

Supplemental Appendix:
Persecuted Minorities and Defensive Cooperation
Contributions to Public Goods by Hindus and Muslims in Delhi Slums

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1 Preliminary Qualitative Fieldwork

Before administering the survey, a team of field researchers from a research institute in Delhi, the Centre for Policy Research (CPR), aided us in gathering qualitative data on slum settlements. From March to June 2018, the researchers collected data on twenty *bastis* from nine sites. Following pre-established interview and data collection protocols that we developed jointly with the CPR, trained field workers gathered qualitative data from members of the community and through observation on six main characteristics of potential study sites: (1) basic demographic information on population estimates through official sources, such as the Delhi Urban Shelter Improvement Board (DUSIB) and the Municipal Corporation of Delhi (MCD) (2) the religious and caste identification of the individuals living in a settlement, based on local knowledge. This information (1 and 2) was also used to corroborate our estimates of total population and the proportion of Muslim population gathered from electoral lists (discussed in Section 2), (3) the age and history of the settlement, including the evolution of public service delivery over time (4) the socio-economic status as well as main occupations of residents in the site, for which there is considerable variation even within slums in Delhi, (5) the level of public goods provision in the site based on the condition of drainage, local roads, water supply, and public toilets, and potential solutions of interest to residents and (6) the types and activities of local political leaders as well as other social organizations in the community, and finally (7) the geographic boundaries for cooperation over providing drain cleaning services. No identifying information of any sort was collected during this process.

The team generated 26 detailed reports that provided a wealth of information on the demography, quality of infrastructure and public services, political and social life, and local leadership. These reports guided site selection as well as the choice of public good: Based on findings from the fieldwork, we were also able to choose heterogeneous and homogeneous communities that were largely similar to each other in other respects. The reports also informed our choice of drain cleaning as an appropriate focus for the survey. Drainage was identified to be the single most important public good necessitating cooperation among residents at the neighborhood level and the quality of

drainage was an important concern in most settlements. While municipal workers did clean drains along major roads surrounding the settlements, residents in most *bastis* were forced to maintain internal drains through their own efforts (See Table 1).

Table 1: Condition of Drainage in Selected Sites



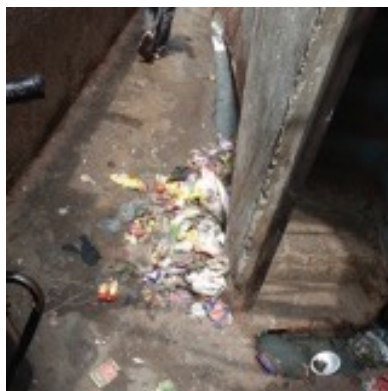
Main drainage clogged with garbage in Site D



Internal drain from *basti* connecting to the main drain in Site C



Sources of water supply right next to internal drains in Site E



Inner drains clogged with garbage and plastic in Site B



Overflowing drains in Site A



Garbage and overflowing drains in Site B

In addition, qualitative fieldwork also informed the design of the instrument. We learned that slum residents did not rate government agencies and non-governmental organizations (NGOs) as their preferred organizations to take charge of drainage. Instead, they favor low-cost private options over both free public services and those offered by NGOs. For example, after a new municipal policy eliminated fees at community toilet complexes (CTCs) in one of the slums, residents complained

that the cleanliness of the toilets declined. Community members were more receptive to paying a small fee to maintain community facilities. Furthermore, residents viewed NGOs as money-making schemes for well-connected locals who want to extract funds from the government and foreign donors, and believed that NGO leaders were not motivated by the welfare of the community. These interviews also provided input on an appropriate monthly fee for the hypothetical drainage company presented in the instrument.

Finally, qualitative evidence on the nature of political and social organization within *bastis* was helpful in interpreting the findings from the survey.

2 Site Selection

We selected nine candidate sites in different parts of Delhi based on their ethnic composition. These sites are administratively categorized as one of several types of informal settlements by the government, including *Jhuggi Jhopri* Cluster, Slum Designated Area, Unauthorized Colony, and Resettlement Colonies (see Table 2; Heller et al., 2015). With the exception of resettlement colonies, these sites are unplanned and residents do not have tenure rights. Regardless of their legal status, all areas have limited and poor access to public services. The sites are further comprised of twenty *bastis* or smaller organic communities.

Table 2: Types of Informal Settlements in Delhi

| Type of Settlement | Population (in millions, 2006) | Percentage of Delhi Population |
|------------------------------------|-----------------------------------|-----------------------------------|
| <i>Jhuggi Jhopri</i> Cluster (JJC) | 2.448 | 14.8% |
| Slum Designated Area | 3.148 | 19.1% |
| Unauthorized Colony | 0.874 | 5.3% |
| Resettlement Colonies | 2.099 | 12.72% |

Our initial goal was to identify three types of slums –“heterogeneous” communities with close to a 50/50 Hindu-Muslim split, “homogeneous” areas with an overwhelmingly Muslim majority, and “homogeneous” sites with an overwhelmingly Hindu majority. We relied on publicly available, booth-level electoral lists, collected from the website of the Chief Electoral Officer of Delhi, to estimate the proportion of the Muslim population in each site. The names in the electoral lists were digitized and matched against a list of common South Asian Muslim names to arrive at an estimate of the Muslim population in each *basti*. While *bastis* display greater variation in the proportion of Muslim population, settlements at the city level tended to be largely Muslim or Hindu. Mixed communities were identified at the *basti* level from the subset of the Hindu or Muslim sites listed in Section 3. The electoral lists also provided information on the number of voters in each *basti* and hence allowed us to generate a rough estimate of the population of each site. Our final survey was administered in sixteen *bastis* in five sites, selected from the initial list. (See Table 4

in the subsequent section for an anonymized list of these locations.) The sites were similar in socioeconomic characteristics, quality of public services, and age (ranging from 30-40 years).

3 Survey Administration

Before administering the survey, we piloted the instrument in three *bastis*. This allowed us to make several adjustments to improve the clarity and effectiveness of the instrument. The survey was administered by a local firm, Across Research and Communications (ARC). Together with an administrator from the survey firm and representatives from CPR, we trained a team of 25 enumerators on the instrument, recruitment strategy, and location characteristics (See Table 3).

Table 3: Piloting and Enumerator Training



Piloting the Survey



Training Enumerators

Enumerators worked in teams of 3 to 5 individuals, each of which were assigned to portions of the settlement communities where they carried out the survey. Because of the extreme heat during the survey period and the work schedules of residents of the settlement communities, the enumerators mainly carried out surveys in the morning and early afternoon. They were instructed to target every third household until all households in an area had been approached, and to interview only one person per household. When approaching a residence, they first introduced their company and the topic of the survey. They then asked to speak to the person in the house responsible for financial and other major household decisions. If this individual was not available, they asked for someone in the house who could make such decisions in the absence of the head of household. If neither was available, then the enumerator attempted to come back a different time. Because of this approach and social norms and practices in these communities, our sample is overwhelmingly (80%) male. Because we included a screening question for religion, only Muslims and Hindus are

a part of our sample. (In line with our preliminary fieldwork on the sites, those of other religions were very rare.)

Table 4 provides an overview of our sample by settlement. In total, our enumerators estimated that there were 12,310 households in the areas to which they administered the survey. Out of those, 5,814 individuals began a survey, of whom 14 were never assigned treatment and an additional 3 never had their settlement recorded, reducing the total sample size to 5,797. This puts our overall response rate at 47%, though as seen in Table 4, the rate varies from location to location, with the lowest at 27% (in Basti E1) and the highest at 78% (in Basti C5).

Table 4: Number of Participants Surveyed and Response Rate by *Basti*

| | Site | Basti | Households | Surveyed | Closed House/Refused | Response Rate |
|----|------|-------|------------|----------|----------------------|---------------|
| 1 | A | A1 | 1,400 | 1,005 | 395 | 72% |
| 2 | B | B1 | 1,260 | 541 | 719 | 43% |
| 3 | C | C1 | 1,550 | 673 | 877 | 43% |
| 4 | C | C2 | 130 | 66 | 64 | 51% |
| 5 | C | C3 | 1,080 | 634 | 446 | 59% |
| 6 | C | C4 | 1,065 | 491 | 574 | 46% |
| 7 | C | C5 | 125 | 98 | 27 | 78% |
| 8 | C | C6 | 850 | 436 | 414 | 51% |
| 9 | D | D1 | 900 | 381 | 519 | 42% |
| 10 | D | D2 | 400 | 212 | 188 | 53% |
| 11 | D | D3 | 400 | 211 | 189 | 53% |
| 12 | D | D4 | 300 | 158 | 142 | 53% |
| 13 | E | E1 | 2,400 | 669 | 1,731 | 28% |
| 14 | E | E2 | 140 | 106 | 34 | 76% |
| 15 | E | E3 | 230 | 62 | 168 | 27% |
| 16 | E | E4 | 80 | 54 | 26 | 68% |

However, we do not use this entire sample in the paper. First, some participants were missing data on important variables, eliminating an additional 124 participants from the total sample size. The variables for which missing data led to exclusion include geocoordinates (used to determine the diversity of the respondent's immediate neighborhood), religious identification, caste identification, and the outcome index. This is a small number of participants (approximately 2%), and we treat those units lacking these data as missing completely at random (MCAR).

Second, out of the remaining 5,673 participants, we keep only 3,843 that fall into the control condition and five experimental treatments: Horizontal Accountability, Vertical Accountability, Black Sheep, Horizontal Accountability + Black Sheep, and Vertical Accountability + Black Sheep. For this paper, we exclude three treatments we considered as alternate controls. For more information on all of the treatments, please see Section 4 of this appendix.

4 Experimental Portion of Survey

Participants were randomized into the groups shown in Table 5. Because over 20 enumerators each used their own tablet to administer the survey, participants were assigned to a treatment group using simple randomization, which results in slightly different sample sizes from treatment group to treatment group. Note that, as indicated by the first column in Table 5, only participants from the first four treatment groups were included in the analysis presented in the paper. Note that this table lists the sizes of each treatment group after eliminating participants with data missing on important variables, as noted in Section 3, adding up to a total of 5,673 participants.

Table 5: Treatment Groups

| In Paper? | Treatment | N |
|-----------|---|-----|
| Yes | Control | 654 |
| Yes | Horizontal Accountability | 622 |
| Yes | Vertical Accountability | 637 |
| Yes | Black Sheep | 603 |
| Yes | Horizontal Accountability + Black Sheep | 616 |
| Yes | Vertical Accountability + Black Sheep | 635 |
| No | No Names: Control | 675 |
| No | No Names: Horizontal Accountability | 605 |
| No | No Names: Vertical Accountability | 626 |

4.1 Introduction

The experimental portion of the survey begins with a description of a hypothetical drain cleaning service. That description read as follows:

We are now going to present to you an offer from a drain cleaning company. Please note that this offer is entirely hypothetical, and no service is going to be implemented as a result of this study.

This company would regularly clean the drains and make sure that they are not clogged. In case of any problems with the drainage system, especially during the rainy season, the company would send its staff to take care of the issue. We would like to know if residents of your neighborhood, [basti name inserted here], would be interested in this offer.

There are two conditions for this offer:

- A monthly subscription fee of Rs.50 per household.
- 2/3 or 67% of the residents in your neighborhood indicate their agreement with this contract.

4.2 Treatment Conditions Presented in Paper

Participants from the first six treatment groups listed in Table 5 are analyzed in the paper. Below is the text of each of the treatment groups. Where necessary, italics are used to comment on the implementation of that particular treatment.

Control *Our basis for comparison with the treatments.*

This service was offered in and around the neighborhood of a resident of Delhi. He shares his experience:

“Everything they told us about the service is true. Because of them, the drains are in much better condition and there are no blockages due to garbage. The company is quick to respond in case people have any maintenance needs. But the most difficult aspect of this service is to get enough people to contribute. There were many residents in my neighborhood—among them, Sunil and Abdul—who did not contribute, and because of this the service could not be implemented in my neighborhood. But in the adjoining neighborhood, many residents did contribute, such as Salim and Mahesh, and the service was implemented as a result.”

If this service were implemented in your neighborhood, all information about you, including your name, address, and whether or not you contribute would remain anonymous and will not reported to the other residents in your area.

Horizontal Accountability *Same as control until the final paragraph, which reads as follows.*

... Once this service is started, community members would discuss amongst themselves who contributed and who did not pay the monthly fee. For example, in one of the neighborhoods that recently adopted this service, community members singled out and shamed the following non-contributors:

Javed, Vikas, Anwar, Gaurav, Quayum, and Sachin

Vertical Accountability *Same as control until the final paragraph, which reads as follows.*

... Once this service is started, the local leader would inform local residents of the benefits of hiring the company and would follow up personally with some of those who did not contribute money to the startup fee. For example, in one of the neighborhoods that recently adopted this service, the local leader personally visited the following non-contributors and shamed them.

