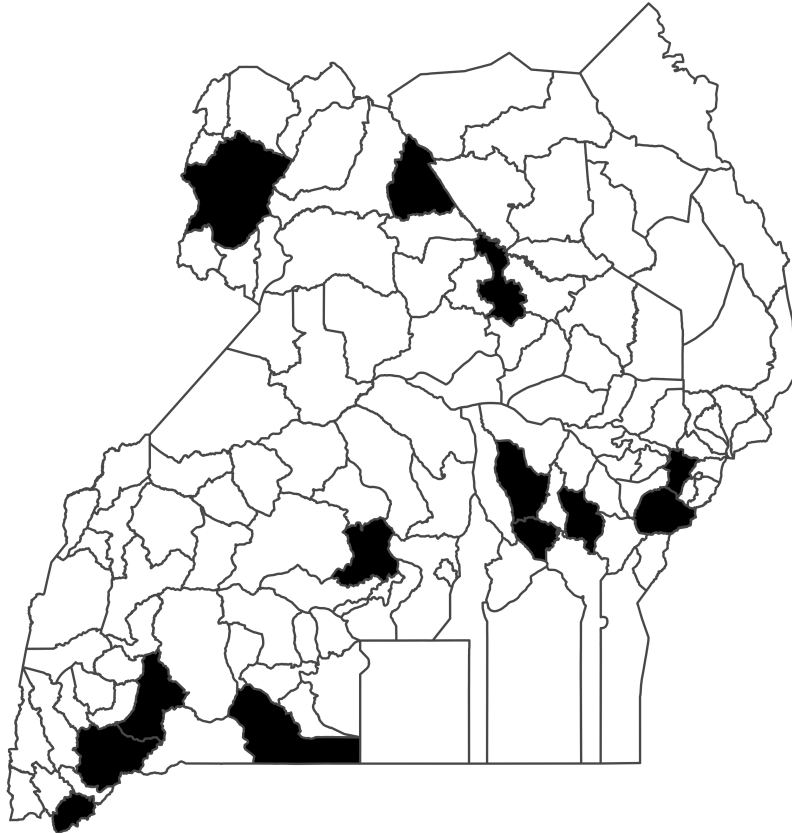
## A DESCRIPTIVE STATISTICS

Table A.1: Summary Statistics

	Obs	Mean	S.D.	Min	Max
Summary Compliance Index	2586	0.16	1.01	-8.2	2.0
Stayed Home (Last 7 Days)	2587	2.63	2.42	0.0	7.0
N. Times Religious Service (Last 7 Days)	2587	0.10	0.60	0.0	7.0
N. Times Restaurant/Cafe (Last 7 Days)	2587	0.50	1.40	0.0	7.0
N. Times Comm. Meeting (Last 7 Days)	2587	0.19	0.58	0.0	7.0
N. Times Social Gathering (Last 7 Days)	2587	0.39	0.76	0.0	7.0
Kept Social Distance	2587	2.71	1.08	1.0	4.0
Worn Face Mask	2586	3.08	1.05	1.0	4.0
Agreement with lockdown	2587	4.22	1.24	1.0	5.0
Agreement with ban on gatherings	2586	4.31	1.22	1.0	5.0
Agreement with social distancing	2585	4.69	0.71	1.0	5.0
Trust Government	2569	3.19	0.93	1.0	4.0
Trust Ministry of Health	2585	3.58	0.68	1.0	4.0
Trust Police	2583	2.88	1.04	1.0	4.0
Trust Police on COVID	2581	3.08	0.99	1.0	4.0
Trust District Govt	2552	2.39	1.08	1.0	4.0
Trust in State Index	2536	-0.00	1.00	-3.2	1.4
Trust LC1	2585	3.25	0.88	1.0	4.0
Trust Other People in Community	2584	2.85	0.92	1.0	4.0
NRM Party ID	2617	0.65	0.48	0.0	1.0
N. Correct Symptoms Named	2587	2.89	0.40	0.0	3.0
N. COVID Facts Correct	2587	2.33	0.75	0.0	3.0
Female	2617	0.48	0.50	0.0	1.0
Age	2617	43.33	14.29	18.0	95.0
Education	2617	1.62	1.38	0.0	7.0
Religiosity	2587	3.15	0.82	1.0	5.0
Food Access Difficulties	2587	3.25	2.08	0.0	7.0
Change in Earnings Last Week	2585	4.47	0.71	1.0	5.0
Received Government Aid	2587	0.23	0.42	0.0	1.0
Received Other Aid	2587	0.05	0.22	0.0	1.0
Police Enforce Bans	2582	2.96	1.64	1.0	5.0
Community Enforce Bans	2587	2.72	1.64	1.0	5.0

## B MAP OF STUDY SAMPLE

Figure B.1: Location of Districts in Sample



## C ETHICS

Studying public health compliance in the initial wave of the COVID-19 pandemic has important ethical implications. Our main aim throughout was to learn from and contribute to prior research on this topic while ensuring that minimal risk was posed to survey respondents. A primary ethical concern was making sure that our efforts would not contribute to the spread of the virus. A secondary concern was reducing anxiety around discussing difficult or socially sensitive issues. We

took several steps to address these concerns before implementing our study.