Javed, Vikas, Anwar, Gaurav, Quayum, and Sachin

Black Sheep (Hindu/Muslim) *Differs from control in the italicized portions of the following paragraphs. Portions of the treatment vary based on the religious identification of the participant; In the paragraphs below, religion-dependent portions are displayed in the format Hindu/Muslim.*

This service was offered in and around the neighborhood of a resident of Delhi. He shares his experience:

“Everything they told us about the service is true. Because of them, the drains are in a much better condition and there are no blockages due to garbage. The company is quick to respond in case people have any maintenance needs. But the most difficult aspect of this service is to get enough people to contribute. There were many residents in my neighborhood *of Saraswatina-gar/Muhammadpur*—among them, *Sunil/Salim* and *Mahesh/Abdul*—who did not contribute, and because of this the service could not be implemented in my neighborhood. But in the adjoining neighborhood *of Muhammadpur/Saraswatinagar*, many residents did contribute, such as *Salim/Sunil* and *Abdul/Mahesh*, and the service was implemented as a result.”

If this service were implemented in your neighborhood, all information about you, including your name, address, and whether or not you contribute would remain anonymous and will not reported to the other residents in your area.

Combination Condition: Horizontal Accountability and Black Sheep (Hindu/Muslim) *Same as the ingroup underperformance treatment until the final paragraph.*

... Once this service is started, community members would discuss amongst themselves who

contributed and who did not pay the monthly fee. For example, in one of the neighborhoods that recently adopted this service, community members singled out and shamed the following non-contributors:

Prakash/Qasam, Gaurav/Jamal, Sachin/Quayum, Manish/Javed, Vikas/Iqbal, Arun/Anwar

Combination Condition: Vertical Accountability and Black Sheep (Hindu/Muslim) *Same as the ingroup underperformance treatment until the final paragraph.*

... Once this service is started, the local leader would inform local residents of the benefits of hiring the company and would follow up personally with some of those who did not contribute money to the startup fee. For example, in one of the neighborhoods that recently adopted this service, the local leader personally visited the following non-contributors and shamed them.

Prakash/Qasam, Gaurav/Jamal, Sachin/Quayum, Manish/Javed, Vikas/Iqbal, Arun/Anwar

4.3 Additional Treatment Conditions

There were three treatment conditions for which we do not present results in the paper. These treatments were alternative versions of the control, horizontal accountability, and vertical accountability treatments that did not include the names in either the first paragraph (i.e. “among them Sunil and Abdul”). These names are not necessary to this treatment, but they are for the black sheep condition, which uses manipulation of these names to emphasize ingroup underperformance. We didn’t know if just the inclusion of these names by itself would change the results, so we included both version of these conditions. In the end, our main analysis uses the control and accountability treatments with names because it is the most similar to the black sheep condition. An analysis in Section 7.1.4 shows results for all conditions.

No Names Conditions: Control, Horizontal Accountability, and Vertical Accountability *Same as the text already presented for these conditions but without the parts of the first paragraph that refer to specific names.*

4.4 Pre-Registration

We pre-registered the design of our experiment with EGAP, now migrated to Open Science Foundation. Crucially, we indicated that we would examine heterogeneous effects by diversity as a main hypothesis, as well as by religious identification (Muslim versus Hindu) for one of the treatments. Below, we provide clarification where necessary to explain divergence from the pre-analysis plan.

First: Instead of using outcome measures separately, we formed an index that we used as our primary outcome measure. We used an index because it allowed us to simplify the number of tests to conduct, though we still include results with separate outcomes in the main paper.

Second: We combined our five treatment groups—horizontal accountability, vertical accountability, black sheep effect, and the two combination treatments—into a single treatment. We did this for a few reasons: We see similar results across treatments, the combination improves our statistical power and allows us to further explore mechanisms, and there are fewer issues with multiple tests when the treatments are combined. Additionally, we exclude the alternative “no names” conditions because we view our use of the “with names” control to provide a closer comparison with the treatments.

Third: We report some p-values with corrections for multiple comparisons in the paper, while in the pre-registration we did not specify corrections that we would use.

Fourth: Our pre-analysis plan focused primarily on diversity, not on minority status, as the factor that we would use to explore heterogeneous effects. However, we focus on minority status for a few reasons. First, it quickly became clear to us that diversity and minority status overlap by virtue of the relative sizes of groups. This is in line with recent research that has come out since the planning stages of our project (Kustov and Pardelli, 2018). Additionally, we found more evidence for minority status having an effect as opposed to diversity (see Section 7.2.1).

4.5 Ethics

Our research project adheres to all APSA Principles and Guidelines for Human Subjects Research and was approved by the ANONYMIZED FOR REVIEW. Aspects of this research project caused

us to consider four principles in particular: Power, Consent, Deception, and Confidentiality. We discuss each of these below.

Power: Because the participants in our study are from a low-power community, we carefully considered how to structure our survey to respect participants' autonomy and not cause them harm. For instance, we (1) designed our survey to be as short as possible, (2) carefully constructed the religious cues in our treatments to be subtle and not exacerbate community tensions, and (3) clearly communicated the *hypothetical* nature of the drainage cleaning initiative multiple times during the survey. We believe that these steps produced a survey that respected the valuable time of our participants, the imperative to maintain peace and stability in their communities, and their right to accurate information about the nature of the proposed drain cleaning program.

Consent: Consent was informed and voluntary. No monetary compensation was offered, which might have made some participants feel pressure to participate. Because our surveys were administered via tablet, consent was given verbally to the enumerator rather than via signature.

Deception: Our survey manipulations outline a drain cleaning program that does not exist; however, we did *not* use deception in this aspect of the survey. It was clearly communicated to participants, multiple times, that the drain cleaning program was strictly hypothetical.

Confidentiality: Our survey collected geocoordinates, which is the only data we collected of a sensitive nature for identifying participants. In our replication data, we include only the diversity measure calculated from these coordinates, not the original geocoordinates.

5 Survey Instrument: Key Measures

Our instrument draws upon a number of existing surveys, including the World Values Survey (Inglehart et al., 2012), surveys conducted for the The State and Citizens: A Study of Delhi’s Slum by the the Center for the Study of Developing Societies (CSDS)(Lokniti, 2012), National Election Survey (NES) by CSDS (Lokniti, 2018), State of Democracy in South Asia conducted by CSDS (Lokniti, 2008), and instruments developed by the Program on Governance and Local Development (GLD) (Lust et al., 2020). Specifically, questions on perceptions of political efficacy and political participation were adapted from the World Values Survey, National Election Survey, and State of Democracy in South Asia. Questions on religious participation, caste, financial assets were based on the National Election Survey templates. Question of social ties and networks relied heavily on GLD questionnaires.

5.1 Outcome Measures

We use five questions to measure outcomes from our experiment, all of which are answered on a 1–4 scale (with 4 indicating more interest in the drainage cleaning program):

- Would this program be beneficial for your neighborhood?
- How interested would you be in the program?
- How likely would you be to pay the monthly fee?
- Would you be willing to sign a six-month contract for this service?
- How likely would you be to try to get your neighbors to sign up for the program?

We combine these measures into an index by averaging a respondent’s answers across the five questions. Our main outcome measure is called *Index of Favorability toward Drainage Program*. For those who do not answer all of the questions, we average the questions they did respond to. Figure 4 shows the distribution of this index, which is trimodal because of small floor and ceiling

effects (which we address in our robustness checks in Section 7.1.5). These five questions have a Cronbach's alpha of 0.89, indicating a high internal consistency for this index.

5.2 Demographic and Socioeconomic Measures

Our survey includes a number of measures that we primarily use to address similarity between Muslims and Hindus in our sample and as control variables in our models. Below is a list of basic demographic variables.

- **Gender:** Coded as 1 for females and 0 for males.
- **Married:** Coded as 1 if married and 0 otherwise.
- **Age:** Age in years.

Variables that capture socioeconomic status include the following. In addition, we generate measures to capture financial hardship and economic condition through level of assets.

- **Home Ownership:** Coded as 1 if they own their place of residence and 0 otherwise.
- **People per room in Residence:** Number of members of household divided by the number of rooms in their residence.
- **Education Level:** 1–10 scale, with higher numbers indicating higher education.
 - 1 = No formal education, illiterate;
 - 2 = No formal education, literate;
 - 3 = Incomplete primary school;
 - 4 = Completed primary school;
 - 5 = Middle pass/Matric fail;
 - 6 = Matric pass;
 - 7 = 12th pass/Intermediate;

- 8 = Graduate;
 - 9 = Post-graduate;
 - and 10 = Professional Degree.
- **Employment Status:** Coded as 1 if employed and 0 if not.
 - **Financial Hardship Index:** An index of four measures assessing financial hardship, standardized on a 0–1 scale with higher numbers indicating more hardship.
 - First measure is of trouble paying rent or house payments in the last year, coded as 1 if yes and 0 if no;
 - Second measure is of having to take out a loan in the last year, coded as 1 if yes and 0 if no;
 - Third measure is of having to sell valuables in the last year, coded as 1 if yes and 0 if no;
 - Fourth measure is of savings in the past year, with a 1 indicating that the household saved money, a 2 indicating that they just got by, and a 3 indicating that they spent some savings; standardized on a 0–1 scale before combining with the dichotomous variables.
 - **Level of Assets:** To capture the variation in
 - **Mid-Tier Assets:** Dichotomous variable generated from a set of asset measurements, equal to 1 if they have a bike, cooler, or fridge and a 0 otherwise.
 - **High-Tier Assets:** Dichotomous variable generated from a set of asset measurements, equal to 1 if they have a vehicle (2-, 3-, or 4-wheel), computer, or AC and 0 otherwise.

5.3 Measures of Religion and Religiosity

Nine questions address religion and religiosity in our survey. (See Figure 1 for a graphical representation of these questions.) The first two are simple questions about religious affiliation:

- What is your religion?

- *If respondent is a Muslim:* To which sect do you belong, Shia or Sunni?

For the first question, respondents are asked to pick from the following list: Hindu, Muslim, Christian, Buddhist/Neo-Buddhist, Jain, or no religion, and can specify their religion if it is not on the list. Because of our site selection, the vast majority of respondents either Hindu or Muslim. Those from other religions were dropped from the survey. Responses to this question are used to identify respondents as Muslim or Hindu at the individual level and are later used, at aggregated levels, to define the religious composition of neighborhoods and of areas around each respondent. For the second question, respondents were asked to pick Shia or Sunni (almost all indicated they were Sunni).¹

After this, respondents were asked five questions about religious activities and practices:

- Please tell me, how often do you practice these religious activities?
 - Prayer/puja/namaz
 - Visiting temple/mosque/church/gurudwara
- And what about these, how often do you practice them?
 - Participating in kathas, sangats, bhajan-kirtans, jalsas, church services, etc.
 - Giving donations for religious activities
 - Keeping fast, rozas, etc.

For the first two of these questions, respondents were asked to respond with one of the following: daily, 1-2 times a week, on festivals, during periods of distress, or never. For the last three, they were asked to respond with one of the following: Whenever I get a chance, sometimes, rarely, during periods of distress, or never.

¹The low total count in the “Sunni/Shia” panel in Figure 1 is due to the fact that only Muslims responded to that question.

We use these five questions to generate measures of religiosity. The first question about prayer is called **Private Religious Practice**; it is not combined into an index with anything else. We combine the remaining four items into a single index, referred to as **Public Religious Practice**.²

Respondents were also asked a series of questions about local social ties, including the following two questions measuring religious ties:

- We would like to understand how people interact in your area. How obligated are you to help the following people, even if it costs you a day's wages?
 - A member of your religion
 - Someone associated with the day-to-day functioning of their temple/mosque/gurudwara

Respondents stated their level of obligation on a three-point scale: Very obligated, somewhat obligated, or not obligated at all. These two questions are combined into an index we refer to as a measure of **Religious Ties**; this index is used to explore the mechanisms of the effect of the treatments.

5.4 Measures of Social Ties

In the survey, 16 questions relate to social ties with others in their neighborhood. The first is a standalone question, with a three-point scale of possible responses: Few people know each other, some people know each other, or most people know each other.

- In your neighborhood, would you say:

The second social ties question is an independent question about the frequency with which respondents talk to their neighbors, with a five-point scale of possible responses: Never, only when necessary, rarely, sometimes, or daily. We combine the two into a single index, called **General Social Ties**.

- How often do you talk to your neighbors?

²Note that, contextually, donations and fasting are both fairly public religious activities for Hindus and Muslims.

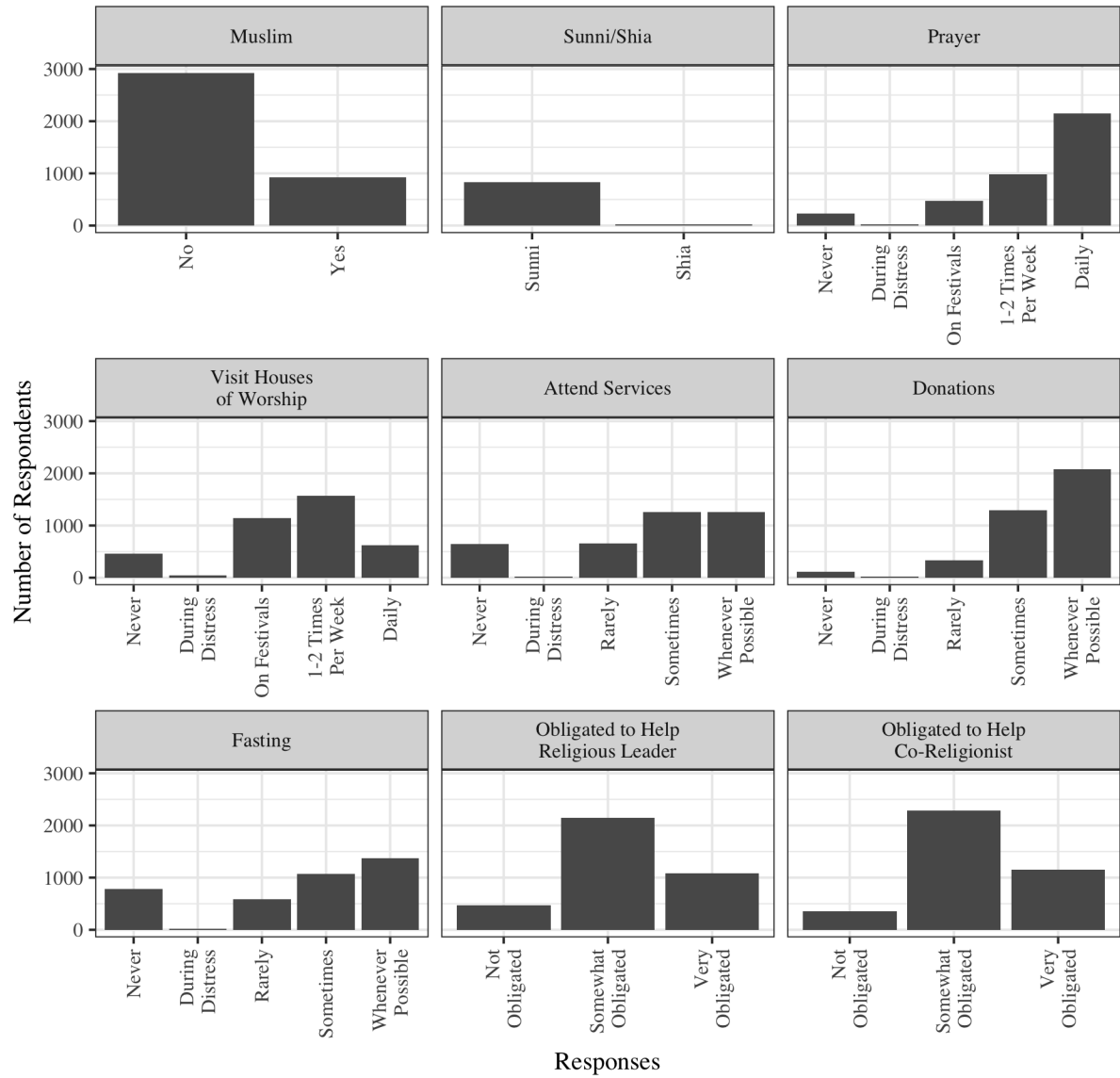


Figure 1: Measures of Religion and Religiosity

Respondents are then asked to answer a set of five questions about social ties with neighbors. Respondents could answer one of the following on a four-point scale: Never, rarely, sometimes, or always. We combined these to create form an index measure. This index had a high internal consistency, with a Cronbach's alpha of 0.86. We refer to this measure as the **Helpfulness Index**.

- When asked for help, do your neighbors help you with the following issues?
 - Childcare
 - Finances (help with small loans, etc)
 - Obtaining government services or documents
 - Solving disputes among family members or neighbors
 - Keeping the area clean

Lastly, an additional nine-question battery of questions measures feeling of obligation to others in their area:

- We would like to understand how people interact in your area. How obligated are you to help with the following people, even if it costs you a day's wages?
 - A member of your immediate family (father, mother, children)
 - A member of your extended family (uncle, aunt, grandparent)
 - A neighbor
 - A distant relative
 - A member of your caste
 - A member of your religion
 - People who come from the same town/village
 - A fellow work mate/co-worker
 - Someone associated with the day-to-day functioning of their temple/mosque/gurudwara

Respondents could answer one of the following on a three-point scale: Not obligated at all, somewhat obligated, and very obligated. This index had a high internal consistency, with a Cronbach's alpha of 0.93. We use these questions to make two indices. The first we refer to as the **Obligation to Family Index**, and for it we include just the measures for immediate and extended family. The second we refer to as the **Social Obligation Index**, and it includes all the remaining measures. Further, as noted in Section 5.3, we use the two questions on obligation to co-religionists to generate a measure of **Religious Ties**.

5.5 Measures of Political Factors

We generate a number of variables to gauge the nature of political engagement in respondents.

- **Political Participation:** Proportion of six listed political activities that the participant engaged in during 2015 elections, if they have a voter card with a Delhi address (if they didn't then coded as a 0).
 - The six activities are attending election meetings/rallies, participating in processions/nukkad natak etc, participating in door-to-door canvassing, contributing or collecting money, distributing election leaflets or putting up posters, and transporting neighbors to polling booths.
- **Networks in State Institutions:** A dichotomous variable coded as a 1 if they noted relations with any of seven local figures.
 - The seven local figures asked about were a government official in the area, a party worker from a party in the area, the pradhan, the MLA, the MCD Councilor, an NGO worker in the area, an a religious leader in the area;
 - they were counted as yes if one of these individuals was a relative, a close friend, or both.
- **Involvement in Local Organizations:** A dichotomous variable coded as a 1 if they noted participation in any of five local volunteer organizations.

- The five local volunteer organizations asked about were an NGO, a Resident Welfare Association (RWA), caste organization, religious organization, and a non-caste and non-religious organization.

The survey includes six measures of participant perceptions of efficacy of state and political institutions. All of these questions are in the same section of the survey and follow a common introduction:

- I'm going to name a number of institutions. For each one, please tell me how well you think they perform their responsibilities?
 - Prime Minister and Central Government
 - Chief Minister and Delhi Government
 - The MCD
 - Political Parties
 - The Police
 - Your Local *Pradhan*

Respondents rated these institutions on a 1-4 scale: Not well at all, somewhat well, mostly well, and extremely well. We generate a measure, called **General Political Trust Index**, based on the first five institutions. *Pradhan* is not included in this index since it is an informal institution. The political trust index does not have very good internal consistency (Cronbach's $\alpha = 0.57$), but is of theoretical importance. We also combine measures of two of these—the MCD and *pradhan*—with a separate measure in the survey measuring *pradhan* popularity (also on a 1–4 scale) into a measure called **Local Political Trust Index** that is directly relevant for the cleaning and maintenance of drains.

5.6 Measure of Caste

We used an open-ended survey question to gather data on respondent caste identification, based on *jati* in the case of Hindus, or *zat* in Muslims. Although the caste system is rooted in Hindu

society, Muslims in South Asia are also stratified by caste (Ahmad, 1966). But unlike Hindus, where caste reflects ideas of purity and pollution, caste or *zat* among Muslims is largely based on lineage. Scholars have categorized Muslims who claim foreign origin or are converts from upper caste Hindu groups as upper caste, while lower caste Muslims are generally converts from low-caste Hindus (Ali, 2002; Gayer and Jaffrelot, 2012).

A closed-ended question would have been too limited for the variety of castes. Our enumerators entered over 800 unique text strings to record responses to this question. We use the responses to categorize Hindus into three broad caste groups – upper castes (*Brahmins*, *Kshtriya*, and *Vaishya*), Other Backward Classes (OBC) (*Shudra*), and Lower castes (Scheduled Castes and Scheduled Tribes). Muslims are categorized into two groups – upper castes (*Syed*, *Sheikh*, *Pathan*, and *Mughal*) and lower castes. The category of OBC Muslims, though administratively relevant in some states, is substantively less meaningful.

We identified the caste of all the unique responses based on the caste code protocol developed by the National Election Survey (NES), carried out by the Center for the Study of Developing Societies (CSDS) (see Table 7). This resulted in 2,573 respondents identified as belonging to a low caste (or OBC) and 1,227 identified as belonging to a high caste. Because of the differing caste identifications between Hindus and Muslims, we therefore have more Hindus than Muslims identified as lower caste or OBC (See Table 6). For the main models, we categorize individuals into two main groups – upper caste (upper caste Hindus and Muslims), and lower caste (OBC and lower caste Hindus and lower caste Muslims).

Table 6: Caste, by Respondent Religion

| | Lower Caste | Other Backward Class (OBC) | Upper Caste | Unable to Categorize |
|--------|-------------|----------------------------|-------------|----------------------|
| Hindu | 1,290 (44%) | 931 (32%) | 672 (23%) | 31 (1%) |
| Muslim | 352 (36%) | - | 555 (60%) | 12 (1%) |

Percentages calculated by row and don't add to 100% due to rounding.

Table 7: Coding Protocol for Caste

| | Groups | Sub-castes/ <i>Jati</i> |
|--------|--------|---|
| Hindu | Upper | Forward Caste and Brahmin; Bhumihar; Lohana; Rajput/Thakur; Kayasthas; Vaishya/Bania; Thondai, Mandala, Saiva, Vellala; Jain; Punjabi Khatri; Sindhi; Karana; Other Upper Castes |
| | OBC | Jat; Reddy; Kamma; Nair; Marathas; Patel (Karwa, Leuva, Patidar); Raju; Velama; Kapu; Bunt; Naidu; Bhuyan; Rai Bahadur; Lingayats; Thigala; Gujjar; Thevar; Ahir; Yadav; Kurmi; Mudaliars; Gowda; Lodh; Vanniyars; Munnuru Kapu; Koeri; Mutharayars; Mudiraj, Mutraju, Tenugollu; Vokkaliga; Kalinga; Lingayat; Thurpu Kapu; Gaderia; Koppulu Velama; Kunbi; Maratha-Kunbi; Koli; Charan; Rabari; Bharwad; Kshtriya; Chaudhary; Senai; Nadars; Ahom; Koch; Dhangar; Vanjari; Leva-Patil; Gowari; Agri; Powar; Teli; Kashyap; Kamboj; Mali/Saini; Bunkar; Gaderia; Darzee; Thatihar; Lakhera; Badhai; Kumhar; Lohar; Sunar; Medara, Mahendra; Kumar; Namasudra, Dami; Kosti-Sali-Padmashali; Kewat; Dhobi; Nai; Teli; Jogi; Trader OBCs (Jaiswal, Suri, Kalwar, Kanu, Halwai, Modi, Kasera, Tamoli, Tati); Toddy Tappers; Landless Labourers; Entertaining Castes; Veluthedathu Nair; Vathi; Chutiya, Koch; Vaishya; Banik/Bania/Bjujel; Dewan/Khatri; Gurung; Jogi; Kirat Rai; Mangar; Sunwar; Thami; Bahun; Chettri; Newar; Sanyasi; Jhimar; Deh, Bhat, Bharbhuj, Pinje; Other OBCs |
| | Lower | Chamar/Jatav; Satnami; Balmiki/Bhangi; Pasi; Pano; Devendrakula Velars; Rajbanshis; Mala; Namashudras; Mahar; Boyar/Mang; Dhobi, Julaha, Kewat; Dom; Nomadic Castes; Shilpkar; Musahar; Mayavanshi; Vankar; Dhanuk; Gond; Khatik; Kori; Thiruvalluvar; Adi Karnataka; Adi Dravida; Banjara; Bhambi; Bhovi; Chalavadi; Holaya; Korama; Mala Hannai; Pulaya; Paraya; Kuruva; Vettuva; Velan; Thandan; Mali; Koibarta; Das; Hadi; Damai/Musahar; Bhuian; Manjhi/Nag; Matang/Sarki; Basith; Megh; Bagdi Duley; Bauri; Jalia Kaibartta; Jhalo Malo Malo; Kaora; Lohar; Mal; Pod Poundra; Sunri; Other Scheduled Caste; Mina; Bhil; Gond/Rajgond; Oraon; Kamars; Santhall; Munda; Andh/Kondh; Naikda; Baiga; Bhattra; Binjhwar; Halba; Karku; Kavar; Korwa; Nagesia; Sawar; Ho; Kharia; Bhumij; Chero; Kharwar; Lohra; Mahli; Mal Pahariya; Mahali; Patelia; Baiga; Bhilala; Mahadev-Koli; Korku; Barela; Bhotia; Buksa; Jamnsari; Tharu; Malayali; Todas; Brus; Chakma; Kuki Tribes; Angami; Ao; Chakhesang; Chang; Khi-amniungan; Konyak; Lotha; Phom; Rengma; Sumi; Yimchungru; Zeliang; Bhutia; Lepcha; Garo; Jamatias; Mog; Other Scheduled Tribes |
| Muslim | Upper | Ashrafs Muslims (Sayyad, Shaikh); Mughal Muslims; Pathan; Muslim Rajputs; Other Upper Caste Muslims |
| | Lower | Pasmanda Muslims; Ansari; Qureshi; Qassab; Other lower caste Muslims |

5.7 Measure of Diversity

We measure ethnic diversity through fine-grain data on GPS coordinates of the household location as the survey was administered. We used two methods to collect this data. First, the tablets used to administer the survey automatically recorded the enumerator’s geo-location at the beginning of the survey. Second, we instructed enumerators to use Google Maps to find their current location and record their coordinates in the notes section at the end of the survey. In piloting the survey, we found that using both approaches simultaneously yielded the most reliable geolocation data. In assigning geolocations to respondents, we default to the manually-entered Google Maps coordinates and use the automatically-recorded coordinates as a fallback.