Most important, our study relied on a mobile phone survey rather than face-to-face interviews, which reduced the risk of spreading the virus. The mobile phone survey built on a previous in-person survey that was conducted as part of a community policing study. In-person survey respondents indicated whether they were willing to be contacted again in future research. This provided a unique opportunity for us to follow up with an existing sample of respondents with whom our implementing partner IPA had already established a relationship, this time focusing on both policing and public health.

To reduce anxiety around socially sensitive issues, we repeatedly reassured respondents that they could skip individual questions or entire modules if they experienced any discomfort during the survey. We also worked closely with both university IRBs and Ugandan review boards to ensure that best ethical practices were used throughout. Our study was approved by one of the author’s university IRB, MILD MAY Uganda Research and Ethics Committee (MUREC), and the Ugandan National Council for Science and Technology (UNCST) (ID numbers redacted for anonymity during peer review). Our study was preregistered in the American Economic Association’s registry for randomized controlled trials (ID number redacted for anonymity during peer review).

## D ADDITIONAL ANALYSES

Table D.1: Correlation Matrix - Trust

	Trust					
	Central Govt	MoH	District Govt	Police	Community	LC1
Trust Central Govt	1.00					
Trust MoH	0.38	1.00				
Trust District Govt	0.40	0.23	1.00			
Trust Police	0.45	0.38	0.34	1.00		
Trust Community	0.20	0.18	0.27	0.23	1.00	
Trust LC1	0.25	0.18	0.26	0.28	0.41	1.00



Table D.2: Correlates of COVID Knowledge (True/False Questions)

	(1)	(2)	(3)	(4)
	Number of Questions Answered Correctly			
Trust in State (Index)	-0.06 (0.03)	-0.06 (0.03)	-0.06 (0.03)	-0.05 <sup>+</sup> (0.03)
Trust in LC1	-0.01 (0.02)	-0.01 (0.02)	-0.01 (0.02)	-0.01 (0.02)
Trust in other community members	-0.01 (0.02)	-0.01 (0.02)	-0.01 (0.02)	-0.01 (0.02)
Female	-0.14 (0.03)	-0.14 (0.03)	-0.14 (0.03)	-0.14 (0.03)
Age	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Education	0.08 (0.01)	0.08 (0.01)	0.07 (0.01)	0.07 (0.01)
Religiosity	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)
Received government aid		0.10 (0.05)	0.09 <sup>+</sup> (0.05)	0.09 <sup>+</sup> (0.05)
Farmer			-0.00 (0.05)	-0.00 (0.05)
Business owner/self-employed			0.00 (0.04)	0.00 (0.05)
Unemployed and looking for work			-0.05 (0.12)	-0.06 (0.12)
Unemployed and not looking for work			-0.11 (0.09)	-0.11 (0.09)
Has difficulty accessing food			-0.02 (0.01)	-0.02 (0.01)
Change in earnings last week			0.06 (0.02)	0.06 (0.02)
NRM supporter				-0.04 (0.04)
Constant	2.33 (0.10)	2.31 (0.10)	2.12 (0.13)	2.12 (0.13)
Observations	2531	2531	2531	2531

Notes: OLS regression models with standard errors clustered at the village level.

DV: Count of true/false questions answered correctly (0-3).

<sup>+</sup>  $p < 0.10$ ,  $p < 0.05$ ,  $p < 0.01$ ,  $p < 0.001$

Table D.3: Correlates of Knowledge of COVID Symptoms

	(1)	(2)	(3)	(4)
	Number of Symptoms Known			
Trust in State (Index)	-0.01 (0.02)	-0.01 (0.02)	-0.01 (0.02)	-0.01 (0.02)
Trust in LC1	-0.02 (0.01)	-0.02 (0.01)	-0.02 (0.01)	-0.02 (0.01)
Trust in other community members	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Female	-0.00 (0.02)	-0.00 (0.02)	0.01 (0.02)	0.01 (0.02)
Age	-0.00 <sup>+</sup> (0.00)	-0.00 <sup>+</sup> (0.00)	-0.00 (0.00)	-0.00 (0.00)
Education	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Religiosity	0.03 (0.01)	0.03 (0.01)	0.02 (0.01)	0.02 (0.01)
Received government aid		0.04 <sup>+</sup> (0.03)	0.05 <sup>+</sup> (0.03)	0.05 <sup>+</sup> (0.03)
Farmer			-0.03 (0.03)	-0.03 (0.03)
Business owner/self-employed			0.00 (0.02)	0.00 (0.02)
Unemployed and looking for work			-0.05 (0.09)	-0.05 (0.09)
Unemployed and not looking for work			-0.15 (0.08)	-0.15 (0.08)
Has difficulty accessing food			0.01 (0.00)	0.01 (0.00)
Change in earnings last week			-0.01 (0.01)	-0.01 (0.01)
NRM supporter				0.04 (0.02)
Constant	2.99 (0.06)	2.98 (0.06)	3.02 (0.07)	3.02 (0.07)
Observations	2531	2531	2531	2531

Notes: OLS regression models with standard errors clustered at the village level.