Since cellular service is sometimes spotty in the areas of Delhi we surveyed, even using both of these methods sometimes generated inaccurate geocoordinates – the enumerator is either unable to access the Google Maps application or the device records the coordinates of the closest cell phone tower rather than the enumerator’s precise location. Approximately 7% of our surveys had evidence that this occurred (e.g. the geocoordinates were not as fine-grained as the others or dozens of participants had the exact same number). For these cases, there were often coordinates available from the previous or next respondent interviewed by the same enumerator (or the same device) on the same day. We averaged these to provide approximate coordinates in such cases. We deemed it better to provide an approximate estimate rather than eliminate these data. For five respondents, none of these methods provided reliable coordinates.

We then use the geolocation of respondents, combined with the measure of religious identification as Hindu or Muslim, to construct our measure of diversity. Our measure of diversity is based on the polarization index from [Montalvo and Reynal-Querol \(2005\)](#), represented by the following equation:

$$RQ = 1 - \sum_{i=1}^N \left(\frac{\frac{1}{2} - \pi_i}{\frac{1}{2}} \right)^2 \pi_i,$$

where π_i represents the proportion of the population that belongs to group i . This measure

captures “how far the distribution of the... groups is from the $(1/2, 0, 0, \dots, 0, 1/2)$ distribution (bipolar), which represents the highest level of polarization” (pp. 798). However, because our context only involves two groups, this measure simplifies to $RQ = 4\pi_1\pi_2$, where π_1 and π_2 are the group proportions, and it is almost identical to the ethnic fractionalization index for two groups ($2\pi_1\pi_2$) that is also often used to measure diversity. We use the data on geocoordinates to compute the polarization index for each participant based on the religious identification of other participants within 100 meters (equivalent of a few streets). This provides us with a near-continuous measure of diversity at the local level. We further generate alternative measures of diversity with 50 meters and 150 meters radius respectively.

5.8 Measures related to Citizenship, Drainage, and Enumerator

- **Years in Settlement:** Measured in years.
- **Consider Self Citizen of Delhi:** Coded as 1 if yes and 0 if no.
- **Quality of Drainage:** Rating of quality of drainage in neighborhood, 1–5 scale.
 - 1 = Extremely bad;
 - 2 = Somewhat bad;
 - 3 = Okay;
 - 4 = Somewhat good; and
 - 5 = Very good.
- **Drainage Problem Requiring Help:** Dichotomous measure of household experiencing drainage problems requiring help outside of the household in the last two years.
- **% Hindu Enumerator:** The proportion of participants given a Hindu enumerator.

6 Main Analysis

6.1 Models without Interactions

Table 8 shows the results of the experiment on the outcome index and each of the separate outcomes, with no interaction effects. For this table, the treatments have been combined as they were for all analyses in the paper. Table 9, on the other hand, shows the results with each separate treatment.

For the sample as a whole, these tables show uniformly null effects of the combined treatments as well as for the separate treatments.

Table 8: Model with Combined Treatments and No Interactions

| | Dependent Variable: | | | | | |
|-------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| | Benefit | Interest | Fee | Contract | Influence | Index |
| Constant | 3.02 (0.02) | 2.95 (0.02) | 2.74 (0.02) | 2.46 (0.02) | 2.51 (0.02) | 2.73 (0.02) |
| Treatments (Comb.) | 0.02 (0.03) | -0.02 (0.03) | 0.04 (0.03) | 0.04 (0.03) | 0.04 (0.03) | 0.03 (0.03) |
| Observations | 3,801 | 3,818 | 3,804 | 3,769 | 3,718 | 3,832 |
| R ² | 0.0002 | 0.0001 | 0.0003 | 0.0004 | 0.0004 | 0.0003 |
| Adjusted R ² | -0.0001 | -0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0000 |
| Residual Std. Error | 1.34 (df = 3799) | 1.27 (df = 3816) | 1.41 (df = 3802) | 1.43 (df = 3767) | 1.47 (df = 3716) | 1.17 (df = 3830) |
| F Statistic | 0.64 (df = 1; 3799) | 0.48 (df = 1; 3816) | 1.21 (df = 1; 3802) | 1.42 (df = 1; 3767) | 1.31 (df = 1; 3716) | 1.11 (df = 1; 3830) |

Table 9: Model with Separate Treatments and No Interactions

| | Dependent Variable: | | | | | |
|-------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| | Benefit | Interest | Fee | Contract | Influence | Index |
| Constant | 3.02 (0.04) | 2.95 (0.03) | 2.74 (0.04) | 2.46 (0.04) | 2.51 (0.04) | 2.73 (0.03) |
| Horizontal Acct. | 0.04 (0.05) | -0.01 (0.05) | 0.05 (0.06) | 0.04 (0.06) | 0.07 (0.06) | 0.04 (0.05) |
| Vertical Acct. | 0.03 (0.05) | -0.01 (0.05) | 0.05 (0.05) | 0.06 (0.06) | 0.06 (0.06) | 0.04 (0.04) |
| Black Sheep. | 0.03 (0.05) | 0.001 (0.05) | 0.04 (0.06) | 0.04 (0.06) | 0.04 (0.06) | 0.03 (0.05) |
| Blk. Shp. + Hor. | 0.01 (0.05) | -0.05 (0.05) | -0.02 (0.06) | 0.001 (0.06) | -0.03 (0.06) | -0.01 (0.05) |
| Blk. Shp. + Vert. | 0.02 (0.05) | -0.02 (0.05) | 0.06 (0.05) | 0.06 (0.06) | 0.05 (0.06) | 0.04 (0.04) |
| Observations | 3,801 | 3,818 | 3,804 | 3,769 | 3,718 | 3,832 |
| R ² | 0.0002 | 0.0004 | 0.001 | 0.001 | 0.001 | 0.001 |
| Adjusted R ² | -0.001 | -0.001 | -0.0004 | -0.001 | -0.0001 | -0.001 |
| Residual Std. Error | 0.94 (df = 3795) | 0.90 (df = 3812) | 0.99 (df = 3798) | 1.00 (df = 3763) | 1.02 (df = 3712) | 0.81 (df = 3826) |
| F Statistic | 0.15 (df = 5; 3795) | 0.31 (df = 5; 3812) | 0.68 (df = 5; 3798) | 0.44 (df = 5; 3763) | 0.95 (df = 5; 3712) | 0.55 (df = 5; 3826) |

6.2 Interactive Model with Separate Treatments and Outcome Measures

In the main analysis in the paper, we opt to combine our five treatment groups. In the heterogeneous effects model, which we present in Table 10 and Figure 2, all treatments tend to have the same effect magnitude and direction, with a few exceptions. In particular, the Black Sheep Effect + Vertical Accountability treatment has a particularly large effect on individuals' willingness to try to influence others to join the program. However, we think it is more fruitful to examine the overall pattern rather than one particular effect. If hypothesis testing, statistical significance would vary across the treatments and outcomes in this analysis, but point estimates for Muslims are always positive while for Hindus there is a clear null effect.

Table 10: Interaction Model with Separate Treatments

| | Dependent Variable: | | | | | |
|-------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | Benefit | Interest | Fee | Contract | Influence | Index |
| Constant | 3.06 (0.04) | 2.98 (0.04) | 2.79 (0.04) | 2.47 (0.05) | 2.55 (0.05) | 2.76 (0.04) |
| Muslim | -0.16 (0.08) | -0.12 (0.08) | -0.20 (0.09) | -0.06 (0.09) | -0.16 (0.09) | -0.13 (0.07) |
| Hor. Acct. | -0.02 (0.06) | -0.05 (0.06) | -0.01 (0.06) | -0.02 (0.06) | 0.03 (0.07) | -0.01 (0.05) |
| Hor. Acct. x Mus. | 0.25 (0.12) | 0.12 (0.12) | 0.23 (0.13) | 0.23 (0.13) | 0.16 (0.13) | 0.19 (0.10) |
| Vert. Acct. | -0.03 (0.06) | -0.07 (0.06) | -0.04 (0.06) | 0.01 (0.06) | -0.001 (0.07) | -0.02 (0.05) |
| Vert. Acct. x Mus. | 0.20 (0.12) | 0.24 (0.12) | 0.34 (0.13) | 0.21 (0.13) | 0.24 (0.13) | 0.23 (0.10) |
| Black Sheep | -0.04 (0.06) | -0.05 (0.06) | -0.02 (0.06) | 0.02 (0.07) | -0.03 (0.07) | -0.02 (0.05) |
| Blk. Shp. x Mus. | 0.27 (0.12) | 0.19 (0.12) | 0.23 (0.13) | 0.04 (0.13) | 0.26 (0.13) | 0.20 (0.11) |
| Blk. Shp. + H.A. | -0.03 (0.06) | -0.10 (0.06) | -0.07 (0.06) | -0.01 (0.07) | -0.07 (0.07) | -0.05 (0.05) |
| (B.S. + H.A.) x Mus. | 0.17 (0.12) | 0.19 (0.11) | 0.19 (0.13) | 0.06 (0.13) | 0.14 (0.13) | 0.14 (0.10) |
| B.S. + V.A. | -0.03 (0.06) | -0.05 (0.06) | 0.02 (0.06) | 0.04 (0.06) | -0.04 (0.07) | 0.003 (0.05) |
| (B.S. + V.A.) x Mus. | 0.18 (0.12) | 0.12 (0.12) | 0.13 (0.13) | 0.06 (0.13) | 0.38 (0.13) | 0.15 (0.11) |
| Observations | 3,801 | 3,818 | 3,804 | 3,769 | 3,718 | 3,832 |
| R ² | 0.002 | 0.002 | 0.003 | 0.002 | 0.004 | 0.002 |
| Adjusted R ² | -0.001 | -0.001 | 0.0002 | -0.001 | 0.001 | -0.0004 |
| Residual Std. Error | 0.94 (df = 3789) | 0.90 (df = 3806) | 0.99 (df = 3792) | 1.00 (df = 3757) | 1.02 (df = 3706) | 0.81 (df = 3820) |
| F Statistic | 0.68 (df = 11; 3789) | 0.66 (df = 11; 3806) | 1.06 (df = 11; 3792) | 0.78 (df = 11; 3757) | 1.31 (df = 11; 3706) | 0.85 (df = 11; 3820) |

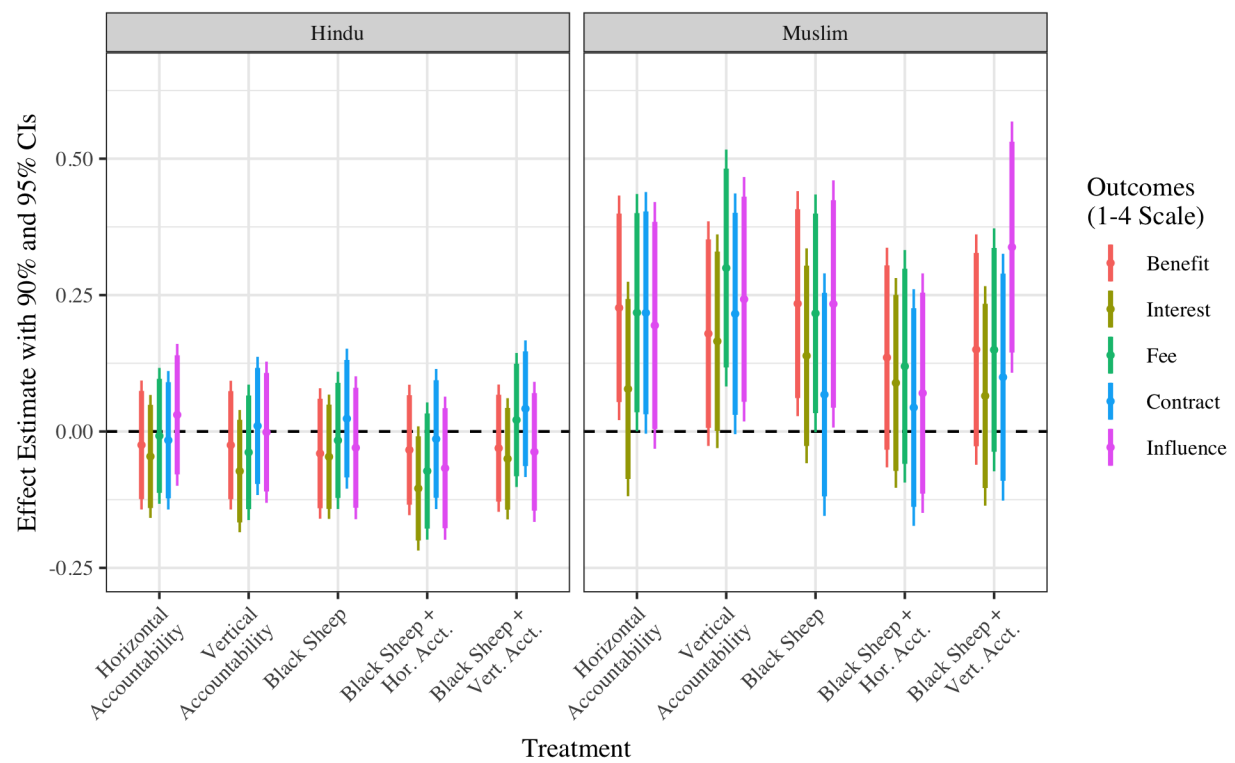


Figure 2: Interaction Model with Separate Treatments

6.3 Full Control Model

In the paper, we provide a condensed version of our model with controls. In Table 11 below, we provide the full model. Note that the coefficients on the combined treatment and the interaction terms vary only marginally between these specifications and are statistically significant at the 0.05 level in all models.

Readers will note that we do not include neighborhood or enumerator fixed effects in any of these models. If we were running a non-interactive model, including these fixed effects as control variables is not problematic. However, our main model interacts the treatments with religious identification, which makes these fixed effects problematic for our coefficient estimates of interest. As noted in the paper and elsewhere in this appendix, areas differ greatly in their religious composition, such that religious identification is highly correlated with neighborhoods. Enumerator fixed effects are problematic for a related reason: enumerators were not randomly assigned to areas, so the issue of high correlation with specific neighborhoods also affects enumerator fixed effects as a control. Evidence that this is problematic includes wild swings in coefficient estimates and significance when fixed effects are introduced, as well as a very large (>50) variance inflation factor. Given this limitation, we feel that the best way to account for important neighborhood and enumerator characteristics is to focus on the characteristics that are important to our analysis. For this reason, our robustness checks include an examination of how our main model estimates vary based on the religious composition of neighborhoods as well as an examination of how enumerator religious identification affects our analysis.

Table 11: Main Model with Controls

| | Dependent Variable: Index of Favorability | | | | | | |
|---|---|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| Constant | 2.76*** (0.02) | 2.50*** (0.09) | 0.82*** (0.15) | 1.09*** (0.16) | 1.10*** (0.16) | 1.01*** (0.16) | 0.88*** (0.18) |
| Treatments | -0.02 (0.03) | -0.01 (0.03) | -0.0004 (0.03) | -0.002 (0.03) | -0.0003 (0.03) | -0.001 (0.03) | -0.001 (0.03) |
| Muslim | -0.13*** (0.04) | -0.07 (0.04) | -0.06 (0.04) | -0.08* (0.04) | -0.07 (0.05) | -0.12** (0.05) | -0.09** (0.05) |
| Treatments x Muslim | 0.18*** (0.06) | 0.16*** (0.06) | 0.15*** (0.06) | 0.17*** (0.06) | 0.17*** (0.06) | 0.16*** (0.06) | 0.16*** (0.06) |
| Gender (1 = Female, 0 = Male) | | 0.02 (0.04) | 0.01 (0.04) | 0.01 (0.04) | 0.02 (0.04) | 0.02 (0.04) | -0.004 (0.04) |
| Married (1 = Married, 0 = Other) | | 0.02 (0.05) | 0.01 (0.05) | 0.02 (0.05) | 0.01 (0.05) | 0.01 (0.05) | 0.02 (0.05) |
| Age | | 0.002 (0.001) | 0.0003 (0.001) | 0.0003 (0.001) | 0.0002 (0.001) | -0.0002 (0.001) | 0.0000 (0.001) |
| Home Ownership (1 = Own Residence, 0 = Other) | | -0.005 (0.04) | 0.01 (0.03) | -0.01 (0.03) | -0.02 (0.03) | -0.01 (0.03) | -0.03 (0.04) |
| People Per Room in Residence | | -0.04*** (0.01) | -0.05*** (0.01) | -0.04*** (0.01) | -0.04*** (0.01) | -0.04*** (0.01) | -0.04*** (0.01) |
| Education Level (1-10 Scale) | | 0.03*** (0.01) | 0.02*** (0.01) | 0.02*** (0.01) | 0.02*** (0.01) | 0.02*** (0.01) | 0.01** (0.01) |
| Employment Status (1 = Employed) | | 0.19*** (0.04) | 0.19*** (0.04) | 0.20*** (0.04) | 0.20*** (0.04) | 0.20*** (0.04) | 0.18*** (0.04) |
| Mid-Tier Assets (Bike, Cooler, Fridge) | | 0.05 | 0.04 | 0.04 | 0.04 | 0.03 | 0.02 |

| | | | | | | |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) |
| High-Tier Assets (Vehicle, Computer, AC) | 0.11*** (0.04) | 0.08** (0.04) | 0.10** (0.04) | 0.10*** (0.04) | 0.08** (0.04) | 0.08** (0.04) |
| Financial Hardship Index (1 = More Hardship) | −0.02 (0.06) | −0.08 (0.06) | −0.03 (0.06) | −0.05 (0.06) | −0.08 (0.06) | −0.06 (0.06) |
| Private Religious Practice (1 = Never, 5 = Daily) | | 0.04*** (0.01) | 0.05*** (0.01) | 0.05*** (0.01) | 0.05*** (0.01) | 0.06*** (0.01) |
| Public Religious Practice (4 Items, 1–5 Scale) | | 0.06*** (0.02) | 0.05*** (0.02) | 0.05*** (0.02) | 0.04** (0.02) | 0.03* (0.02) |
| Religious Ties Index (2 Items, 1–3 Scale) | | −0.04 (0.07) | −0.07 (0.07) | −0.08 (0.07) | −0.09 (0.07) | −0.11 (0.07) |
| General Social Ties (0-1 Scale) | | 0.14* (0.08) | 0.15* (0.08) | 0.14* (0.08) | 0.11 (0.08) | 0.19** (0.08) |
| Helpfulness Index (1-4 Scale) | | 0.02 (0.02) | 0.02 (0.02) | 0.01 (0.02) | 0.01 (0.02) | 0.004 (0.02) |
| Forgo Wages Index, Family (1-3 Scale) | | 0.30*** (0.04) | 0.18*** (0.04) | 0.18*** (0.04) | 0.19*** (0.04) | 0.15*** (0.05) |
| Forgo Wages Index, Others (1-3 Scale) | | 0.20** (0.08) | 0.24*** (0.08) | 0.25*** (0.08) | 0.27*** (0.08) | 0.28*** (0.08) |
| General Political Trust Index (6 Items, 1–4 Scale) | | | 0.002 (0.03) | 0.01 (0.03) | 0.02 (0.03) | 0.004 (0.03) |
| Local Political Trust Index (3 Items, 1-4 Scale) | | | 0.002 (0.02) | −0.003 (0.02) | 0.003 (0.02) | 0.05** (0.02) |
| Network in State Institutions (7 Items, 1 = Any) | | | −0.07* (0.04) | −0.07* (0.04) | −0.09** (0.04) | −0.05 (0.04) |
| Political Participation, 2015 (6 Items) | | | 0.16*** | 0.18*** | 0.20*** | 0.17*** |

| | | | | | | | |
|--|-------|-------|-------|------------------|-----------------|-------------------|--------------------|
| | | | | (0.05) | (0.05) | (0.05) | (0.05) |
| Involvement in Local Organizations (1 = Any) | | | | −0.003 (0.05) | 0.002 (0.05) | −0.01 (0.05) | −0.02 (0.05) |
| Caste Level (0 = Lower, 1 = Upper) | | | | | 0.02 (0.03) | 0.01 (0.03) | 0.02 (0.03) |
| Hindu-Muslim Diversity within 100 Meters (0–1 Index) | | | | | | 0.28*** (0.05) | 0.24*** (0.05) |
| Years Residing in Settlement | | | | | | | −0.003* (0.002) |
| Consider Self Citizen of Delhi (1 = Yes) | | | | | | | 0.18*** (0.06) |
| Quality of Drainage (1-5) | | | | | | | −0.10*** (0.01) |
| Drainage Problem Requiring Help (1 = Yes) | | | | | | | −0.10*** (0.03) |
| Hindu Enumerator | | | | | | | 0.29*** (0.07) |
| Observations | 3,832 | 3,817 | 3,777 | 3,650 | 3,608 | 3,586 | 3,577 |
| R ² | 0.003 | 0.04 | 0.09 | 0.08 | 0.08 | 0.09 | 0.12 |
| Adjusted R ² | 0.002 | 0.03 | 0.09 | 0.08 | 0.08 | 0.09 | 0.11 |

7 Robustness Checks

7.1 General Robustness Checks

7.1.1 Balance

In the paper, we combine treatment groups for our analyses. The lower panel in Figure 3 shows that, in this combined analysis, our sample is well-balanced between the control group and the group of the combined treatments. Standardized differences for the pre-treatment covariates all fall within a range of -0.75 to 0.75. An omnibus balance test (Hansen and Bowers, 2008), reported in the final row of Table 12, also indicates that we cannot reject the null of a balanced sample for the combined treatments.

We also address balance by examining the treatment groups separately rather than combined. The upper panel in Figure 3 shows the standardized differences for pre-treatment covariates between the control and each of the treatment groups. Only a few variables show minor imbalances: Gender, Number of Rooms in Residence, the Religious Behavior Index, Religious ID, and the Forgo Wages Index. However, the omnibus balance tests in rows 1-5 of Table 10 indicate that these minor imbalances are not unexpected for our randomization and we cannot reject the null of a balanced sample.

Table 12: Omnibus Balance Tests

| Treatment | χ^2 | DF | P-value |
|--|----------|----|---------|
| Horizontal Accountability | 32.14 | 31 | 0.41 |
| Vertical Accountability | 23.91 | 32 | 0.85 |
| Black Sheep Effect | 26.95 | 31 | 0.67 |
| Horizontal Accountability + Black Sheep Effect | 15.67 | 31 | 0.99 |
| Vertical Accountability + Black Sheep Effect | 39.47 | 31 | 0.14 |
| Treatments Combined | 30.57 | 34 | 0.64 |

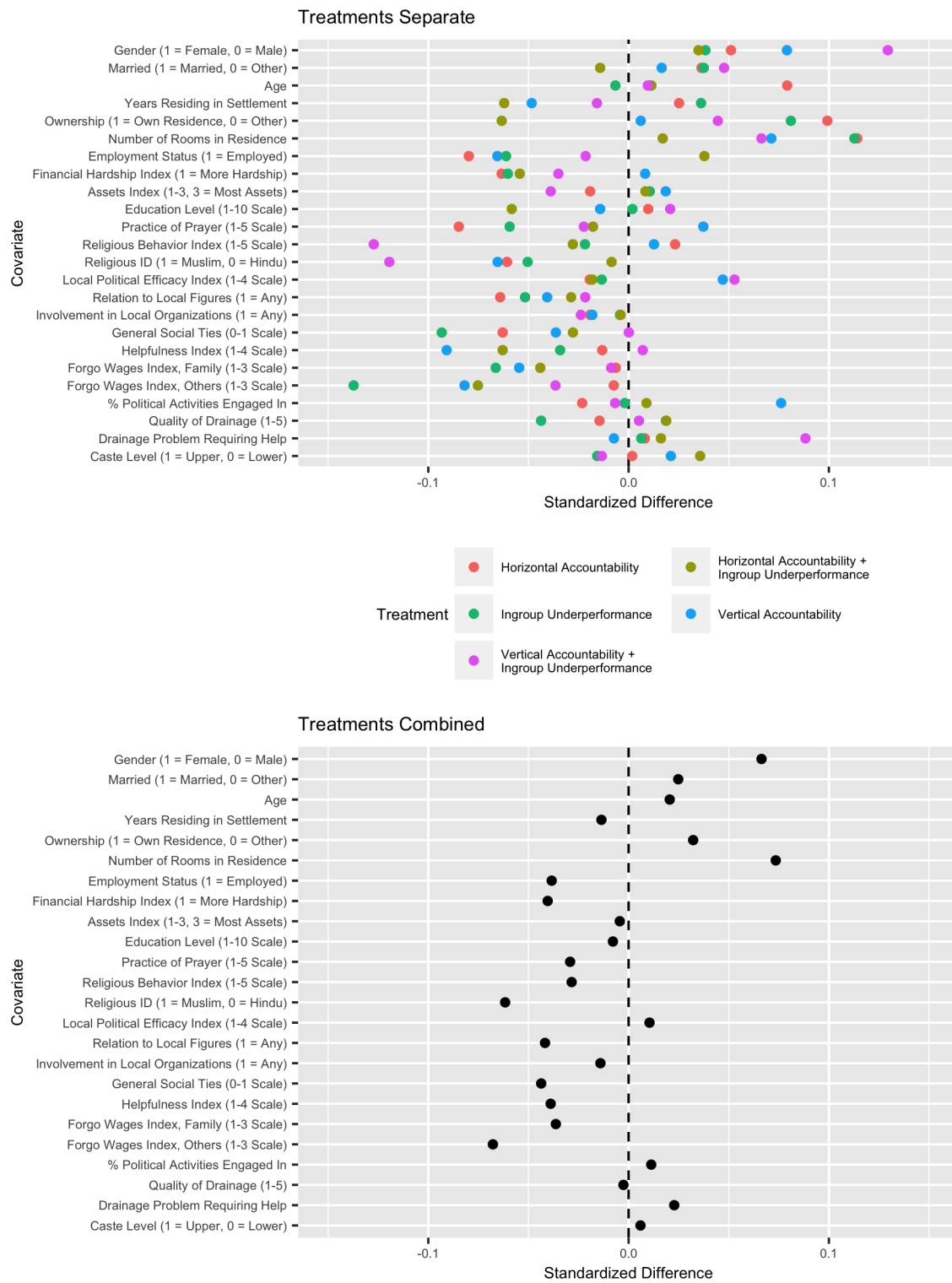


Figure 3: Comparison of Baseline Characteristics between Control and Treatments

7.1.2 Survey Purpose and Manipulation Checks

In order to make sure that participants received and understood the information they were presented about the proposed drainage service, they were asked two questions immediately after the administration of the survey. First, participants were asked: “How many people in your neighborhood need to agree to pay the fee before the company will begin the new service?” They were read three options to choose from: (a) 1/4 or 25%, (b) 1/2 or 50%, and (c) 2/3 or 67%. These choices mirror the way these proportions were presented in the experimental manipulation itself, where participants were told that a condition for the drainage cleaning program was that “2/3 or 67% of the residents in your neighborhood indicate their agreement with this contract.” Both fractions and percentages were used because pretesting revealed that both were common ways of expressing proportions. A total of 3,416 respondents, or 88.9% of the sample, passed the manipulation check. Those who did not were told the correct answer after their response to make sure that they completed the rest of the survey with the correct conditions in mind.