DV: Number of COVID symptoms correctly identified (0-3).

<sup>+</sup>  $p < 0.10$ ,  $p < 0.05$ ,  $p < 0.01$ ,  $p < 0.001$

Table D.4: List Experiment on Not Wearing Masks

(1)	
Delta	
Constant	0.51 (0.04)
Gamma	
Constant	1.51 (0.02)
Observations	2586

Notes: Least squares linear estimator with standard errors clustered at the village level.

Delta = estimated proportion of sample not wearing mask in public.

Gamma = predicted number of affirmative answers to non-sensitive items.

+  $p < 0.10$ ,  $p < 0.05$ ,  $p < 0.01$ ,  $p < 0.001$

Table D.5: List Experiment on Attending Religious Service

(1)	
Delta	
Constant	0.05 (0.03)
Gamma	
Constant	1.49 (0.02)
Observations	2587

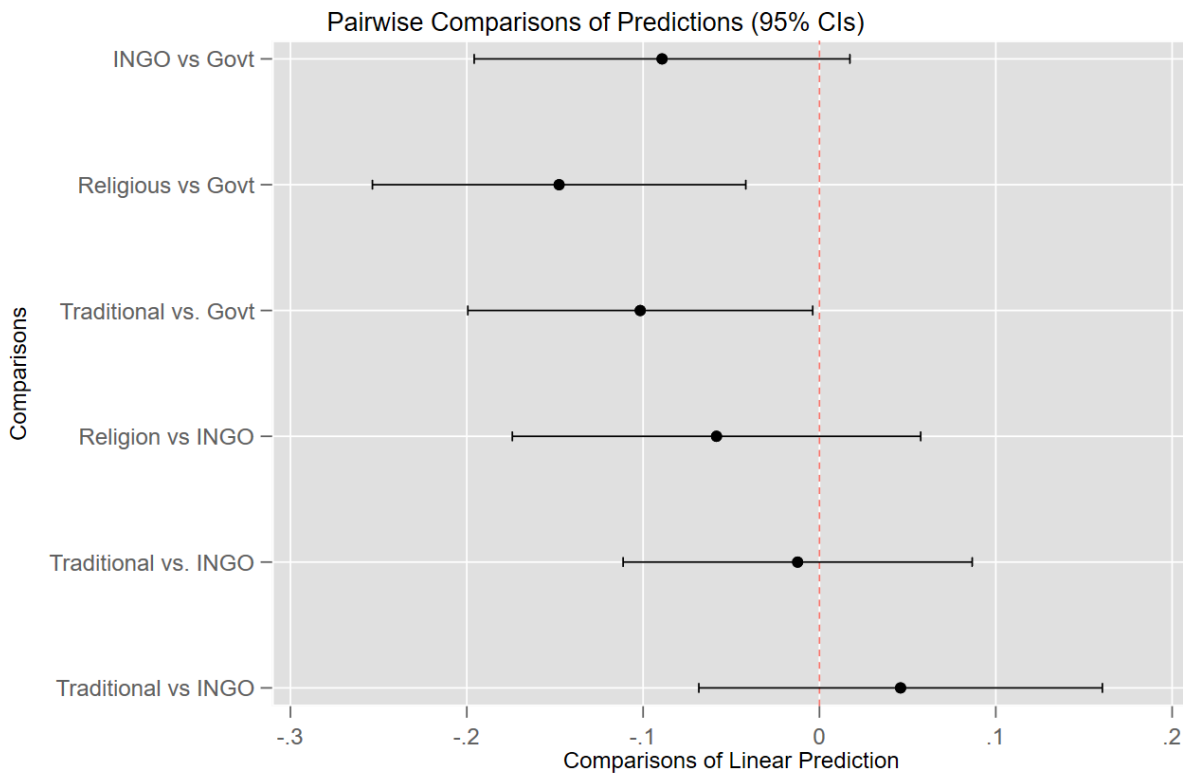
Notes: Least squares linear estimator with standard errors clustered at the village level.

Delta = estimated proportion of sample attending church or mosque in last 7 days.

Gamma = predicted number of affirmative answers to non-sensitive items.

+  $p < 0.10$ ,  $p < 0.05$ ,  $p < 0.01$ ,  $p < 0.001$

Figure D.1: Support for Banning Gatherings (Pairwise Comparisons)



Notes: Pairwise comparisons of linear predictions from Model 1 in Table 1 with 95% confidence intervals. Standard errors are clustered at the village level.