Second, participants were asked: “What is the monthly subscription fee required by this service?” They were read three options as answers: (a) Rs. 50, (b) Rs. 100, and (c) Rs. 150. A total of 3,651 respondents, or 95.0% of the sample, passed this manipulation check. Those who did not were told the correct answer after their response.

We present results in the paper *without* excluding those who failed the manipulation check. However, results are largely the same if we exclude these respondents, as shown in Table 13. If anything, the results excluding those who failed the manipulation checks are stronger, with a coefficient estimate that is 0.035 larger than the estimate in our main analysis with everyone included. This may indicate that the effects are stronger for those who absorbed the most information from the treatment administration.

Table 13: Main Analysis, Excluding Those Who Failed Manipulation Checks

| | Dependent Variable: Index of Favorability toward Drainage Program |
|--------------------------------|--|
| Constant | 2.84 (0.02) |
| Treatments (Combined) | −0.04 (0.03) |
| Muslim | −0.17 (0.04) |
| Treatments (Combined) x Muslim | 0.22 (0.06) |
| Observations | 3,387 |
| R ² | 0.005 |
| Adjusted R ² | 0.004 |
| Residual Std. Error | 1.15 (df = 3383) |
| F Statistic | 5.22 (df = 3; 3383) |

7.1.3 Timing of Survey Administration and Treatments

Because our survey was administered using tablets, we have detailed information on the amount of time it took to administer each portion of the survey. It took, on average, 13.5 minutes to administer the survey, although this average varied from a low of 9 minutes to a high of 16.5 minutes depending on the enumerator.³

Out of the 13.5 minutes on average spent in the survey, less than half a minute was spent on the experimental manipulation. Enumerators spent just under 17 seconds on average explaining the drainage cleaning program in general, which did not vary between treatments, and 7 seconds on average explaining the portions of the program that varied between treatments. This second portion varied only slightly, by less than 0.75 seconds, between the different treatment texts (see Table 14). This indicates that, in terms of time spent completing the experimental manipulation, there is little difference between the treatments.

³This calculation includes the twenty enumerators who administered approximately 93% of the surveys; it excludes the five enumerators who each administered 30 surveys or fewer, within which there was more variation (minimum of 9 minutes, maximum of 32 minutes).

Table 14: Length of Treatment Assignment

| Treatment | Average Time Administering Treatment (Seconds) |
|----------------------------------|---|
| Control | 6.95 |
| Horizontal Accountability | 6.77 |
| Vertical Accountability | 7.32 |
| Black Sheep Effect | 7.38 |
| Hor. Acct. + Black Sheep Effect | 7.36 |
| Vert. Acct. + Black Sheep Effect | 6.67 |

7.1.4 All Treatments

Table 15 shows the overall effects (null) of all treatments, including those not a part of the analyses in the paper. Note the lack of a pattern with the combination treatments, which is why they were not a focus in the paper. Additionally, note that the difference between the “no names” control and the main control is as big or bigger than any other effect, indicating that just mentioning names might have an effect. For this reason, we use the control with names, which is closer to the treatments texts and therefore offers a tighter control.

Table 15: Effect of All Treatments

| | Index Outcome |
|---|---------------------|
| Constant | 2.73*** (0.03) |
| Horizontal Accountability | 0.04 (0.05) |
| Vertical Accountability | 0.04 (0.04) |
| Black Sheep | 0.04 (0.05) |
| Horizontal Accountability + Black Sheep | −0.02 (0.05) |
| Vertical Accountability + Black Sheep | 0.04 (0.05) |
| No Names: Control | 0.04 (0.04) |
| No Names: Horizontal Accountability | −0.02 (0.05) |
| No Names: Vertical Accountability | 0.01 (0.05) |
| N | 5,673 |
| R ² | 0.001 |
| Adjusted R ² | −0.0005 |
| Residual Std. Error | 0.81 (df = 5664) |
| F Statistic | 0.65 (df = 8; 5664) |

*p < .1; **p < .05; ***p < .01

7.1.5 Ceiling/Floor Effects (Tobit Model)

Our main outcome variable in this study is an index composed of five questions about participant interest in the drainage cleaning program. These questions are designed to elicit a range of responses on the 1-4 scale used to measure the outcomes. For the first two questions – would this program be beneficial to your neighborhood and how interested would you be in the program – respondents were much more likely to register high values, with averages of 3.02 and 2.94, respectively, for those in the control condition. In response to the third question – how likely would you be to pay the monthly fee – respondents reported slightly lower values, with an average of 2.74 for control condition respondents. Lastly, in response to the fourth and fifth questions – would you be willing to sign a six-month contract for this service and how likely would you be to try to get your neighbors to sign up for the program – respondents in control reported the lowest average responses of 2.46 and 2.51, respectively.

Table 16: Tobit Model

| Dependent Variable: Index of Favorability toward Drainage Program | |
|--|-----------------|
| Constant | 2.77 (0.02) |
| Treatments (Combined) | -0.02 (0.03) |
| Muslim | -0.13 (0.04) |
| Treatments (Combined) x Muslim | 0.21 (0.05) |
| Observations | 3,832 |
| Log Likelihood | -10,601.50 |
| Wald Test | 20.98 (df = 3) |

However, average responses were higher than the midpoint of the scale for all our measures, which may make some worried about ceiling effects for Hindus, who saw no effect of the treatments but who also had a higher baseline than Muslims for each of the index items. Additionally, these questions evaluate attitudes on a somewhat polarizing topic for communities, and we might be

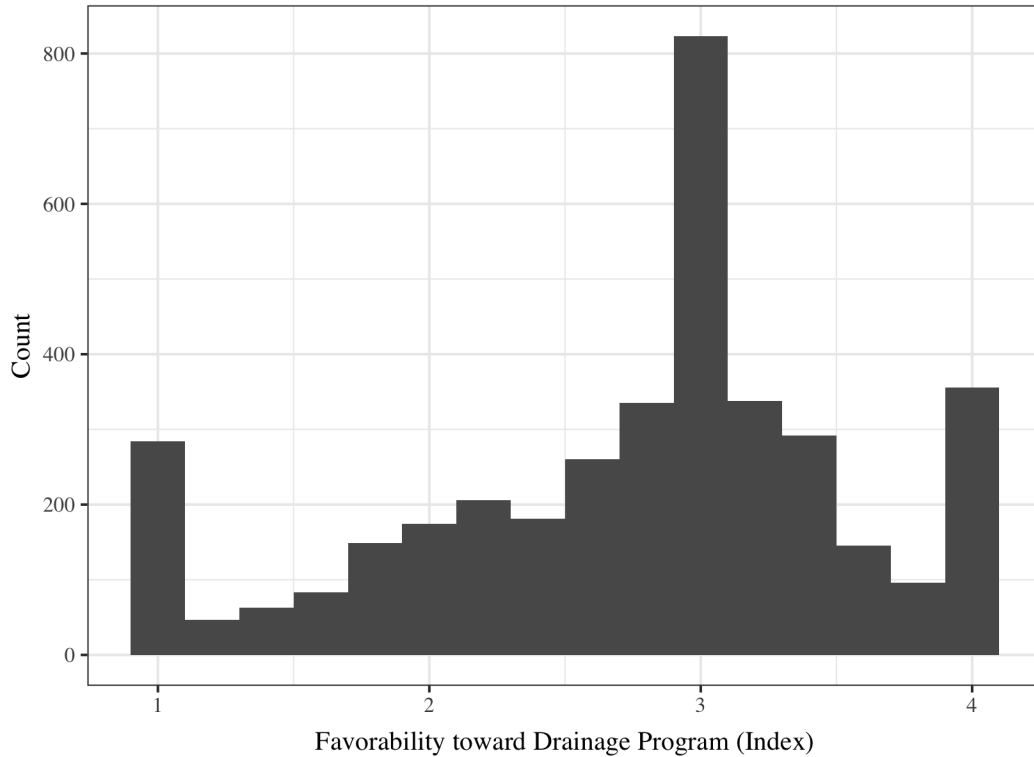


Figure 4: Histogram of Outcome Index, All Respondents

worried about a floor for respondents' attitudes as well because of strong opinions from those who oppose the program. Indeed, when we look at a histogram of the index in Figure 4, we see that that respondents pool at the lower and upper ends of our scale, with 7.4% of respondents recording a 1 for all five outcome questions and 9.3% of respondents recording a 4 for all of them. To make sure that the results we find in our main model are not driven by this pooling in any way, we estimate a tobit model with a floor of 1 and a ceiling of 4, the results of which can be found in Table 16. The estimates from this model are almost the same as those in the main analysis; if anything, the coefficients from the tobit model would indicate a slightly higher interaction effect for Muslims.

7.1.6 Enumerator Effects

Because our survey hinges on religious identification, we may be concerned about how the religion of the survey enumerator affects our results. In Table 17 we calculate our main analysis separately for those who had a Hindu enumerator and those who had a Muslim one. Before discussing these results, we want to note that this analysis should be viewed as highly speculative. We did not

Table 17: Main Analysis, by Religion of Enumerator

| | Dependent Variable: Index of Favorability toward Drainage Program | |
|--------------------------------|--|---------------------|
| | Hindu Enumerators | Muslim Enumerators |
| Constant | 2.78 (0.02) | 2.15 (0.11) |
| Treatments (Combined) | -0.01 (0.03) | -0.06 (0.15) |
| Muslim | -0.17 (0.04) | 1.02 (0.20) |
| Treatments (Combined) x Muslim | 0.20 (0.06) | -0.54 (0.31) |
| Observations | 3,685 | 141 |
| R ² | 0.01 | 0.21 |
| Adjusted R ² | 0.004 | 0.19 |
| Residual Std. Error | 1.16 (df = 3681) | 1.06 (df = 137) |
| F Statistic | 6.30 (df = 3; 3681) | 12.13 (df = 3; 137) |

pre-register an analysis of this sort. Additionally, out of the twenty-five total enumerators who administered our survey, only two of them were Muslim. There are only 141 respondents who took the survey from a Muslim enumerator. Lastly, enumerators were not randomly assigned to settlements, so our Muslim enumerator results come primarily from just six of our sixteen locations.

With these caveats in mind, the analysis in Table 17 indicates that Muslim enumerators may elicit very different effects from participants in a number of ways, especially in terms of the “baseline” support for the program in the control group. For instance, the baseline in the control group for Hindu respondents is much lower when they have a Muslim enumerator (2.15, $SE = 0.11$) than when they have a Hindu enumerator (2.78, $SE = 0.02$). On the other hand, the opposite is true for Muslim respondents; the baseline for Muslims is much higher with a Muslim enumerator (3.17, $SE = 0.16$) than it is with a Hindu enumerator (2.61, $SE = 0.04$). Lastly, from this higher baseline, the treatment effect for Muslim respondents with Muslim enumerators is now estimated to be negative (-0.54, $SE = 0.31$), as opposed to the positive effect with Hindu enumerators and in the main analysis.

As already noted, we do not think we can draw much from these models. The estimates in the right column of Table 17 are entirely dependent on two Muslim enumerators who only administered the survey to 141 respondents, who are not representative of our sample. However, examining these results is useful for considering the scope and generalizability of this research project. Because the vast majority of our enumerators are Hindu, our findings are primarily applicable to situations where programs like ours would be instituted by members of the majority religious/ethnic group.

7.1.7 *Basti* as a Unit of Analysis

Some might be concerned about using *bastis* to group people for the administration of our treatment. What if participants do not consider the residents of their *basti* to be their neighbors? To address this question, we included a question in the survey that asked participants what they considered to be their neighborhood. Participants were given three options: (i) the 1-2 streets closest to my place of residence, (ii) the 3-4 streets closest to my place of residence, and (iii) the entire settlement in which the person was surveyed. Approximately 67%, or two-thirds, of the participants chose the final option. This indicates that, although there is significant variation in how individuals define their neighborhood, most respondents consider their entire *basti* as their neighborhood.

7.2 Robustness Checks: Diversity

7.2.1 Effects of Diversity

As discussed earlier, we generate a continuous measure of diversity based on fine-grained data on geo-coordinates. Table 18 and Figure 5 presents the analysis on the interaction effect of diversity. Table 18 shows that the coefficient on the interaction between the combined treatments and the diversity index is 0.1 ($SE = 0.09$), statistically insignificant and in the opposite direction of our hypothesis. The results are comparable for alternative radii – 50m (Col 1) and 150m (Col 3).

Table 18: Regression of Favorability toward Drainage Program, By Different Diversity Measures

| | <i>Dependent variable:</i> | | |
|-----------------------------------|---|----------------------|---------------------|
| | Dependent Variable: Index of Favorability | | |
| | 50 Meter Radius | 100 Meter Radius | 150 Meter Radius |
| | (1) | (2) | (3) |
| Constant | 2.70*** (0.03) | 2.71*** (0.03) | 2.71*** (0.03) |
| Treatments (Combined) | 0.01 (0.04) | −0.02 (0.04) | −0.01 (0.04) |
| Diversity | 0.05 (0.06) | 0.04 (0.06) | 0.03 (0.06) |
| Treatments (Combined) x Diversity | 0.06 (0.09) | 0.10 (0.09) | 0.10 (0.09) |
| Observations | 3,742 | 3,810 | 3,825 |
| R ² | 0.001 | 0.002 | 0.002 |
| Adjusted R ² | 0.001 | 0.001 | 0.001 |
| Residual Std. Error | 1.17 (df = 3738) | 1.17 (df = 3806) | 1.17 (df = 3821) |
| F Statistic | 1.76 (df = 3; 3738) | 2.19* (df = 3; 3806) | 1.98 (df = 3; 3821) |

Note:

*p<0.1; **p<0.05; ***p<0.01

Since diversity is a continuous variable, we also explore the interaction effect graphically in Figure 5. This figure shows the estimate for the linear interaction effect from Table 18, an estimate of interaction effects based on binning observations into tertiles from the diversity index, and a histogram at the bottom of the plot showing the distribution of the diversity measure (pink colored bars indicate observations in the combined treatment groups; gray bars indicate those in the control group). This figure confirms what we find in the regression model – that is, no significant interaction effect. This holds for various radii, as shown in Table 18.

As noted in the paper, we think the most likely explanation for this finding is the correlation between being a minority (Muslim) and living in a “diverse” location, which exhibit a medium-sized correlation in our sample ($r = 0.36$). By this account, respondents’ religious identification explains our finding that diversity has little interaction effect, and that whatever effects exists is in the opposite direction of our prior hypotheses and what the literature would expect.

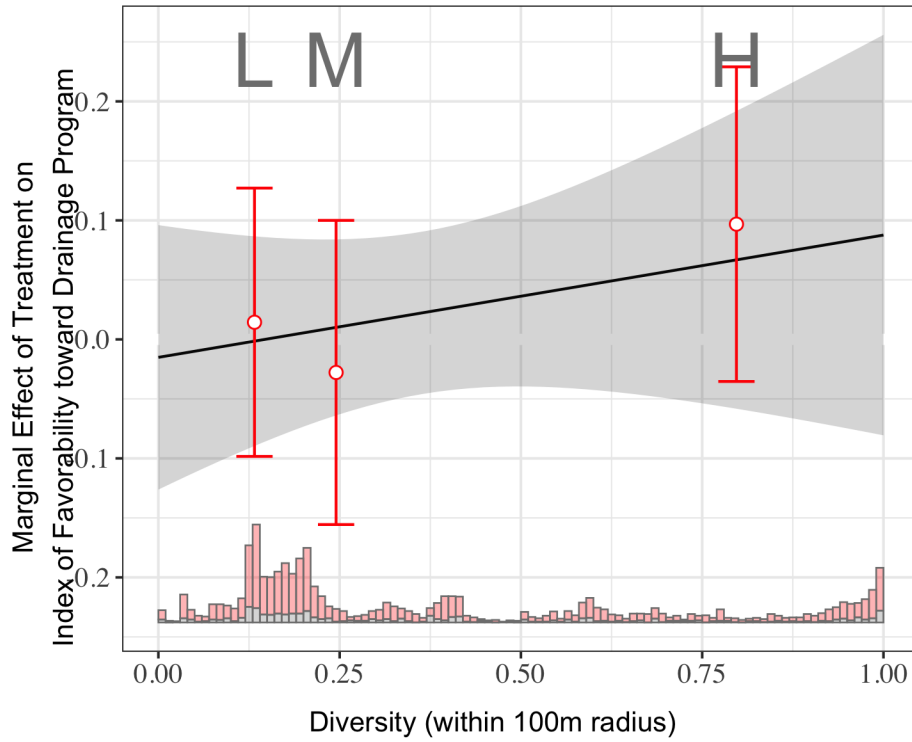


Figure 5: Graphical Representation of Interaction with Diversity

7.2.2 Neighborhood Effects

In addition to level diversity, we examine the possible implications of the structure of diversity. We consider two scenarios. First, *egoist behavior* refers to the increased likelihood that individuals contribute to public goods if they primarily live among ingroup members, thereby channelling benefits largely to the ingroup (Habyarimana et al., 2007). The observable implication of this account holds that Muslims in Muslim majority areas may contribute more, regardless of the treatment assignment, because they are surrounded by ingroup members. Second, and conversely, a *localized minority effect* would imply that minorities would be more likely to contribute to the collective good when their immediate audience is composed of members of the majority group – i.e., when they live in outgroup dominated neighborhoods – where they may be especially concerned about their reputation and safety in the face of the dominant majority. This account implies that Muslims in Muslim-majority areas are less likely to respond to the treatments.

To empirically evaluate these conditions, we examine the treatment effects by neighborhoods. As

a reminder, we surveyed participants in sixteen neighborhoods, in five larger settlements: Settlement A, Settlement B, Settlement C, Settlement D, and Settlement E (Table 4). We used electoral rolls to estimate the Muslim population in these areas, which guided our site selection process (for details, see 2). Based on these estimates, the six neighborhoods in the Settlement C area as well as the neighborhood of Settlement A contained a small percentage of Muslim residents (below 10%). On the other hand, four neighborhoods – one from Settlement D and three from Settlement E – have at least 50% Muslim residents in our sample, with the three Settlement E neighborhoods having especially high percentages of Muslim residents (ranging between 84% and 97% Muslim). Table 19 presents the results by these neighborhoods.

Table 19: Main Model by Percent Muslim in Select Neighborhoods

| | Dependent Variable: Index of Favorability toward Drainage Program | | |
|--------------------------------|---|--------------------|--------------------|
| | Low (<10%) | High (>50%) | Very High (>80%) |
| Constant | 2.77 (0.02) | 2.95 (0.09) | 3.15 (0.15) |
| Treatments (Combined) | −0.04 (0.03) | −0.11 (0.13) | −0.49 (0.21) |
| Muslim | −0.13 (0.10) | −0.30 (0.10) | −0.53 (0.16) |
| Treatments (Combined) x Muslim | 0.26 (0.14) | 0.25 (0.15) | 0.59 (0.23) |
| # Hindu Respondents | 2157 | 579 | 74 |
| # Muslim Respondents | 114 | 211 | 443 |
| Observations | 2,262 | 781 | 516 |
| R ² | 0.002 | 0.01 | 0.02 |
| Adjusted R ² | 0.0004 | 0.01 | 0.02 |
| Residual Std. Error | 1.09 (df = 2258) | 1.33 (df = 777) | 1.28 (df = 512) |
| F Statistic | 1.30 (df = 3; 2258) | 3.31 (df = 3; 777) | 3.68 (df = 3; 512) |

Table 19 shows that the treatment effect among Muslims in Muslim majority areas has a higher estimate than the estimate in the overall sample — 0.59 in areas with more than 80% Muslims, and 0.25 in places with at least 50% Muslims. The estimates in majority-Hindu areas is also higher than

the overall estimate at 0.26. It is difficult to draw strong conclusions from the findings in Table 19 given the small n-sizes. Further, the analyses focuses on outcomes rather than the underlying motivation for cooperation. The high levels of cooperation in Hindu majority neighborhoods, however, provides support for localized minority effect and can be interpreted as evidence for the logic of defensive cooperation more broadly. In the context of prolonged marginalization and persecution, Muslims are likely to be concerned about their reputation and safety in all contexts, but we can expect these concerns to be especially salient when living among Hindu neighbors. The high estimates in majority Muslim areas may be interpreted as egoist behavior. The structural conditions in such areas - social cohesively or strong social ties, may serve as tools for monitoring and sanctioning ingroup behavior. We emphasize that the findings are suggestive and more research is necessary to understand the underlying mechanisms behind the findings, but the analyses suggests that the structure of diversity may influence inter-group relations, and hence motivation for collective action in minority communities.

7.3 Mechanisms: Defensive Cooperation

7.3.1 Descriptive Statistics

Given the role of the state in discrimination toward Muslims, especially in recent years, it is reasonable to expect that Muslims would have lower levels of trust in political institutions. Table 20 presents the differences in levels of trust between Hindus and Muslims in several institutions: the *Pradhan*, the Municipal Corporation of Delhi (MCD), the Prime Minister (at the time Narendra Modi), political parties, the police, the Chief Minister of Delhi (at the time Arvind Kejriwal). The biggest divergence is not in institutions related to drain cleaning directly, but in the prime minister (a difference of 0.86, almost a third of our scale), the police (a difference of 0.44), and political parties (a difference of 0.31).

Table 20: Levels of Trust in Political Figures and Institutions, by Religion

| | Pradhan | | MCD | | Prime Minister | | Parties | | Police | | Chief Minister | |
|--------|-----------|------|-----------|------|----------------|------|-----------|------|-----------|------|----------------|------|
| | \bar{X} | SD | \bar{X} | SD | \bar{X} | SD | \bar{X} | SD | \bar{X} | SD | \bar{X} | SD |
| Hindu | 2.13 | 1.06 | 2.14 | 0.98 | 2.93 | 1.01 | 1.96 | 1.01 | 2.63 | 1.06 | 1.62 | 0.49 |
| Muslim | 1.83 | 0.99 | 2.12 | 0.97 | 2.07 | 1.01 | 1.65 | 0.89 | 2.19 | 1.02 | 1.62 | 0.49 |

Muslims, on average, rate their *Pradhan* 0.3 points lower than Hindus. However, we find that almost 40% of participants did not respond to the question about the political effectiveness of *Pradhans*; the respective rates for Hindus and Muslims at 35% and 53%. This question had one of the highest levels of non-response.⁴ Another survey question on the influence of local *Pradhan*, rated on a 1-4 scale, provides some insights. Enumerators were instructed to record the reason for cases of non-response, with options for “do not know,” “refuse to answer,” and “does not apply (no pradhan).” A summary of responses to this question, broken down by religion, is presented in Table 21. The results show that a large proportion of our sample, particularly Muslim participants, are either not aware of their local *Pradhan* (Hindus 28%, Muslims 39%) or did know enough about the *Pradhan* to rate their influence (Hindus 17%, Muslims 28%).

⁴For comparison, the closest two are the questions about political parties (6.9% non-response) and the police (3.6%)

Table 21: Pradhan Influence, by Participant Religion

| | Not at All Influential | A Little Influential | Somewhat Influential | Extremely Influential | Do Not Know | Refuse to Answer | No Pradhan |
|--------|------------------------|----------------------|----------------------|-----------------------|-------------|------------------|------------|
| Hindu | 738 (25%) | 284 (10%) | 398 (14%) | 181 (6%) | 509 (17%) | 3 (0%) | 811 (28%) |
| Muslim | 150 (16%) | 67 (7%) | 58 (6%) | 31 (4%) | 255 (28%) | 0 (0%) | 358 (39%) |

7.3.2 Main Results

Table 22 examines the interaction effects of caste on the treatment differs for Hindus and Muslims. While upper-caste Hindus have a higher baseline outcome than lower-caste Hindus, we find that the coefficient on the interaction term is insignificant and not large. In contrast, the coefficients for Muslim upper-castes are significant (Col 2). Figure 7 and Figure 6 presents the interaction effects for each of our separate treatments, for religious ties and caste respectively. Our overall findings remain consistent across all treatments (with the exception of the interaction effect of religious ties in the treatment on vertical accountability),

Table 22: Regression of Favorability Index on Treatment, by Religion and Caste

| | Dependent Variable: Index of Favorability | |
|-------------------------------|---|-----------------------|
| | Hindu | Muslim |
| | (1) | (2) |
| Constant | 2.73*** (0.02) | 2.78*** (0.06) |
| Treatments (Combined) | 0.002 (0.03) | −0.04 (0.09) |
| Caste | 0.11** (0.05) | −0.24*** (0.08) |
| Treatments (Combined) x Caste | −0.09 (0.07) | 0.35*** (0.12) |
| N | 2,886 | 903 |
| R ² | 0.002 | 0.02 |
| Adjusted R ² | 0.001 | 0.02 |
| Residual Std. Error | 1.12 (df = 2882) | 1.27 (df = 899) |
| F Statistic | 1.79 (df = 3; 2882) | 6.33*** (df = 3; 899) |

*p < .1; **p < .05; ***p < .01

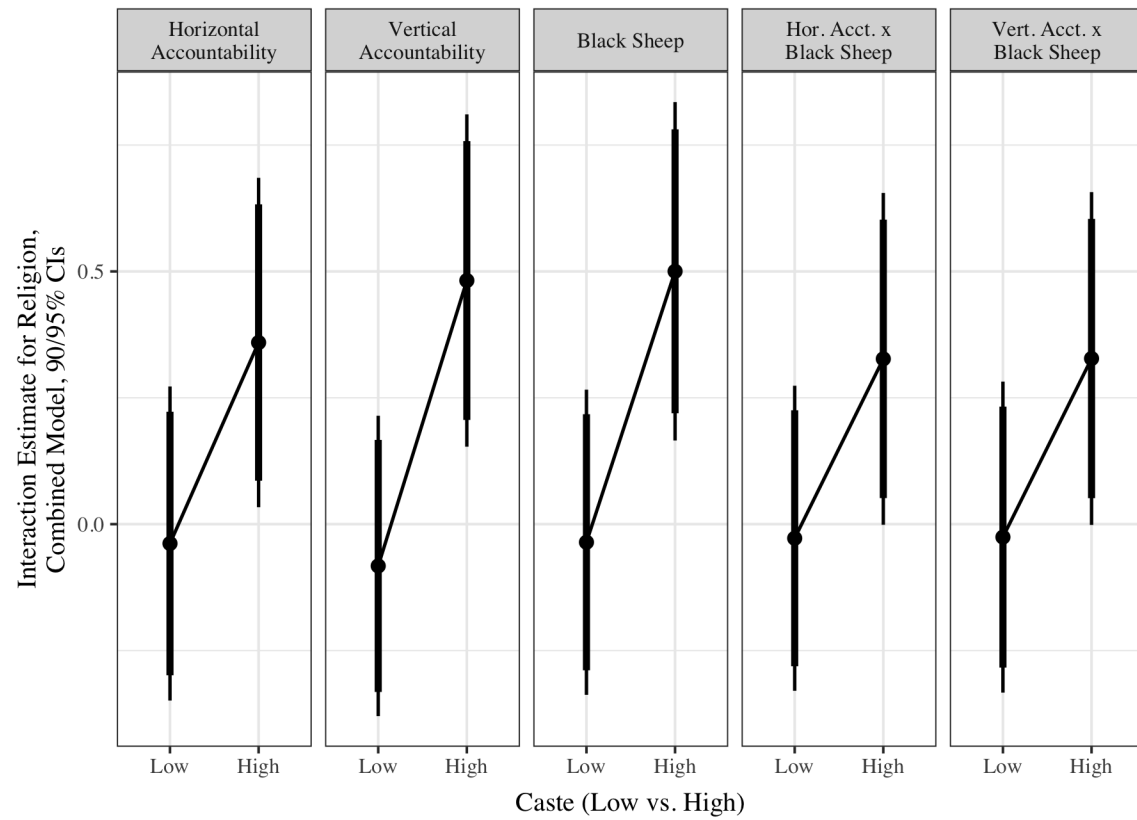


Figure 6: Caste as Mechanism, Separate Treatments

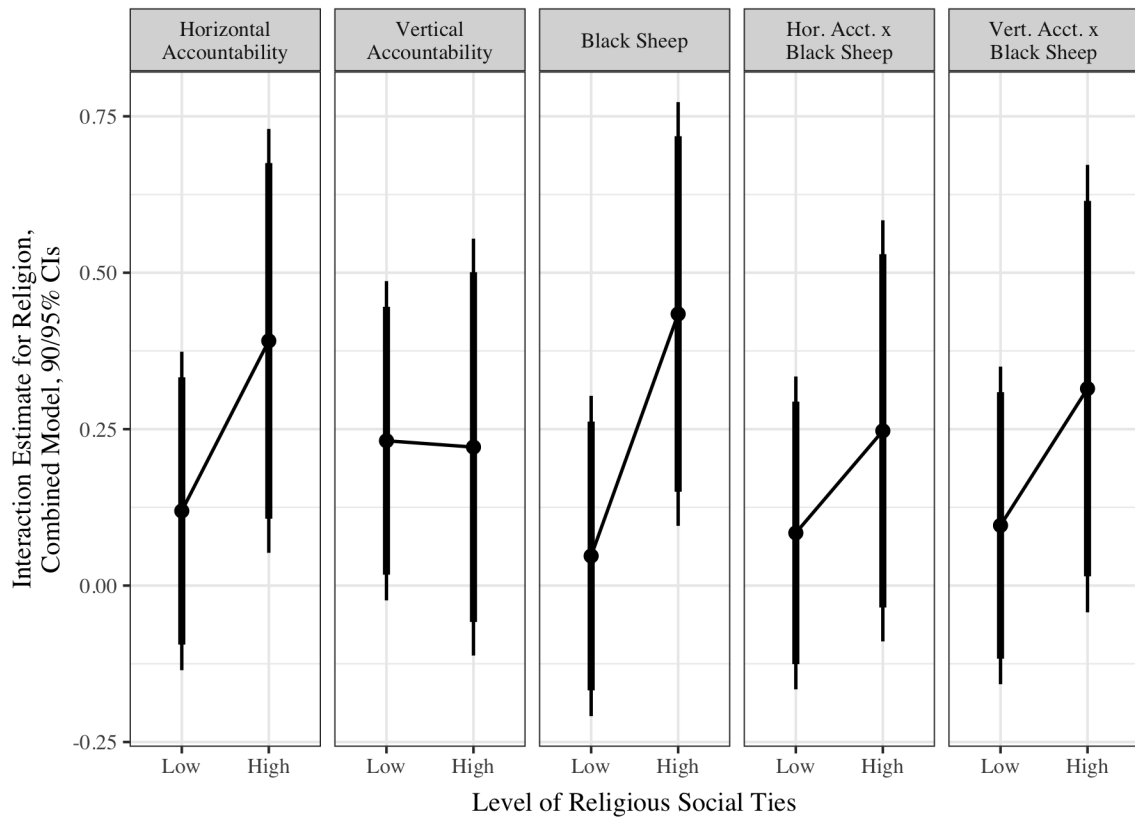


Figure 7: Religious Ties as Mechanism, Separate Treatments

We examine the mechanism of defensive cooperation in greater detail, focusing in particular in patterns in the relationship between caste and religious social ties. Table 23 presents the baseline and treatment outcomes for Hindu and Muslim respondents with low and high values of religious ties by dividing the sample by the median value. In addition, we generate another threshold of *very high* religious ties (equal to 3). Table 24 replicates these results for upper-caste Muslims. Finally, Table 25 presents the baseline and treatment outcomes by caste for both Hindus and Muslims.

Table 23: Difference in Means by Religion and Religious Ties

| | | Control | Treatment | Difference |
|--------|-----------|---------|-----------|------------|
| Hindu | Total | 2.76 | 2.74 | −0.02 |
| | Low | 2.67 | 2.69 | 0.02 |
| | High | 2.96 | 2.88 | −0.08 |
| Muslim | Total | 2.63 | 2.80 | 0.16 |
| | Low | 2.53 | 2.67 | 0.14 |
| | High | 2.83 | 3.07 | 0.24 |
| | Very High | 2.92 | 3.18 | 0.26 |

Table 24: Difference in Means for Upper-Caste Muslims, by Religious Ties

| | Control | Treatment | Difference |
|-----------------|---------|-----------|------------|
| Muslims Overall | 2.63 | 2.80 | 0.16 |
| Low | 2.42 | 2.69 | 0.27 |
| High | 2.79 | 3.18 | 0.39 |
| Very High | 2.92 | 3.27 | 0.35 |

Table 25: Difference in Means by Religion and Caste

| | | Control | Treatment | Difference |
|--------|-------------|---------|-----------|------------|
| Hindu | Total | 2.76 | 2.74 | -0.02 |
| | Lower Caste | 2.73 | 2.73 | 0.00 |
| | Upper Caste | 2.84 | 2.75 | -0.09 |
| Muslim | Total | 2.63 | 2.80 | 0.16 |
| | Lower Caste | 2.78 | 2.74 | -0.04 |
| | Upper Caste | 2.54 | 2.84 | 0.30 |

7.3.3 Alternative Explanations

Finally, we examine the possible effects of religiosity. We rely on three main measures. The first two include *private practice* and *public practice*, discussed in detail in Section 5.3. A third measure focuses on the question on *religious donations*. In line with previous analysis, we run an interaction model for respondents with low and high values of the respective variables by dividing the sample by the median value. The results are presented in Figure 8.

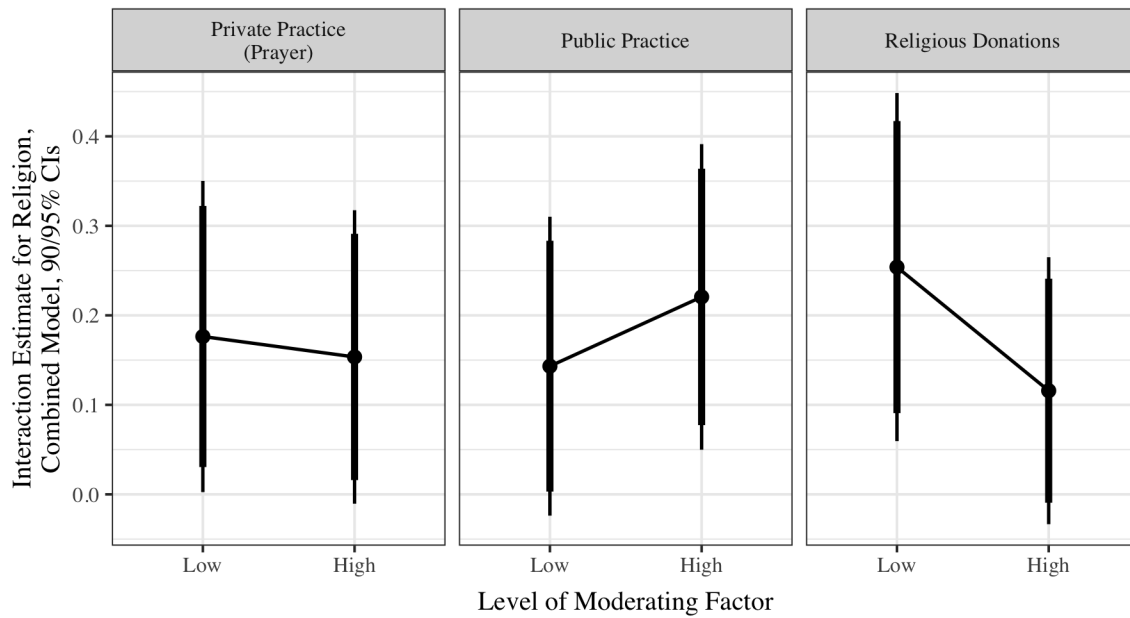


Figure 8: Religious Indices and Caste as Mechanism

Table 26 presents the levels of different types of religiosity – *private practice* and *public practice*, and obligation to coreligionists or *religious ties* for Hindus and Muslims by caste. Table 27 shows the distribution of different levels of assets by class for Hindus and Muslims.

Table 26: Averages for Religious Indices, by Caste and Religion

| | | Hindu | Muslim |
|------------------|-------------|-------|--------|
| Private Practice | Lower Caste | 4.21 | 4.24 |
| | Upper Caste | 4.43 | 4.18 |
| | Total | 4.26 | 4.20 |
| Public Practice | Lower Caste | 3.59 | 4.10 |
| | Upper Caste | 3.90 | 4.07 |
| | Total | 3.67 | 4.08 |
| Religious Ties | Lower Caste | 2.17 | 2.24 |
| | Upper Caste | 2.19 | 2.22 |
| | Total | 2.17 | 2.23 |

Table 27: Proportions in Asset Classes, by Religion and Caste

| | | Low-Tier | Mid-Tier | High-Tier |
|--------|-------------|----------|----------|-----------|
| Hindu | Lower Caste | 37% | 49% | 14% |
| | Upper Caste | 32% | 44% | 24% |
| Muslim | Lower Caste | 24% | 51% | 24% |
| | Upper Caste | 29% | 47% | 24% |
| | Overall | 34% | 48% | 18% |

Low-Tier = does not own any mid- or high-tier goods

Mid-Tier = owns at least one of a bike, a cooler, or a fridge.

High-Tier = owns at least one of a two/three/four wheel vehicle, a computer, or an AC

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